BOARD MEETING DATE: June 7, 2024 AGENDA NO. 25

PROPOSAL: Certify the Final Environmental Assessment for Proposed Amended Rule 463 – Organic Liquid Storage; and Amend Rule 463

SYNOPSIS: Proposed Amended Rule 463 (PAR 463) establishes enhanced leak detection using optical gas imaging, more stringent control requirements to dome external floating roof tanks, and other requirements. Additionally, PAR 463 will include contingency measures for both the Coachella Valley and the South Coast Air Basin, which will require more frequent use of optical gas imaging, if triggered.

COMMITTEE: Stationary Source, April 19, 2024, Reviewed

RECOMMENDED ACTIONS:
Adopt the attached Resolution:
1. Certifying the Final Environmental Assessment for Proposed Amended Rule 463 – Organic Liquid Storage; and
2. Amending Rule 463 – Organic Liquid Storage.

Wayne Nastri
Executive Officer

SR:MK:MM:IS:JE

Background

Rule 463 – Organic Liquid Storage (Rule 463) limits VOC emissions from storage tanks that store organic liquids. Rule 463 applies to above-ground stationary tanks with approximate capacity of 19,800 gallons or more, above-ground tanks with approximate capacity between 250 gallons and 19,800 gallons that are used to store gasoline, and any stationary tank with a potential for VOC emissions of six tons per year or greater used in crude oil and natural gas production operations.

California Assembly Bill 617 (AB 617) was signed into law in 2017 to develop a new community-focused program to reduce emissions and exposure to sources of air pollution and preserve public health. Objectives in the Wilmington, Carson, West Long Beach (WCWLB) and South Los Angeles (SLA) Community Emission Reduction Plans (CERPs) specify initiating rule development to require the use of enhanced leak detection tools and other leak prevention and emission reduction technologies (e.g., domed roofs) in various South Coast AQMD rules. Rule 463 was not identified as an objective for rule development within the two CERPs; however, Rule 463 regulates the same emission sources within the affected WCWLB and SLA communities.

Amendments to Rule 463 will help reduce VOC emissions from storage tanks in WCWLB, SLA, and in other communities within the South Coast AQMD jurisdiction. Recommendations for proposed amendments to Rule 463 focus on improving leak detection requirements with the use of advanced leak detection technologies and requiring additional emission controls.

Clean Air Act (CAA) Section 182(c)(9) requires that ozone nonattainment areas classified as "serious" or above provide for contingency measures to be implemented if the area fails to meet any applicable milestone. Amendments to Rule 463 include contingency measures to fulfill the CAA requirement.

Proposal

PAR 463 establishes enhanced leak detection and more stringent control requirements by requiring optical gas imaging (OGI) inspections for tank farms every other week for all tanks. Furthermore, PAR 463 requires semi-annual OGI inspections on individual floating roof tank components, in addition to existing provisions that require semi-annual seal gap inspections. The proposed amended rule requires doming for external floating roof tanks that store organic liquids with a true vapor pressure (TVP) of 3.0 psia or greater. Domes must be installed during the next internal API 653 inspection or the next time a tank is cleaned and degassed, but no later than 23 years after a test indicates the organic liquid stored has a TVP of 3.0 psia or greater. Secondary seals are also required on all floating roof tanks. Installation of secondary seals on internal floating roof tanks will be required the next time the tank is cleaned and degassed, but no later than 22 years after date of rule adoption. Additionally, PAR 463 will include federal seal gap requirements by reference for floating roof tanks and require an increased emission control efficiency of 98 percent by weight for fixed roof tanks. These requirements will be effective immediately. PAR 463 also establishes additional requirements for true vapor pressure and vapor recovery unit testing, reporting, and recordkeeping.

Public Process

PAR 463 was developed through a public process. Two Working Group meetings were held on January 3, 2024, and March 7, 2024. Working Group Meeting participants included attendees from affected businesses, environmental and community

representatives, public agencies, consultants, and other interested parties. A Public Workshop was held on March 27, 2024, where staff presented the proposed amended rule to the general public and stakeholders and solicited comments. Staff also held individual meetings regarding PAR 463 with stakeholders, including facilities to understand specific concerns and how the rule may uniquely affect them. Staff also met with technology and leak detection service providers. In addition, staff conducted multiple site visits to understand facility operations.

Emission Reductions

The total VOC emission reductions associated with the implementation of PAR 463 are 1.65 tons per day. Optical gas imaging inspections will result in 0.40 tons per day of VOC reductions. Doming will result in 0.05 ton per day of VOC reductions. Internal floating roof seal requirements will result in 0.01 tons per day of VOC reductions. Increased emission control efficiency for fixed roof tanks will result in 1.19 tons per day of VOC emission reductions.

Key Issues

Throughout the rulemaking process, staff worked with stakeholders to resolve key issues. Staff is not aware of any remaining key issues.

California Environmental Quality Act

PAR 463 is considered a "project" as defined by the California Environmental Quality Act (CEQA), and the South Coast AQMD is the designated lead agency. Pursuant to South Coast AQMD's Certified Regulatory Program (Public Resources Code Section 21080.5 and CEQA Guidelines Section 15251(l); codified in South Coast AQMD Rule 110) and CEQA Guidelines Section 15070, the South Coast AQMD has prepared an Environmental Assessment (EA) for PAR 463, which is a substitute CEQA document pursuant to CEQA Guidelines Section 15252, prepared in lieu of a Negative Declaration. Implementation of the proposed project is estimated to reduce VOC emissions by 1.65 ton per day, and the Final EA did not identify any environmental topic areas that would be significantly adversely affected by physical modifications resulting from the proposed project. The Final EA is included as an attachment to this Board package (see Attachment H).

Socioeconomic Impact Assessment

Approximately 1,600 storage tanks at 429 facilities are subject to PAR 463 requirements with the majority belonging to the Oil and Gas Extraction (NAICS 211) sector. Of the 429 facilities, up to 282 facilities may qualify as small businesses based on various small business definitions. The key requirements of PAR 463 that would have cost impacts for the affected facilities include: 1) periodic OGI inspections; 2) doming of external floating roof storage tanks; 3) installation of secondary seals on internal floating roof storage tanks; and 4) periodic performance testing on vapor recovery units of fixed-roof storage tanks. The total present value of compliance costs of implementing PAR 463 over the 2024 – 2080 period is estimated to be $147.60

million and $71.77 million with a 1 percent and 4 percent discount rate, respectively. The annual average compliance costs of PAR 463 are estimated to range from $2.95 million to $3.47 million for a 1 percent to 4 percent real interest rate, respectively. When the compliance costs are amortized using a 4 percent interest rate, 25 net jobs foregone annually are projected in the four-county economy over the period from 2024 to 2080, relative to the baseline scenario. The Final Socioeconomic Impact Assessment is included as an attachment to this Board package (see Attachment I).

AQMP and Legal Mandate

PAR 463 implements requirements aligned with objectives stated in the WCWLB and SLA CERPs to reduce VOC emissions from refineries and oil and gas operations, respectively. Additionally, PAR 463 updates BARCT requirements by establishing more stringent leak detection and control requirements pursuant to Health and Safety Code section 40920.6.

Furthermore, PAR 463 partially implements control measure FUG-01 – Improved Leak Detection and Repair in the 2022 Final Air Quality Management Plan. Control Measure FUG-01 seeks to reduce VOC emissions through utilizing advanced remote sensing technologies to allow for faster identification and repair of leaks from equipment at oil and gas sites and other facilities that are currently required to maintain a leak detection and repair program.

In addition, South Coast AQMD is amending Rule 463 to introduce a contingency measure to partially satisfy CAA Section 182(c)(9) that requires that ozone nonattainment areas classified as "serious" or above provide for contingency measures to be implemented if the area fails to meet any applicable milestone. PAR 463 introduces periodic OGI inspections at more frequent intervals as contingency measures to fulfill ozone attainment plan requirements for the applicable National Ambient Air Quality Standards.

Implementation and Resource Impacts

Existing staff resources are adequate to implement the proposed amendments.

Attachments

A. Summary of Proposal
B. Key Issues and Responses
C. Rule Development Process
D. Key Contacts List
E. Resolution
F. Proposed Amended Rule 463
G. Final Staff Report
H. Final Environmental Assessment
I. Final Socioeconomic Impact Assessment
J. Board Presentation

ATTACHMENT A

SUMMARY OF PROPOSAL

Proposed Amended Rule 463 ─ Organic Liquid Storage
Purpose • Contains a new purpose to establish contingency measures in the South Coast Air Basin and Coachella Valley for applicable ozone standards Requirements • U.S. EPA seal gap requirements are incorporated by reference • Tanks must be maintained free of visible vapors resulting from a defect in equipment • Domes required on all external floating roof (EFR) tanks storing organic liquids with a true vapor pressure (TVP) of 3.0 psia or greater except for waste water tanks where the installation of a dome could lead to the buildup of pyrophoric materials • True vapor pressure testing for EFR tanks without domes • Domes required to be maintained free of gaps and other openings that are not part of the dome design • Secondary seals required on all internal floating roof (IFR) tanks • Fixed roof tanks required to have 98% by weight emission control • Performance testing for vapor recovery units • Contingency measures for the applicable 8-hour ozone standards in the South Coast Air Basin and the Coachella Valley that would require more frequent optical gas imaging (OGI) tank farm inspections Compliance Schedules • Starting three years after the date of adoption, EFR tanks must install domes at the next internal API 653 inspection or the next time a tank is cleaned and degassed, whichever is sooner, but not to exceed 23 years after a test verifies that an organic liquid stored has a TVP of 3 psia or greater • Starting two years after date of adoption, IFR tanks are required to have secondary seals installed at the next internal API 653 inspection or when the tank is next cleaned or degassed, but no later than 22 years after date of adoption Monitoring • Tank farm inspections required at least once every other calendar week • Component inspections required for floating roof tanks twice a year at four-to-eight month intervals

Maintenance

- Tanks found in non-compliance during an inspection with an OGI device must be repaired within 72 hours after the inspection

Recordkeeping and Reporting

- Reporting when defects or visible vapors from vapor tight components are identified during a tank farm inspection
- Written records for tank farm and component inspections
- Digital time-stamped recordings of visible vapors identified during tank farm inspections
- Submittal of TVP test results of 3.0 psia or greater for EFR tanks
- Allowance for electronic report forms that contain all information required in the Compliance Report Form
- Allowance of electronic submittal of written and electronic inspection and non-compliance reports
- Reporting for vapor recovery system performance tests
- Maintain all records for a minimum of three years

Test Methods and Procedures

- Contains two new vapor pressure test methods: ASTM – 6377 and ASTM – 6378

Exemptions

- Exemptions from the provisions of Rule 463 for tanks regulated by Rule 1178, with the exception of other performance requirements, seal categories, and the definition for Product Change
- Exemption from OGI inspections when a tank is out of service
- Exemption from certain OGI inspection requirements when required procedure is deemed unsafe

ATTACHMENT B

KEY ISSUES AND RESPONSES

Proposed Amended Rule 463 – Organic Liquid Storage

Throughout the rulemaking process, staff worked with stakeholders to resolve key issues. Staff is not aware of any key remaining issues.

ATTACHMENT C

RULE DEVELOPMENT PROCESS

Proposed Amended Rule 463 – Organic Liquid Storage

Fourteen (14) months spent in rule development
Two (2) Working Group Meetings
One (1) Public Workshop
One (1) Stationary Source Committee Meeting

ATTACHMENT D

KEY CONTACTS LIST

Community Environmental Services
Kinder Morgan Liquids Terminal
Marathon Petroleum
Olympus Terminals
Phillips 66
Tank and Environmental Technologies Inc.
Torrance Refining Company LLC
Western States Petroleum Association
World Oil Recycling
Zenith Energy West Coast Terminals LLC

ATTACHMENT E

RESOLUTION NO. 24-_____

A Resolution of the Governing Board of the South Coast Air Quality Management District (South Coast AQMD) certifying the Final Environmental Assessment for Proposed Amended Rule 463 – Organic Liquid Storage.

A Resolution of the South Coast AQMD Governing Board amending Rule 463 ─ Organic Liquid Storage.

WHEREAS, the South Coast AQMD Governing Board finds and determines that Proposed Amended Rule 463 is considered a "project" as defined by the California Environmental Quality Act (CEQA); and

WHEREAS, the South Coast AQMD has had its regulatory program certified pursuant to Public Resources Code Section 21080.5 and CEQA Guidelines Section 15251(l) and has conducted a CEQA review and analysis of the proposed project pursuant to such program (South Coast AQMD Rule 110); and

WHEREAS, the South Coast AQMD Governing Board has determined that the requirements for a Negative Declaration have been triggered pursuant to its Certified Regulatory Program and CEQA Guidelines Section 15070, and that an Environmental Assessment (EA), a substitute document allowed pursuant to CEQA Guidelines Section 15252 and South Coast AQMD's Certified Regulatory Program, is appropriate; and

WHEREAS, the South Coast AQMD prepared a Draft EA pursuant to its Certified Regulatory Program and CEQA Guidelines Sections 15070 and 15252 setting forth the potential environmental consequences of Proposed Amended Rule 463 and determined that the proposed project would not have the potential to generate significant adverse environmental impacts; and

WHEREAS, a Draft EA was prepared and circulated for a 30-day public review and comment period from March 27, 2024 to April 26, 2024 and no comments were received relative to the analysis such that it is now a Final EA; and

WHEREAS, it is necessary that the South Coast AQMD Governing Board review the Final EA prior to its certification, to determine that it provides adequate information on the potential adverse environmental impacts that may occur as a result of adopting Proposed Amended Rule 463; and

WHEREAS, pursuant to CEQA Guidelines Section 15252 (a)(2)(B), since no significant adverse impacts were identified, no alternatives or mitigation measures are required for project approval; thus, a Mitigation, Monitoring, and Reporting Plan pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15097, has not been prepared; and

WHEREAS, Findings pursuant to Public Resources Code Section 21081.6 and CEQA Guidelines Section 15091 and Statement of Overriding Considerations pursuant to CEQA Guidelines Section 15093 were not prepared because the analysis shows that Proposed Amended Rule 463 would not have a significant adverse effect on the environment, and thus, are not required; and

WHEREAS, the South Coast AQMD Governing Board voting to adopt Proposed Amended Rule 463 has reviewed and considered the information contained in the Final EA and all other supporting documentation, prior to its certification, and has determined that the Final EA, has been completed in compliance with CEQA; and

WHEREAS, Proposed Amended Rule 463 and supporting documentation, including but not limited to, the Final EA, the Final Staff Report, and the Final Socioeconomic Impact Assessment were presented to the South Coast AQMD Governing Board and the South Coast AQMD Governing Board has reviewed and considered this information, as well as has taken and considered staff testimony and public comment prior to approving the proposed project; and

WHEREAS, the Final EA reflects the independent judgment of the South Coast AQMD; and

WHEREAS, the South Coast AQMD Governing Board finds and determines that all changes made in the Final EA after the public notice of availability of the Draft EA were not substantial revisions and do not constitute significant new information within the meaning of CEQA Guidelines Sections 15073.5 and 15088.5, because no new significant effects and no substantial increase in the severity of an environmental effect were identified that would require new mitigation measures or project revisions to reduce impacts to less than significant levels, and all changes merely clarify, amplify, or make insignificant modifications to the Draft EA, and recirculation is therefore not required; and

WHEREAS, the South Coast AQMD Governing Board finds and determines, taking into consideration the factors in Section (d)(4)(D) of the Governing Board Procedures (Section 30.5(4)(D)(i) of the Administrative Code), that there were no modifications to Proposed Amended Rule 463 since the Notice of Public Hearing was published; and

WHEREAS, the South Coast AQMD Governing Board has determined that the Final Socioeconomic Impact Assessment of Proposed Amended Rule 463 is consistent with the March 17, 1989 Governing Board Socioeconomic Resolution for rule amendment; and

WHEREAS, the South Coast AQMD Governing Board has determined that the Final Socioeconomic Impact Assessment is consistent with the provisions of Health and Safety Code Sections 40440.8, 40728.5, and 40920.6; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 463 will result in increased costs to the affected industries, yet such costs are considered to be reasonable, with a total annualized cost as specified in the Final Socioeconomic Impact Assessment; and

WHEREAS, the South Coast AQMD Governing Board has actively considered the Final Socioeconomic Impact Assessment and has made a good faith effort to minimize such impacts; and

WHEREAS, the South Coast AQMD staff conducted a Public Workshop regarding Proposed Amended Rule 463 on March 27, 2024; and

WHEREAS, Proposed Amended Rule 463 will be submitted for inclusion into the State Implementation Plan; and

WHEREAS, Health and Safety Code Section 40727 requires that prior to adopting, amending, or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the Final Staff Report; and

WHEREAS, the South Coast AQMD Governing Board has determined that a need exists to amend Rule 463 to implement Best Available Retrofit Control Technology, partially implement Control Measure FUG-01 of the 2022 Final Air Quality Management Plan, fulfill a commitment contained in the Wilmington, Carson, West Long Beach Community Emission Reduction Plan, fulfill a commitment contained in the South Los Angeles Community Emission Reduction Plan, and partially satisfy Clean Air Act Section 182(c)(9) requirements for ozone nonattainment areas classified as "serious" or above to included contingency measures to be implemented if the area fails to meet any applicable milestone; and

WHEREAS, the South Coast AQMD Governing Board has determined, pursuant to Health and Safety Code Section 40001(c), that there is a problem that the proposed amended rule will alleviate, namely nonattainment of several federal ozone standards, and the rule will help attain state and federal ambient air quality standards; and

WHEREAS, the South Coast AQMD Governing Board obtains its authority to adopt, amend or repeal rules and regulations from Health and Safety Code Sections 39002, 40000, 40001, 40440, 40702, 40725 through 40728, 40920.6, 41508; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 463 is written and displayed so that its meaning can be easily understood by persons directly affected by it; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 463 is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 463 does not impose the same requirements as any existing state or federal regulations, and the proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD; and

WHEREAS, the South Coast AQMD Governing Board, in amending Rule 463, references the following statutes which the South Coast AQMD hereby implements, interprets, or makes specific: Health and Safety Code Sections 39002, 40001, 40406, 40702, 40440(a), 40725 through 40728.5; and

WHEREAS, Health and Safety Code Section 40727.2 requires the South Coast AQMD to prepare a written analysis of existing federal air pollution control requirements applicable to the same source type being regulated whenever it adopts, or amends a rule, and the South Coast AQMD's comparative analysis of Proposed Amended Rule 463 is included in the Final Staff Report; and

WHEREAS, the Public Hearing has been properly noticed in accordance with all provisions of Health and Safety Code Sections 40725 and 40440.5; and

WHEREAS, the South Coast AQMD Governing Board has held a Public Hearing in accordance with all provisions of state and federal law; and

WHEREAS, the South Coast AQMD specifies the Planning and Rules Manager overseeing the rule development for Proposed Amended Rule 463 as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of this proposed project is based, which are located at the South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, California; and

NOW, THEREFORE BE IT RESOLVED, that the South Coast AQMD Governing Board has considered the Final EA for Proposed Amended Rule 463, and, on the basis of the whole record before it, the South Coast AQMD Governing Board: 1) finds that the Final EA, was completed in compliance with CEQA and the South Coast AQMD's Certified Regulatory Program, 2) finds that the Final EA and all supporting documents were presented to the South Coast AQMD Governing Board, whose members exercised

their independent judgment and reviewed, considered, and approved the information therein prior to acting on Proposed Amended Rule 463, and 3) certifies the Final EA; and

BE IT FURTHER RESOLVED, that because no significant adverse environmental impacts were identified as a result of adopting Proposed Amended Rule 463, Findings, a Statement of Overriding Considerations, and a Mitigation, Monitoring, and Reporting Plan are not required and were not prepared; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board does hereby adopt, pursuant to the authority granted by law, Proposed Amended Rule 463 as set forth in the attached, and incorporated herein by reference; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board requests that Proposed Amended Rule 463 be submitted into the State Implementation Plan; and

BE IT FURTHER RESOLVED, that the Executive Officer is hereby directed to forward a copy of this Resolution and Proposed Amended Rule 463 to the California Air Resources Board for approval and subsequent submittal to the U.S. Environmental Protection Agency for inclusion into the State Implementation Plan.

DATE: _____ _____

CLERK OF THE BOARDS

ATTACHMENT F

(Adopted August 15, 1977)(Amended June 1, 1984)(Amended December 7, 1990)
(Amended March 11, 1994)(Amended May 6, 2005)
(Amended November 4, 2011)(Amended May 5, 2023)(Amended TBD)

PROPOSED AMENDED RULE 463. ORGANIC LIQUID STORAGE

[RULE INDEX TO BE ADDED AFTER RULE ADOPTION]

(a) Purpose ~~and Applicability~~

The purpose of this rule is to reduce emissions of Volatile Organic Compounds (VOC) from the storage of ~~o~~Organic L~~l~~iquids in stationary above-ground ~~t~~Tanks and establish contingency measures for applicable ozone standards for the reduction of VOCs. ~~This rule applies to any above-ground stationary tank with a capacity of 75,000 liters (19,815 gallons) or greater used for storage of organic liquids, and any above-ground tank with a capacity between 950 liters (251 gallons) and 75,000 liters (19,815 gallons) used for storage of gasoline. This rule also applies to any stationary tank with a Potential For VOC Emissions of 6 tons per year or greater used in Crude Oil And Natural Gas Production Operations.~~

(b) Applicability

This rule applies to any above-ground stationary Tank with a capacity of 75,000 liters (19,815 gallons) or greater used for storage of Organic Liquids, and any above-ground Tank with a capacity between 950 liters (251 gallons) and 75,000 liters (19,815 gallons) used for storage of Gasoline. This rule also applies to any stationary Tank with a Potential For VOC Emissions of 6 tons per year or greater used in Crude Oil And Natural Gas Production Operations.

(~~b~~c) Definitions

For purposes of this rule, the following definitions apply:

(1) ACCESS HATCH is an opening in the roof with a vertical well and a cover attached to it. Access Hatch provides passage for workers and materials through the roof for construction or maintenance.

(~~1~~2) ACTUAL STORAGE CONDITIONS means the temperature at which a product is stored in an above-ground stationary ~~t~~Tank.

(~~2~~3) AMBIENT TEMPERATURE is the temperature of an ~~o~~Organic ~~l~~Liquid within a storage ~~t~~Tank that has been influenced by atmospheric conditions only and is not elevated by a non-atmospheric means of heating at the

(~~b~~c) ~~t~~Tank which includes but is not limited to steam, hot water, heaters, heat exchangers, ~~t~~Tank insulation, or ~~t~~Tank jacketing.

(~~3~~4) CERTIFIED PERSON is ~~an individual~~ a person who has successfully completed the ~~District~~ South Coast AQMD ~~t~~Tank self-inspection program and a South Coast AQMD approved fugitive emissions compliance inspection program, and who holds a certificate issued by the Executive Officer evidencing that such ~~individual~~ person is in good standing in this program.

(5) CLEANING is the process of washing or rinsing a stationary Tank, reservoir, pipelines, or other container or removing vapor, sludge, or rinsing liquid from a stationary Tank, reservoir, or other container.

(6) COMPONENT is any valve, fitting, pump, compressor, pressure relief device, diaphragm, hatch, sight-glass, Roof Opening, Rim Seal System, pressure vacuum vents, Guidepoles, Roof Legs, or meter in VOC service.

(7) COMPONENT INSPECTION is monitoring for Visible Vapors with a handheld Optical Gas Imaging Device of a Storage Tank roof and individual Components, including but not limited to Roof Openings and Rim Seal Systems, viewable from the Tank platform or a vantage point capable of seeing the Tank roof, and ground for Components not viewable from the Tank platform or vantage point but viewable at ground level.

(4~~8~~) CRUDE OIL AND NATURAL GAS PRODUCTION OPERATIONS are any operations from a crude oil well to the point of custody transfer to a refinery and any operations from a natural gas well to the natural gas customer.

(9) DOMED ROOF is a self-supporting Fixed Roof attached to the top of an External Floating Roof Tank to reduce evaporative losses. An External Floating Roof Tank equipped with a Domed Roof is a Domed External Floating Roof Tank.

(~~5~~10) DRAIN-DRY BREAKOUT TANK is an above-ground ~~s~~Storage ~~t~~Tank designed such that the floating roof rests on support legs no higher than one foot along the ~~t~~Tank shell with a bottom sloped to a sump or sumps such that no product or sludge remains on the ~~t~~Tank bottom and walls after emptying except clingage and is primarily used to receive product from pipelines and to distribute product back into pipelines.

(11) EMISSION INVENTORY YEAR is the annual emission-reporting period

specified by the Annual Emission Reporting (AER) Program requirements for a given year.

(~~6~~12) EXEMPT COMPOUND is as defined in Rule 102.

(13) EXTERNAL FLOATING ROOF TANK is a Storage Tank with a roof consisting of a double deck or pontoon single deck which rests or floats on the liquid being contained and is not equipped with a Fixed Roof above the floating roof.

(c)

(14) FACILITY is any equipment or group of equipment or other VOC-emitting activities, which are located on one or more contiguous properties within the South Coast AQMD, in actual physical contact or separated solely by a public roadway or other public right-of-way, and are owned or operated by the same person (or by persons under common control), or an outer continental shelf (OCS) source as determined in 40 CFR Section 55.2. Such above- described groups, if noncontiguous, but connected only by land carrying a pipeline, shall not be considered one Facility.

(15) FIXED ROOF SUPPORT COLUMN AND WELL is a column made of round pipe or of structural shape with an irregular cross section that passes through the floating roof via a peripheral vertical well and is used to support the roof of an Internal Floating Roof Tank.

(16) FIXED ROOF TANK is a Storage Tank with a permanently affixed roof.

(17) FLEXIBLE ENCLOSURE SYSTEM is a VOC emission reduction system made of a VOC impervious material which is resistant to ultraviolet radiation, completely enclosing a Slotted Guidepole and controls the vapor emission pathway from inside the storage vessel through the Guidepole slots to the outside air.

(18) FUEL GAS SYSTEM is the piping and control system that gathers gaseous stream(s) generated by onsite operations and transports the gaseous stream for sale or for use as fuel gas in combustion devices, or in-process combustion equipment such as furnaces and gas turbines, either singly or in combination.

(~~7~~19) GASOLINE means any petroleum distillate having a Reid vapor pressure of 200 mm Hg (3.9 pounds per square inch), or greater.

(20) GAUGE FLOAT is a device that is used to indicate the level of liquid within the Tank. The float rests on the liquid surface and is housed inside a well that is closed by a removable cover.

(21) GAUGE HATCH/SAMPLE PORT is an opening in the roof that provides access for gauging or sampling. A Gauge Hatch/Sample Port is usually equipped with a closing cover or a funnel and slit-fabric Seal to cover the opening.

(22) GUIDEPOLE is an anti-rotation device that is fixed to the top and bottom of the Tank, passing through a well that is equipped with a sliding cover. The Guidepole is used to prevent adverse movement of the roof and subsequent damage to the roof fittings and rim Seals, or as access for level gauging or sampling of the liquid stock. The Guidepole can be solid or equipped with slots or holes for gauging purpose.

(c)

(~~8~~23) HEAVY CRUDE OIL means a crude oil with American Petroleum Institute (API) gravity 20 degrees or less.

(24) INTERNAL FLOATING ROOF TANK is a Storage Tank equipped with a fixed roof and a floating roof which rests on the liquid being contained.

(25) LADDER AND WELL is a ladder that passes through a well and is used to access the Tank bottom of an Internal Floating Roof Tank.

(26) LIQUID MOUNTED PRIMARY SEAL is a Primary Seal that is mounted in full contact with the liquid in the annular space between the Tank shell and the floating roof.

(27) MECHANICAL SHOE PRIMARY SEAL is a metallic band attached to the floating roof sliding in contact with the Tank shell. The shoes are supported and held against the Tank shell by a mechanical device, and are joined together to form a ring. The vapor space between the shoe and the roof is sealed from the atmosphere by a Primary Seal of coated or VOC impervious fabric.

(28) OPTICAL GAS IMAGING DEVICE is an infrared camera with a detector capable of visualizing gases in the 3.2-3.4 micrometer waveband.

(~~9~~29) ORGANIC LIQUID is any liquid containing VOC.

(30) POLE FLOAT is a device located inside a Guidepole that floats on the surface of the stored liquid, and is used to indicate the liquid level inside the Tank.

(31) POLE SLEEVE is a device that extends from either the cover or the rim of an opening in a floating roof deck to the outer surface of a pole that passes through the opening.

(32) POLE WIPER is a Seal that extends from either the cover or the rim of an opening in a floating roof deck to the outer surface of a pole that passes through the opening.

(~~10~~33) POTENTIAL FOR VOC EMISSIONS means emissions calculated using a generally accepted model or calculation methodology, based on permitted throughput limits or, when permitted throughput limits are not available, based on the maximum throughput in a calendar month, where at least 30-days of production occurred, in years 2019 to 2022.

(~~11~~34) PRESSURE RELIEF VALVE (PRV) is a valve which is automatically actuated by upstream static pressure, and used for safety or emergency purposes.

(c) (35) PRIMARY SEAL is a Seal mounted below a Secondary Seal of a Rim Seal System that consists of two Seals. A Primary Seal, which is in contact with the floating roof Tank shell, can be either Mechanical Shoe, Resilient Filled, or a Seal with multiple wipers, drip curtain and weight.

(36) PRODUCT CHANGE is the process of changing the Tank contents from one Organic Liquid to another Organic Liquid that has different characteristics i.e. vapor pressure, viscosity, etc.

(37) RESILIENT FILLED PRIMARY SEAL is an envelope filled with resilient foam (non-metallic polyurethane) mounted at the rim of the floating roof that makes contact with the shell.

(38) RIM MOUNTED SECONDARY SEAL is a Secondary Seal mounted on the rim of the floating roof of a Storage Tank. Rim Mounted Secondary Seals are effective at reducing losses from the Primary Seal fabric.

(39) RIM SEAL SYSTEM is a closure device between the shell of the Storage Tank and the floating roof edge. A Rim Seal System may consist of two Seals, one above the other. The lower Seal is referred to as the Primary Seal and the upper Seal is referred to as the Secondary Seal.

(40) RIM VENT is a device consisting of a weighted pallet that rests on a valve seat. Rim Vents are used to release any excess pressure or vacuum present in the vapor pocket between the Seal and the rim area of a floating roof Tank.

(41) ROOF DRAIN is a drain on the roof of a floating roof Tank that is used to remove rainwater from the floating roof. There are two types of Roof Drains. A closed Roof Drain removes the rainwater from the surface of the roof through a flexible hose through the stored liquid prior to exiting the

Tank. With a closed Roof Drain, the rainwater does not come in contact with the liquid stored in the Tank. An open Roof Drain is any drain other than the closed Roof Drain. An open Roof Drain is typically used only during an emergency.

(42) ROOF LEG is a device that holds the floating roof at a predetermined distance from the Tank bottom to allow for Tank Cleaning or repair. There are two types of Roof Legs, adjustable or fixed. Fixed legs are attached to the floating roof or hangers suspended from the roof, whereas adjustable legs pass through a well or sleeve, and penetrate the roof.

(c) (43) ROOF OPENING is any opening through a floating roof of a Storage Tank for any roof fitting including but not limited to Access Hatch, Fixed Roof Support Column And Well, Gauge Float, Gauge Hatch, Sample Port, Guidepole, Ladder And Well, Rim Vent, Roof Drain, Roof Leg, and Vacuum Breaker, and excluding Rim Seal System.

(~~12~~44) SEAL is a closure device between the ~~t~~Tank wall and the floating roof edge that controls emissions of VOCs. Approved floating roof Tank ~~s~~Seals are categorized as follows:

(A) Category "A" ~~s~~Seals are ~~s~~Seals approved by the Executive Officer as most effective in the control of VOCs and are deemed Best Available Control Technology (BACT) according to the criteria set forth in Attachment A - "Floating Roof Tank Seal Categories."

(B) Category "B" ~~s~~Seals are ~~s~~Seals approved by the Executive Officer that are considered more effective than Category "C" ~~s~~Seals based on the criteria set forth in Attachment A - "Floating Roof Tank Seal Categories."

(C) Category "C" ~~s~~Seals are ~~s~~Seals approved by the Executive Officer which are currently in service but are considered least effective in the control of VOCs.

(45) SECONDARY SEAL is a Seal mounted above the Primary Seal of a Rim Seal System that consists of two Seals.

(46) SLOTTED GUIDEPOLE is a Guidepole that has slots or holes through the wall of the Guidepole. The slots or holes allow the stored liquid to flow into the pole at liquid levels above the lowest operating level.

~~(13) TANK is any stationary reservoir or any other stationary container used for storage of an organic liquid primarily constructed of non-earthen materials.~~

(47) STORAGE TANK or TANK is a stationary container primarily constructed of non-earthen materials that meets the applicability criteria of this rule.

(48) TANK FARM INSPECTION is monitoring for Visible Vapors with a handheld Optical Gas Imaging Device of all applicable Storage Tanks at a Facility where the person conducting the inspection views the top of the Tank shell, and fixed roof or dome if applicable. Tank Farm Inspections may be conducted from an elevated position and/or from ground level.

(49) TRUE VAPOR PRESSURE is the vapor pressure of a liquid at Actual Storage Conditions.

(c)

(50) VACUUM BREAKER is a device used to equalize the pressure of the vapor space across the deck as the floating roof is either being landed on or floated off its legs. A Vacuum Breaker consists of a well with a cover. Attached to the underside of the cover is a guided leg long enough to contact the Tank bottom as the floating roof is being landed. When in contact with the Tank bottom, the guided leg mechanically lifts the cover off the well.

(~~14~~51) VAPOR TIGHT is a condition that exists when the reading on a portable hydrocarbon meter is less than 500 parts per million (ppm), expressed as methane, above background.

(52) VISIBLE GAP is a gap of more than 1/8 inch between any gasket or Seal and the opening that it is intended to control. Visible Gap for Primary and Secondary Seals is a gap that does not meet the requirements specified in subdivision (d).

(53) VISIBLE VAPORS are any VOC vapors detected with an Optical Gas Imaging Device, when operated and maintained in accordance with manufacturer training or certification, or equivalent California Air Resources Board (CARB) training, user manuals, specifications, and recommendations.

(~~15~~54) VOLATILE ORGANIC COMPOUND (VOC) is as defined in Rule 102.

(55) WASTE STREAM TANK is a Storage Tank containing at least 75% water by volume, and some liquid waste stream generated in a manner which contains petroleum liquid, emulsified oil, VOC or other hydrocarbons. For the purpose of this rule, Waste Stream Tanks include waste water Tanks and recovered oil (or slop oil) Tanks.

(~~16~~56) WORKING DAY is Monday through Friday and includes holidays that fall on any of the days Monday through Friday.

(~~c~~d) Tank Roof Requirements

No person shall place, store or hold in any ~~t~~Tank with a capacity of 150,000 liters (39,630 gallons) or greater, any ~~o~~Organic ~~l~~Liquid having a ~~t~~True ~~v~~Vapor ~~p~~Pressure of 25.8 mm Hg (0.5 psi) absolute or greater under ~~a~~Actual ~~s~~Storage ~~c~~Conditions, in any ~~t~~Tank of more than 75,000 liters (19,815 gallons) capacity, any ~~o~~Organic ~~l~~Liquid having a ~~t~~True ~~v~~Vapor ~~p~~Pressure of 77.5 mm Hg (1.5 psi) absolute or greater under ~~a~~Actual ~~s~~Storage ~~c~~Conditions, or any ~~t~~Tank with a Potential For VOC Emissions of 6 tons per year or greater used in Crude Oil And Natural Gas Production Operations, unless such ~~t~~Tank is a pressure ~~t~~Tank maintaining working pressures sufficient at all times to prevent organic vapor loss to the atmosphere, or is designed and equipped with one of the following vapor control devices, or other vapor control device that has been determined to be equivalent after review by ~~the staffs of~~ the ~~District~~South Coast AQMD, ~~the Air Resources Board (ARB)~~CARB, and the United States Environmental Protection Agency (U.S. EPA), and approved in writing by the ~~District~~ Executive Officer, ~~ARB~~CARB, and U.S. EPA, which is properly installed and continuously maintained in good operating condition:

(1) External Floating Roof

An external floating roof shall consist of a pontoon-type or double deck-type cover that continuously rests on the surface of the ~~o~~Organic ~~l~~Liquid and is equipped with a closure device between the ~~t~~Tank shall and roof edge. The closure device shall consist of two ~~s~~Seals, with one ~~s~~Seal placed above the other. The ~~s~~Seal below shall be designated as the ~~p~~Primary ~~s~~Seal, and the ~~s~~Seal above shall be designated as the ~~s~~Secondary ~~s~~Seal. An owner or operator shall not install or use ~~A~~ a ~~s~~Seal which is not identified on the current list of ~~s~~Seals approved by the Executive Officer ~~shall not be installed or used~~ unless the Executive Officer determines that such ~~s~~Seal meets the applicable criteria of subparagraphs (~~c~~d)(1)(A) through (~~c~~d)(1)(C). The owner or operator of an External Floating Roof Tank shall equip the tank with a Rim Seal System meeting the following requirements:

(~~e~~d) (A) A closure device on a welded or a riveted ~~t~~Tank shell which uses a ~~metallic shoe-type seal as its primary seal~~ Mechanical Shoe Primary Seal shall comply with the following requirements:

(i) Gaps between the ~~t~~Tank shell and the ~~p~~Primary ~~s~~Seal shall not exceed 1.3 centimeters (1/2 inch) for a cumulative length of 30 percent of the circumference of the ~~t~~Tank, and 0.32 centimeter (1/8 inch) for 60 percent of the circumference of the ~~t~~Tank. No gap between the ~~t~~Tank shell and the P~~p~~rimary ~~s~~Seal shall exceed 3.8 centimeters (1-1/2 inches). No continuous gap between the ~~t~~Tank shell and the ~~p~~Primary ~~s~~Seal greater than 0.32 centimeter (1/8 inch) shall exceed 10 percent of the circumference of the ~~t~~Tank.

(ii) Gaps between the ~~t~~Tank shell and the ~~s~~Secondary ~~s~~Seal shall not exceed 0.32 centimeter (1/8 inch) for a cumulative length of 95 percent of the circumference of the ~~t~~Tank. No gap between the ~~t~~Tank shell and the ~~s~~Secondary ~~s~~Seal shall exceed 1.3 centimeters (1/2 inch).

(~~e~~d) (iii) ~~Metallic shoe-type seals~~ Mechanical Shoe Primary Seals installed on or after August 1, 1977 shall be installed so that one end of the shoe extends into the stored ~~o~~Organic ~~l~~Liquid and the other end extends a minimum vertical distance of 61 centimeters (24 inches) above the stored ~~o~~Organic ~~l~~Liquid surface.

(iv) The geometry of the shoe shall be such that the maximum gap between the shoe and the ~~t~~Tank shell is no greater than double the gap allowed by the ~~s~~Seal gap criteria specified in clause (~~e~~d)(1)(A)(i) for a length of at least 46 centimeters (18 inches) in the vertical plane above the liquid surface.

(v) Primary and Secondary Seals for Tanks subject to U.S. EPA CFR 40 Part 60 Subpart Kb must meet the Seal gap requirements specified in U.S. EPA CFR 40 Part 60 Subpart Kb.

(B) A closure device which uses a resilient toroid-type ~~s~~Seal as its ~~p~~Primary ~~s~~Seal shall comply with the applicable requirements of subparagraph (~~e~~d)(1)(A).

(C) The ~~p~~Primary and ~~s~~Secondary ~~s~~Seals shall comply with the following requirements:

(i) The ~~p~~Primary ~~s~~Seal envelope shall be made available for unobstructed inspection by the Executive Officer along its circumference. In the case of riveted ~~t~~Tanks with resilient toroid-type seals, at least eight such locations shall be made available; for all other types of ~~s~~Seals, at least four such locations shall be made available. If the Executive Officer deems it necessary, further unobstructed inspection of the ~~p~~Primary ~~s~~Seal may be required to determine the ~~s~~Seal's condition along its entire circumference.

(ii) The ~~s~~Secondary ~~s~~Seal shall be installed in a way that permits the Executive Officer to insert probes up to 3.8 centimeters (1-1/2 inches) in width to measure gaps in the ~~p~~Primary ~~s~~Seal.

(iii) The ~~s~~Secondary ~~s~~Seal shall extend from the roof to the ~~t~~Tank shell and shall not be attached to the ~~p~~Primary ~~s~~Seal.

(d) (iv) Notwithstanding the ~~s~~Secondary and the ~~p~~Primary ~~s~~Seal requirements of paragraph (~~c~~d)(1), a secondary or ~~p~~Primary ~~s~~Seal may be loosened or removed for preventive maintenance, inspection or repair for a period not exceeding 72 hours with prior notification to the Executive Officer.

(D) The owner or operator shall ensure that ~~All~~ all ~~openings in the roof~~ Roof Openings except pressure-vacuum valves, ~~shall~~ provide a projection below the liquid surface to prevent belching, escape, or entrainment of ~~o~~Organic ~~l~~Liquid, and shall be equipped with a cover, ~~s~~Seal or lid. The cover, ~~s~~Seal, or lid shall at all times be in a closed position, with no ~~v~~Visible ~~g~~Gaps, and maintained in a Vapor Tight condition except when the device or appurtenance is in use. Pressure vacuum valves shall be set to within 10 percent of the maximum allowable working pressure of the roof.

(E) The owner or operator shall ensure that ~~There~~ there ~~shall be~~are no holes, tears or openings in the ~~s~~Secondary ~~s~~Seal or in the ~~p~~Primary ~~s~~Seal envelope surrounding the annular vapor space enclosed by the roof edge, ~~s~~Seal fabric, and ~~s~~Secondary ~~s~~Seal.

(F) The owner or operator shall equip ~~Any~~ any emergency ~~r~~Roof ~~d~~Drain ~~shall be provided~~ with a slotted membrane fabric cover, or equivalent device, that covers at least nine-tenths (9/10) of the area of the opening.

(G) Tank Condition Requirements

The owner or operator shall maintain the Tank in a condition free of Visible Vapors resulting from a defect in equipment.

(i) In the event that Visible Vapors are detected and an owner or operator states the Tank is in compliance with the provisions in paragraphs (d)(1), (d)(2), (d)(3), or (d)(4), the owner or operator must demonstrate that the Visible Vapors are not the result of a defect in the equipment.

(H) Doming Requirements

Beginning three years after [*Date of Adoption*] the owner or operator shall install a Domed Roof on External Floating Roof Tanks used to store Organic Liquid with a True Vapor Pressure of 3 psia or greater as demonstrated pursuant to subparagraph (d)(1)(I) at the time of the next internal API 653 inspection or the next time the Tank is cleaned and degassed, whichever is sooner. The owner or operator shall install domes no later than twenty-three years after a test specified in subparagraph (d)(1)(I) verifies that the Organic Liquid stored has a True Vapor Pressure of 3 psia or greater.

(I) Verification of True Vapor Pressure

Effective January 1, 2025, an owner or operator of an External Floating Roof Tank shall demonstrate the True Vapor Pressure of the Organic Liquid stored using an initial test completed by July 1, 2025, with one representative sample. External Floating Roof Tanks storing Organic Liquids with True Vapor Pressure below 3 psia shall conduct subsequent tests at least once every six calendar months pursuant to the requirements of subdivision (i).

(i) In lieu of the semi-annual subsequent TVP tests specified in subparagraph (d)(1)(I), an owner or operator may elect to conduct monthly TVP tests beginning January 2025 and calculate an average every six months.

(~~c~~d) (J) In lieu of complying with the requirements in subparagraph (d)(1)(H), the owner or operator of a waste water Tank where the conversion to a Domed External Floating Roof Tank may create a hazard due to the accumulation of pyrophoric material, as confirmed by the Executive Officer, shall accept permit conditions to limit the True Vapor Pressure of the Organic Liquid stored in a Tank to less than 3 psia.

(2) Internal Floating-Type Cover

An owner or operator of ~~A~~ a ~~f~~Fixed ~~r~~Roof ~~t~~Tank equipped with an internal floating-type cover shall comply with the following requirements:

~~(A) A fixed roof tank with an existing internal floating-type cover approved by the Executive Officer on or before June 1, 1984, shall comply with the requirements applicable at the time such approval was givn.~~

(d) (~~B~~A) A ~~f~~Fixed ~~r~~Roof ~~t~~Tank which has an internal floating-type cover ~~installed, modified, or replaced after June 1, 1984,~~ shall have a closure device which consists of ~~either~~ a ~~single~~ ~~l~~Liquid ~~m~~Mounted ~~p~~Primary ~~s~~Seal ~~or a primary~~ and a ~~s~~Secondary ~~s~~Seal. All Roof ~~o~~Openings and fittings shall be fully gasketed and maintained in a Vapor Tight condition or controlled in a manner specified by the Executive Officer, except for when in operation or opened for access. The closure device shall control vapor loss with an effectiveness equivalent to a closure device which meets the requirements of subparagraph (~~c~~d)(1)(A), with the exception of a Mechanical Shoe Primary Seal which shall have one end extend a minimum vertical distance of 15 centimeters (6 inches) above the liquid surface and the other end extend into the liquid a minimum of 10 centimeters (4 inches). Seal designs not identified on the current list of ~~s~~Seals approved by the Executive Officer shall not be installed or used unless the Executive Officer has given ~~his~~their prior written approval to its installation or use. ~~For purposes of this paragraph, modification includes an identical replacement.~~

~~(d)~~ (~~C~~B) The concentration of organic vapor in the vapor space above the internal floating-type cover shall not exceed 50 percent of its lower explosive limit (LEL) for those installed prior to June 1, 1984 and

30 percent of its LEL for those installed after June 1, 1984. Compliance shall be verified by the use of an explosimeter.

(C) The owner or operator shall comply with the requirements of subparagraph (d)(1)(G).

(D) Beginning two years after [*Date of Adoption*], the owner or operator shall comply with the Primary and Secondary Seal requirements for Internal Floating Roof Tanks specified in subparagraph (d)(2)(A) at the time of the next internal API 653 inspection or the next time the Tank is cleaned and degassed, whichever is sooner. The owner or operator shall install Secondary Seals no later than twenty-two years after [*Date of Adoption*].

(3) ~~Vapor Recovery System~~Fixed Roof Tanks

An owner or operator of ~~A~~ a ~~f~~Fixed ~~r~~Roof ~~t~~Tank not using an internal floating-type cover shall ~~be equipped~~equip the Tank with a vapor recovery system ~~shall comply~~that complies with the following requirements:

(A) Any ~~t~~Tank gauging or sampling device on a ~~t~~Tank vented to the vapor recovery system shall be equipped with a ~~vapor-tight~~ cover maintained in Vapor Tight condition which shall be closed at all times except during gauging or sampling. The roof of such ~~t~~Tank shall be properly maintained in a ~~v~~Vapor ~~t~~Tight condition with no holes, tears or uncovered openings.

(B) All piping, valves and fittings shall be constructed and maintained in a ~~v~~Vapor- ~~t~~Tight condition, in accordance with requirements of other ~~District~~South Coast AQMD rules for such equipment.

(~~e~~d) (C) For ~~purposes of this paragraph~~Fixed Roof Tanks, the efficiency of a vapor recovery system shall be determined by making a comparison of controlled emissions to those emissions which would occur from a fixed cone roof ~~t~~Tank holding the same ~~o~~Organic ~~l~~Liquid without a vapor control or vapor recovery system. The vapor recovery system shall have an efficiency of at least ~~95~~98 percent by weight, or vent ~~t~~Tank emissions to a ~~f~~Fuel ~~g~~Gas ~~s~~System.

(D) The owner or operator shall comply with the requirements of subparagraph (d)(1)(G).

(4) Domed External Floating Roof Tanks

The owner or operator of a Domed External Floating Roof Tank shall:

(A) Equip and maintain all Roof Openings and Rim Seal Systems and in accordance with the specifications listed in paragraph (d)(1), except for Slotted Guidepoles. Each Slotted Guidepole shall be equipped with the following combination of Components:

(i) A gasketed cover, a Pole Wiper, a Pole Float with a wiper or Seal; or

(ii) A gasketed cover, a Pole Wiper, and a Pole Sleeve that shall be extended into the stored liquid; or

(iii) A gasketed cover, a Pole Wiper, and a flexible enclosure system.

(B) Ensure that the concentration of organic vapor in the vapor space above the floating roof does not exceed 30 percent of its lower explosive limit (LEL).

(C) Comply with the requirements of subparagraph (d)(1)(G).

(D) Maintain the Domed Roof in a condition that is free of gaps, cracks, punctures, and other openings, except where vents and access points are located.

(~~d~~e) Other Performance Requirements

(1) ~~A person~~An owner or operator shall not place, store or hold ~~g~~Gasoline in any ~~t~~Tank, with a capacity of between 950 liters (251 gallons) and 75,000 liters (19,815 gallons) unless such ~~t~~Tank is equipped with a pressure-vacuum valve which is set to within 10 percent of the maximum allowable working pressure of the container, or is equipped with a vapor loss control device which complies with the requirements set forth in subdivision (~~c~~d).

(2) An owner or operator shall float ~~The~~ the roof of any ~~i~~Internal or ~~e~~External ~~f~~Floating ~~r~~Roof ~~t~~Tank ~~shall float~~ on the ~~o~~Organic ~~l~~Liquid at all times (i.e., free of the ~~r~~Roof ~~l~~Leg supports) except when the ~~t~~Tank is being completely emptied for ~~c~~Cleaning, ~~or~~ repair, or during a Product Change. The process of emptying or refilling, when the roof is resting on leg supports, shall be continuous.

(3) If a ~~t~~Tank has been gas-freed and is to be refilled with ~~g~~Gasoline, the owner or operator ~~roof~~ shall ~~be refloated~~ refloat the roof with water or by an equivalent procedure approved by the Executive Officer. Paragraphs

(e) (~~d~~e)(2) and (~~d~~e)(3) shall be inapplicable to ~~g~~Gasoline ~~s~~Storage ~~t~~Tanks at bulk ~~g~~Gasoline distribution terminals which do not have:

(A) existing facilities for treatment of waste water used to refloat the ~~t~~Tank roof; or

(B) facilities for equivalent emission control when refloating the roof with ~~o~~Organic ~~l~~Liquid.

(4) An owner or operator shall not use ~~A~~ a ~~f~~Fixed ~~r~~Roof ~~t~~Tank with an internal floating-type cover or a ~~t~~Tank with an external floating roof cover ~~shall not be used~~ for storing ~~o~~Organic ~~l~~Liquids having a ~~t~~True ~~v~~Vapor ~~p~~Pressure of 11 psia (569 mm Hg) or greater under ~~a~~Actual ~~s~~Storage ~~c~~Conditions.

(5) The owner or operator shall not replace ~~Replacement of~~ a ~~s~~Seal on a floating roof ~~t~~Tank ~~shall be allowed only if~~unless the replacement ~~s~~Seal is chosen from the current list of ~~s~~Seals approved by the Executive Officer. Category "A" ~~s~~Seals shall be replaced only by Category "A" ~~s~~Seals. Category "B" ~~s~~Seals shall be replaced only by Category "A" or Category "B" ~~s~~Seals. Category "C" ~~s~~Seals shall be replaced only by Category "A" or Category "B" ~~s~~Seals. Seal designs not identified on the current list of Seals approved by the Executive Officer shall not be installed or used unless the Executive Officer has given their prior written approval to its installation or use.

(6) ~~Organic liquids listed on the addendum to this rule shall be deemed to be in compliance with~~The addendum to this rule can be used as a guide for compliance with the appropriate vapor pressure limits for the ~~t~~Tank in which ~~it~~the corresponding Organic Liquid is stored provided the actual storage temperature does not exceed the corresponding maximum temperature listed.

(~~e~~f) ~~Self-Inspection of Floating Roof Tanks~~Monitoring Requirements

Any owner or operator of a floating roof ~~t~~Tank(s) shall conduct self-inspections of its ~~t~~Tank(s) according to the following procedures:

(1) Inspection and Maintenance Plan

(A) Each owner or operator shall maintain a current or revised Inspection and Maintenance Plan approved by the Executive Officer. Each owner or operator constructing floating roof ~~t~~Tank(s) subject to this rule shall submit an Inspection and

(f) Maintenance Plan, or a revision of its current Inspection and Maintenance Plan, to the Executive Officer prior to the completion of construction. The Inspection and Maintenance Plan shall include an inventory of floating roof ~~t~~Tanks subject to this rule, the proposed self-inspection schedule, the number of ~~c~~Certified ~~p~~Persons to be dedicated to the program, any self-inspection procedures proposed in addition to those required by the ~~District~~South Coast AQMD, and a copy of the owner or operator's safety procedures used for floating roof ~~t~~Tanks. The ~~t~~Tank inventory shall include ~~t~~Tank identification number, maximum design capacity, product, shell type, dimensions, ~~s~~Seal type and manufacturer, floating roof type, date of construction and location.

(2) Identification Requirements

(A) All floating roof ~~t~~Tanks subject to this rule shall be clearly and visibly identified by a sign on the outside wall for inventory, inspection and recordkeeping purposes.

(B) Any change(s) in floating roof ~~t~~Tank identification shall require prior written approval by the Executive Officer.

(3) Owner or Operator Inspection Requirements

(A) All floating roof ~~t~~Tanks subject to this rule shall be inspected by a ~~c~~Certified ~~p~~Person twice per year at 4 to 8 months intervals according to the procedures and guidelines set forth in Attachment B - "Inspection Procedures and Compliance Report Form."

(B) The ~~p~~Primary and ~~s~~Secondary ~~s~~Seals shall be inspected by a ~~c~~Certified ~~p~~Person each time a floating roof ~~t~~Tank is emptied and degassed. Gap measurements shall be performed on an ~~e~~External ~~F~~floating ~~r~~Roof ~~T~~tank when the liquid surface is still but not more than ~~24~~48 hours after the ~~t~~Tank roof is refloated.

(C) The Executive Officer shall be notified electronically in writing to the Executive Officer via Rule463ComplianceReports@aqmd.gov at least ~~2 weeks~~2 days prior to the start of any tank-emptying or roof-refloating operation for planned maintenance of a ~~t~~Tank.

(D) Optical Gas Imaging Inspections

Effective July 1, 2025, the owner or operator shall demonstrate compliance with subparagraphs (d)(1)(G), (d)(2)(C), (d)(3)(D) and (d)(4)(C) for Tanks with a capacity greater than 75,000 liters

(f) (19,815 gallons) storing Organic Liquid with a True Vapor Pressure of 1.5 psi or greater, Tanks with a capacity of 150,000 liters (39,630 gallons) and above storing Organic Liquid with a True Vapor Pressure of 0.5 psi or greater, Tanks with a capacity of 950 liters (251 gallons) to 75,000 liters (19,815 gallons) used to store Gasoline, and any Tank with a Potential For VOC Emissions of 6 tons per year or greater used in Crude Oil And Natural Gas Production Operations by conducting OGI inspections in accordance with the following requirements:

(i) The person conducting an OGI inspection shall:

(A) Complete a manufacturer's certification or training program, or equivalent CARB training for the OGI Device used to conduct the inspection; and

(B) Operate and maintain the OGI Device in accordance with the manufacturer's specifications and recommendations.

(ii) Tank Farm Inspections

A person meeting the requirements of clause (f)(3)(D)(i) shall:

(A) Conduct a Tank Farm Inspection at least once every two calendar weeks; and

(B) When Visible Vapors are detected from a Tank, conduct an inspection from the Tank's platform or a vantage point capable of seeing the top of the tank roof if there is no platform available to identify Components and/or equipment emitting Visible Vapors.

(1) If determined that Visible Vapors are emitted from Components required to be maintained in a Vapor Tight condition or in a condition with no Visible Gaps, the owner or operator shall make necessary repairs or adjustments pursuant to paragraph (f)(4), or demonstrate compliance with a Vapor Tight condition or a condition with no Visible

Gaps for the Component from which Visible Vapors are emitted within 3 days.

(~~h~~f) (2) If determined that Visible Vapors are emitted from equipment not specified in item (f)(3)(D)(ii)(B)(1), a visual inspection for defects in equipment shall be conducted, which may include the use of the OGI Device. The owner or operator shall make necessary repairs or adjustments pursuant to paragraph (f)(4) for any defects identified.

(iii) Component Inspections

A person that meets the requirements of clause (f)(3)(D)(i) shall:

(A) Conduct a Component Inspection for each floating roof Tank at least twice per year at 4 to 8 month intervals; and

(B) When Visible Vapors are detected, and are not emitted from the Rim Seal System, the owner or operator shall make any necessary repairs or adjustments pursuant to paragraph (f)(4), or demonstrate compliance with the applicable rule requirements for the Components or equipment from which Visible Vapors are detected within 3 days; and

(C) When the Visible Vapors are detected from the Rim Seal System, the owner or operator shall identify any defects in the equipment and make any necessary repairs or adjustments pursuant to paragraph (f)(4). If no defects are identified, an inspection from ground level shall be conducted. If Visible Vapors are detected at the top of the Tank shell or roof vents, the owner or operator shall demonstrate compliance with the Rim Seal requirements of this rule, or make any necessary repairs, within 3 days.

(f)

(E) In lieu of the required OGI inspections specified in subparagraph (f)(3)(D), an owner or operator may elect to use an alternative monitoring method approved in writing by the U.S. EPA that is equivalent or more stringent than the monitoring requirements specified in subparagraph (f)(3)(D).

(i) An owner or operator seeking to use the alternative monitoring method specified in subparagraph (f)(3)(E) shall submit written documentation of the U.S. EPA approved method to the South Coast AQMD for approval.

(4) Maintenance Requirements

Any ~~floating roof~~ tTank which does not comply with any provision of this rule shall be brought into compliance within 72 hours of the determination of non-compliance.

(5) Vapor Recovery Systems

No later than one year after [*Date of Adoption*], the owner or operator of a Facility who operates a vapor recovery system to comply with the requirements in subparagraph (d)(3)(C) shall conduct an initial performance test to determine the overall efficiency of the vapor recovery system. The performance testing of the vapor recovery system shall be repeated when the system is modified or an operating parameter is changed in a manner that affects the capture or control efficiency. In such case, the performance test shall be within 180 days after the modification. Subsequent to the initial performance test, the operator shall conduct a performance test at least once every ten years, and shall monitor and record applicable operating parameters on a weekly basis to ensure that the vapor recovery system is achieving 98% overall control efficiency.

(~~f~~g) Reporting and Recordkeeping Requirements

(1) The following shall apply to an owner or operator ~~activities~~ subject to the provisions of subdivision (~~e~~f):

(A) All inspections shall be recorded on compliance inspection report forms approved by the Executive Officer as described in Attachment B - "Inspection Procedures and Compliance Report Form." An owner or operator may use an electronic compliance inspection report form provided that all required information

(~~f~~g) specified in Attachment B is contained in the electronic report form.

(B) All compliance inspection reports and documents shall be submitted to the Executive Officer either electronically or by hard copy within 5 ~~w~~Working ~~d~~Days of completion of the self-inspection. Electronic reports shall be submitted to the Executive Officer via Rule463ComplianceReports@aqmd.gov.

(C) If a ~~t~~Tank is determined to be in violation of the requirements of this rule, a written report shall be submitted electronically to the Executive Officer via Rule463ComplianceReports@aqmd.gov within 120 hours of the determination of non-compliance, indicating corrective actions taken to achieve compliance.

(D) All records of owner or operator inspection and repair shall be maintained at the ~~f~~Facility for a period of 3 years and shall be made available to the Executive Officer upon request.

(2) Emissions Reporting

(A) An owner or operator shall provide emissions information, to the Executive Officer upon request, based on the parameters listed in Attachment C using AQMD's Annual Emissions Reporting Program. ~~or U.S. EPA's most recent version of TANKS 4.0 Program~~. The requirement shall apply to all ~~o~~Organic ~~l~~Liquid ~~s~~Storage ~~t~~Tanks without regard to exemptions specified in subdivision (~~g~~h).

(B) An owner or operator shall provide all upset emissions information associated with ~~p~~Product ~~c~~Change, repair, and turnover or any other excess emission incidents.

(C) An owner or operator shall maintain records of emissions data for all ~~o~~Organic ~~l~~Liquid ~~s~~Storage ~~t~~Tanks for the most recent two (2) year period.

(3) ~~A person~~An owner or operator ~~whose t~~Tanks ~~are subject to this rule~~ shall keep an accurate record of liquids stored in such containers, the vapor pressure ranges, the API gravity, the temperature, and the initial boiling points referenced.

(4) For OGI inspections required by subparagraph (f)(3)(D), the owner or operator shall:

(A) Report Visible Vapors detected during a Tank Farm Inspection requiring a demonstration with rule requirements or a repair pursuant to subclause (f)(3)(D)(ii)(B) to the Executive Officer by phone (1-800-CUT-SMOG or 1- 800-288-7664) within 24 hours after the inspection is completed;

(~~h~~g) (B) Keep written records and digital recordings of Visible Vapors detected during a Tank Farm Inspection resulting from a defect or emitted from a Component required to be maintained in a Vapor Tight condition or a condition with no Visible Gaps. Written records shall include Tank identification, date of inspection, and findings. Findings shall include identification of Tanks from which Visible Vapors were identified and any repairs or determinations made pursuant to clause (f)(3)(D)(ii). Digital recordings shall be accurately time-stamped and capture the Visible Vapors for a minimum of 5 seconds; and

(C) Keep written records of Component Inspections that include Tank identification, date of inspection and findings. Findings shall include identification of Storage Tanks from which Visible Vapors were identified, any repairs or determinations made pursuant to clause (f)(3)(D)(iii).

(5) An owner or operator shall keep records of all True Vapor Pressure results from tests specified in subparagraph (d)(1)(I) for the most recent 20 year period and records shall be made available to the Executive Officer upon request.

(6) An owner or operator shall report any tests specified in subparagraph (d)(1)(I) that result in a True Vapor Pressure of 3.0 psia or greater to the Executive Officer via Rule463ComplianceReports@aqmd.gov within 14 days. The report shall include the year of the next internal API 653 inspection and the next planned tank cleaning and degassing.

(7) The owner or operator of a vapor recovery system shall submit all performance test reports to the Executive Officer via Rule463ComplianceReports@aqmd.gov no later than 60 days after conducting the test.

(~~g~~h) Exemptions

(1) The provisions of this rule shall not apply to the following ~~t~~Tanks, unless the ~~t~~Tank has a Potential For VOC Emissions of 6 tons per year or greater and is used in Crude Oil And Natural Gas Production Operations, provided the ~~person~~ owner or operator seeking the exemption supplies proof of the applicable criteria sufficient to satisfy the Executive Officer:

(h)

(A) Oil production ~~t~~Tanks with a capacity of between 75,000 liters (19,815 gallons) and 159,000 liters (42,008 gallons) which have a ~~properly maintained vapor tight~~ roof maintained in a Vapor Tight condition and are equipped with a pressure-vacuum valve which is set within 10 percent of the maximum allowable working pressure of the ~~t~~Tank, are exempt from the control requirements of this rule when:

(i) The ~~o~~Organic ~~l~~Liquid contents fail to comply with subdivision (~~e~~d) only when heated for shipment, and such heating occurs for not more than 48 hours and not more than once in any 20-day period; or

(ii) The ~~t~~Tank has a monthly average throughput of not more than 30 barrels of oil per day and was constructed prior to June 1, 1984.

(B) Tanks being brought into compliance within the time period specified in paragraph (~~e~~f)(4).

(2) The provisions of paragraph (~~d~~e)(2) shall not apply to ~~d~~Drain-~~d~~Dry ~~b~~Breakout ~~t~~Tanks that are subject to the provisions of Rule 1149 - Storage Tank And Pipeline Cleaning And Degassing.

(3) The provisions of this rule shall not apply to Storage Tanks that are subject to Rule 1178, except for subdivision (e) and paragraphs (c)(36) and (c)(44).

(4) Any tank that is out of service, where the tank has been emptied or has been opened to the atmosphere pursuant to the requirements of Rule 1149, shall be exempt from the requirements of subparagraphs (f)(3)(D) and (f)(3)(E) until the tank is refilled.

(5) An owner or operator shall be exempt from the requirements of clause (f)(3)(D)(iii) if a determination is made that it is unsafe to conduct an inspection from a Tank platform or vantage point capable of seeing the Tank roof, provided that the reason(s) and date(s) the inspection was not

conducted is documented. The inspections shall resume on the first day determined to be safe.

(~~h~~i) Test Methods

The following test methods and procedures shall be used to determine compliance with this rule. Other test methods determined to be equivalent after review by ~~the staffs of~~ the ~~District~~South Coast AQMD, ~~the Air Resources Board~~CARB, and the U.S. EPA, and approved in writing by the ~~District~~Executive Officer may also be used.

(i) (1) Efficiency of a vapor recovery system specified in subparagraph (~~c~~d)(3)(C) shall be determined according to ~~SC~~South Coast AQMD Method 501.1 for the determination of total organic compound emissions. EPA Reference Methods 25 or 25A may be used, as applicable, in place of ~~SC~~South Coast AQMD Method 25.1 specified in Method 501.1. An efficiency determined to be less than established by this rule through the use of any of the above-referenced test methods shall constitute a violation of the rule. Baseline emissions shall be calculated by using the criteria outlined in American Petroleum Institute Bulletin 2518.

(2) Exempt compounds shall be determined according to ~~SC~~South Coast AQMD Method 303. For the purpose of testing the efficiency of a vapor recovery system, ~~e~~Exempt ~~c~~Compounds shall be determined according to EPA Reference Method 18 or ~~ARB~~Air Resources Board Method 422. Any test method(s) for ~~e~~Exempt ~~c~~Compounds which cannot be identified through these referenced test methods shall be specified by the owner or operator seeking an exemption and shall be subject to approval in accordance with the procedures set forth above in this subdivision.

(3) The Reid vapor pressure specified in paragraph (~~b~~c)(~~6~~18) and the Reid vapor pressure used in determining the ~~t~~True ~~v~~Vapor ~~p~~Pressure limit specified in paragraph (~~d~~e)(4) and subparagraph (d)(1)(I) shall be determined according to the following test methods and converted to True Vapor Pressure using applicable nomographs in U.S. EPA AP-42, or nomographs approved by the Executive Officer and U.S. EPA:

(A) ASTM D-323-82 —Vapor Pressure of Petroleum Products (Reid Method)~~,~~;

(B) ASTM D-6377 Standard Test Method for Determination of Vapor Pressure of Crude Oil: VPCRx (Expansion Method);

(C) ASTM D-6378 Standard Test Method for Determination of Vapor Pressure (VPX) of Petroleum Products, Hydrocarbons, and Hydrocarbon-Oxygenate Mixtures (Triple Expansion Method); or

(D) California Code of Regulations, Title 13, Section 2297.~~, and converted to tTrue vVapor pPressure using applicable nomographs in U.S. EPA AP-42, Fifth Edition, Volume 1, Chapter 7, or nomographs approved by the Executive Officer and U.S. EPA.~~

(4) Notwithstanding the provisions of paragraph (~~h~~i)(3), if a permit condition or ~~District~~South Coast AQMD rule requires a demonstration of ~~t~~True ~~v~~Vapor ~~p~~Pressure of less than 5 mm Hg (0.1 psi) absolute, either of the following test methods may be used:

(i)

(A) Organic liquids that are stored at ~~a~~Ambient ~~t~~Temperatures with a ~~t~~True ~~v~~Vapor ~~p~~Pressure of greater than 5 mm Hg (0.1 psi) absolute under ~~a~~Actual ~~s~~Storage ~~c~~Conditions shall be determined as those with a flash point of less than 100 °F as determined by ASTM Method D-93 – 10a - Flash Point by Pensky-Martens Closed Cup Tester.

(B) Organic liquids that are stored at above ~~a~~Ambient ~~t~~Temperatures with a ~~t~~True ~~v~~Vapor ~~p~~Pressure greater than 5 mm Hg (0.1 psi) absolute under ~~a~~Actual ~~s~~Storage ~~c~~Conditions shall be determined as those whose volume percent evaporated is greater than ten percent at an adjusted temperature T_{Adj} as determined by ASTM Method D-86 – 11a - Distillation of Petroleum Products at Atmospheric Pressure of:

$$T_{Adj} = 300\ °F + T_1 - T_a$$

Where:

T_1 = Liquid Storage Temperature (°F)

T_a = Ambient Temperature (°F) = 70 °F

(5) Notwithstanding the provisions of paragraph (~~h~~i)(3), the ~~t~~True ~~v~~Vapor ~~p~~Pressure of crude oils and distillates shall be determined, at ~~a~~Actual ~~s~~Storage ~~c~~Conditions, by converting Reid vapor pressure using the appropriate API nomograph found in U.S. EPA AP-42, ~~Fifth Edition,~~

~~Volume 1, Chapter 7,~~ or API nomograph found in API Publication 2517, ~~Second Edition, February 1980~~. The ~~t~~True ~~v~~Vapor ~~p~~Pressure of crude oils with an API gravity of 26.0 or less, may be measured using the Lawrence Berkeley National Laboratory "Test Method for Vapor Pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatography."~~, May 28, 2002~~.

(6) Vapor ~~t~~Tight condition specified in subparagraphs (d)(1)(D), (d)(2)(A), (~~c~~d)(3)(A)~~ and~~, (~~c~~d)(3)(B), and (h)(1)(A) shall be determined according to U.S. EPA's Reference Method 21 using an appropriate analyzer calibrated with methane.

(7) API gravity is determined using the following:

(A) ASTM D-1298-99e2 Standard Test Method for Density, Relative Density (Specific Gravity), or API Gravity of Crude Petroleum Products by Hydrometer Method; or

(i) (B) ASTM D-6822-02 Standard Test Method for Density, Relative Density, and API Gravity of Crude Petroleum and Liquid Petroleum Products by Thermohydrometer Method; or

(C) ASTM D-287-92(2000)e1 Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method).

(j) Ozone Contingency Measure

(1) The applicable contingency measure(s) specified in paragraph (j)(2) shall be implemented upon the issuance of a final determination by U.S. EPA that the South Coast Air Basin has failed to comply with any of the following requirements:

(A) meet a Reasonable Further Progress (RFP) requirement in an approved attainment plan for the 2008 or 2015 ozone National Ambient Air Quality Standard (NAAQS); or

(B) attain the 2008 or 2015 ozone NAAQS by the applicable date.

(2) No later than 60 days after the final determination as specified in paragraph (j)(1), any owner or operator of a South Coast Air Basin Tank subject to the requirements of this rule, storing product with a TVP of 5.0 psi or greater pursuant to the requirements of subdivision (i), is required to increase the frequency of inspections specified in subclause (f)(3)(D)(ii)(A) to every calendar week.

(3) The applicable contingency measure(s) specified in paragraph (j)(4) shall be implemented upon the issuance of a final determination by U.S. EPA that the Coachella Valley has failed to comply with any of the following requirements:

(A) meet a RFP requirement in an approved attainment plan for the 1997, 2008, or 2015 ozone NAAQS; or

(B) attain the 1997, 2008, or 2015 ozone NAAQS by the applicable date.

(4) No later than 60 days after the final determination as specified in paragraph (j)(3), any owner or operator of a Coachella Valley Tank subject to the requirements of this rule, storing product with a TVP of 5.0 psi or greater pursuant to the requirements of subdivision (i), is required to increase the frequency of inspections specified in subclause (f)(3)(D)(ii)(A) to every calendar week.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

RULE 463 - ADDENDUM

Storage Temperatures Versus Actual Vapor Pressure
(Gravity/Initial Boiling Points Referenced)

	Reference Property A - °API B - IBP, °F		Temperature, °F Not to Exceed Vapor Pressure	
Organic Liquids	A	B	0.5 psia	1.5 psia
Crude Oils	12	--	--	--
	13	--	120	180
	14	--	85	145
	16	--	60	107
	18	--	55	93
	20	--	52	84
	22	--	49	77
	24	--	45	73
	26	--	42	70
	28	--	40	67
	30	--	38	64
Middle Distillates				
Kerosene	42.5	350	195	250
Diesel	36.4	372	230	290
Gas Oil	26.2	390	249	310
Stove Oil 23	421	275	340	
Jet Fuels				
JP-1	43.1	330	165	230
JP-3	54.7	110	--	25
JP-4	51.5	150	20	68
JP-5	39.6	355	205	260
JP-7	44-50	360	205	260
Fuel Oil				
No. 1	42.5	350	195	250
No. 2	36.4	372	230	290
No. 3	26.2	390	249	310
No. 4	23	421	275	340
No. 5	19.9	560	380	465
No. 6	16.2	625	450	--

RULE 463 - ADDENDUM- (Cont.)

Organic Liquids	Reference Property A - °API	Reference Property B - IBP, °F	Temperature, °F Not to Exceed Vapor Pressure 0.5 psia	Temperature, °F Not to Exceed Vapor Pressure 1.5 psia
Asphalts				
60 - 100 pen.	--	--	490	550
120 - 150 pen.	--	--	450	500
200 - 300 pen.	--	--	360	420
Acetone	47.0	133	--	35
Acrylonitrile	41.8	173	30	60
Benzene	27.7	176	35	70
Carbon Disulfide	10.6	116 (lb/gal)	--	10
Carbon Tetrachloride	13.4	170	30	60
Chloroform	12.5	142 (lb/gal)	--	40
Cylohexane	49.7	177	35	70
1,2 Dichloroethane	10.5	180 (lb/gal)	35	77
Ethyl Acetate	23.6	171	35	70
Ethyl Alcohol	47.0	173	45	83
Isopropyl Alcohol	47.0	181	45	87
Methyl Alcohol	47.0	148	--	50
Methylene Chloride	11.1	104 (lb/gal)	--	70
Methylethyl Ketone	44.3	175	30	70
1,1,1-Trichloroethane	11.2	165 (lb/gal)	60	100
Trichloroethylene	12.3	188 (lb/gal)	50	91
Toluene	30.0	231	73	115
Vinyl Acetate	19.6	163	--	60

ATTACHMENT A

FLOATING ROOF TANK SEAL CATEGORIES

PRIMARY SEALS

Category A	Category B	Category C
1. Liquid mounted multiple wipers with drip curtain and weight	1. Liquid mounted single wiper with drip curtain and weight	1. Liquid mounted single wiper
2. Liquid mounted mechanical shoe	2. Liquid mounted double foam wipers with vapor curtain	2. Liquid mounted foam log
	3. Vapor mounted primary wiper	3. Liquid mounted foam log with vapor curtain
	4. Vapor mounted E wiper	4. Liquid mounted resilient toroid type liquid filled log
	5. Vapor mounted double wipers	5. Vapor mounted foam log/bag
	6. Vapor mounted double foam wipers	6. Vapor mounted foam wiper
	7. Vapor mounted multiple wipers	

SECONDARY SEALS

Category A	Category B	Category C
1. Multiple wipers	1. Single wiper	1. Liquid mounted wiper
		2. Foam log/bag
		3. Maloney

Criteria used for categorization of floating roof ~~t~~Tank ~~s~~Seals:

1. Emission control effectiveness design
2. Ability to maintain contact with ~~t~~Tank wall
3. Longevity in service

ATTACHMENT B

INSPECTION PROCEDURES AND COMPLIANCE REPORT FORM

Equipment Needed:

Explosimeter (for ~~i~~Internal ~~f~~Floating ~~r~~Roof ~~t~~Tanks), liquid resistant measuring tape or device, ~~t~~Tank probe (to measure gaps in ~~t~~Tank ~~s~~Seals - 1/8 inch, 1/2 inch, 1-1/2 inch), flashlight.

Inspection Procedures:

1. The findings of all ~~t~~Tank self-inspections, whether completed or not, shall be recorded on the Rule 463 Compliance Report form prescribed by the Executive Officer and submitted to the ~~District's~~South Coast AQMD's Refinery Section in accordance with the rule's requirements. If an inspection is stopped before completion, indicate the reason for this action in the Comments section of the compliance report form.

2. During compliance inspection, the person(s) conducting the inspection must have a copy of the Permit to Operate or Permit to Construct pertinent to the ~~t~~Tank being inspected. Any discrepancies between the permit equipment description and the existing ~~t~~Tank or the permit conditions and the actual operating conditions of the ~~t~~Tank as verified during inspection must be recorded in the Comments section of the compliance report form.

3. Inspect the ground level periphery of each ~~t~~Tank for possible leaks in the ~~t~~Tank shell. Complete the ~~t~~Tank information section (D) on the report.

4. For floating roof ~~t~~Tanks containing ~~o~~Organic ~~l~~Liquid not subject to the provisions of subdivision (~~c~~d) of Rule 463, conduct only steps 1 through 3 of this attachment. For all other floating roof ~~t~~Tanks, conduct steps 5 through 7 as applicable.

5. For ~~e~~External ~~f~~Floating ~~r~~Foof ~~t~~Tanks:

   - o From the platform, conduct an overall visual inspection of the roof and check for obvious permit or rule violations. Record the information as shown under section F of the compliance report form.
   - o During visual inspection of the roof, check for unsealed ~~r~~Roof ~~l~~Legs, open hatches, open emergency ~~r~~Roof ~~d~~Drains or ~~v~~Vacuum ~~b~~Breakers and record the findings on the report accordingly. Indicate presence of any tears in the fabric of both ~~s~~Seals.
   - o After the visual inspection, conduct an inspection of the entire ~~s~~Secondary ~~s~~Seal using the 1/8" and 1/2" probes. Record the gap data in section F(4) of the report.
   - o Conduct an inspection of the entire ~~p~~Primary ~~s~~Seal using the 1/8", 1/2", and 1 1/2" probes. Inspect the ~~p~~Primary ~~s~~Seal by holding back the ~~s~~Secondary ~~s~~Seal. Record the gap data in section F(5) of the report.

- Record all cumulative gaps between 1/8 inch and 1/2 inch; between 1/2 inch and 1-1/2 inch; and in excess of 1-1/2 inches, for both ~~p~~Primary and ~~s~~Secondary ~~s~~Seals in section G of the report. Secondary ~~s~~Seal gaps greater than 1/2 inch should be measured for length and width, and recorded in Comments under section (J) of the report.

6. For ~~i~~Internal ~~f~~Floating ~~r~~Roof ~~t~~Tanks:

   - Using an explosimeter, measure the concentration of the vapor space above the internal floating roof in terms of lower explosive limit (LEL), and record the reading in section (E) of the report.
   - Conduct a visual inspection of the ~~r~~Roof ~~o~~Openings and the ~~s~~Secondary ~~s~~Seal, if applicable, and record findings on the report.

7. Complete all necessary calculations and record all required data accordingly on the report.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

RULE 463 COMPLIANCE REPORT

~~**PLEASE COMPLETE FORM LEGIBLY IN BLACK INK**~~

Tank No. _____ ~~SC~~South Coast AQMD Permit No. _____ Inspection Date _____ Time _____

Is This a Follow-up Inspection? No ☐ Yes ☐ ~~If yes,~~ Date of Previous Inspection _____

A. COMPANY INFORMATION:

Company Name _____

Location Address _____ City _____ Zip _____

Mailing Address _____ City _____ Zip _____

Contact Person _____ Title _____

Phone _____

B. INSPECTION CONDUCTED BY:

Name _____ Title _____

Company Name _____ Phone _____

Mailing Address _____ City _____ Zip _____

C. TANK INFORMATION:

Capacity _____ (bbls) Installation Date _____ Tank Diameter _____ (ft) Tank Height _____ (ft)

Product Type _____ Product RVP _____

Type of Tank: Riveted ☐ Welded ☐ Other ☐ (describe) _____

Color of Shell _____ Color of Roof _____

Roof Type: Pontoon ☐ Double Deck ☐ Other(describe) _____

External floating roof ☐ Internal floating roof ☐

D. GROUND LEVEL INSPECTION:

1) Product Temperature _____ ° F 2) Product level _____ (ft)

3) List type and location of leaks found in ~~t~~Tank shell.

_____

4) List any discrepancies between the existing equipment and the equipment description on the Permit.

_____

5) Is ~~t~~Tank in compliance with Permit conditions? No ☐ Yes ☐ If no, explain _____

_____

_____

E. INTERNAL FLOATING ROOF TANK:

1) Check vapor space between floating roof and fixed roof with expiosimeter. _____ % LEL

2) Conduct visual inspection of roofs and ~~s~~Secondary ~~s~~Seals, if applicable.

3) Are all ~~r~~Roof ~~o~~Openings covered? No ☐ Yes ☐ If no, explain in Comments section (J) and proceed to part (H)(6).

F. EXTERNAL FLOATING ROOF TANK:

1) On the diagram (below) indicate the location of the ladder, ~~r~~Roof ~~d~~Drain(s), anti-rotation device(s), platform, gauge well, and vents or other appurtenances. *Note information in relation to North (to the top of the worksheet).*

2) Describe any uncovered openings found on the roof in the Comments section (J).

3) Identify any tears in the ~~s~~Seal fabric. Describe and indicate on diagram (below):

4) Secondary Seal Inspection

a) Type of Secondary Seal: _____

b) Does 1/2" probe drop past ~~s~~Seal? No ☐ Yes ☐ if yes, measure length(s) and show on diagram

c) Does 1/8" probe drop past ~~s~~Seal? No ☐ Yes ☐ if yes, measure length(s) and show on diagram.

d) Record dimensions of gap for gaps > 1/8" _____ >1/2" _____

NOTE: Record the actual width and cumulative length of gaps in feet and inches.

(Do not include gaps > 1/2" in 1/8" measurements)

5) Primary Seal Inspection

a) Type of Primary Seal: ☐ Shoe; ☐ Tube; ☐ Other _____

b) (shoe ~~s~~Seal) does 1-1/2" probe drop past ~~s~~Seal? No ☐ Yes ☐; if yes, measure length(s) and show on diagram.

c) (shoe ~~s~~Seal) does 1/2" probe drop past ~~s~~Seal? No ☐; Yes ☐; if yes, measure length(s) and show on diagram.

d) (tube ~~s~~Seal) does 1/2" probe drop past ~~s~~Seal? No ☐ Yes ☐ if yes, measure (length(s) and show on diagram.

e) (all ~~s~~Seal types) does 1/8" probe drop past ~~s~~Seal? No ☐ Yes ☐ if yes, measure (length(s) and show on diagram.

f) Record dimensions of gaps for gaps >1/8" _____ > 1/2" _____

>1-1/2" _____ *NOTE: Record the actual width and cumulative length of gaps in feet and inches.*

(Do not include gaps > 1/2" in 1/8" measurements, or gaps > 1-1/2" in 1/2" measurements)

NOTE: Show defects using symbols. Show ~~s~~Seal gaps and lengths.

N

LEGEND:

Equipment:

⊓	Antirotational device
O	Gauge well
⊤	Leg stand
⊗	Roof ~~d~~Drain
*	Emergency ~~r~~Roof ~~d~~Drain
∞	Vacuum breaker
σ	Vent
▭	Platform & ladder

Defects:

ϴ	Leg top
╫	Leg pin
ơ	Open hatch
\/\	Torn ~~s~~Seal
|-P-|	Primary ~~s~~Seal gap
|-S-|	Secondary ~~s~~Seal gap

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

RULE 463 COMPLIANCE REPORT

~~**PLEASE COMPLETE FORM LEGIBLY IN BLACK INK**~~

Tank No. _____ ~~SC~~South Coast AQMD Permit No. _____

IF INTERNAL FLOATING ROOF TANK, PROCEED TO PART H(6).

G. CALCULATIONS - complete all applicable portions of the following:

Record dimensions of indicated gaps [from F(4)(d), F(5)(b), and F(5)(f)]. Record in feet and inches.

Gaps in ~~p~~Primary ~~s~~Seal between 1/8 and 1/2 inch: _____

Gaps in ~~p~~Primary ~~s~~Seal between 1/2 and 1-1/2 inch: _____

Gaps in ~~p~~Primary ~~s~~Seal greater than 1-1/2 inches: _____

Gaps in ~~s~~Secondary ~~s~~Seal between 1/8 and 1/2 inch: _____

Gaps in ~~s~~Secondary ~~s~~Seal greater than 1/2 inch: _____

Multiply diameter (ft) of ~~t~~Tank to determine appropriate gap limits:

5% circumference = diameter X 0.157 = _____ 60% circ. = diam. X 1.88 = _____

10% circumference = diameter X 0.314 = _____ 90% circ. = diam. X 2.83 = _____

30% circumference = diameter X 0.942 = _____ 95% circ. = diam. X 2.98 = _____

H. DETERMINE COMPLIANCE STATUS OF TANK:

1)	Were any openings found on the roof?		No ☐	Yes ☐
2)	Were any tears in the ~~s~~Seals found:		No ☐	Yes ☐
3)	Is the product level lower than the level at which the roof would be floating?		No ☐	Yes ☐
4)	Secondary Seal:			
		Did 1/2" probe drop between shell and ~~s~~Seal?	No ☐	Yes ☐
		Did cumulative 1/8" - 1/2" gap exceed 95% circumference length?	No ☐	Yes ☐
5)	Primary Seal			
	Shoe	Did 1-1/2" probe drop between shell and ~~s~~Seal?	No ☐	Yes ☐
		Did cumulative 1/2" - 1-1/2" gap exceed 30% circumference length, and		
		Did cumulative 1/8 - 1/2" gap exceed 60% circumference length?	No ☐	Yes ☐
		Did any <u>single continuous</u> 1/8" - 1-1/2" gap exceed 10% circ. length?	No ☐	Yes ☐
	Tube	Did 1/2" probe drop between shell and ~~s~~Seal	No ☐	Yes ☐
		Did cumulative 1/8" - 1/2" gap exceed 95% circumference length?	No ☐	Yes ☐
6)	Internal floating roof (installed before 6/1/84) did LEL exceed 50%		No ☐	Yes ☐
		(installed after 6/1/84) did LEL exceed 30%?	No ☐	Yes ☐
7)	Does ~~t~~Tank have permit conditions?		No ☐	Yes ☐
		Does ~~t~~Tank comply with these conditions?	No ☐	Yes ☐

I. IF INSPECTION WAS TERMINATED PRIOR TO COMPLETION FOR ANY REASON, PLEASE EXPLAIN:

_____

_____

J. COMMENTS:

Use this section to complete answers to above listed items and to describe repairs made to the ~~t~~Tank; include date and time repairs were made.

K. ***I(We) certify the foregoing information to be correct and complete to the best of my(our) knowledge.***

Inspection completed by: _____ Date: _____
(signature) (Certification ID #)

Compliance status by: _____ Date: _____
(signature) (Certification ID #)

Company Representative: _____ Date: _____
(signature) (Certification ID #)

SEND COMPLETED REPORT (Both Sheets) TO:

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

21865 Copley Drive

FAX: (909) 396-3341

Diamond Bar, CA 91765
Attn: Rule 463 Program Supervisor

FOR ~~SC~~South Coast AQMD USE ONLY: Date received_____

Reviewed by:_____ Date reviewed_____
(signature) (Certification ID #)

Tank Status: [ ] in compliance [ ] in violation, Rule(s)_____
Comments:_____

DATA REPORTING REQUIREMENT FOR ROOF TANKS

The data items shall include, but not be limited to, the following:

A. External Floating Roof Tank

1. Tank I.D.
2. Product Code
3. Type of Floating Roof Seal
4. Shell Construction
5. Reid Vapor Pressure
*6. Average Stock Storage Temperature
7. True Vapor pressure
8. Tank Diameter
*9. Wind Speed Exponent
*10. Average Wind Velocity
*11. Seal Factor
*12. Product Factor
*13. Vapor Molecular Weight
*14. Clingage Factor
15. Throughput
*16. Density of Liquid Stock
17. Total Number of Different Type of Fitting
18. Total Roof Fitting Loss Factor
19. Vapor Pressure Function
20. Roof Fitting Loss
21. Standing Loss
22. Withdrawal Loss
23. Total Loss
24 Number of Excess Upset Emissions Incidents
25. Total excess Upset Emissions

B. Internal Floating Roof Tank

1. Tank I.D.
2. Product Code
3. Type of Floating Roof Seal
4. Shell Construction
5. Reid Vapor Pressure
*6. Average Stock Storage Temperature
7. True Vapor Pressure
8. Tank Diameter
*9. Wind Speed Exponent
*10. Average Wind Velocity
*11. Seal Factor
*12. Product Factor
*13. Vapor Molecular Weight
*14. Clingage Factor
15. Throughput
*16. Density of Liquid Stock
*17. Number of Columns
*18. Effective Column Diameter
19. Total Number of Different Types of Fittings
*20. Total Deck Fitting Loss Factor
21. Vapor Pressure Function
*22. Deck Seam Length Factor
*23. Deck Seam Loss per Unit
24. Deck Seam Loss
25. Deck Fitting Loss
26. Standing Loss
27. Withdrawal Loss
28. Total Loss
29. Number of Excess Upset Emissions Incidents
30. Total Excess Upset Emissions

C. Fixed Roof Tank

1. Tank I.D.
2. Product Code
3. Vent Type to Vapor Recovery System
*4. Average Stock Storage Temperature
5. True Vapor Pressure
6. Tank Diameter
*7. Vapor Molecular Weight
8. Average Outage
*9. Average Daily Temperature Change
10. Throughput
11. Turnover Factor
*12. Turnovers Per Year
*13. Adjustment Factor for Small Tank
*14. Paint Factor
*15. Crude-Oil Factor (Breathing)
*16. Crude-Oil Factor (Working)
17. Breathing Loss
18. Working Loss
19. Total Loss (Without Vapor Recovery)
*20. Vapor Recovery System Efficiency
21. Total Loss (With Vapor Recovery)
22. Number of Excess Upset Emissions Incidents
23. Total Excess Upset Emissions

*** Default values are available from the ~~District~~South Coast AQMD**

The Data format and order shall be specified and approved by the Executive Officer.

ATTACHMENT G

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Staff Report

Proposed Amended Rule 463 – Organic Liquid Storage

June 2024

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WAYNE NASTRI

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Rule 463– Organic Liquid Storage (Rule 463) limits volatile organic compound (VOC) emissions from storage tanks that store organic liquids. Rule 463 applies to above-ground stationary tanks with capacity of 75,000 liters (19,815 gallons) or more, above-ground tanks with a capacity between 950 liters (251 gallons) and 75,000 liters (19,815 gallons) that are used to store gasoline, and any stationary tank with a potential for VOC emissions of six tons per year or greater used in crude oil and natural gas production operations. Rule 463 requires tanks that meet the capacity and vapor pressure requirements to install controls based on tank type. Rule 463 tank types include fixed roof, internal floating roof (IFR), and external floating roof (EFR).

California Assembly Bill 617 (AB 617) was signed into state law in 2017 and required the development of Community Emission Reduction Plans (CERP~~S~~s) to reduce toxic air contaminants and criteria pollutants in environmental justice communities. The Wilmington, Carson, West Long Beach (WCWLB) CERP[1], specified initiating rule development to amend Rule 1178 − Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities (Rule 1178) to incorporate advanced leak detection technologies and require additional emission controls. Similarly, the South Los Angeles (SLA) CERP[2] specified initiating rule development to the Rule 1148 series (Rule 1148 – Thermally Enhanced Oil Recovery Wells; Rule 1148.1 – Oil and Gas Production Wells; and Rule 1148.2 – Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers) to explore improved leak detection and repair (LDAR) and requirements for lower-emission or zero-emission equipment. Rule 463 was not identified as an objective for rule development within the WCWLB CERP or SLA CERP; however, Rule 463 regulates the same emission sources within the affected WCWLB and SLA communities. Amendments to Rule 463 will help reduce VOC emissions from storage tanks in WCWLB, SLA, and in other communities within the South Coast AQMD jurisdiction.

Control Measure FUG-03 – Further Reductions of Fugitive VOC Emissions in the 2012 Final Air Quality Management Plan (AQMP) identified the implementation of advanced leak detection technologies, including optical gas imaging (OGI), as a method to reduce the emissions impact from leaks. The 2016 Final AQMP included Control Measure FUG-01 – Improved Leak Detection and Repair to utilize advanced remote sensing technologies to allow for faster identification and repair of leaks from equipment at facilities that must maintain a LDAR program. The 2022 Final AQMP also included Control Measure FUG-01 – Improved Leak Detection and Repair to reduce VOC emissions from fugitive leaks from process and storage equipment. PAR 463 partially implements Control Measure FUG-01 that commits to improved leak detection requirements in South Coast AQMD rules, including Rule 463.

The Coachella Valley Planning Area (Coachella Valley) is defined as the desert portion of Riverside County in the Salton Sea Air Basin (SSAB) under the jurisdiction of the South Coast AQMD. The Coachella Valley is designated Extreme nonattainment for the 2008 8-hour ozone National Ambient Air Quality Standard (NAAQS). South Coast AQMD has prepared the

[1]WCWLB CERP, https://www.aqmd.gov/docs/default-source/ab-617-ab-134/steering-committees/wilmington/cerp/final-cerp-wcwlb.pdf?sfvrsn=8
[2]SLA CERP, aqmd.gov/docs/default-source/ab-617-ab-134/steering-committees/south-la/final-cerp.pdf?sfvrsn=18

Coachella Valley Contingency Measure State Implementation Plan (SIP) Revision for the 2008 8-Hour Ozone Standard focused on satisfying the requirement for contingency measure elements.[3] Contingency measures are defined by Clean Air Act (CAA) Section 172(c)(9) as "specific measures to be undertaken if the area fails to make reasonable further progress, or to attain the national primary ambient air quality standard by the attainment date." CAA Section 182(c)(9) further requires that ozone nonattainment areas classified as "serious" or above provide for contingency measures to be implemented if the area fails to meet any applicable milestone. U.S. EPA finalized a finding of failure to submit contingency measure elements for the 2008 ozone NAAQS in Coachella Valley effective October 31, 2022. The finding established an 18-month deadline for the South Coast AQMD to submit contingency measures or face stationary source permitting sanctions as defined in CAA Section 179(b)(2). There is also a 24- month deadline for highway sanctions as defined in CAA Section 179(b)(1). For stationary sources, South Coast AQMD is amending Rule 463 to introduce a contingency measure to partially satisfy the CAA contingency requirement.

Proposed Amended Rule 463 (PAR 463) establishes more stringent leak detection and control requirements. PAR 463 establishes periodic OGI inspections with contingency measures to fulfill ozone attainment plan requirements. Furthermore, PAR 463 establishes requirements for doming EFR tanks and installing secondary seals on IFR tanks as well as more stringent requirements for emission control systems and seal gaps. PAR 463 applies to approximately 1,600 tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. The proposed requirements will reduce VOC emissions by 1.65 tons per day. The overall cost-effectiveness of PAR 463 is $27,300 per ton of VOC reduced.

PAR 463 was developed through a public process. Two Working Group meetings for PAR 463 were held on January 3, 2024, and March 7, 2024. Working Group meeting participants included attendees from affected businesses, environmental and community representatives, public agencies, consultants, and other interested parties. The purpose of the Working Group meetings was to discuss details of proposed amendments and listen to stakeholder concerns with the objective to build a consensus regarding the proposal and resolve issues. Staff met with multiple stakeholders during the rule development process and conducted several site visits. A Public Workshop for PAR 463 was held on March 27, 2024. The purpose of the Public Workshop was to present the proposed amended rule language to the general public and to stakeholders and to solicit comments.

[3] https://www.aqmd.gov/home/air-quality/air-quality-management-plans/other-state-implementation-plan-(sip)-revisions/coachella-valley-contingency-measure-sip-revision

CHAPTER 1: BACKGROUND

INTRODUCTION

Rule 463 limits VOC emissions from storage tanks containing volatile organic liquids as depicted in Figure 1-1. This rule applies to any above-ground stationary tank with a capacity of 75,000 liters (19,815 gallons) or greater used for storage of organic liquids and any above-ground tank with a capacity between 950 liters (251 gallons) and 75,000 liters (19,815 gallons) used for storage of gasoline. Rule 463 also applies to stationary tanks with a potential to emit (PTE) of six tons per year (tpy) or more used in crude oil and natural gas production. Rule 463 implements different control requirements based on storage tank type. Control requirements include specifications for tank roofs, seals, emission control systems, and covers for roof openings. Inspection and monitoring requirements are specific to the type of tank.

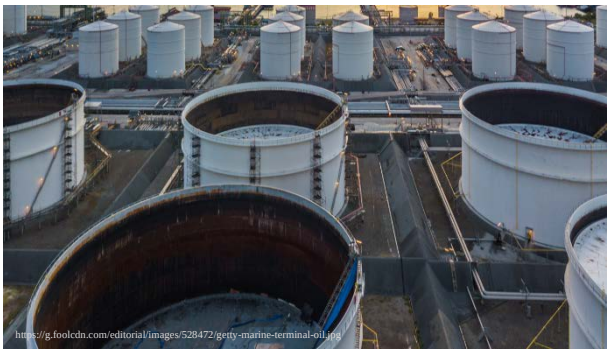


Figure 1-1- Example of Storage Tanks Subject to Rule 463

BACKGROUND

California Assembly Bill 617 (AB 617) Community Emissions Reductions Plans (CERPs)

In 2017, Governor Brown signed AB 617 (C. Garcia, Chapter 136, Statutes of 2017) to develop a new community-focused program to reduce emissions and exposure to sources air pollution and preserve public health. AB 617 directed the California Air Resources Board (CARB) and all local air districts, including the South Coast AQMD, to enact measures to protect communities disproportionally impacted by air pollution. On September 27, 2018, CARB designated 10 communities across the state to implement community plans for the first year of the AB 617 program. Local air districts were tasked with developing and implementing CERPs and community air monitoring plans in partnership with residents and community stakeholders. The Community Air Monitoring Plan (CAMP) includes actions to enhance the understanding of air pollution in the designated communities and to support effective implementation of the CERP. Each CERP includes objectives for achieving air pollution emission and exposure reductions to address the community's highest air quality priorities.

During the development of the WCWLB CERP[4], community members expressed concern about refinery emissions. Chapter 5b, Objective 4 in the WCWLB CERP specifies initiating rule development for Rule 1178 to require the use of enhanced leak detection tools and other leak prevention and emission reduction technologies (e.g., domed roofs). Rule development for Rule 463 was not identified as a course of action within the WCWLB CERP; however, Rule 463 regulates the same emission sources as Rule 1178 within the affected WCWLB communities.

During the development of the SLA CERP[5], community members expressed concerns about emissions from oil and gas operations. Table 5f-1 in the SLA CERP specified initiating rule

[4] WCWLB CERP, https://www.aqmd.gov/docs/default-source/ab-617-ab-134/steering-committees/wilmington/cerp/final-cerp-wcwlb.pdf?sfvrsn=8
[5] SLA CERP, aqmd.gov/docs/default-source/ab-617-ab-134/steering-committees/south-la/final-cerp.pdf?sfvrsn=18

development to amend the Rule 1148 series to explore requirements for improved LDAR and lower-emission or zero-emission equipment. Similar to the WCWLB CERP, Rule 463 was not identified as a course of action for rule development within the SLA CERP; however, Rule 463 regulates emission sources at oil and gas facilities within the SLA community. Amendments to Rule 463 will help reduce VOC emissions from storage tanks in WCWLB, SLA, and in other communities within the South Coast AQMD jurisdiction. Recommendations for proposed amendments to Rule 463 focused on improving leak detection requirements with the use of advanced leak detection technologies and requiring additional emission controls.

Control Measures in the 2012, 2016, and 2022 Final AQMPs

Control Measure FUG-03 – Further Reductions of Fugitive VOC Emissions in the 2012 Final AQMP identifies the implementation of advanced leak detection technologies, including OGI, as a method to reduce the emissions impact from leaks. The 2016 Final AQMP included Control Measure FUG-01 – Improved Leak Detection and Repair to utilize advanced remote sensing technologies to allow for faster identification and repair of leaks from equipment at oil and gas sites and other facilities that are currently required to maintain an LDAR program. The 2022 Final AQMP also included Control Measure FUG-01 – Improved Leak Detection and Repair to reduce VOC emissions from fugitive leaks from process and storage equipment. PAR 463 partially implements Control Measure FUG-01 that commits to improved leak detection requirements in South Coast AQMD rules, including Rule 463.

Coachella Valley Contingency Measure SIP Revision

Coachella Valley is defined as the desert portion of Riverside County in the SSAB under the jurisdiction of the South Coast AQMD. The Coachella Valley is designated nonattainment for the 2008 8-hour ozone NAAQS. Originally classified as "severe-15" nonattainment with an attainment date of July 20, 2027, the Coachella Valley was reclassified to "extreme" nonattainment with an attainment date of July 20, 2032. South Coast AQMD voluntarily requested the reclassification to resolve a transportation conformity lockdown impacting billions of dollars' worth of transportation projects.

South Coast AQMD prepared the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard focused on satisfying the requirement for contingency measure elements for the SIP. Contingency measures are defined by CAA Section 172(c)(9) as "specific measures to be undertaken if the area fails to make reasonable further progress (RFP), or to attain the national primary ambient air quality standard by the attainment date." CAA Section 182(c)(9) further requires that ozone nonattainment areas classified as "serious" or above provide for contingency measures to be implemented if the area fails to meet any applicable milestone.

The most recent, comprehensive SIP for the 2008 ozone NAAQS in the Coachella Valley was submitted as part of the 2016 AQMP. That SIP included required RFP contingency measure elements. The RFP contingency measure relied upon surplus emission reductions from already implemented control measures, consistent with U.S. EPA's past guidance. The 2016 AQMP was supplemented with CARB's attainment contingency measure for the Coachella Valley, which was submitted to U.S. EPA on May 5, 2017. However, subsequent court decisions held that contingency measures must be additional measures for emission reductions, not just surplus emission reductions from ongoing programs, and that these measures must contain triggering

mechanisms such that they are automatically implemented once an area has failed to attain or missed a major milestone for RFP. Neither the RFP contingency measure nor the attainment contingency measure met these new requirements. In 2020, U.S. EPA approved the Coachella Valley portion of the 2016 AQMP as meeting all applicable statutory and regulatory requirements, with the exception of the attainment contingency measure element. With respect to the RFP contingency measure element, U.S. EPA conditionally approved the element based on commitments by CARB and the South Coast AQMD to supplement the element within one year of conditional approval, by October 16, 2021. The due date was later revised to September 30, 2022, based on consent decree.

On August 8, 2022, South Coast AQMD via CARB, withdrew the contingency measure elements for the 2008 ozone NAAQS in Coachella Valley. At the time, U.S. EPA had failed to provide revised contingency measure guidance, and lacking such guidance it was unclear what would suffice as an approvable contingency measure. As a result of this withdrawal, U.S. EPA finalized a finding of failure to submit contingency measure elements for the 2008 ozone NAAQS in Coachella Valley effective October 31, 2022. The finding established an 18-month deadline for the South Coast AQMD to submit contingency measures or face stationary source permitting sanctions as defined in CAA Section 179(b)(2). ~~There is also~~The finding also imposed a 24- month deadline for highway sanctions as defined in CAA Section 179(b)(1). Submission of the SIP revision followed by a completeness determination by U.S. EPA will stay the sanctions. In addition, if within 24 months U.S. EPA has not approved a contingency measure SIP revision, U.S. EPA must promulgate a federal contingency measure plan in the Coachella Valley. A more complete discussion is available in the South Coast AQMD Draft Final Staff Report for Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard, February 2024[6].

For stationary sources, South Coast AQMD is amending Rule 463 to introduce a contingency measure found in chapter 3 of the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard that would require more frequent OGI tank farm inspections for certain storage tanks to facilitate leak detection and repair. Emission reductions would be achieved by identifying leaks and repairing them. Triggers are included if a nonattainment area fails to attain the NAAQS by the applicable attainment date or fails to meet an RFP milestone (collectively referred to as "Triggering Events"). If a Triggering Event occurs, the Measure would: change the proposed OGI tank farm inspection frequency in the applicable nonattainment area(s); and be implemented within 60 days of the effective date of a U.S. EPA finding that a Triggering Event occurred.

Staff assessed current Rule 463 requirements and identified potential areas of improvement including leak detection and repair requirements and more stringent controls. Leak detection using enhanced detection technologies has become more widespread since the adoption of Rule 463. Staff assessed multiple leak detection technologies as part of the PAR 463 rule development. Staff also analyzed control technologies and methods with potential to further reduce emissions from storage tanks. Proposed amendments to PAR 463 are based on determination of feasible and cost-

[6]https://www.aqmd.gov/docs/default-source/clean-air-plans/cv-contingency-measure-sip--draft-final-staff-report.pdf?sfvrsn=6

effective technologies and methods that were assessed through a best available retrofit control technology (BARCT) analysis.

REGULATORY HISTORY

Rule 463 was adopted in August 1977 and subsequently amended six times. The 1984 amendment added a criterion for hydrogen sulfide content in crude oil contained in floating roof tanks; a subsequent amendment in March 2005 removed this limitation based on a comparative review of similar regulations within the state and at the federal level. The December 1990 amendment addressed SIP deficiencies inconsistent with U.S. EPA policies or requirements. The March 1994 amendment restructured the rule, clarified rule language, streamlined compliance activities by including a self-compliance program, and corrected rule deficiencies identified by the U.S. EPA and CARB. The November 2011 amendment harmonized test methods and leak standards with Rule 1178. The most recent amendment to Rule 463 in May 2023, addressed U.S. EPA's limited disapproval of CARB's Oil and Gas Methane Rule by aligning the applicability threshold with U.S. EPA's 2016 Control Techniques Guidelines for the Oil and Natural Gas Industry.

AFFECTED FACILITIES AND EQUIPMENT

PAR 463 affects approximately 1600 tanks located at approximately 429 facilities involved in petroleum refining, oil and gas production, and other various industries.

PUBLIC PROCESS

Development of PAR 463 was conducted through a public process. Two Working Group meetings were held on January 3, 2024, and March 7, 2024. The Working Group is composed of representatives from businesses, environmental groups, public agencies, and consultants. The purpose of the Working Group meetings is to discuss proposed concepts and work through the details of South Coast AQMD's proposal. Additionally, a Public Workshop was held on March 27, 2024. The purpose of the Public Workshop was to present the proposed amended rule language to the general public and stakeholders and to solicit comments. Staff also conducted multiple site visits as part of this rulemaking process.

CHAPTER 2: BARCT ASSESSMENT

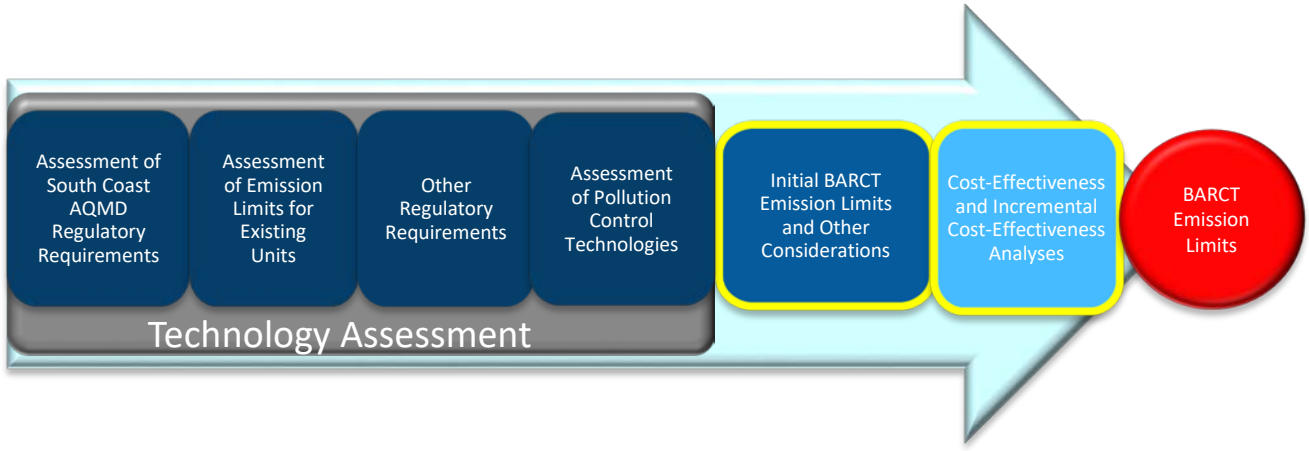
INTRODUCTION

PAR 463 rule development was initiated in response to objectives in the WCWLB and SLA CERPs for enhanced leak detection and to partially implement Control Measure FUG-01 in the 2022 Final AQMP. Additionally, South Coast AQMD periodically assesses rules to ensure that BARCT is reflected in rule requirements. To address community member objectives, partially implement Control Measure FUG-01, and ensure that Rule 463 reflects BARCT, a BARCT assessment was conducted to identify the potential to further reduce emissions from storage tanks.

BARCT is defined in the Health & Safety Code Section 40406 as "an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source." Consistent with state law, BARCT emission limits take into consideration environmental impacts, energy impacts, and economic impacts. The BARCT analysis approach follows a series of steps conducted for each equipment category.

The steps for BARCT analysis consist of:

- Assessment of South Coast AQMD Regulatory Requirements
- Assessment of Emissions Limits for Existing Units
- Other Regulatory Requirements
- Assessment of Pollution Control Technologies
- Initial BARCT Emission Limits and Other Considerations
- Cost-Effectiveness and Incremental Cost-Effectiveness Analyses
- BARCT Emission Limits



The BARCT assessment included a review of leak detection and emission reducing technologies. Newer leak detection technologies were reviewed and included OGI devices, gas sensors, and open path detection. Leak detection methods were also analyzed and included continuous monitoring and increased inspection frequency. Control technologies were reviewed and included domes, proximity switches, cable suspended floating roof systems, and vapor recovery. Staff analyzed the potential to reduce emissions from leaks with enhanced leak detection technologies and reduce emissions from tank operations by establishing more stringent requirements for existing controls including domes, seals, and emission control systems.

As part of the technology assessment, a cost-effectiveness analysis was conducted for technologies with potential to reduce emissions. A cost-effectiveness analysis determines the cost per ton of pollutant reduced. In the 2022 AQMP, a cost-effectiveness threshold of $36,000 per ton of VOC reduced was established. After adjusting for inflation, the cost-effectiveness threshold is $40,168.49 per ton of VOC reduced (2023 U.S. Dollars). An incremental cost-effectiveness analysis was also conducted for proposed controls and monitoring methods to establish BARCT, if applicable, and is discussed in Chapter 4.

EMISSIONS FROM STORAGE TANKS

Rule 463 applies to any above-ground stationary tanks with a capacity of 75,000 liters (19,815 gallons) or greater used for storage of organic liquids and any above-ground tank with a capacity between 950 liters (251 gallons) and 75,000 liters (19,815 gallons) used for storage of gasoline. Rule 463 also applies to stationary tanks with a PTE of six tpy or more used in crude oil and natural gas production. There are four major categories of storage tanks subject to Rule 463: fixed roof tanks, external floating roof tanks, domed external floating roof tanks, and internal floating roof tanks.

Storage tanks emit VOC through openings inherent in the tank design. Rule 463 requires the use of seals and covers to reduce the amount of VOC that can migrate out of the tank through the tank openings. Tank openings on fixed roof tanks include, but are not limited to, vapor recovery connection points, pressure vacuum vents and sample hatches. Floating roof tanks also contain openings that include the annular space around the floating roof, guidepoles, rim vents, pressure vents, hatches, and roof legs. Rule 463 already requires controls on all roof openings and as part of the PAR 463 rule development, staff reviewed additional technologies and methods to further reduce emissions from tank operation and leaks.

CURRENT REGULATORY REQUIREMENTS

South Coast AQMD Requirements

Rule 463 contains requirements for above-ground stationary tanks with a capacity of 75,000 liters (19,815 gallons) or greater used for storage of organic liquids, above-ground tanks with a capacity between 950 liters (251 gallons) and 75,000 liters (19,815 gallons) used for storage of gasoline, and stationary tanks with a PTE of six tpy or more used in crude oil and natural gas production. Control requirements include specifications for tank roofs, emission control systems, and covers and seals for roof openings. Inspection and monitoring requirements are specific to the type of tank.

Floating roofs or fixed roofs with 95% by weight emission control, are required for every tank. Rim seal systems for floating roofs have gap requirements. Primary seals must not have gaps larger than 1.5 inch. Gaps greater than 0.5 inch cannot exceed a cumulative length of 30% of the circumference of the tank and gaps greater than 0.125 inch cannot exceed 60% of the circumference. There cannot be a continuous gap of greater than 0.125 inch for more than 10% of the circumference. Secondary seals must not have gaps greater than 0.5 inch and gaps greater than 0.125 inch cannot exceed 95% of the circumference of the tank.

Controls for floating roofs include gaskets, gasketed covers, and sleeves or flexible enclosure systems for all roof penetrations. Certain roof openings cannot have a visible gap which is a gap greater than 1/8 inch that emits more than 500 parts per million (ppm) of VOC. Fixed roof tanks must maintain a vapor tight condition for all roof openings and have at least 95% by weight emission control.

Rule 463 contains differing inspection requirements dependent on tank type. Below is a summary of the inspection requirements.

Fixed roofs:

- Voluntary self-inspections

Internal and external floating roof tanks:

- Tank inspections semi-annually
- Gap measurements on all roof openings semi-annually and each time tank is degassed or emptied, or U.S. EPA Method 21
- Complete gap measurements of the rim seal system on a semi-annual basis and each time the tank is emptied or degassed

Other Regulatory Requirements

Staff reviewed rules and regulations of other air regulating agencies including U.S. EPA, San Joaquin Valley Air Pollution Control District (SJVAPCD), and Bay Area Air Quality Management District (BAAQMD). Staff identified requirements more stringent than those contained in South Coast AQMD's Rule 463 for controls and monitoring. It is important to note there are several requirements where South Coast AQMD's Rule 463 is more stringent than requirements contained in other air districts' rules, such as inspection frequency and other requirements. However, the following discussion describes the requirements found in other regulations that are more stringent than Rule 463 requirements.

U.S. EPA 40 Code of Federal Regulations (CFR) Part 60 Subpart Kb applies to tanks that were constructed, reconstructed or modified after July 23, 1984. Staff identified requirements for seal gaps that are more stringent. Subpart Kb requires primary seal gaps do not exceed 212 square centimeters (cm^2) per meter of tank diameter and secondary seal gaps do not exceed 21.2 cm^2 per meter of tank diameter.

SJVAPCD's Rule 4623 contains more stringent gap requirements. A visible gap is any gap that is 0.06 inch. Primary seal gaps greater than 0.5 inch cannot occur for more than 10% of the tank circumference and primary seal gaps greater than 0.125 inch cannot occur for more than 30% of the tank circumference.

BAAQMD's Regulation 8, Rule 5 has more stringent gap requirements and a more stringent leak definition. BAAQMD defines a visual gap as a gap that is 0.06 inch. Primary seals gaps greater than 0.5 inch cannot occur for more than 10% of the tank circumference, gaps greater than 0.125 inch cannot occur for more than 40% of the tank circumference. BAAQMD also requires that the maximum gap for secondary seals on newer welded tanks cannot exceed 0.06 inch. BAAQMD has a leak definition of 100 ppm for all components except for pressure vacuum vents.

CONTROL TECHNOLOGIES

Domes

Domes are roofs that can be installed onto external floating roof tanks. They are typically a geodesic dome shape and made of lightweight material such as aluminum. Domes that are affixed onto external floating roof tanks are not vapor tight and have vents along the bottom of the dome where it meets the tank shell. This is a required design for floating roof tanks to allow the floating roof to move up and down without adverse effects. Domes are effective at reducing emissions from tanks by eliminating wind moving over the external floating roof. Figures 2-1 and 2-2 show a domed storage tank and the wind effect respectively. Wind can carry vapors out from inside the tank through the floating roof seals. It is estimated that installing domes on external floating roof tanks storing crude oil can reduce standing losses by 50%-70%.[7]

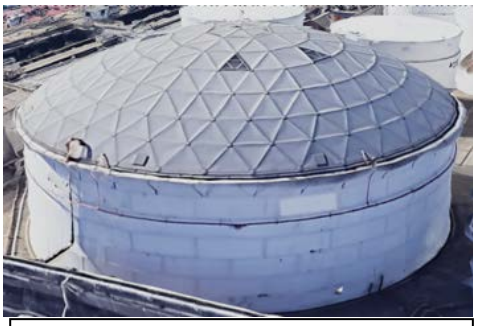


Figure 2-1- Domed Storage Tanks

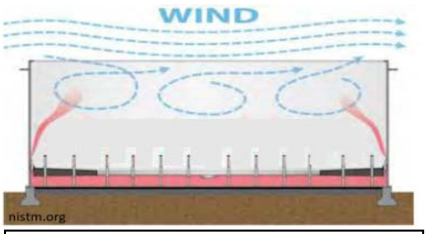


Figure 2-2- Wind Effect on Storage Tanks

Costs and Cost-Effectiveness

Costs to install domes vary with diameter size. External floating roof tanks in South Coast AQMD's jurisdiction range from 30 feet in diameter to 299 feet in diameter. Costs associated with doming include materials, labor, vehicles for supply delivery and crane support, crane rentals, site preparation, cleaning, degassing, storage leasing, fire suppression systems, and permitting. Costs were obtained from vendors for equipment and installation for domes of different sizes. Facilities supplied costs from vendor quotes and past doming projects. Costs were calculated using equations developed during the 2023 PAR 1178 rule development process and facility-provided cost data. The PAR 1178 cost equations used to estimate both capital and operation/maintenance costs associated with doming were created by plotting quotes from both vendors and facilities and

[7] Based on results from BREEZE TankESP PRO for doming external floating roofs of different diameters storing crude with RVP 6-9 at 80F in Los Angeles, with deck fittings currently required by Rule 463.

extracting the best fit equations. Based on cost information provided by facilities, staff developed a cost curve that estimates costs for tanks of all diameters. Refer to the 2023 PAR 1178 Staff Report Chapter 4-4 for more details related to the cost curve equation. Doming project costs ranged from approximately $164,400 to $3,826,400 and included costs for fire suppression systems and union labor required by Senate Bill 54. Refer to Chapter 4 for additional cost details. Staff identified seven external floating roof tanks used to store volatile organic liquids from a random sample of EFRs that provide a 95% confidence interval. After receiving comments from stakeholders that the cost-effectiveness analysis did not adequately consider larger diameter tanks, staff included tanks with diameters of 253 feet and 299 feet. Cost-effectiveness analysis is based on the sample group and applied to the remaining rule universe. Tank diameters ranged from 30 feet to 299 feet. Tank contents and throughput were identified using 2019 Annual Emission Reports and facility provided data for the 253 feet and 299 feet diameter tanks. The cost-effectiveness to require domes on nine tanks is $24,800 per ton of VOC reduced. Refer to Chapter 4 for additional cost-effectiveness details.

Proximity Switches

Proximity switches are sensors designed to detect when sample hatch covers are open and are commonly used at remote oil well sites that are not inspected regularly. Proximity switches can also be used on pressure vacuum relief vents (PVRVs). The switch can alert facility personnel when a sample hatch cover or PVRV is open and results in quicker repair timelines and smaller emissions impacts. Limitations to using proximity switches include small openings that may go undetected and proximity switches only being able to monitor leaks from hatches or PVRVs.

Figure 2-3- Proximity Switch

Staff considered proximity switches for sample hatches on tanks at oil well sites. Oil and gas production facilities are typically more compact allowing for one transmitter to support multiple switches if needed. The spread-out design of tank farms at other types of facilities would require the use of multiple transmitters to support each switch, which would lead to higher equipment costs. Costs were obtained from the 2023 Proposed Amended Rule 1178 Final Staff Report and totaled $12,300 for an oil well site with one tank. Costs included the switch, transmitter, base radio, solar power supply, and cellular connection. Installation costs were assumed at fifty percent of the equipment cost and include travel, site evaluation, planning, and installation. There are 247 oil well facilities subject to Rule 463 and staff assumed that one tank at each site meets the Rule 463 applicability criteria. The cost to require proximity switches at 247 facilities, assuming one tank at each facility, is $3,038,100. The emissions reductions assumed are based on the estimated leaks from fixed roof tanks. Staff assumed one leak per 100 tanks per year at an estimated leak rate of 0.26 tons per day over seven days. Staff assumed the leak would occur for seven days since it is the halfway point in between the proposed PAR 463 OGI tank farm inspection schedule of every two weeks. The cost effectiveness to require proximity switches on sample hatches at oil well sites, assuming a 10-year equipment life is $67,582 per ton of VOC reduced.

Cable Suspension Systems

Cable suspended floating roofs are designed with cable suspension systems to support the floating roof and remove the need for roof legs as depicted in Figure 2-4 below. Emissions from internal floating roof tanks are reduced with cable suspension systems by the elimination of floating roof leg penetrations that provide a potential opening where VOCs can migrate from below the floating roof to atmosphere. There are 93 internal floating roof tanks subject to Rule 463. Costs were obtained from the 2023 Proposed Amended Rule 1178 Final Staff Report. A cost-effectiveness analysis was conducted for an average internal floating roof tank 87 feet in diameter, with an average throughput, storing gasoline with an RVP of 10 psi. The cost to require a cable suspended floating roof on the model tank described is $255,400. The emission reductions were modeled in BREEZE TankESP for an internal floating roof tank with zero legs and resulted in emission reductions of 196 pounds per year. The cost effectiveness to require cable suspension systems of 93 tanks is $130,300 per ton of VOC reduced, assuming a 20-year equipment life.

Figure 2-4: Cable Suspended Roof

Emission Control Systems (Vapor Recovery)

Emission control systems are connected to fixed roof tanks and control VOC emissions with carbon adsorption or combustion. Compliance reports containing performance tests results for vapor recovery systems used at facilities subject to Rule 463 were reviewed. All compliance reports reviewed stated the vapor recovery systems were compliant but not all specified the vapor recovery efficiency. Only the initial performance tests stated the control efficiency for the three combustion vapor recovery systems which were specified at over 99% combustion efficiency. During a site visit, staff was informed that the facility's carbon adsorption system performs at over 99% emission control, which was further confirmed with performance test reports. During the last rulemaking for Rule 1178 it was determined that 98% efficiency is achievable based on performance test results for combustion and carbon adsorption systems. Staff estimates there are 479 fixed roof storage tanks connected to vapor recovery systems. Costs for vapor recovery systems include early Title V permit revisions pursuant to Rule 3005 – Permit Revisions as well as performance tests to verify compliance with the new control efficiency. The total cost associated with increasing the control efficiency to 98% is $18,492,800 over ten years.

Staff recommends increasing the emission control system efficiency requirements to 98% emission control, by weight, based on available performance test results and information obtained at site visits and requiring performance tests on vapor recovery systems to be conducted every ten years. Since units are currently achieving a 98% control efficiency, no reductions are assumed in the cost-effectiveness analysis to be conservative.

Seals

Primary and secondary seals are used on floating roof tanks to seal the annular space between the floating roof and the tank shell to prevent VOC vapors from migrating out of the tank. Seal systems can have only a primary seal or a primary seal and secondary seal. Internal floating roof tanks are not currently required in Rule 463 to have both a primary seal and secondary seal. Examples of seals are depicted in Figures 2-5 below.

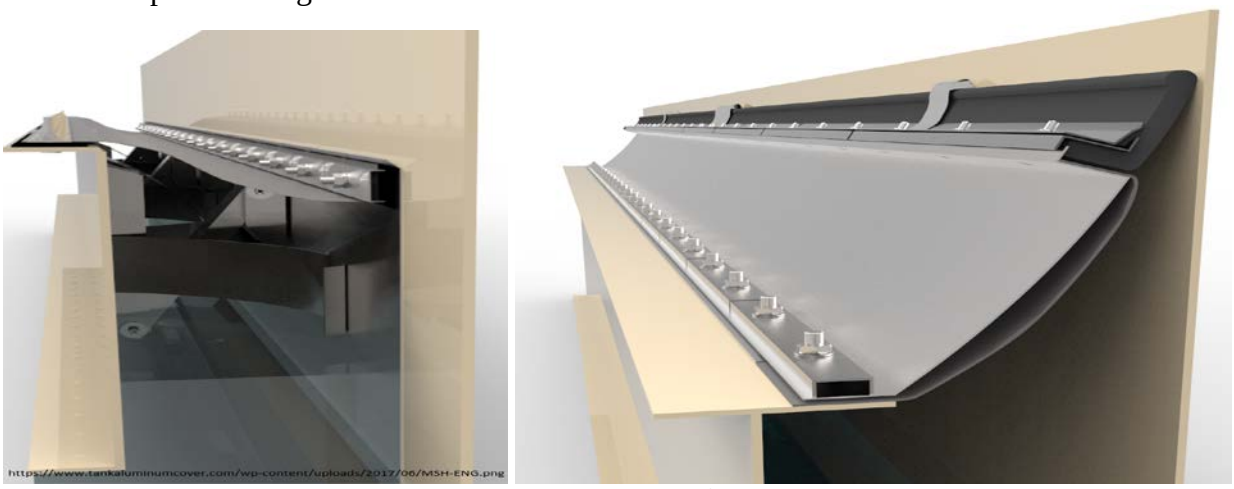


Figure 2-5: Seals on Floating Roof Storage Tanks

Staff identified five internal floating roof tanks that are not equipped with secondary seals subject to Rule 463. A cost-effectiveness analysis was conducted for requiring secondary seals for the internal floating roof tanks. Costs were obtained from the 2023 Proposed Amended Rule 1178 Final Staff Report. A 20-year equipment life was assumed. The cost to install a secondary seal is $220 per foot and the cost to replace the rubber components of the seal 10 years after installation is $42 per foot. Permit fees were included and totaled $9,000 per modification. The total cost to require secondary seals on five tanks is $412,000 and the associated emission reductions calculated in BREEZE TankESP are 61.77 tons over the life of the equipment. The cost-effectiveness to require secondary seals on internal floating roof tanks is $6,700 per ton of VOC reduced. Staff recommends requiring secondary seals on internal floating roof tanks.

Staff analyzed the feasibility of meeting the more stringent gap requirements in Rule 1178 for all floating roof tanks subject to Rule 463. A review of a random sample of leak reports for floating roof tanks (20%) was conducted and showed that some tanks were not meeting more stringent gap requirements. It is expected that more stringent gap requirements could be met with better seals. A cost-effectiveness analysis was conducted to replace seals. Meeting more stringent gap requirements found in Rule 1178 would result in very small emission reductions and is not cost-effective for facilities subject to Rule 463. For an average tank that is 117 feet in diameter, storing crude oil with RVP 6, with an average throughput, the cost-effectiveness using similar cost

estimates to the costs obtained for the 2023 Proposed Amended Rule 1178 Final Staff Report ($200 per foot to replace the primary seal) is over one million dollars per ton of VOC reduced. Therefore, staff is not proposing to include the more stringent gap requirements in Rule 1178 in PAR 463.

Staff identified more stringent gap requirements contained in U.S. EPA's Subpart Kb that applies to certain tanks. Rule 463 will be updated to incorporate U.S. EPA's seal gap requirements by reference.

LEAK DETECTION TECHNOLOGIES

Multiple leak detection technologies and methods were considered to reduce the emissions impact from leaks from storage tanks. A review of continuous monitoring technologies including fixed gas sensor networks and open path device systems was conducted. Periodic monitoring with handheld optical gas imaging devices was also reviewed.

Continuous Monitoring Systems

Continuous monitoring solutions using open path detection and fixed gas sensor networks were assessed in 2023 for the Rule 1178 rulemaking. It was determined that the best solution for monitoring tanks is to require periodic monitoring with handheld OGI devices due to their ability to identify small and large leaks. Continuous monitoring systems are limited in their ability to detect smaller leaks because they are installed at a distance from the tank. Depending on the detection technology of the continuous monitoring system, a leak may need to be significantly large at the source to be detected and has the potential to go undetected. One significant drawback to requiring stationary continuous monitoring system of gas sensors or open path devices, is the chance that a large leak goes undetected because it does not make contact with the fixed sensor or emitted open path beam. Continuous monitoring systems with sensors that must come in contact with the VOC vapor may not be the most effective technologies to reduce the emissions impact from tank leaks. Another drawback to requiring continuous monitoring systems is the delayed implementation timeline due to the plan approval and installation timeframes. Although continuous monitoring may not be as effective as manual inspections, staff analyzed the cost-effectiveness. Continuous monitoring was analyzed for facilities subject to Rule 1178 in the 2023 Rule 1178 rulemaking. For this rule development, staff determined the cost-effectiveness to implement continuous monitoring at facilities that are subject to Rule 463 and are not subject to Rule 1178.

Staff used costs from the 2023 Proposed Amended Rule 1178 Final Staff Report to calculate cost-effectiveness for continuous monitoring using fixed gas sensors and open path. For continuous monitoring with fixed gas sensors, staff assumed that one sensor per tank would provide sufficient coverage at a tank farm and considered cost to implement the fixed gas sensor network as a service where the technology supplier installs, operates and maintains the monitoring system. Six hundred and seventy-nine sensors, as depicted in Figure 2-6, would be required to monitor the tank subject to Rule 463 controls. The cost per sensor is approximately $10,000. The estimated emission reductions from 679 tanks are 159 tons per year and is

Figure 2-6- Gas Sensor

based on the leak assumptions detailed in Chapter 4. The total costs are $6,790,000 per year to monitor all tanks and the cost-effectiveness is $42,700 per ton of VOC reduced.

Staff used cost estimates from the 2023 Proposed Amended Rule 1178 Final Staff Report to calculate cost-effectiveness for continuous monitoring with open path detection devices as shown in Figure 2-7 below. Staff assumed that five open path devices are needed for every 22 tanks for sufficient coverage in the Rule 1178 rulemaking. The same assumptions were made for the cost-effectiveness analysis for Rule 463 except for oil well sites where each site is assumed to have one tank subject to Rule 463. For these sites, staff assumed one open path device was used. For all other facilities, staff assumed for every 22 tanks five open path devices are needed. There are 679 tanks that meet the requirements to conduct monitoring at facilities subject to Rule 463, that are not subject to Rule 1178, and therefore do not already have enhanced LDAR requirements. Based on the aforementioned assumptions, staff calculated 249 open path devices at the 279 oil well sites and 98 open path devices for the remaining tanks for a cost-effectiveness analysis. Staff obtained costs from the 2023 Proposed Amended Rule 1178 Final Staff Report. The cost of one open path device is $190,000, the estimated installation cost is equal to the equipment cost, and the annual O&M cost is estimated at $5,000. The total cost for equipment, installation, and O&M over a 20-year equipment life is $189,431,000. The emission reductions over 20 years are 3,182 tons and is estimated based on the leak assumptions detailed in Chapter 4. The cost-effectiveness is $48,600 per ton of VOC reduced to implement continuous monitoring with open path detection.

Figure 2-7- Open Path Device

Staff does not propose requiring the use of continuous monitoring systems in PAR 463. The continuous monitoring systems analyzed were all above the VOC cost-effectiveness threshold. Exceeding the cost-effectiveness threshold in combination with the limitations of the technologies when compared to manual OGI inspections resulted in staff's proposal to not require continuous monitoring systems as BARCT. However, due to stakeholder interest in the opportunity to utilize continuous monitoring systems, staff will include a provision in PAR 463 that allows for the use of U.S. EPA approved alternative monitoring methods provided they can achieve equivalent or more stringent monitoring as the proposed requirements for manual OGI inspections.

Periodic Monitoring with Optical Gas Imaging

An optical gas imaging camera uses infrared technology capable of visualizing vapors. Optical gas imaging cameras have different detectors capable of visualizing a variety of gas wavelengths. VOC wavelengths are in the 3.2-3.4 micrometer waveband. The difference in views is shown in Figure 2-8 below.

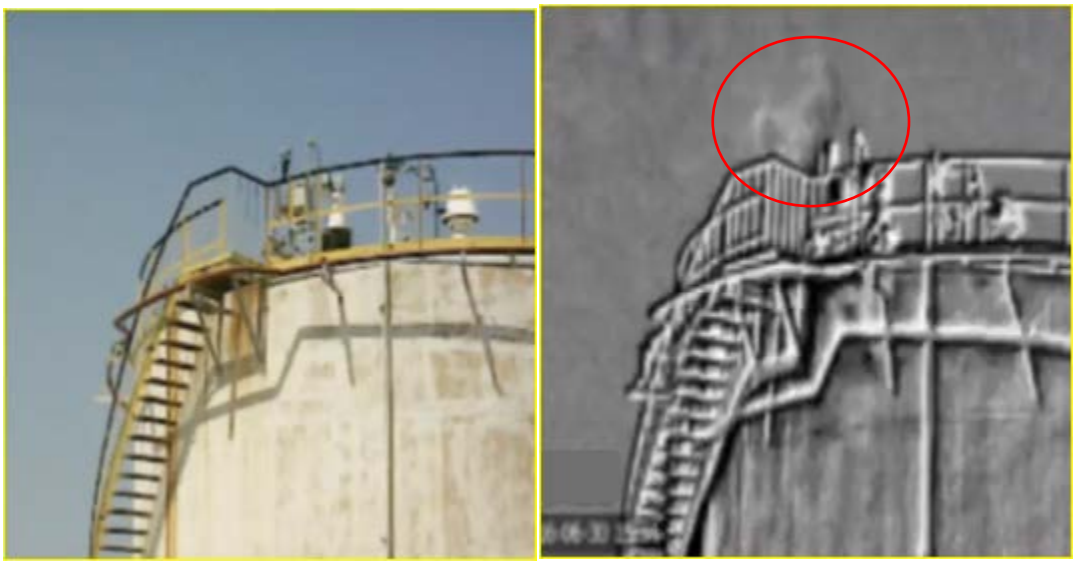


Figure 2-8: View with naked eye compared to view with an OGI camera

OGI cameras with the ability to detect or visualize in this waveband range contain a cryocooler that is integrated into the sensor and increases the sensitivity of the camera to detect smaller leaks. OGI cameras are widely used as a screening tool for leak detection purposes and have continuous monitoring capability. Fixed OGI systems have been implemented at well sites and compression stations for continuous emissions monitoring. Handheld OGI cameras, as seen in Figure 2-9, are used widely by leak detection service providers as well as facilities for periodic monitoring.

Figure 2-9- OGI camera

Fixed OGI cameras may not catch all leaks that can be identified during an inspection where a portable OGI device is manually operated. Fixed OGI cameras are limited in the number of angles from which a tank can be viewed and would likely be stationed further away from an emissions source compared to a person conducting an inspection with a portable OGI device. Stationary and portable devices both have the capability to detect large leaks, however, there is greater chance that smaller leaks would be identified with a manual field inspection than with a stationary camera because tanks can be monitored in close proximity using portable devices such as handheld OGI cameras and toxic vapor analyzers (TVA).

Manual inspections with a portable OGI device can be more or less time intensive depending on how the inspection is conducted. If inspections are conducted for all components on each tank, approximately four tanks per day can be monitored individually from the tank platform. It is not cost-effective to require individual monitoring of each tank every two calendar weeks. Monitoring the entire tank farm from a distance would allow multiple tanks to be viewed in one frame, is less time intensive, and cost-effective to carry out more frequently when compared to individual component monitoring. Large leaks can be identified quicker when conducting tank farm inspections, since the inspections would be carried out on a more frequent basis.

Costs and Cost-Effectiveness

Costs were obtained from the Proposed Amended Rule 1148.1 – Oil and Gas Production Wells rule development for handheld OGI cameras. A portable cooled OGI camera costs approximately

$120,000 and requires replacement of the cryocooler every 3-4 years or every 10,000-13,000 hours of operation. Maintenance is estimated to cost $1,500 per year. Staff analyzed cost-effectiveness for OGI tank farm inspections at increasing frequencies using handheld devices assuming owner or operator ownership of the cameras. The results are provided in Table 2-1 below.

Table 2-1: Cost-Effectiveness of OGI Inspection Frequencies

	Every two months	Monthly	Every two weeks	Weekly	Every other day	Daily
Total cost over 10 years ($)	$16,104,000	$18,288,000	$22,656,000	$32,848,000	$80,168,000	$146,780,000
Total emission reductions (tons over 10 years)	1,061	1,326	1,467	1,529	1,574	1,591
Cost effectiveness ($/ton VOC)	$15,200	$13,800	$15,400	$21,500	$50,900	$92,200
Incremental cost ($/ton VOC)	N/A	$8,200	$31,000	$164,400	$1,051,600	$3,918,400

Staff proposes OGI tank farm inspections every other calendar week, as the frequency is both cost-effective and incrementally cost-effective. PAR 463 will require OGI monitoring for all tanks meeting the capacity and vapor pressure thresholds in subdivision (d) and paragraph (e)(1). OGI tank farm inspections will not require an inspector to climb or access a tank unless vapors are observed that indicate malfunctioning equipment. Semi-annual OGI component inspections for floating roof tanks are also being proposed in PAR 463 to supplement other existing semi-annual inspections, such as gap measurements and Lower Explosive Limit (LEL) readings. Semi-annual OGI component inspections will require the inspector to conduct the inspection from the tank platform. Semi-annual component OGI inspections are proposed to identify smaller leaks that may go undetected during existing inspections and proposed OGI tank farm inspections. The cost-effectiveness to require every other calendar week OGI tank farm inspections is $15,400. No additional costs were assumed for conducting OGI component inspections, as they can occur at the same time as other semi-annual inspections. Refer to Chapter 4 for details on costs and cost-effectiveness.

SUMMARY

Several technologies were assessed for their potential to reduce emissions from storage tanks. Cost-effectiveness was determined for each technology with the potential to reduce emissions. Based on the BARCT assessment, staff proposes to require doming for all external floating roof

tanks storing organic liquid with true vapor pressure of 3.0 psia and greater, more stringent gap requirements to reflect requirements in the U.S. EPA's 40 CFR Part 60 Subpart Kb, 98% emission control for fixed roof tanks, secondary seals on all floating roof tanks, and OGI inspections every other week for tank farm inspections and semi-annually for component inspections. Table 2-2 shows the cost-effectiveness for proposed requirements.

Table 2-2 – Cost-Effectiveness of Proposed Requirements

Proposed Requirement	Cost-Effectiveness ($/ton)
Doming of EFR tanks storing organic liquids with a TVP of 3.0 psia or above	$24,800
More stringent primary and secondary seal gap requirements	$0
Secondary seals on all floating roof tanks	$6,700
OGI tank farm inspections every other week	$15,400

CHAPTER 3: PROPOSED AMENDED RULE 463

INTRODUCTION

PROPOSED AMENDED RULE STRUCTURE

PROPOSED AMENDED RULE 463

INTRODUCTION

PAR 463 establishes requirements for the storage of organic liquids in tanks. PAR 463 includes requirements for tank seals, emission control systems, doming, inspections and monitoring, reporting and recordkeeping.

The following information describes the structure of PAR 463 and explains the provisions incorporated from other source-specific rules. New provisions and any modifications to provisions that have been incorporated are also explained. PAR 463 also includes grammatical and editorial changes for clarity. Several requirements were moved to consolidate.

PROPOSED AMENDED RULE STRUCTURE

PAR 463 will contain the following subdivisions:

a) Purpose
b) Applicability
c) Definitions
d) Tank Roof Requirements
e) Other Performance Requirements
f) Monitoring Requirements
g) Reporting and Recordkeeping Requirements
h) Exemptions
i) Test Methods
j) Ozone Contingency Measures

PROPOSED AMENDED RULE 463

Subdivision (a) ─ Purpose

The purpose of this rule is to reduce VOC emissions from above-ground storage tanks storing organic liquids. Furthermore, PAR 463 contains a new purpose to establish contingency measures for ozone standards.

Subdivision (b) ─ Applicability

The applicability was separated from the purpose to reflect the current South Coast AQMD preferred rule format. There have been no other changes to the applicability.

Subdivision (c) ─ Definitions

Definitions were added or modified for clarity of new requirements. Key definition changes are referenced and discussed below.

- *COMPONENT is any valve, fitting, pump, compressor, pressure relief device, diaphragm, hatch, sight-glass, Roof Opening, Rim Seal System, pressure vacuum vents, guidepoles, roof legs, or meter in VOC service.*

  This is a definition from Rule 1173 ─ Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants (Rule 1173) that was modified to include additional tank specific parts. The definition adds clarity on the meaning of component for the proposed semi-annual OGI component inspection requirement.

- *COMPONENT INSPECTION is monitoring for Visible Vapors with a handheld Optical Gas Imaging Device of a Storage Tank roof and individual components, including but not limited to Roof Openings and Rim Seal Systems, viewable from the Tank platform or a vantage point capable of seeing the Tank roof, and ground for components not viewable from the Tank platform or vantage point but viewable at ground level.*

  This is a definition from Rule 1178 that was modified to include component inspection procedures for tanks that do not have access to a tank platform. In the event there is no platform from which a component inspection can be conducted, an owner or operator can use a vantage point capable of viewing the roof of the tank and/or other vantage points needed to complete the OGI inspection.

- *PRODUCT CHANGE is the process of changing the Tank contents from one Organic Liquid to another Organic Liquid that has different characteristics i.e. vapor pressure, viscosity, etc.*

  This is a new definition to clarify the new rule language added in PAR 463 paragraph (e)(2) in response to stakeholder request.

- *VISIBLE GAP is a gap of more than 1/8 inch between any gasket or Seal and the opening that it is intended to control. Visible Gap for Primary and Secondary Seals is a gap that does not meet the requirements specified in subdivision (d).*

  This is a definition from Rule 1178 that was modified to clarify that visible gaps can occur in both seals and gaskets.

- *VISIBLE VAPORS are any VOC vapors detected with an Optical Gas Imaging Device, when operated and maintained in accordance with manufacturer training or certification, or equivalent California Air Resources Board (CARB) training, user manuals, specifications, and recommendations.*

  This is a definition from Rule 1178 that was modified to include the CARB OGI camera training as an approved training method for OGI camera operators. The definition was also modified to remove the reference to tank farm inspections and component inspections so that visible vapors can be identified outside of those two operations.

The following definitions were added or modified to be consistent with the definitions Rule 1149 – Storage Tank and Pipeline Cleaning and Degassing (Rule 1149), Rule 1173, and Rule 1178:

- *ACCESS HATCH*
- *CERTIFIED PERSON*
- *CLEANING*
- *DOMED ROOF*
- *EMISSION INVENTORY YEAR*
- *EXTERNAL FLOATING ROOF TANK*
- *FACILITY*
- *FIXED ROOF SUPPORT COLUMN AND WELL*
- *FIXED ROOF TANK*
- *FLEXIBLE ENCLOSURE SYSTEM*
- *FUEL GAS SYSTEM*
- *GAUGE FLOAT*
- *GAUGE HATCH/SAMPLE PORT*
- *GUIDEPOLE*
- *INTERNAL FLOATING ROOF TANK*
- *LADDER AND WELL*
- *LIQUID MOUNTED PRIMARY SEAL*
- *MECHANICAL SHOE PRIMARY SEAL*
- *OPTICAL GAS IMAGING DEVICE*
- *POLE FLOAT*
- *POLE SLEEVE*
- *POLE WIPER*
- *PRIMARY SEAL*
- *RESILIENT FILLED PRIMARY SEAL*
- *RIM MOUNTED SECONDARY SEAL*
- *RIM SEAL SYSTEM*
- *RIM VENT*
- *ROOF DRAIN*
- *ROOF LEG*
- *ROOF OPENING*
- *SECONDARY SEAL*
- *SLOTTED GUIDEPOLE*
- *STORAGE TANK or TANK*

- *TANK FARM INSPECTION*
- *TRUE VAPOR PRESSURE*
- *VACUUM BREAKER*
- *WASTE STREAM TANK*

Subdivision (d) ─ Tank Roof Requirements

PAR 463 includes revisions to existing requirements and new requirements. PAR 463 establishes requirements for rim seal gaps, secondary seals, emission control systems, doming, testing, implementation and monitoring.

Primary and Secondary Seal Gap Requirements – Clause (d)(1)(A)(v)
New seal gap requirements for primary and secondary seals were added by reference to reflect seal gap requirements contained in U.S. EPA's 40 CFR 60 Subpart Kb. The new seal gap requirements are in addition to the existing seal gap requirements specified in clauses (d)(1)(A)(i) to (d)(1)(A)(iv). Seal gap requirements are contained under requirements for external floating roofs but apply to all floating roof tanks; requirements for other floating roof tanks refer to subparagraph (d)(1)(A).

Vapor Tight Requirements for Openings – Subparagraphs (d)(1)(D), (d)(2)(A), (d)(3)(A), (d)(3)(B), and (d)(4)(A)
New language was added to clarify that covers and openings must be controlled in a manner that is vapor tight. Vapor tight is a defined term in Rule 463. Domed external floating roof tanks also have requirements to be in a vapor tight condition, as subparagraph (d)(4)(A) refers to paragraph (d)(1).

Maintain Tanks Free of Visible Vapors for External Floating Roof Tanks – Subparagraphs (d)(1)(G), (d)(2)(C), (d)(3)(D), and (d)(4)(C)
PAR 463 requires tanks to be free of visible vapors that could result from a defect determined by an optical gas imaging inspection. Defects can be anything that leads to uncontrolled emissions such as a physical malfunction, a hatch improperly closed, or components not operating as intended. For example, visible vapors resulting from a pressure vacuum relief valve (PVRV) opening to relieve pressure build up is allowable. However, if that same PVRV does not re-seal properly after being opened then that is considered a defect. Requirements to maintain tanks free of visible vapors are contained under requirements for external floating roof tanks but applies to all tanks; requirements for other tanks refer to subparagraph (d)(1)(G).

Visible Vapor Cause Determination – Clause (d)(1)(G)(i)
If an OGI camera detects visible vapors and an owner or operator claims the vapors are not the result of a defect, then the owner or operator must demonstrate that the vapors in question are not the result of a defect. This provision is intended to put the onus on the owner or operator to prove their claim that visible vapors detected by an OGI camera is allowable by Rule 463 (e.g. PVRV opening to temporarily relieve pressure build up). Requirements for the owner or operator to demonstrate that visible vapors are not the result of a defect are contained under requirements for

external floating roof tanks but applies to all tanks; requirements for other tanks refer to subparagraph (d)(1)(G), which includes clause (d)(1)(G)(i).

Doming Requirements – Subparagraph (d)(1)(H)

PAR 463 requires that facilities install a dome on any external floating roof tank storing organic liquid with a true vapor pressure of 3 psia or greater. The new provision reflects existing doming requirements in Rule 1178. External floating roof tanks that meet the requirements of subparagraph (d)(1)(H) must install domes at the next internal API 653 inspection or the next time a tank is cleaned and degassed, whichever is sooner, but not to exceed 23 years after a test verifies that an organic liquid stored has a TVP of 3 psia or greater. Internal API 653 inspections require the tank to be taken out of service to inspect the inside of the tank and are carried out every 20 years. Tanks need to be cleaned and degassed prior to the installation of a dome for safety concerns. Furthermore, doming is not cost-effective when cleaning and degassing costs are considered. The implementation timeframe for doming begins three years after *[Date of Adoption*] to account for planning and budgetary needs and the permitting process. It is the responsibility of the owner or operator to submit permit applications in a timely manner to ensure that permits can be issued prior to the implementation schedule specified in subparagraph (d)(1)(H). The backstop of 23 years for installing domes was calculated by adding the three year on-ramp period to the standard 20-year interval for internal API 653 inspections. The effective date of this provision is June 7, 2027.

True Vapor Pressure Measurements – Subparagraph (d)(1)(I)

Facilities are required to measure and record the true vapor pressure of the organic liquid inside any external floating roof tank not equipped with a dome with an initial vapor pressure test. Any tanks storing organic liquids with a TVP less than 3.0 psia are required to conduct subsequent tests on a semi-annual basis (once every six months) to verify the true vapor pressure remains less than 3 psia. This requirement is effective on January 1, 2025, and the first test must be conducted by July 1, 2025. If an EFR tank shows a single test indicating the stored organic liquid has a TVP of ≥ 3.0 psia a dome must be installed pursuant to the implementation schedule in subparagraph (d)(1)(H) unless the tank is placed out of service and the permit is surrendered or if the owner or operator elected to conduct TVP tests according to the alternative schedule specified in clauses (d)(1)(I)(i). An EFR tank with permit conditions that limit the true vapor pressure of the organic liquid stored to < 3.0 psia is not exempt from the doming requirements, if the result from a test specified in subparagraph (d)(1)(I) or the average result from tests specified in clause (d)(1)(I)(i) is ≥ 3.0 psia, with the exception of EFR tanks storing waste water where the installation domes can lead to unsafe conditions pursuant to subparagraph (d)(1)(J). However, owners or operators of EFR tanks that are pursuing the alternative compliance pathway in subparagraph (d)(1)(J) may be subject to penalties and/or additional actions if TVP tests indicate that the product stored is ≥ 3.0 psia.

Alternative True Vapor Pressure Measurements – Clauses (d)(1)(I)(i)

An owner or operator can choose to conduct monthly TVP tests and submit an average TVP of the organic liquid stored in a tank every six months. If an owner or operator opts to use this alternative pathway, the owner or operator must commence testing in January 2025. Any owner or operator that fails to test monthly as of January 2025 must comply with the semi-annual TVP test requirements specified in subparagraph (d)(1)(I). If an EFR tank subject to the alternative TVP testing schedule has an average TVP over six months that is ≥ 3.0 psia, a dome must be installed

pursuant to the implementation schedule in subparagraph (d)(1)(H) unless the tank is placed out of service and the permit is surrendered. The average test results are not to be calculated on a rolling average. Each calculated six month average will include the TVP test results from tests conducted from January-to-June and July-to-December each year.

Doming Alternative for Tanks with Pyrophoric Material – Subparagraph (d)(1)(J)

For waste water EFR tanks where the installation of a dome could lead to the buildup of pyrophoric materials, PAR 463 includes an option to accept permit conditions to limit the TVP of the organic liquid stored to less than 3 psia as an alternative to doming.

Removal of Alternative Compliance Pathway for Fixed Roof Tanks with an Internal Floating Type Cover from Paragraph (d)(2)

An alternative compliance pathway which allowed fixed roof tanks with an existing internal floating type cover approved on or before June 1, 1984, to comply with requirements applicable at the time of approval was removed from paragraph (d)(2). All fixed roof tanks with internal floating type covers will be required to comply with the provisions in PAR 463.

Seal Requirements for Internal Floating Roof Tanks – Subparagraph (d)(2)(A)

Internal floating roof tanks must be equipped with both a primary and secondary seal. Primary seal and secondary seal are defined terms in PAR 463. In response to a comment from a stakeholder, the mechanical shoe primary seal requirements for IFR tanks were updated to require that one end of the shoe extend 6 inches above the liquid surface and the other end extend into the liquid a minimum of 4 inches. The proposed PAR 463 requirements align with Rule 1178 and are consistent with the API 650.H.4.4.5.c requirements. Rule 463 subparagraph (d)(1)(A) requires that mechanical shoe primary seals extend a minimum vertical distance of 24 inches above the surface of the organic liquid. Since the internal floating roofs are much lighter structures and are not subject to the effects of wind, larger mechanical shoe primary seals are not required for seal control effectiveness. Furthermore, maintaining the current requirement of larger mechanical shoe primary seals for all internal floating roof tanks could cause some roof systems to fail and could result in an adverse emission impact. During the 2006 Rule 1178 amendment process staff determined, based on information provided by seal manufacturers, there is no difference in emissions as long as the mechanical shoe length meets the API Guidelines and the structural integrity of the roof is maintained.

Compliance Schedule to Install Secondary Seals on Internal Floating Roof Tanks – Subparagraph (d)(2)(D)

Any internal floating roof tanks not equipped with a secondary seal are required to have a secondary seal installed at the time of the next internal API 653 inspection or the next time the tank is cleaned and degassed, whichever is sooner, but no later than 22 years past the date of adoption for PAR 463. Internal API 653 inspections require the tank to be taken out of service to inspect the inside of the tank and are carried out every 20 years. Tanks need to be cleaned and degassed prior to the installation of secondary seals due to safety concerns. The implementation timeframe for installing secondary seals begins two years after [*Date of Adoption*] to account for planning and budgetary needs as well as the permitting process. It is the responsibility of the owner or operator to submit permit applications in a timely manner to ensure that permits can be issued prior to the implementation schedule specified in subparagraph (d)(2)(D).

Vapor Recovery Systems for Fixed Roof Tanks – Subparagraph (d)(3)(C)
Vapor Recovery systems required on fixed roof tanks must achieve 98% control efficiency by weight. The owner or operator is required to submit early Title V permit revisions pursuant to South Coast AQMD Rule 3005.

Domed External Floating Roofs – Paragraph (d)(4)
Staff added a new paragraph to specify requirements for domed external floating roofs.

Roof Openings and Rim Seal Systems for Domed External Floating Roofs – Subparagraph (d)(4)(A)
Domed external floating roofs are subject to the same requirements as external floating roofs to equip and maintain roof openings and rim seal systems, with the exception of slotted guidepoles. Specific requirements for the components needed for slotted guidepoles are specified in subparagraph (d)(4)(A).

Concentration of Organic Vapor for Domed External Floating Roofs – Subparagraph (d)(4)(B)
Subparagraph (d)(4)(B) is based on the requirements in subparagraph (d)(2)(B) to ensure that the concentration of organic vapor in the vapor space above the floating roof does not exceed 30% of its lower explosive limit.

Condition Requirements for Domed Roof – Subparagraph (d)(4)(D)
Subparagraph (d)(4)(D) mirrors Rule 1178 and specifies that domes must be maintained in a condition that is free from openings that are not part of the dome design such as gaps, cracks, separations and other openings. This requirement excludes openings that are part of the dome design such as vents and access points or doors.

Subdivision (e) ─ Other Performance Requirements

Exceptions for Floating Roof During Product Change – Paragraph (e)(2)
The proposed amended rule includes product change as an activity in which an internal floating roof or external floating roof does not need to float on the organic liquid. Product change is a defined term in PAR 463. Staff updated the rule language in response to a stakeholder request. The proposed amended rule language clarifies the intent of existing rule language as tanks must be emptied during a product change, which requires floating roofs to rest on support legs (unless the roof is cable suspended).

Executive Officer Approval of Alternative Seals – Paragraph (e)(5)
Seals that are not on the current list of approved seals cannot be used unless a facility is given written approval by the Executive Officer.

Use of PAR 463 Addendum for Vapor Pressure Limits – Paragraph (e)(6)
Organic liquids listed on the Rule 463 addendum can no longer be deemed to be in compliance. The addendum can be used as a guide for compliance with the appropriate vapor pressure limits.

Subdivision (f) ─ Monitoring Requirements

Tank Roof Refloating Seal Inspections ─ Subparagraph (f)(3)(B)
PAR 463 extends the time to conduct required seal inspections on floating roofs to 48 hours after a tank roof is refloated. A stakeholder stated that tank refilling at their facility can take up to 48 hours to complete. Under the current rule requirements, facilities are required to conduct seal inspections within 24 hours. Therefore, facilities with tank refilling operations longer than 24 hours are required to conduct seal inspections before the tank refilling is complete; once the seal inspection is completed the facility resumes tank refilling operations. The pause in operations can lead to unintended excess auxiliary emissions. For example, if a vessel is used to refill a large tank that takes more than 24 hours to complete, the process must pause for the inspection to occur and then continue. During this pause the vessel is on standby, generating emissions. The extended seal inspection deadline accounts for longer refill operations while maintaining a deadline for seal inspections.

Electronic Notifications – Subparagraph (f)(3)(C)
PAR 463 specifies electronic notifications to the email address designated by the Executive Officer. The timeframe to submit notifications was also shortened to 2 days prior to the start of any tank-emptying or roof-refloating operation for planned maintenance. Electronic notifications are almost instantaneous which reduces the need for a longer notification timeframe.

Optical Gas Imaging Inspections – Subparagraph (f)(3)(D)
Effective July 1, 2025, optical gas imaging inspections are required for tanks that meet the capacity and vapor pressure requirements specified in subdivision (d) and paragraph (e)(1) to determine compliance with the requirement for tanks to be maintained in a condition that is free of visible vapors resulting from a defect or malfunction of equipment. This subparagraph contains the requirements for OGI inspections.

Certification/Training of Person Conducting OGI Inspection – Clause (f)(3)(D)(i)
Contains requirements for qualification for the persons conducting an OGI inspection. Persons conducting the OGI inspection must be certified, have undergone training provided by the manufacturer of the OGI camera, or have completed an equivalent CARB training program. The persons conducting the inspections must also complete all subsequent training or certification recommended by the OGI manufacturer, or have completed an equivalent CARB training program. This paragraph also contains requirements for proper operation and maintenance of the OGI device. The OGI camera must be operated and maintained in accordance with all manufacturer guidance including but not limited to that stated in any training or certification course, user manuals, specifications, recommendations.

Tank Farm Inspection Requirements – Clause (f)(3)(D)(ii)
Contains requirements for tank farm inspections.

Frequency (Tank Farm Inspection) – Subclause (f)(3)(D)(ii)(A)
Inspections must be conducted at least once every two calendar weeks.

Procedure (Tank Farm Inspection) – Subclause (f)(3)(D)(ii)(B)
A person using an OGI device is required to monitor for visible vapors with a tank farm inspection, as defined in PAR 463. If visible vapors are detected during a tank farm inspection, the person must conduct an additional inspection from the tank's platform, or a vantage point for tanks without a platform, to make an effort to determine the source of emissions. From the platform or vantage point, the person will use an OGI device to inspect components required to be maintained in a vapor tight condition or with no visible gaps. If visible vapors are detected from any components that are required to be maintained in a vapor tight condition or in a condition with no visible gaps, the facility must demonstrate compliance with applicable rule requirements for any component from which visible vapors are emitted or make a repair, within three days of identifying the visible vapors. If visible vapors are detected, the person must conduct a visual inspection to identify any defects in equipment from which visible vapors are emitted. Defects may include, but are not limited to, equipment that is not operating as intended, equipment not found in good operating condition, equipment not meeting all the requirements of Rule 463, or other indicators that equipment has failed (e.g., organic liquid pooled on a floating roof). The visual inspection for defects may include the use of an OGI device. If no defects are identified, no further action is required for the inspection. If a defect is identified, a repair must be made within three days.

Component Inspections – Clause (f)(3)(D)(iii)
Contains requirements for component inspections. Component is a defined term in PAR 463.

Frequency (Component Inspection) – Subclause (f)(3)(D)(iii)(A)
Inspections must be conducted at least twice per year at 4 to 8 month intervals for floating roof tanks. The component inspection frequency mirrors the timeframe specified in Rule 463 for other required semi-annual inspections, so that component inspections may be conducted at the same time.

Procedure (Component Inspection) – Subclauses (f)(3)(D)(iii)(B)-(C)
Repairs or demonstration with applicable rule requirements must be conducted when visible vapors are detected from any component or equipment, except for rim seal systems. Repairs or demonstrations with rim seal requirements must be conducted when a defect is visible from the tank platform, or a vantage point for tanks without a platform, and when visible vapors are emitted from the rim seal and are also detectable at the top of the tank shell or from roof vent.

Alternative Monitoring Method – Subparagraph (f)(3)(E)
An owner or operator my elect to use an alternative monitoring method approved in writing by the U.S. EPA that is equivalent or more stringent than the OGI inspection requirements specified in PAR 463. Alternative monitoring methods submitted to U.S. EPA for approval, but that have not received written approval from U.S. EPA, do not qualify as an approved alternative method in lieu of required OGI inspections. An owner or operator is required to submit written documentation of the U.S. EPA approved method to the South Coast AQMD, so staff can verify that the method is approved by U.S. EPA prior to the alternative monitoring method being implemented. Until the approved monitoring method is approved by South Coast AQMD, an owner or operator is subject to the OGI inspection requirements in PAR 463.

Performance Tests for Vapor Recovery Systems – Paragraph (f)(5)
An owner or operator of an existing vapor recovery system must conduct an initial performance test to verify compliance with the new control efficiency within one year of the date of adoption of PAR 463. Additional performance tests must be conducted for all vapor recovery systems at a frequency of least once every ten years. If a vapor recovery system is changed in any way that affects the capture or control efficiency, a performance test must be conducted within 180 days of the equipment modification. For example, changing the temperature in which a combustion based vapor recovery unit achieves ignition may lead to a change in the achieved control efficiency. Under the described scenario, a performance test would need to be conducted within 180 days of the vapor recovery system modification to verify compliance with the control efficiency requirements. Fuel gas systems operating to comply with the requirements in subparagraph (d)(3)(C) are not required to conduct performance tests.

Subdivision (g) ─ Reporting and Recordkeeping Requirements

Electronic Compliance Inspection Report Option – Subparagraph (g)(1)(A)
Paragraph (g)(A) was updated to allow for an electronic compliance inspection report, provided that all information required in Attachment B is included.

Electronic Option for Non-Compliance Report – Subparagraph (g)(1)(C)
Paragraph (g)(C) was updated to specify that a non-compliance report is required to be submitted electronically to the email address designated by the Executive Officer.

Emissions Reporting – Subparagraph (g)(2)(A)
U.S. EPA Tanks 4.0 was removed as an option to base emission information parameters on for South Coast AQMD's Annual Emission Reporting Program. U.S. EPA Tanks 4.0 was developed using a software that is now outdated and is not reliably functional. U.S. EPA currently recommends the use of formulas found in AP-42: Compilation of Air Pollutant Emissions Factors from Stationary Sources (AP-42), Chapter 7 to estimate VOC emissions from storage tanks. Currently the U.S. EPA is developing Tanks 5.0 as a replacement for the outdated Tanks 4.0. Pending U.S. EPA approval, Tanks 5.0 would be an acceptable tool to calculate emissions, for as long as U.S. EPA deems Tanks 5.0 to be an appropriate tool to estimate VOC emissions.

Reporting and Recordkeeping Requirements for OGI Inspections – Paragraph (g)(4)
Contains notification and recordkeeping requirements for OGI inspections.

Reporting for OGI Inspections – Subparagraph (g)(4)(A)
Contains reporting requirements for tank farm inspections. Facilities must report to 1-800-CUTSMOG when visible vapors are detected during a tank farm inspection that require a demonstration with rule requirements or a repair pursuant to the requirements of subclause (f)(3)(D)(ii)(B) within 24 hours of identifying the visible vapors.

Records for Tank Farm Inspections – Subparagraph (g)(4)(B)
Contains recordkeeping requirements for tank farm inspections. Written and digital records must be kept for findings of visible vapors resulting from a defect in equipment or from components required to be vapor tight or with no visible gap.

Records for Component Inspections – Subparagraph (g)(4)(C)
Contains recordkeeping requirements for component inspections.

Recordkeeping and Reporting TVP Test Results – Paragraphs (g)(5) and (g)(6)
Contains recordkeeping and reporting requirements for the TVP tests required for EFR tanks. Test results must be kept for 20 years to confirm tanks are under the doming TVP thresholds. Any test that indicates a TVP of 3.0 psia or greater must be reported to the South Coast AQMD and contain the year of the next internal API 653 inspection and the next planned time a tank is to be cleaned and degassed to aid in determining compliance with the dome installation schedule.

Reporting for VRU Performance Tests – Paragraphs (g)(7)
Contains reporting requirements for VRU performance tests. Facilities must submit reports of any performance tests within 60 days of conducting the test.

Subdivision (h) ─ Exemptions

Exemption for Tanks Regulated by Rule 1178 – Paragraph (h)(3)
An exemption from the provisions of Rule 463 for tanks regulated by Rule 1178, with the exception of other performance requirements, seal categories, and the definition for Product Change, was added to PAR 463. The new exemption increases clarity of compliance requirements for affected facilities subject to Rules 463 and 1178.

Exemption from OGI Inspections – Paragraph (h)(4)
Any tank that is out of service and complying with the requirements of Rule 1149 is exempt from OGI inspections. OGI inspections must resume once the tank is refilled and the initial inspection must be carried out within 14 days of the date the tank is refilled.

Exemption from OGI Inspections Due to Safety – Paragraph (h)(5)
If a facility or person responsible for conducting an OGI inspection at a facility determines that it is unsafe to climb a tank due to safety concerns, such as wind or slippery surfaces from rain, the facility is not required to conduct an inspection from the tank platform, or other vantage point for tanks without a platform. A component inspection for tanks that were identified as having visible vapors during a tank farm inspection must be conducted the first day the facility or person responsible for conducting the OGI inspection determines it safe to do so. An owner or operator is required to document the date that a required inspection was not completed and the reason.

Subdivision (i) ─ Test Methods

Additional Vapor Pressure Test Methods – Paragraph (i)(3)
Contains the approved test methods to verify compliance with Rule 463 requirements. New test methods were added to expand the test options used to determine the Reid Vapor Pressure of organic liquids. The new test methods include ASTM – 6377 and ASTM – 6378 which provide updated testing procedures for crude oils and heavier petroleum products, respectively. Additional changes include the removal of references to specific editions of U.S. EPA AP-42 and updates to include the verification of the new vapor tight requirements.

Removal of Reference to AP-42 Fifth Edition – Paragraph (i)(5)
A reference to the fifth edition of U.S. EPA AP-42 was removed, as future versions of AP-42 may be published. Removing the reference to the specific edition will reduce the need for future Rule 463 amendments.

Verification of Vapor Tight – Paragraph (i)(6)
Contains the methods used to determine the vapor tight condition for storage tanks.

Subdivision (j) ─ Ozone Contingency Measure

The proposed amendments add the required ozone contingency measures to the rule. These contingency measures would only be implemented in the event that the U.S. EPA determines that the South Coast AQMD had failed to meet an RFP milestone or attain an ozone NAAQS. These contingency control measures are necessary as part of comprehensive efforts to timely attain ozone standards.

When implemented, the proposed contingency measures would automatically establish increased OGI tank farm inspection frequencies for storage tanks that contain organic liquids with a TVP of 5.0 psi or greater. The contingency measures would be triggered upon the issuance of a final determination by the U.S. EPA that the South Coast AQMD has failed to comply with either of the following requirements:

1. Meet any ozone RFP requirement in an attainment plan approved in accordance with section 51.1012; or
2. Attain the applicable ozone NAAQS by the applicable attainment date.

PAR 463 includes contingency measures for both the South Coast Air Basin and the Coachella Valley which require weekly OGI tank farm inspections for tanks storing product with a TVP greater than or equal to 5.0 psi. Triggering the contingency measure for the South Coast Air Basin will result in an estimated additional 2,038 pounds per year of VOC reduction. Triggering the contingency measure for the Coachella Valley Air Basin will result in an estimated additional 36.4 pounds per year of VOC reduction.

Contingency measures should provide for emission reductions approximately equivalent to either one year's worth of air quality improvement or one year's worth of reductions needed for RFP in the years following RFP milestone and attainment years. While the proposed amendments in Rule 463 satisfy a 'triggering mechanism' requirement set by the U.S. EPA, the reductions from the rule alone are not adequate to satisfy the one-year's worth (OYW) of progress, which is calculated as the percentage of the base year emission inventory (EI) the annual rate of reductions represents of either NOx or VOC (or combined) per year. See the equation 3-1 below for an example.

Equation 3-1: Equation to Calculate OYW

$$\frac{(base\ year\ EI - attainment\ year\ EI)}{(attainment\ year - base\ year)} \div base\ year\ EI \times attainment\ year\ EI = OYW\ of\ Progress$$

Contingency measures are required to result in emission reductions within 60 days of a final action by the U.S. EPA. It would be challenging to implement more stringent requirements, achieving additional NOx or VOC reductions, in rules involving other traditional sources within the mandated 60-day period. Retrofitting and/or replacement of existing equipment with newer technologies and/or equipment which involve permitting requirements would likely take more than 60 days to effectively implement. Conversely, the proposed amendment to Rule 463 for OGI tank farm inspections does not require permit applications, does not require units be retrofitted or replaced, and does not require reformulation or development of new products. Consequently, Rule 463 is well suited for contingency provisions since implementing higher frequency OGI tank farm inspection monitoring could be easily implemented in less than 60 days following the triggering of a contingency measure.

Based on the above analysis, the South Coast AQMD will satisfy the contingency requirements in CAA section 172(c)(9) and the U.S. EPA's Ozone Implementation Rule with these proposed amendments to Rule 463. PAR 463 provides contingency measures to be triggered if the South Coast Air Basin or Coachella Valley fails to meet RFP or attain the applicable ozone standards by the applicable date. The emission reductions anticipated from PAR 463, in conjunction with reductions from existing rules and regulations, are expected to achieve the reductions equivalent to or more than OYW of progress. PAR 463 addresses the contingency measures for RFP and attainment for the applicable ozone standards (2008 & 2015 8-hour ozone NAAQS).

CHAPTER 4: IMPACT ASSESSMENTS

INTRODUCTION

Impact assessments were conducted as part of PAR 463 rule development to assess the environmental and socioeconomic implications. These impact assessments include emission reduction calculations, cost-effectiveness and incremental cost-effectiveness analyses, a socioeconomic impact assessment, and a California Environmental Quality Act (CEQA) analysis. Staff prepared draft findings and a comparative analysis pursuant to Health and Safety Code Sections 40727 and 40727.2, respectively.

EMISSION REDUCTIONS

PAR 463 will establish more stringent control and monitoring requirements that result in emission reductions. The proposed amendments will introduce requirements for doming and increase the stringency of existing requirements for seals, emission control systems, and monitoring. Emission reductions were calculated based on estimated baseline emissions and the expected efficacy for the proposed control or monitoring requirement. BREEZE TankESP PRO software was used to determine baseline emissions and emission reductions for proposed control requirements. This software calculates tank emissions based on emissions estimate procedures from Chapter 7 of U.S. EPA's Compilation of Air Pollutant Emission Factors for VOC emissions from storage tanks. Calculated emissions are based on many parameters such as tank diameter, tank height, controls, location of tank, product stored, characteristics of product stored and product throughput. U.S. EPA's estimates for uncontrolled tanks contained in the 2016 CTG were used to determine baseline emissions in the cost-effectiveness analysis for implementing OGI inspections. Staff did not evaluate the emission reductions associated with PAR 463 requirements from tanks subject to both Rules 463 and 1178 because they were already accounted for as part of the Rule 1178 rule development. The total estimated emission reductions from the implementation of PAR 463 is 1.65 ton per day.

Doming

BREEZE TankESP PRO software was used to calculate baseline emissions and emission reductions from doming. Using 2022 AER reports, staff randomly selected a sample of EFRs tanks with known throughout data (40% of the 89 known EFR tanks regulated by Rule 463) that provide a 95% confidence interval. In the 35-tank sample, there were 20 tanks storing organic liquids under 3.0 psia and eight tanks were already domed. Staff identified seven external floating roof tanks without domes storing organic liquids with a TVP of 3.0 psia or greater. The size range of the tanks captured by the random sample are 30 feet to 144 feet. Staff included two additional tanks at 253 feet and 299 feet into the sample to account for the larger tank diameters regulated by PAR 463. Staff used 2019 Annual Emission Reports to identify the throughput for each tank and facility provided data for the 253 feet and 299 feet diameter tanks. It was determined that reported throughputs in 2019 were more representative of normal operations compared to 2022, as one of the tanks was lacking throughput data in 2022. The total VOC emission reductions from doming the sample group over the life of the equipment (50 years) is 402.72 tons, or 0.022 tons per day. The sample makes up 45% of the tanks that will be subject to the doming requirements. Applying the sample reductions to the whole universe gives a total estimated VOC emission reduction of 894.94 tons over 50 years or 0.049 tons per day.

Secondary Seals

BREEZE TankESP PRO software was used to calculate baseline emissions and emission reductions from adding secondary seals to internal floating roof tanks not equipped with secondary seals. Five internal floating roof tanks were identified that meet this criterion according to 2022 Annual Emission Report information. Baseline emissions for the five tanks are 0.03 ton per day. The total VOC emission reductions from installing secondary seals on five internal floating roof tanks is 0.01 ton per day.

Seal Gap Requirements

Staff is including a reference to the U.S. EPA's CFR 40 Part 60 Subpart kb seal gap requirements. Since the requirement would only apply to facilities that are already subject to CFR 40 Part 60 Subpart kb, no emission reductions or costs will result from the updated seal gap requirements in PAR 463.

Vapor Recovery

BREEZE TankESP PRO was used to calculate emission reductions from increasing emission control efficiency from 95% to 98%, by weight, for fixed roof tanks connected to emission control systems. Tanks connected to fuel gas systems (typically found at refineries and oil and gas wells) were not included in the analysis. The 2022 Annual Emission Reports were used to identify the fixed roof tanks that meet the vapor pressure and capacity thresholds to trigger controls under PAR 463 and determine throughput. Staff identified nine fixed roof storage tanks connected to VRUs. Of the nine tanks identified, seven were regulated by Rule 1178 leaving only two tanks that would be subject to the increased VRU efficiency levels. Baseline VOC emissions for the two fixed roof tanks are 0.008 ton per day. Staff estimates there are 479 fixed roof storage tanks connected to vapor recovery systems. The VOC emission reductions associated with increasing emission control system efficiency to 98% by weight from 95% by weight are for all 479 tanks is 1.19 tons per day. Costs for vapor recovery systems include early Title V permit revisions pursuant to South Coast AQMD Rule 3005 – Permit Revisions as well as regular performance tests to verify compliance with the new control efficiency. Staff identified 40 Title V facilities regulated by Rule 463, and not regulated by Rule 1178. Staff assumes 60% of those facilities will need to submit early Title V revisions to update the permits conditions of the vapor recovery systems to reflect the new control efficiency standard of 98%, as well as other PAR 463 requirements. Total permit costs for the estimated 24 Title V facilities needing permit revisions are $80,000. Staff is proposing performance tests every ten years to verify the systems are in compliance with the new standard. The total cost of performance tests over the course of ten years for the 479 tanks is $18,780,200. The estimated emission reductions for the increase in control efficiency is 4,327 tons of VOC over ten years.

OGI Monitoring

Baseline emissions were estimated using emission factors established in U.S. EPA's 2016 Control Technology Guidelines for Oil and Gas Industry. Table 4-2 of the 2016 CTG contains emission estimates for an uncontrolled tank expressed in tons of VOC per year for different brackets of

throughput in barrels per day. The average throughput of fixed roof tanks storing crude oil was used to determine the bracket to consider for estimating emissions from an uncontrolled tank. The average throughput was 618 barrels per day which corresponded to estimated emissions of 97.7 tons per year or 0.26 tons per day.

To estimate baseline emissions from leaks, staff assumed that one percent of tanks subject to Rule 463 would experience a large leak once each year. The shortest frequency between inspections currently required is 180 days (semi-annual inspections). Staff assumed that a leak would occur 90 days after an inspection (90 days before the next semi-annual inspection). Total emissions using the emission factors in Table 4-2 of the 2016 CTG and the assumption that a leak would occur 90 days before the next semi-annual inspection and once per year results in baseline emissions of 159 tons per year.

The amount of VOC emission reductions achievable depends on the monitoring frequency. Emission reductions resulting from conducting monitoring at different frequencies were analyzed and are described in Chapter 2. PAR 463 will require OGI tank farm inspections every two weeks and semi-annual component inspections. The estimated VOC emission reductions from the proposed OGI tank farm inspections are 0.40 tons per day and based on the assumption that a leak would occur 7 days (1/2 the inspection frequency) after the previous inspection.

Emission reductions by requirement and total emission reductions are summarized in Table 4-1 below.

Table 4-1: Summary of Emission Reductions

Proposed Requirement	Emission Reductions (tons per day)
Doming	0.049
Secondary Seals	0.01
Seal Gap	0
Vapor Recovery	1.19
OGI Monitoring	0.40
Total	**1.65**

COSTS AND COST-EFFECTIVENESS

Health and Safety Code Section 40920.6 requires a cost-effectiveness analysis when establishing BARCT requirements. The cost-effectiveness of a control is measured in terms of the control cost in dollars per ton of air pollutant reduced. The costs for the control technology include purchasing, installation, operation, maintenance, and permitting. Emission reductions were calculated for each requirement and based on estimated baseline emissions. The 2022 AQMP established a cost-effectiveness threshold of $36,000 per ton of VOC reduced. A cost-effectiveness that is greater than the threshold of $36,000 per ton of VOC reduced requires additional analysis and a hearing before the Governing Board on costs. After adjusting for inflation, the cost-effectiveness threshold is $40,168.49 per ton of VOC reduced (2023 U.S. Dollars).

The cost-effectiveness is estimated based on the present value of the retrofit cost, which was calculated according to the capital cost (initial one-time equipment and installation costs) plus the annual operating cost (recurring expenses over the useful life of the control equipment multiplied by a present worth factor). Capital costs are one-time costs that cover the components required to assemble a project. Annual costs are any recurring costs required to operate equipment. Costs for this proposal were obtained from available literature, vendors, and facilities.

Staff did not evaluate the costs, except as noted, or the emission reductions associated with PAR 463 requirements from tanks subject to both Rules 463 and 1178 because they were already accounted for as part of the Rule 1178 rule development. Additional details for costs and cost-effectiveness determinations are included in Chapter 2.

Secondary Seals

Costs to install secondary seals were obtained from the 2023 Proposed Amended Rule 1178 Final Staff Report. The cost to install a secondary seal is $220 per linear foot. The cost to replace the rubber components of the seal 10 years after installation is $42 per linear foot. Permitting costs are $9,000 per permit. Storage tank diameters ranged from 70 feet to 110 feet. Total costs to install secondary seals over 20 years are $412,000 with capital costs totaling $325,000, annualized O&M costs totaling $42,000 and permitting totaling $45,000. The total emission reductions are 61.77 tons over 20 years or 0.01 ton per day. The cost-effectiveness to require secondary seals on internal floating roof tanks is $6,700 per ton of VOC reduced.

Doming

PAR 463 Doming Costs

Costs for doming were obtained from the 2023 Proposed Amended Rule 1178 Staff Report. Using 2022 AER reports, staff randomly selected a sample of EFR tanks with known throughout data (40% of the 89 known EFR tanks regulated by Rule 463) that provide a 95% confidence interval. In the 35-tank sample, there were 20 tanks storing organic liquids under 3.0 psia and eight tanks were already domed. Staff identified seven external floating roof tanks without domes storing organic liquids with a TVP of 3.0 psia or greater. After receiving comments from stakeholders that the cost-effectiveness analysis did not adequately consider larger diameter tanks, staff included tanks with diameters of 253 feet and 299 feet. Cost-effectiveness analysis is based on the sample group and was applied to the remaining rule universe. Staff estimates that 20 tanks will need to be domed as a result of the proposed doming requirements in PAR 463. The diameters of the nine tanks in the sample ranged from 30 feet – 299 feet. Costs to dome tanks with this range in diameters are $164,400-$3,826,400. Additional capital costs were added for fire suppression systems and permitting. Fire suppression systems are not required for tanks located at non-refineries; however, costs for fire suppression systems were applied to all tanks. A total of $945,000 ($105,000 each system) was added for fire suppression systems. A total of $79,731 was added for permitting 9

tanks ($8,859 for each tank based on the current fee schedule in South Coast AQMD Rule 301 – Permitting and Associated Fees). The total installation cost to dome nine external floating roof tanks is $8,405,300. The total O&M cost is $546,900. The cost-effectiveness to require domes on nine tanks is $24,800 per ton of VOC reduced.

Table 4-2: EFR Tank Sample Group for Doming Analysis

Tank ID	Diameter (ft)	Cost to Dome ($)	O&M Cost ($)	Permitting Cost ($)	Fire Suppression Cost ($)	Total Costs ($)
1	144	624,000	68,000	8,859	105,000	806,000
2	144	624,000	68,000	8,859	105,000	806,000
3	48	203,000	34,000	8,859	105,000	350,000
4	30	164,000	27,000	8,859	105,000	305,000
5	70	263,000	42,000	8,859	105,000	418,000
6	60	234,000	38,000	8,859	105,000	385,000
7	60	234,000	38,000	8,859	105,000	385,000
8	253	2,234,000	108,000	8,859	105,000	2,455,000
9	299	3,826,000	124,000	8,859	105,000	4,065,000

Table 4-2 above represents the sample used for the BARCT analysis on doming. Staff estimates that 20 tanks will be domed as a result of the proposed requirement. The costs and reductions from the sample group have been scaled up to reflect the entire affected universe.

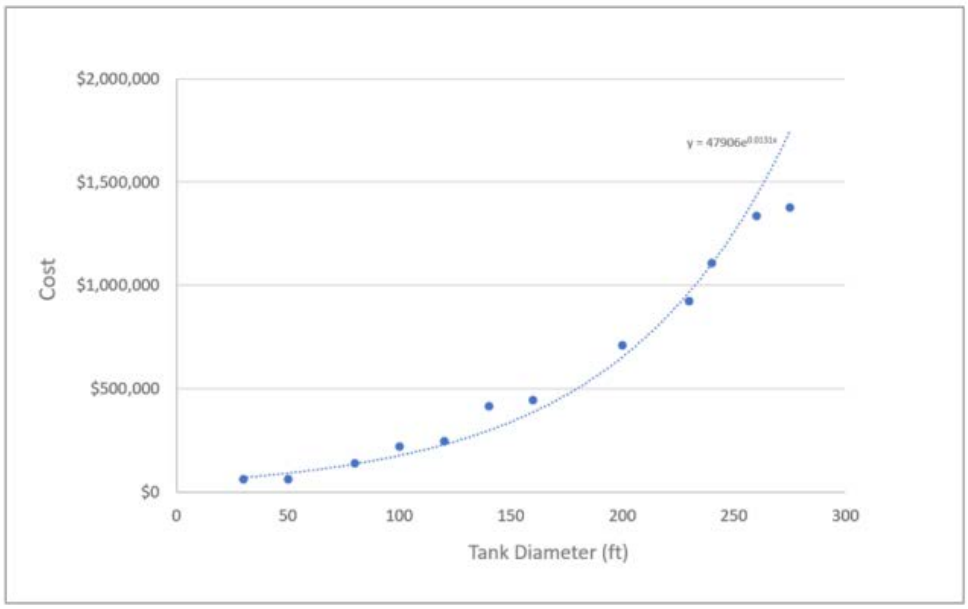
Cost Equations from the 2023 Rule 1178 Rule Development Process

During the 2023 Rule 1178 amendment process staff developed equations to estimate the costs associated with installing domes on EFR tanks. Costs were obtained from facilities, dome suppliers, and dome maintenance service providers. Four cost-effectiveness analyses were conducted based on the information provided to staff throughout the 2023 Rule 1178 development. The first analysis was based on cost information from dome suppliers for equipment and installation. After that analysis, facilities provided cost information from past projects and another cost-effectiveness analysis was conducted. After the second analysis, facilities provided additional cost information for past and projected projects and staff conducted a third analysis based solely on cost information provided by facilities. After the third analysis, stakeholders commented that operating and maintenance costs must be considered in the analysis. A fourth cost-effectiveness analysis was conducted that included operating and maintenance (O&M) costs.

The first cost-effectiveness calculation relied on costs provided by three dome suppliers for equipment and installation. Additional costs for creating space for dome assembly, crane rental and union labor were assumed. A 25-year equipment life was assumed based on the assumption used for the cost-effectiveness for doming in Rule 1178 adoption in 2001. Costs ranged from approximately $100,000 to $1.75 million dollars for tanks ranging in size from 30 to 275 feet in

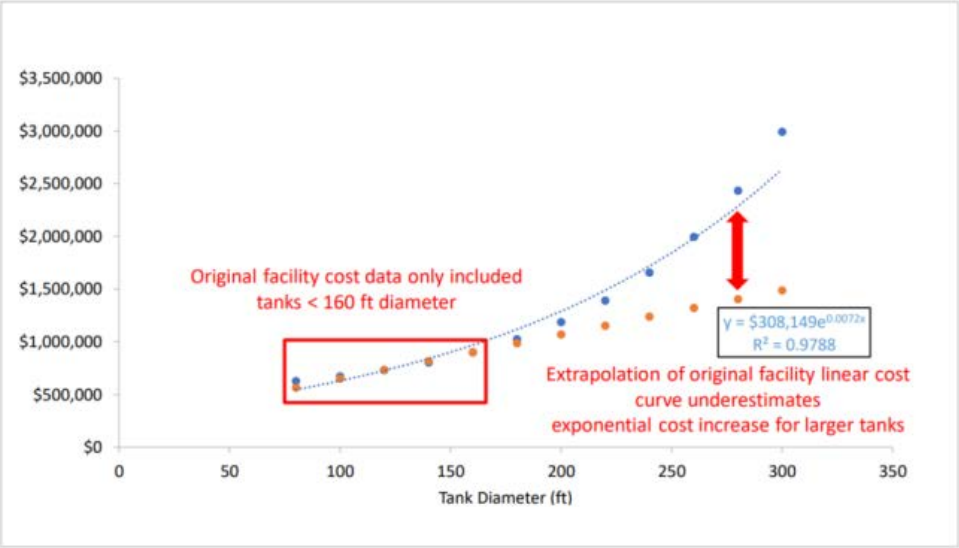
diameter. Figure 4.3 shows the cost curve based on estimates from dome suppliers for equipment and installation.

Figure 4.3 - Vendor Cost Curve



After the second cost-effectiveness analysis, facilities informed staff of additional expenses associated with doming and provided costs for doming tanks 160 feet in diameter and smaller. Costs provided were based on vendor quotes and past projects adjusted to reflect current day dollars. A 50-year equipment life was assumed based on updated information provided by dome suppliers. Two dome suppliers estimated a 50-year useful life, while one dome supplier estimated 30 years of useful life for a tank exposed to precipitation and additional load from snowfall. Staff determined that a 50-year useful life is reasonable and consistent with the condition of domes observed that were installed almost 20 years ago. A hybrid cost curve was created using vendor and facility cost data. To create the hybrid cost curve, staff added a calculated premium based on costs provided by facilities to the costs provided by vendors to reflect actual project costs. Costs ranged from approximately $383,000 to $2.25 million dollars for tanks ranging in size from 30 to 275 feet in diameter. Figure 4.4 shows the hybrid cost curve based on facility information for tanks less than or equal to 160 feet in diameter and vendor quotes for tanks ranging in size from 75 to 300 feet in diameter.

Figure 4.4 - Hybrid Cost Curve



After the second cost-effectiveness analysis, facilities provided additional cost information for doming 33 tanks, including tanks larger than 200 feet in diameter. Another cost-effectiveness analysis was performed and relied solely on facility data for total equipment and installation costs. Costs ranged from approximately $165,000 to $2.89 million dollars for tanks ranging in size from 30 to 275 feet in diameter. Figure 4.5 shows the cost curve for equipment and installation based on information provided by seven facilities. Figure 4.6 shows the resulting cost curves for each iteration.

Figure 4.5 - Facility Cost Curve

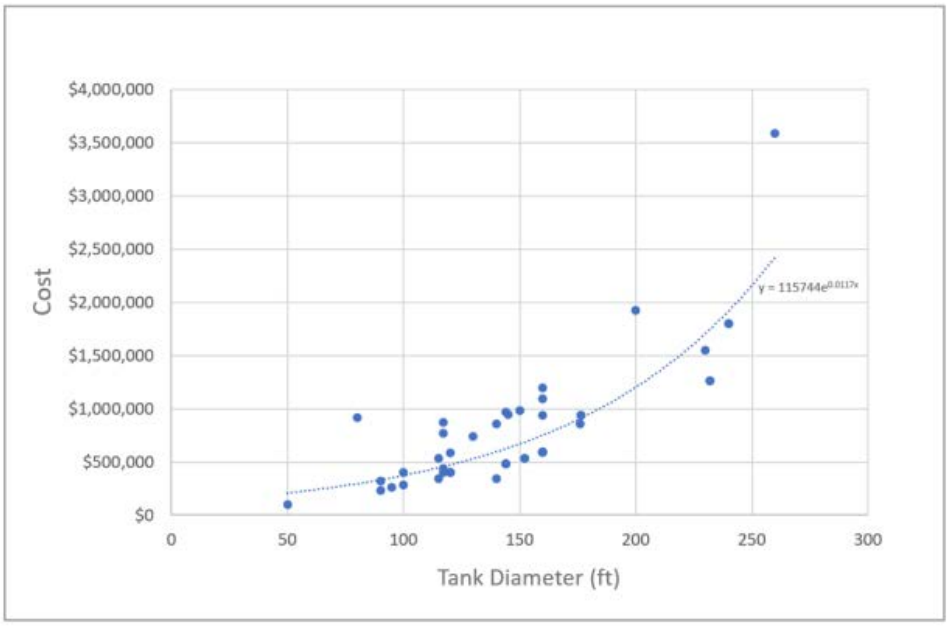
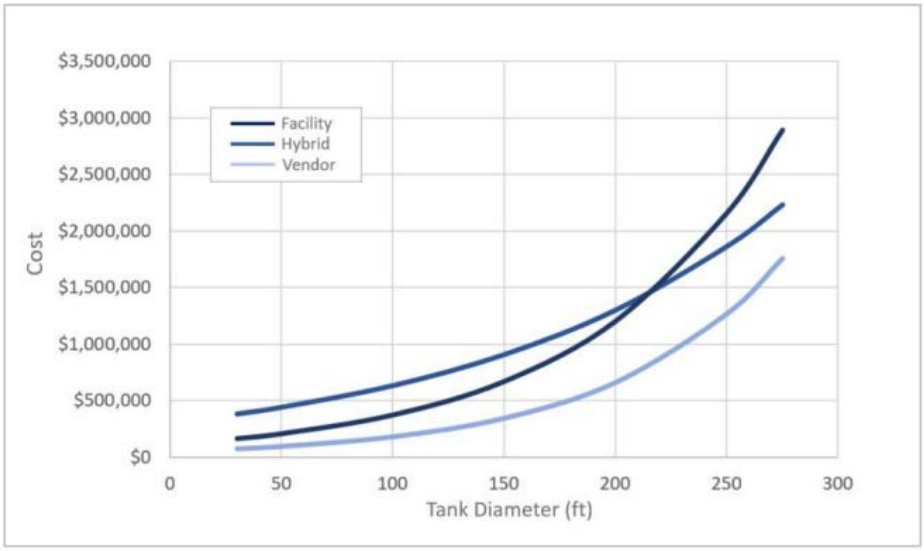


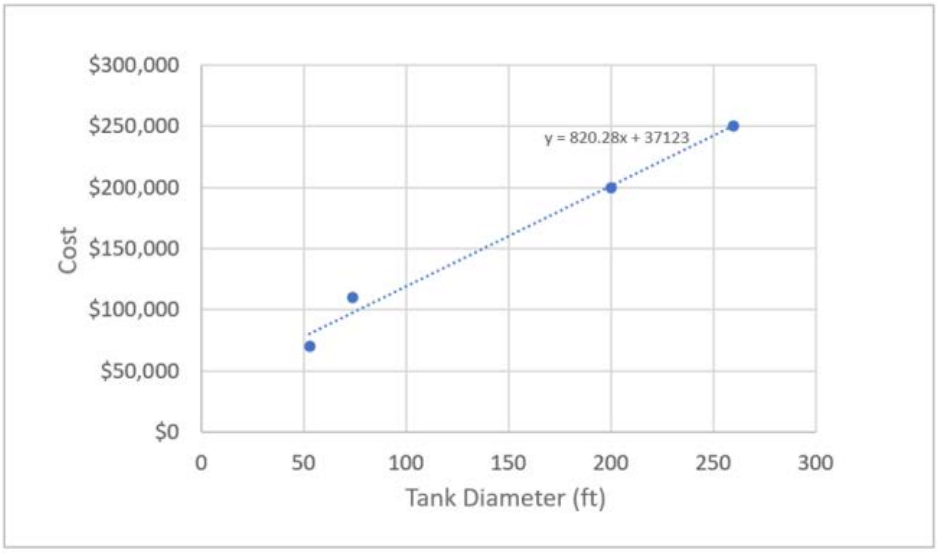
Figure 4.6 - Cost Curve Comparison



Operating and Maintenance (O&M) Costs

Dome suppliers, dome maintenance providers, and facilities provided information about maintenance required to keep a dome in good operating condition. The typical maintenance for domes involves re-sealing of seams. Common signs of degrading seals and gaskets include panels pulling away from seams or bolts beginning to uplift from seams. One dome supplier stated that, over 46 years of operation, they have only witnessed the need for minimal maintenance to gaskets and seals. This supplier estimated that a complete re-seal or re-gasket may be needed after 20 years of dome service. Two dome maintenance service providers stated that typical maintenance they perform involves preparing the aluminum surface and applying a sealant or tape to the hubcaps and seams. The dome maintenance service providers estimated that re-sealing would be required every 10 to 25 or more years. One facility stated that they apply caulking to seal gaps on the dome and estimated that they would need to seal the dome about every 20 years. Costs were obtained from the dome maintenance service providers for tanks of different diameters. The cost-analysis assumes that maintenance would be required every 20 years (1.5 times throughout the 50-year life of the dome). The maintenance cost was estimated at $70,000 for a 53- foot diameter tank, $100,000 for a 74-foot diameter tank, $200,000 for a 200-foot diameter tank, and $250,000 for a 260-foot diameter tank. The cost curve used to estimate O&M costs for tanks of different diameters is shown in Figure 4.6. The discounted cash flow method at 4% was applied to determine total O&M cost.

Figure 4.6 – O&M Cost Curve



OGI Monitoring

PAR 463 will require facilities to monitor storage tanks for leaks by conducting tank farm inspections with an OGI device every other calendar week for all tanks as well as semi-annual component inspections. Approximately 1,010 tanks will be subject to PAR 463, however, only above-ground stationary tanks with a capacity > 75,000 liters (19,815 gallons) storing organic liquid with TVP ≥ 1.5 psi, above-ground stationary tanks with a capacity ≥ 150,000 liters (39,630 gallons) storing organic liquid with TVP ≥ 0.5 psi, above-ground tanks used to store gasoline with a capacity between 950 liters (251 gallons) and 75,000 liters (19,815 gallons), and tanks with the PTE to emit 6 tons per year or greater year used in Crude Oil And Natural Gas Production Operations will be subject to OGI inspections. Staff estimates that there are 679 tanks located at 429 facilities that are subject to Rule 463 and not subject to Rule 1178 that will be subject to the OGI monitoring requirements. Staff did not include tanks subject to both Rules 463 and 1178 in the cost-effectiveness analysis because the costs and emission reductions were already accounted for as part of the Rule 1178 rule development. However, the capital costs for OGI devices are conservative as a company subject to Rule 1178 may have multiple facilities, and some of those facilities may be subject to Rule 463, but not Rule 1178. In which case, the capital costs for OGI devices were accounted for in both the Rule 1178 rule development and PAR 463. Costs for OGI inspections were obtained from the 2023 Rule 1178 amendment process and the 2024 PAR 1148.1 rule development.

Staff assumed OGI camera ownership for each company identified under the Rule 463 affected universe. Staff estimates that 91 companies make up the 679 tanks subject to the OGI requirements. Camera costs are estimated at $120,000 per device with a ten-year equipment lifespan. Operating and maintenance costs are estimated to be $1,500 per year with an additional $400 labor cost per inspection. The total capital cost for OGI inspections for 679 tanks is $10,920,000 over the span of ten years. The total O&M cost is $11,500,000. The cost-effectiveness to require OGI monitoring inspections every other calendar week is $15,400.

The cost-effectiveness for each proposed requirement and the overall cost-effectiveness is summarized in Table 4-3 below.

Table 4-3 Summary of Cost-Effectiveness

Proposed Requirement	Annualized Cost	Annual Emission Reductions (Tons per Year)	Cost-Effectiveness ($/ton)
Doming of EFR tanks storing organic liquids with a TVP of 3.0 psia or above	$443,400	17.90	$24,800
More stringent primary and secondary seal gap requirements	$0	0	$0
Secondary seals on all floating roof tanks	$20,600	3.09	$6,700
OGI inspections every other week	$2,265,600	146.74	$15,400
Increasing the control efficiency for VRUs	$1,849,300	0*	N/A
Overall	**$4,578,900**	**167.73**	**$27,300***

*The overall rule cost-effectiveness includes the costs associated with increasing the control efficiency of the vapor recovery units to 98%. Staff did not include the emission reductions from increasing the control efficiency for VRUs as part of the cost-effectiveness analysis as it is assumed facilities are already meeting the proposed standard. As such, the emission reductions are not included in Table 4-1 above, however, the emission reductions are being submitted for SIP credit.

INCREMENTAL COST-EFFECTIVENESS

Health and Safety Code Section 40920.6 requires an incremental cost-effectiveness analysis for BARCT rules or emission reduction strategies when there is more than one control option which would achieve the emission reduction objective of the proposed amendments, relative to ozone, CO, SOx, NOx, and their precursors. Since volatile organic compounds are precursors to ozone, an incremental cost-effectiveness analysis is required for controls proposed to limit VOC emissions. Incremental cost-effectiveness is the difference in the dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option as compared to the next less expensive control option.

Incremental cost-effectiveness is calculated as following:

$$\text{Incremental Cost-Effectiveness} = \frac{\text{Cost of Option 2} - \text{Cost of Option 1}}{\text{Benefit of Option 2} - \text{Benefit of Option 1}}$$

PAR 463 would require facilities to conduct more stringent control or monitoring requirements. The next progressively more stringent potential control option (if applicable) is different for each proposed requirement.

Incremental Cost-Effectiveness for OGI Inspections

PAR 463 will require periodic OGI inspections. Staff analyzed costs and emission reductions from progressively more frequent intervals (annually to daily). The incremental cost-effectiveness is provided in Table 4-4. The most stringent frequency that is cost-effective and incrementally cost-effective is every other calendar week. The next progressively more stringent requirement is to require OGI inspections on a weekly basis. The total annual cost for weekly OGI inspections for all facilities is $3,284,800 and the estimated reductions are 153 tons per year.

Incremental cost-effectiveness = ($3,284,800 - $2,265,600) / (152.9 -146.7) = $164,400 per ton of VOC reduced

The incremental cost-effectiveness analysis presented above demonstrates that the alternative control option is not incrementally cost-effective when compared to the control strategy of the proposed amendments.

Incremental Cost-Effectiveness for Doming

PAR 463 will require facilities to dome any external floating roof tank storing organic liquid with a true vapor pressure of 3 psia or greater the next time the tank is cleaned and degassed, or the time of the next internal API 653 inspection but not to exceed twenty-three years after a test verifies that the organic liquid stored has a TVP of 3 psia or greater.

The next progressively more stringent requirement would be to require all external floating roof tanks to be domed, regardless of the TVP of the organic liquid stored. A cost-effectiveness analysis for doming all external floating roof tanks regardless of the TVP of the material stored was conducted. The same assumptions were made for doming all EFR tanks regardless of TVP as the cost-effectiveness analysis for doming tanks with TVP of 3 psia and greater. BREEZE TankESP PRO software was used to calculate emission reductions. Approximately 83.5% of EFR tanks storing material with TVP less than 3 psia are used to store heavy petroleum products such as diesel, jet fuel and kerosene. These products have a TVP of less than 0.1 psia. Because of the low TVP, far less emission reductions result in doming tanks storing such material. Staff analyzed EFR tanks for which emissions were reported in the 2022 Annual Emission Reports. The incremental cost-effectiveness to dome all tanks is:

Incremental cost-effectiveness = ($93,575,711 - $20,070,900) / (2080 - 894.94) = $62,000 per ton of VOC reduced

The incremental cost-effectiveness analysis presented above demonstrates that the alternative control option is not incrementally cost-effective when compared to the control strategy of the proposed amendments.

Table 4-4 Summary of Incremental Cost-Effectiveness

Proposed Requirement	More Stringent Potential Requirement	Incremental Cost-Effectiveness
OGI inspections every two weeks	Weekly OGI inspections	$164,400
Doming for EFR tanks storing materials with a TVP ≥ 3.0 psia	Doming for all EFR tanks	$62,000

SOCIOECONOMIC IMPACT ASSESSMENT

~~A socioeconomic impact assessment will be prepared and released for public review and comment as a separate document at least 30 days prior to the South Coast AQMD Governing Board Hearing, which is scheduled for June 7, 2024 (subject to change).~~ A Draft Socioeconomic Impact Assessment for PAR 463 was released for public review and comment on May 7, 2024. For a copy of the Final Socioeconomic Impact Assessment, please refer to Attachment I of the June 7, 2024, Governing Board package.

CALIFORNIA ENVIRONMENTAL QUALITY ACT ANALYSIS

PAR 463 is considered a "project" as defined by the California Environmental Quality Act (CEQA) and the South Coast AQMD is the designated lead agency. Pursuant to South Coast AQMD's Certified Regulatory Program (Public Resources Code Section 21080.5 and CEQA Guidelines Section 15251(l); codified in South Coast AQMD Rule 110) and CEQA Guidelines Section 15070, the South Coast AQMD prepared an Environmental Assessment (EA) with less than significant impacts for PAR 463, which is a substitute CEQA document~~,~~ prepared in lieu of a Negative Declaration pursuant to CEQA Guidelines Section 15252. A Draft EA was released for a 30-day public comment and review period from March 27, 2024 to April 26, 2024 to provide public agencies and the public an opportunity to obtain, review, and comment on the environmental analysis. No ~~C~~comments were made relative to the analysis in the Draft EA. ~~and responses to the comments will be included in~~ For a copy of the Final EA, please refer to Attachment H of the June 7, 2024 Governing Board package.

DRAFT FINDINGS UNDER HEALTH AND SAFETY CODE SECTION 40727

Requirements to Make Findings

Health and Safety Code Section 40727 requires that the Governing Board make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the staff report. In order to determine compliance with Health and Safety Code Section 40727, Health and Safety Code Section 40727.2

requires a written analysis comparing the proposed amended rule with existing regulations, if the rule meets certain requirements.

Necessity

A need exists to amend PAR 463 to implement best available retrofit control technology, emission reduction strategies recommended in the WCWLB and SLA CERPs as part of the AB 617 commitment, Control Measure FUG-01 in the 2022 Final AQMP, and a contingency measure for the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard.

Authority

The South Coast AQMD obtains its authority to adopt, amend, or repeal rules and regulations pursuant to Health and Safety Code Sections 39002, 40000, 40001, 40440, 40702, 40725 through 40728, 40920.6, and 41508.

Clarity

PAR 463 is written or displayed so that its meaning can be easily understood by the persons directly affected by them.

Consistency

PAR 463 is in harmony with and not in conflict with or contradictory to existing statutes, court decisions, or state or federal regulations.

Non-Duplication

PAR 463 will not impose the same requirements as any existing state or federal regulations. The proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD.

Reference

In amending this rule, the following statutes which the South Coast AQMD hereby implements, interprets or makes specific are referenced: Health and Safety Code Sections 39002, 40001, 40406, 40702, 40440(a), and 40725 through 40728.5.

COMPARATIVE ANALYSIS

Under Health and Safety Code Section 40727.2, the South Coast AQMD is required to perform a comparative written analysis when adopting, amending, or repealing a rule or regulation. The comparative analysis is relative to existing federal requirements, existing or proposed South Coast AQMD rules and air pollution control requirements and guidelines which are applicable to storage tanks.

	PAR 463	Rule 1178	40 CFR 60
Applicability	•Stationary above-Ground storage tanks with capacity greater than 75K liters (19,815 gal) with volatile organic liquids with TVP of 1.5 psi or greater •Stationary above-ground storage tanks with capacity of 150K liters (39,630 gal) or greater than with volatile organic liquids with TVP of 0.5 psi or greater •Above-ground storage tanks used for gasoline with cap between 950 liters (251 gal) and 75k liters (19,815 gal) •Any tank with potential VOC emissions of 6 tons per year or greater used in Crude Oil or Natural Gas Production Operations	•Storage tanks located at any Petroleum Facility that emits more than 40K lbs (20 tons) per year VOC in any inventory year starting in 2000 that: • Have the potential for VOC emissions of 6 tons per year or greater •Storage tanks with a capacity equal to or greater than 75K liters (19,815 gal) storing organic liquid with a TVP greater than 5mm Hg (0.1 psia) absolute under actual storage conditions	•Storage constructed, reconstructed or modified after July 23, 1984 with capacity of 75 m3 or greater •Tanks with capacity of 19,185-39,889 gallons with a vapor pressure between 4 psia and 11.1 psia and tanks with capacity greater than 39,889 gal with vapor pressure between 0.75 psia and 11.1 psia
Requirements	•Seals/covers on all roof openings • Rim seals consisting of primary and secondary seals on all floating roof tanks •Vapor recovery systems on fixed roof tanks with at least 98% reduction by weight •Gap requirements for primary and secondary floating roof seals •Doming for EFR tanks storing organic liquids with a TVP of 3.0 psia or greater •Contingencies for the applicable ozone NAAQS	•Fixed and floating roofs with 98% control •Seals/covers on all roof openings •Rim seals consisting of primary and secondary seals on all floating roof tanks •Vapor recovery with 98% efficiency on all fixed roof tanks •Gap requirements for primary and secondary floating roof seals •Doming for crude oil tanks	•Seals and covers on all roof openings •Rim seals consisting of primary and secondary seals •Vapor recovery of 95% by volume on all fixed roof tanks •Gap requirements for primary and secondary seals •Fixed roofs with internal floating roofs only require one seal •External floating roofs require two seal system greater than or equal to 76.6 kPa (11psia) must have a control device or equivalent (fixed roof and internal floating roof)
Reporting	•Submit reports for all semi-annual inspections •Submit report for all leaks identified during any inspection •Executive Officer shall be notified electronically at least two days prior to the start of any tank-emptying or roof-refloating operation •Submit reports of TVP tests with results of 3.0 psia or above	•Submit reports for all semi-annual and quarterly inspections (non-OGI) •Submit report for all leaks identified during any inspection	•Inspection reports of floating roof tanks submitted within 30 days •For fixed roofs vented to a flare or incinerator a report shall be submitted indicating any period of pilot flame out within six months of initial start-up and on a semi-annual basis thereafter •Records to be kept for a minimum of two years

Monitoring	•Periodic gap measurements for floating roof tanks •OGI tank farm monitoring every two weeks for all tanks and additional semi-annual OGI inspections for floating roof tanks	•Periodic gap measurements for floating roof tanks •Periodic Method 21 measurements for fixed roof tanks •Weekly OGI monitoring for all tanks and additional semi-annual OGI inspections for floating roof tanks	•Measurements of gaps between the tank wall and the primary seal (seal gaps) shall be performed during the hydrostatic testing of the vessel or within 60 days of the initial fill with volatile organic liquid and at least once every five years thereafter •Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with volatile organic liquid and at least once per year thereafter
Record Keeping	•Self-inspection and repair records must be held and available for a period of 3 years •All compliance inspection reports and documents shall be submitted to the Executive Officer either electronically or by hard copy within 5 working days of completion of the self-inspection •If a tank is determined to be in violation of the requirements of this rule, a written report shall be submitted to the Executive Officer within 120 hours of the determination of non-compliance •Emissions reports must be held and available for the most recent two year period •TVP test results must be kept for the most recent 20 year period •Digital and written records of all leaks identified during OGI tank farm inspections •Written records of all leaks identified during OGI component inspections	•Written records of inspections and findings •Digital recordings of all leaks identified during OGI inspections •All data required by this rule shall be maintained for at least five years and made available for inspection by the Executive Officer	•Most records kept for two years except records that contain the dimensions and capacity of a storage vessel which must be available for the life of the unit

APPENDIX A: RESPONSE TO PUBLIC COMMENTS

Public Workshop Comments

Comment Letters

Public Workshop Comments

Public Workshop Commenter #1: Connie Cunningham – Zenith Energy West Coast Terminals

The commenter highlighted the fast pace of the rule development. The commenter also requested:

1a) Clarity on the applicability of the OGI inspections.

1b) That the frequency of the OGI component inspections mirror those of the semi-annual floating roof inspections at four to eight months.

1c) That staff consider another doming analysis that considers the cost for larger tanks as the current analysis looked at tanks that ranged in size from 30ft to 144ft in diameter. The commenter stated that their facility has nine tanks that are 200 ft to 299 ft in diameter. With the high cost of doming in combination with the relatively low emission reductions at 0.01 tons/day the commenter expressed a preference to retire Emission Reduction Credits (ERCs) in lieu of doming.

Staff Response to Public Workshop Commenter #1:

Staff acknowledges the fast pace of the rule development. The pace of the PAR 463 rulemaking schedule is attributed to the need for ozone NAAQS contingency measures to be adopted by South Coast AQMD and submitted into the SIP.

1a) Subparagraph (f)(3)(D) was updated to specify that the following tanks are subject to the OGI monitoring requirements: tanks with a capacity of 75,000 liters (19,815 gallons) and above storing organic liquid with a true vapor pressure of 1.5 psi or greater, tanks with a capacity of 150,000 liters (39,630 gallons) and above storing organic liquid with a true vapor pressure of 0.5 psi or greater, tanks with a capacity of 950 liters (251 gallons) to 75,000 liters (19,815 gallons) used to store gasoline, and tanks with a PTE of six tons per year or greater. Tanks subject to OGI requirements mirror the applicability for tank roof requirements specified in subdivision (d) and paragraph (e)(1).

1b) The frequency of inspections in subclause (f)(3)(D)(iii)(A) was updated to mirror the frequency of the existing semi-annual floating roof tank inspections at four-to-eight-month intervals.

1c) Staff used the cost curve developed in the Rule 1178 rule development to estimate doming costs. The cost curve incorporated vendor data which reflects an exponential increase in doming costs for larger diameter tanks. Staff included two new tanks at 253 feet and 299 feet in diameter to the sample group to determine if the addition of larger tanks had an impact on the cost-effectiveness analysis. While the addition of the new tanks added more costs, the emissions reductions achieved also increased. The updated cost-effectiveness is $24,800 per ton of VOC reduced which is still below the inflation adjusted cost-effectiveness threshold of $40,168.49. The new analysis indicates that the cost curve equation used accounted for the increasing costs of doming on larger tanks. Furthermore, the evaluation considered the emission reductions achieved over the life of the equipment (50 years) and indicates that while the cost increases exponentially

for the large tanks, doming overall is cost-effective. Therefore, staff is continuing to propose requiring domes on any EFR tank storing organic liquids with a TVP of 3.0 psia or greater.
ERCs are required to offset emission increases of one pound per day or greater under New Source Review. ERCs cannot be used in lieu of installing emission control devices required in South Coast AQMD rules.

Public Workshop Commenter #2: Alok Das – World Oil Recycling

The commenter requested the following:

2a) Clarify which tanks are subject to the OGI monitoring requirements in PAR 463.

2b) Clarify the meaning of "component" in PAR 463.

2c) Clarify the OGI tank farm procedure when the storage tanks do not have any type of platform.

2d) Consider adding an exemption from the proposed OGI monitoring requirements for tanks using an active VRU system.

Staff Response to Public Workshop Commenter #2:
2a) See response to Public Workshop Commenter 1a.

2b) PAR 463 was updated to incorporate the Rule 1173 definition of "component" with modifications to include tank specific parts.

2c) The intent of the OGI tank farm inspections is to identify visible vapors. The OGI tank farm inspection procedure was updated to allow for a follow up inspection to be conducted from a tank's platform or a vantage point capable of seeing the tank roof in the event a tank has no platform. Additionally, the definition for Component Inspection and the exemption from OGI inspections in unsafe conditions in PAR 463 was updated to allow inspections from a vantage point in the event there is no tank platform.

2d) Staff is not considering an exemption from OGI inspections for tanks using active VRU systems. Leaks can still occur in tanks using active VRU systems and OGI inspections are an additional monitoring tool to more quickly identify leaks. However, facilities have the option to apply for a permit condition to restrict the products stored in the tank to below the TVP thresholds for OGI inspection applicability.

Public Workshop Commenter #3: George L. Morovich – Tank and Environmental Technologies Inc.

The commenter highlighted the upcoming U.S. EPA Tanks 5.0 software that is currently in the final stages of development and indicated that it would be a valuable tool to include in the rule language for owners and operators to calculate their emissions.

Staff Response to Public Workshop Commenter #3:
Staff is aware of the development of the U.S. EPA Tanks 5.0 program and added a clarification in Chapter 3 that, pending U.S. EPA approval, Tanks 5.0 will be an acceptable tool to calculate emissions. However, if U.S. EPA states at some point in the future that U.S. EPA Tanks 5.0 is outdated or is no longer appropriate for use for some other reason, then U.S. EPA Tanks 5.0 will not be considered an acceptable tool to calculate emissions for compliance with South Coast AQMD rules.

Public Workshop Commenter #4: Mark Abramowitz – Community Environmental Services
The commenter expressed the following:

4a) Asked for clarification if there was any technical or feasibility reason why OGI inspections could not be conducted at more frequent intervals. Staff's proposal of weekly OGI inspections as contingency measures indicates that weekly OGI inspections are feasible.

4b) Cost-effectiveness thresholds are guidelines, but should not be considered a strict number.

4c) By not implementing the more frequent OGI inspections proposed as contingency measures as regular rule requirements, South Coast AQMD is not being consistent with state law that requires that emission reductions be achieved in AB 617 communities as soon as possible.

Staff Response to Public Workshop Commenter #4:
4a) PAR 463 rule development included a BARCT assessment, which includes a technological feasibility component as well as a cost-effectiveness and incremental cost-effectiveness analysis. As such, staff would not incorporate BARCT requirements or contingency measures into PAR 463 that are not technologically feasible. Staff does not see any technical or feasibility issues with conducting OGI inspections on a more frequent basis. Owners or operators can conduct OGI inspections more regularly than PAR 463 requires. Although weekly OGI tank farm inspections are technically feasible, they were not determined to be incrementally cost-effective, and therefore weekly OGI tank farm inspections are being proposed as contingency measures.

4b) Cost-effectiveness thresholds are guidelines and as such staff proposed OGI tank farm inspections to be conducted at a frequency of every two weeks as BARCT because it was the most stringent frequency that was both cost-effective and incrementally cost-effective. Staff proposed the contingency measures at a frequency that was cost-effective, but not incrementally cost-effective. Staff is proposing contingency measures to address U.S. EPA requirements, as described in Chapter 1. Since staff must include contingency measures in PAR 463, cost-effectiveness and incremental cost-effectiveness analysis were used to determine the OGI tank farm inspection frequency that represents BARCT (every two weeks) and a more stringent OGI tank farm inspection frequency for contingency measures (every week).

4c) AB 617 requires air districts that are in nonattainment for one or more air pollutants to adopt an expedited schedule for the implementation of BARCT. PAR 463 included a BARCT assessment

consistent with state law and implements AB 617 CERP objectives by requiring enhanced LDAR through OGI inspections. OGI tank farm inspections are being proposed at a frequency of every two weeks and OGI component inspections are being proposed semi-annually, in addition to the existing semi-annual inspections required in Rule 463. OGI inspection requirements will take effect on July 1, 2025. The implementation date reflects the lead time necessary to procure OGI cameras and for operators to complete the required OGI manufacturer training or CARB training, while achieving emission reductions as soon as possible.

Public Workshop Commenter #5: Justin Avril – Olympus Terminals

The commenter requested clarity on the implementation timeline for the proposed OGI inspections pending the adoption of PAR 463.

Staff Response to Public Workshop Commenter #5:

The proposed OGI requirements in PAR 463 would come into effect on July 1, 2025.

Public Workshop Commenter #6: Cinnamon Smith – Kinder Morgan

The commenter asked the following:

6a) If the approved list of seal referenced in paragraph (e)(5) supersedes the categories of seals in Attachment A and how to gain access to the list.

6b) If an EFR tank has a permit condition that limits the TVP of the product stored to less than 3.0 psia would that tank still be required to conduct the TVP tests?

6c) When the “most recent” 20 year period for TVP test result recordkeeping begins.

Staff Response to Public Workshop Commenter #6:

6a) The list of approved seals referenced in paragraph (e)(5) does not supersede the list of seals in Attachment A. The list of seals in attachment A are used by facilities to determine what kind of seals they need to install as well as for seal manufacturers to get approvals for seal designs. A facility seeking to install a seal would look to the list of approved seals referenced in paragraph (e)(5) for approved vendors or manufacturers. Seal approvals are based on the categories found in Attachment A of PAR 463. The list of approved seals referenced in paragraph (e)(5) will be posted on the permitting page of the South Coast AQMD website.

6b) Staff responded during the Public Workshop that an exemption from TVP testing requirements would be possible for EFR tanks with permit conditions limiting the TVP of the organic liquid stored to < 3.0 psia. However, upon further consideration staff is not including the requested exemption into PAR 463. TVP testing requirements are essential to determine compliance with the doming requirements.

6c) The recordkeeping requirements for TVP tests begins on January 1, 2025 and is not retroactive. Once facilities have more than 20 years of TVP tests they would only be required to retain TVP test results from the most recent 20 year period.

Comment Letters

Comment Letter #1

ZENITH ENERGY

ZENITH ENERGY WEST COAST TERMINALS LLC
18000 Studebaker Rd., Suite 960
Cerritos, CA 90703

April 3, 2024

Sent via email to Josh Ewell

SCAQMD
21865 Copley Drive
Diamond Bar, CA 91765

Subject: PAR 463 Comments

Zenith Energy West Coast Terminals (ZEWCT) is pleased to submit the following comments to be considered for PAR 463 rule language.

First, this rule making process has been extremely fast and rushed. The proposed rule language was only recently released and according to the calendar, it does not appear that there will be another iteration before the public hearing in June. ZEWCT would like to propose splitting PAR 463 into two rule-making events. The optical gas imaging inspection (OGI) language is similar to Rule 1178 and has fewer potential issues while the doming of external floating roof (EFR) tanks requires more discussion as the draft rule language seems to be changing more frequently. 1-1

OGI related:

PAR 463 (f)(3)(D)(iii)(A):
Conduct a Component Inspection for each floating roof Tank at least ~~once every six months~~ twice per year at 4 to 8 months intervals; and

REASON: It was stated that these inspections would ideally occur at the same time as the semi-annual seal inspections which have a frequency of twice per year at 4 to 8 months intervals in (e)(3)(A). 1-2

Also, it would be much clearer if there was an exemption in section (h) for OGI tank farm and component inspections for tanks that store a product of less than 0.5 psia for tanks with a capacity of 39,630 gallons are greater or less than 1.5 psia for tanks with a capacity of 19,815 gallons are greater.

Doming related:

PAR 463 (d)(1)(H):
Beginning three years after [Date of Adoption] the owner or operator shall install a Domed Roof on External Floating Roof Tanks used to store Organic Liquid with a True Vapor Pressure of 3 psia or greater as demonstrated pursuant to subparagraph (d)(1)(I) at the time of the next out of service API 653 inspection or the next time the Tank is emptied, ~~and~~ degassed, and cleaned. 1-3

ZENITH ENERGY

ZENITH ENERGY WEST COAST TERMINALS LLC
18000 Studebaker Rd., Suite 960
Cerritos, CA 90703

REASON: In the previous presentations, it was emphasized that doming was only cost effective if it occurred during an *out of service* API 653 inspection. Out of service is added for clarification as to the type of API 653 inspection that is to occur. It is during this type of inspection when the tank is not only emptied and degassed but also cleaned (removal of all vapors, liquids, sludge, etc) it is safe for workers to perform major modifications to a tank, such as adding a dome. With a cleaned tank, dome construction can occur on the tank roof which is necessary for large diameter tanks with limited surrounding flat land. If the dome is to be constructed adjacent to the tank, there must be enough flat space next to the tank to construct the dome (of the same tank diameter) and a suitable location for a crane to have the horizontal reach to laterally move and lift the dome to the top of the tank. ZEWCT does not have this kind of room next to our tanks, especially for our 250 and 300 foot diameter tanks.

1-3 cont.

In the presentation, it was stated that 0.01 tpy of emissions would be reduced due to doming EFR tanks. This amounts to 20 lbs/day. If we were to retire 20 ERCs at $5,000 each for a total of $100,000, therefore doming one tank at a cost of $3 million appears to be unreasonable.

1-4

Staff identified only two of our tanks out of the 20 EFR tanks slated to be domed under this program. According to the same parameters used by staff, ZEWCT would have a minimum of 6 EFR tanks and up to a potential of 17 EFR tanks to be domed. According to the staff report, the cost effectiveness for doming EFRs was based on tanks with diameters of 30-144 feet. ZEWCT has three tanks at the upper end of this analysis and 11 tanks above that, including five tanks *more than twice the diameter* size used in the cost effectiveness analysis. According to the exponential Facility Cost Curve equation, the cost to dome our larger EFR tanks would potentially be 2 to 6 times more than what is specified in the staff report as being cost effective. Therefore, it is *not* cost effective for ZEWCT to dome the larger diameter tanks.

1-5

Thank you for considering these comments. If you have any questions, please email, or call me at (562) 233-5370.

Sincerely,

CM Cunningham, PE
HSER Manager
Zenith Energy West Coast Terminals LLC

https://zenithem.sharepoint.com/sites/HSER/Management/West Coast Terminals/Non-Facility Specific/RECLAIM/PAR463 comments2.docx

Staff Response to Comment Letter #1

Response to Comment 1-1:

Staff acknowledges the fast pace of the rule development. The updated Draft Rule Language and Draft Staff Report will be released no later than May 7, 2024, giving the public at least 31 days prior to the scheduled Public Hearing on June 7, 2024 to review the changes. Staff is not considering bifurcation of PAR 463 at this time.

Response to Comment 1-2:

See response to Public Workshop Commenter 1a and 1b.

Response to Comment 1-3:

PAR 463 subparagraph (d)(1)(H) was updated to state that domes must be installed at the next internal API 653 inspection or the next time the tank is degassed and cleaned. Staff removed the term “emptied” as tanks will need to be emptied to be cleaned and degassed. Staff did not include the qualifier of “out of service” API 653 inspections, as tanks are cleaned and degassed during an internal API 653 inspection, which satisfies the conditions to dome.

Response to Comment 1-4:

See response to Public Workshop Commenter 1c.

Response to Comment 1-5:

See response to Public Workshop Commenter 1c.

Comment Letter #2

Ramine Ross
Senior Manager, Regulatory Affairs
Southern California Region

April 10, 2024

Michael Morris
Planning and Rules Manager
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Via e-mail at: mmorris@aqmd.gov

Re: SCAQMD Proposed Amended Rule 463, Organic Liquid Storage – WSPA Comments on Preliminary Draft Rule Language

Dear Mr. Morris,

Western States Petroleum Association (WSPA) appreciates the opportunity to participate in the Working Group Meetings (WGMs) for South Coast Air Quality Management District (SCAQMD or District) Proposed Amended Rule 463, Organic Liquid Storage (PAR 463). WSPA is a non-profit trade association representing companies that explore for, produce, refine, transport, and market petroleum, petroleum products, natural gas, renewable fuels, and other energy supplies in five western states including California. WSPA has been an active participant in air quality planning issues for over 30 years. WSPA-member companies operate petroleum refineries and other facilities in the South Coast Air Basin that will be impacted by PAR 463.

SCAQMD released initial preliminary draft rule language for PAR 463 on March 22, 2024.[1] WSPA offers the following comments on the draft rule language.

1. **PAR 463(d)(3)(C) would require a control efficiency of 98% for Fixed Roof Tanks, despite these tanks holding permits based on a 95% control efficiency. The proposed language in this section should revert back to the current language and maintain the requirement at 95%.**

   The District has proposed that Fixed Roof Tank emissions be vented to a Fuel Gas System or an Emissions Control System with an overall control efficiency of 98%. The control efficiency in the current rule is 95%. In the PAR 463 Preliminary Draft Staff Report (PDSR), SCAQMD references the recent rulemaking for Rule 1178, noting that 98% efficiency is achievable based on performance test results for combustion and carbon adsorption systems.[2] The report also suggests that SCAQMD is assuming no costs would be needed to meet a 98% control efficiency.[3] The PAR 1178 staff report notes that the most common type of vapor recovery system used on fixed roof tanks are combustion systems, with one supplier guaranteeing 98% control efficiency on such systems.[4] Adsorption systems have higher

2-1

[1] Proposed Amended Rule 463, Organic Liquid Storage: Initial Preliminary Draft Rule Language. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-463/par-463-preliminary-draft-rule-language.pdf?sfvrsn=6
[2] SCAQMD PAR 463 Preliminary Draft Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-463/par-463-pdsr.pdf?sfvrsn=6.
[3] Ibid.
[4] SCAQMD PAR 1178 Staff Report. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1178/par-1178-draft-staff-report--final.pdf?sfvrsn=10,

Western States Petroleum Association 970 West 190th Street, Suite 304, Torrance, CA 90502 310.808.2146 wspa.org

capital costs and are less desirable for tanks, and the same supplier guaranteed 95% control efficiency for such systems.[5]

During the PAR 1178 rulemaking, the District reported having reviewed four initial performance tests, which all showed greater than 99% control efficiency.[6] The District has not defined the number of vapor recovery systems in the regulated community, nor have they presented any evidence to demonstrate that these four tests are representative for all affected equipment. Furthermore, the District has not yet provided information to demonstrate that all existing operating emission control systems affected by the rule would meet the proposed control efficiency.[7] It is important that this information be provided to stakeholders prior to rule adoption.

Current permits are issued based on a 95% control efficiency. If the District intends to require a higher control efficiency standard, it must provide evidence to support the assertion that all existing fixed roof tanks with vapor recovery systems can meet this standard without modifications. If the District is not able to provide such technical evidence, the proposal would require a complete BARCT analysis, including evaluation of technical feasibility and potential compliance costs.

2-1 Cont.

Additionally, WSPA would like to understand the basis for claiming 0.005 tons per day of VOC emission reductions from this proposed change.[8] If, as asserted in the PDSR, all existing emission control systems already meet the proposed control efficiency, then there would be no creditable reductions available.

WSPA recommends that the language revert back to the current rule language:

> *The vapor recovery system shall have an efficiency of at least 95 percent by weight, or vent Tank emissions to a Fuel Gas System.*

2. In estimating the cost-effectiveness for doming of external floating roof tanks, the District has provided an incomplete analysis of potential cost and potential emission reductions. WSPA recommends that SCAQMD revisit the cost-effectiveness analysis to account for all potential costs, and updates emission reduction estimates.

The California Health & Safety Code requires the District, in adopting any Best Available Retrofit Control Technology (BARCT) standard, to ensure the standard is technologically feasible, to take into account "environmental, energy, and economic impacts" and to assess the cost-effectiveness of the proposed control options.[9] Cost-effectiveness is defined as the cost, in dollars, of the control alternative, divided by the emission reduction benefits, in tons, of the control alternative.[10] If the cost per ton of emissions reduced is less than the established cost-effectiveness threshold, then the control method is considered to be cost-effective. Cost-effectiveness evaluations need to consider both capital costs (e.g., equipment procurement, shipping, engineering, construction, and installation) and operating (including expenditures

2-2

[5] Ibid.
[6] Ibid.
[7] SCAQMD PAR 463 Working Group Meeting #2 Presentation. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-463/par-463-wgm2.pdf?sfvrsn=12.
[8] PAR 463 Public Workshop. Available at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-463/par-463-public-workshop.pdf?sfvrsn=10.
[9] California Health & Safety Code §40406, 40440, 40920.6.
[10] California Health & Safety Code §40920.6.

associated with utilities, labor, and replacement) costs. Currently, the District is applying a cost-effectiveness threshold of $36,000 per ton of VOC emissions reduced, consistent with the 2022 Air Quality Management Plan (2022 AQMP).[11]

In estimating costs for doming of external floating roof tanks, the District has not provided a complete picture of the potential costs or potential emission reductions. The District cost estimates include capital, installation, and operating costs for the dome. However, in doming tanks, there are multiple other costs that may be required depending on the current configuration of the tank. For example, rolling ladders would need to be replaced with vertical ladders. Replacement of rolling ladders is necessary due to the risk of catastrophic damage that would result from a ladder crashing into the dome. Additionally, gauge hatches would need to be replaced with slotted gauge poles for product quality testing. Finally, the cost estimates have not been adjusted to reflect cost at the time of doming, which could be as much as 23 years after the date of rule adoption.

2-2 Cont.

SCAQMD has also overestimated the potential emission reductions resulting from the proposed installation of the domes. For example, slotted gauge poles would result in higher emissions from the tanks, partially negating some of the claimed emission reductions. In addition, The Advanced Clean Cars II Regulation is designed to reach 100% new vehicle zero emission vehicles and clean plug-in hybrid electric vehicles in California by the 2035 model year. This planned phase-out of gasoline powered vehicles is expected to cause a significant reduction in California gasoline consumption. The proposed 50-year useful life of the dome is therefore overestimated given California's other regulatory mandates.

WSPA recommends that the District revisit the cost-effectiveness analysis to include all costs associated with doming, update the estimate of emission reductions, and reconsider the useful life of the equipment.

3. **PAR 463(d)(1)(I) would require facilities to demonstrate the true vapor pressure (TVP) of organic liquid in an External Floating Roof Tank (EFRT) using an initial test effective January 1, 2025. EFRTs storing organic liquids with TVP below 3 psia would be required to conduct subsequent tests at least once every six calendar months. PAR 463(g)(6) would require results of TVP monitoring greater than 3.0 psia to be reported to the District within one week of measurement. This is a very short time frame that would cause undue burden to facilities. Additionally, the rule should include a provision that allows for a monthly average of TVP measurements to be reported instead of individual measurements when this threshold is exceeded.**

2-3

PAR 463(d)(1)(I) states:

> *Effective January 1, 2025, an owner or operator of an External Floating Roof Tank shall demonstrate the True Vapor Pressure of the Organic Liquid using an initial test, with one representative sample. External Floating Roof Tanks storing Organic Liquids with True Vapor Pressure below 3 psia shall conduct subsequent tests at least once every six calendar months pursuant to the requirements of subdivision (i).*

[11] SCAQMD Draft Final 2022 Air Quality Management Plan. Available at: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan.

PAR 463(g)(6) states:

> *An owner or operator shall report any tests specified in subparagraph (d)(1)(I) that result in a True Vapor Pressure of 3.0 psia or greater to the Executive Officer within one week.*

WSPA requests that the language be updated to allow facilities two weeks (14 days) to provide notification to the District when TVP is measured above 3.0 psia.

WSPA requests that the District include a provision that allows for monthly averaging of TVP measurements, similar to allowances provided in Rule 1178. This would give facilities the opportunity to resample the tank or adjust the stock blend as needed to bring the TVP under 3.0 psia. WSPA recommends the language be updated as follows: 2-3 Cont.

PAR 463(d)(1)(I):

> *Effective January 1, 2025, an owner or operator of an External Floating Roof Tank shall demonstrate the True Vapor Pressure of the Organic Liquid ~~using an initial test, with one representative sample~~ based on a monthly average of sample results. External Floating Roof Tanks storing Organic Liquids with True Vapor Pressure below 3 psia shall conduct subsequent tests to determine the monthly average true vapor pressure at least once every six calendar months pursuant to the requirements of subdivision (i).*

PAR 463(g)(6):

> *An owner or operator shall report any tests specified in subparagraph (d)(1)(I) that result in a True Vapor Pressure of 3.0 psia or greater based on a monthly average to the Executive Officer within ~~one week~~ fourteen days.*

4. **PAR 463(d)(2)(d) would require a facility to comply with seal requirements for Internal Floating Roof Tanks when the tanks are scheduled for emptying and degassing, but no later than 10 years after becoming subject to the requirements of the rule. SCAQMD should include the cost of forcing an early turnaround on tanks in the cost-effectiveness analysis. If that analysis is not complete, WSPA recommends that the 10-year installation requirement be removed from the rule.**

PAR 463(d)(2)(D) would require a facility to comply with the Primary and Secondary Seal requirements for Internal Floating Roof Tanks (IFRTs) when the tanks are scheduled for emptying and degassing and install Secondary Seals no later than 10 years after becoming subject to the requirements of the rule. This could force an early turnaround of a tank before it's next required API inspection, adding to the cost of compliance. To our knowledge, SCAQMD has not evaluated the impact of such compliance schedule requirements, nor the associated costs to determine whether such a requirement would be cost-effective. WSPA recommends the proposed language be updated as follows: 2-4

> *Beginning two years after [Date of Adoption], the owner or operator shall comply with the Primary and Secondary Seal requirements for Internal Floating Roof Tanks specified in subparagraph (d)(2)(A) when the Tanks are scheduled for emptying and degassing. ~~The owner or operator shall install Secondary Seals no later than ten years after [Date of Adoption].~~*

5. PAR 463(h)(3) exempts storage tanks that are subject to Rule 1178, with exceptions for subdivision (e) and paragraph (c)(42). WSPA recommends that 463(c)(34) should be included among these exceptions.

PAR 463(h)(3) includes the following exemption:

> *The provisions of this rule shall not apply to Storage Tanks that are subject to Rule 1178, except for subdivision (e) and paragraph (c)(42).*

2-5

WSPA suggests that a reference to paragraph (c)(34) be added to the exception list as well. WSPA recommends that the language be updated as follows:

> *The provisions of this rule shall not apply to Storage Tanks that are subject to Rule 1178, except for subdivision (e), paragraph (c)(34), and paragraph (c)(42).*

WSPA appreciates the opportunity to provide these comments related to PAR 463. We look forward to continued discussion of this important rulemaking. If you have any questions, please contact me at (310) 808-2146 or via e-mail at rross@wspa.org.

Sincerely,

Cc: Wayne Nastri, SCAQMD
Sarah Rees, SCAQMD
Michael Krause, SCAQMD
Isabelle Shine, SCAQMD
Joshua Ewell, SCAQMD
Patty Senecal, WSPA

Staff Response to Comment Letter #2

Response to Comment 2-1:

Staff looked at four VRU performance reports with results all over 98% during the PAR 463 rule development process. Three combustion VRUs had initial performance tests with results over 99% efficiency. A facility's carbon adsorption VRU system was stated to be performing at over 99% emission control, which was later confirmed with source test results. Rule 1178 also proposed a 98% control efficiency for VRUs which was supported by another four initial performance tests that indicated the systems were capable of performing at or above 99%. During the 2023 PAR 1178 amendment process staff informed WSPA that any performance tests that suggest the inability or difficulty to meet the proposed requirement should be provided to staff for reconsideration of the BARCT analysis conclusion for emission control systems. Staff similarly asked stakeholders for any performance tests that suggested the inability to meet 98% control efficiency during the PAR 463 rule development process. No performance tests have been submitted that indicate staff's proposal to increase the control efficiency is not feasible.

Staff did not include the emission reductions associated with increased control efficiency of vapor recovery systems into the cost-effectiveness analysis, as it is assumed that all units are already meeting the proposed control efficiency, and staff aims to be conservative in cost-effectiveness analysis. However, the emission reductions associated with increased control efficiency of vapor recovery systems can still be claimed for SIP credit.

Response to Comment 2-2:

Staff used the cost equation used in the 2023 Rule 1178 rule development to estimate doming costs. The cost equation incorporated both vendor quotes to dome tanks from as well as cost data provided by facilities. Facility quotes included all the costs associated with the installation of a dome including the replacement of existing components such as gauge hatches and ladders. The costs provided were adjusted to reflect current day dollars during the cost-effectiveness analysis. Staff conducted an analysis in TankESP to determine if the switch to slotted guidepoles resulted in excess emissions. The analysis showed the use of slotted guidepoles resulted in approximately 7% fewer emissions than the same set of tanks using solid guidepoles. Furthermore, PAR 463 requires all guidepoles to be installed with emission controls, minimizing the potential fugitive emissions associated with the component. Staff accounted for the increasing cost of controls by applying a present value factor to the operation and maintenance costs which included an interest rate of 4%. Furthermore, the cost-effectiveness threshold is adjusted annually to account for inflation as specified in the 2022 Final AQMP. The 50-year useful life for domes was provided by two suppliers during the 2023 Rule 1178 amendment. If facilities expect tanks to be taken out of service due to the Advanced Clean Cars II Regulation and the potential decline of gasoline consumption in California, staff is open to considering permit conditions to remove tanks from service upon a future date in lieu of doming.

Response to Comment 2-3:

PAR 463 was updated to allow facilities 14 days to submit TVP test results that indicate the organic liquid stored in a tank has a TVP ≥ 3.0 psia. Staff included a provision in PAR 463 to give owners or operators the option to submit monthly averages of TVP tests instead of the semi-annal tests. Facilities must begin monthly testing as of January 2025 to utilize monthly averaging. Tanks not commencing monthly testing as of January 2025 shall comply with the semi-annual TVP test requirements.

Response to Comment 2-4:

During the 2023 rule development process for Rule 1178, suppliers stated that tanks would not be required to be emptied and degassed for installation of a secondary seal, however, one facility stated that it is their practice for a tank to be emptied and degassed prior to installing a secondary seal for safety reasons. Staff confirmed that the installation of secondary seals on IFR tanks may result in confined space entry. Therefore, the implementation schedule for secondary seals in PAR 463 was updated to have a back stop date of twenty-two years after the [*Date of Adoption*]. The updated installation backstop includes the two year phase-in period to allow for the permitting process and the 20 year internal API 653 inspection frequency.

Response to Comment 2-5:

PAR 463 was updated to include the definition for Product Change in the list of Rule 463 provisions which apply to Rule 1178 regulated tanks.

Comment Emails

Email #1

Hi Joshua: Following up on our conversation from last week, please find attached some emission information from the dome application (App. 450147) that we had discussed. I have also provided a table that shows we calculated small emissions increase when it was necessary to replace the rolling ladder with a vertical ladder, and the gauge hatch with a slotted gauge pole due to the dome installation. In this situation, the domes were installed on two identical small diameter ERFT's storing CARB gasoline. Given this information, I think AQMD should take another look at the cost efficiency calculations. While the annual average TVP for CARB gasoline is over 3 psia, it did not make sense to dome these small diameter tanks based on the circumstances involved. 1-1

As for PAR 463(d)(2)(d), I have confirmed with our Safety Professional and one of our contractors that entering onto the roof of an IFR is a permit required confined space that requires the enterents to be in supplied air and on a tether. A rescue team also needs to be on stand-by. Hot-work would not be allowed, so no-spark tools would be needed which just adds to the time to complete the installation. Therefore, installing secondary seals in-service is a high-risk activity that should be avoided. Based on this, this requirement should be modified so the secondary seal installation coincides with a tanks next outage. 1-2

Let me know if you have any questions regarding this email.

Respectfully,
Jim Adams
Senior Environmental Consultant

O: 562-290-1516 | M: 714-329-8290 | F: 562-290-1580
3900 Kilroy Airport Way | Suite 210 | Long Beach, CA. 90806
phillips66.com

Staff Response to Email #1

Response to Comment 1-1:

The analysis in Email Comment 1-1 was conducted using Tanks 4.0, which is no longer supported by the U.S. EPA. The BREEZE TankESP software used by staff to calculate the emission reductions from doming uses the currently approved formulas in AP-42 Chapter 7 to calculate storage tank emissions. Staff used a sample group that consisted of smaller diameter (30 feet) to larger diameter (299 feet) tanks in the analysis to determine the cost-effectiveness of installing domes on EFR tanks storing organic liquids with a TVP of 3.0 psia or greater. The cost-effectiveness for doming is $24,800 per ton of VOC reduced. Therefore, staff is continuing to propose requiring domes on any EFR tank storing organic liquids with a TVP of 3.0 psia or greater.

Response to Comment 1-2

See response to Comment Letter 2-4.

ATTACHMENT H

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Environmental Assessment for Proposed Amended Rule 463 – Organic Liquid Storage

June 2024

South Coast AQMD Number: 03272024JA
State Clearinghouse Number: 2024031009

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WAYNE NASTRI

PREFACE

This document constitutes the Final Environmental Assessment (EA) for Proposed Amended Rule (PAR) 463 – Organic Liquid Storage. The Draft EA was circulated for a 30-day public review and comment period from March 27, 2024 to April 26, 2024. No comment letters were received relative to the analysis in the Draft EA during the comment period.

Subsequent to the release of the Draft EA for public review and comment, the following modifications were made to the proposed project: 1) several definitions and other parts of the rule language were updated for clarity and consistency; 2) the secondary seal compliance schedule was updated; 3) the True Vapor Pressure (TVP) test procedure that allows for monthly averaging was added; 4) the mechanical shoe primary seal requirements for Internal Floating Roof (IFR) tanks were updated; 5) the procedure for conducting Optical gas imaging (OGI) inspections was updated; 6) requirements for vapor recovery systems were added; 7) the recordkeeping and reporting requirements for the TVP tests required for External Floating Roof (EFR) tanks, Vapor Recovery Unit (VRU) Performance Tests, and vapor recovery system performance tests were updated; 8) the exemption from Rule 463 specific to tanks regulated by Rule 1178 was updated to include the definition for Product Change; and 90) references to the revoked 1997 ozone National Ambient Air Quality Standard in the contingency for the South Coast Air Basin were removed.

Therefore, some modifications have been made to the Draft EA to make it a Final EA which include the aforementioned updates and additions made to PAR 463 after the Draft EA was released for the public review and comment period. Specifically, the CEQA analysis in the Final EA was updated to include: 1) an increase in the amount of estimated VOC emissions reductions from 0.43 ton per day to 1.65 ton per day; 2) revised inspection requirements for OGI tank farms to be conducted more frequently, from semi-annually to twice per year at four-to-eight month intervals; and 3) increased the compliance timeframe for the installation of secondary seals from 10 years to 22 years.

To facilitate identification of the changes between the Draft EA and the Final EA, modifications to the document are included as <u>underlined text</u> and text removed from the document is indicated by ~~strikethrough text~~. To avoid confusion, minor formatting changes are not shown in underline or strikethrough mode.

South Coast AQMD staff has evaluated the modifications made to PAR 463 after the release of the Draft EA for public review and comment and concluded that none of the revisions constitute significant new information, because: 1) no new significant environmental impacts would result from the proposed project; 2) there is no substantial increase in the severity of an environmental impact; 3) no other feasible project alternative or mitigation measure was identified that would clearly lessen the environmental impacts of the project and was considerably different from others previously analyzed, and 4) the Draft EA did not deprive the public from meaningful review and comment. In addition, revisions to PAR 463 and the analysis in response to verbal or written comments during the rule development process would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the Draft EA pursuant to CEQA Guidelines Sections 15073.5 and 15088.5. Therefore, the Draft EA has been revised to include the aforementioned modifications such that it is now the Final EA.

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CHAPTER 1

PROJECT DESCRIPTION

INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (South Coast AQMD) in 1977[1] as the agency responsible for developing and enforcing emission control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin. By statute, the South Coast AQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the areas under the jurisdiction of the South Coast AQMD[2]. Furthermore, the South Coast AQMD must adopt rules and regulations that carry out the AQMP[3]. The AQMP is a regional blueprint for how the South Coast AQMD will achieve air quality standards and healthful air; it contains multiple goals promoting reductions of criteria air pollutants including volatile organic compounds (VOC). The 2022 AQMP included Control Measure FUG-01 – Improved Leak Detection and Repair (LDAR), which explores the potential for newer leak detection technologies to improve current LDAR requirements thereby reducing VOC emissions from fugitive leaks from process and storage equipment at a variety of sources including, but not limited to, oil and gas production sites, petroleum refining, storage and transfer, etc.[4] Previously, the 2016 AQMP included Control Measure FUG-01 to utilize advanced remote sensing technologies to allow for faster identification and repair of leaks, and the 2012 AQMP included Control Measure FUG-03 – Further Reductions of Fugitive VOC Emissions, which identified the implementation of advanced leak detection technologies, including optical gas imaging (OGI), as a method to reduce the emissions impact from leaks.

In accordance with Assembly Bill (AB) 617, which was signed into state law in 2017, and the California Air Resources Board's (CARB) Community Air Protection Program which implements AB 617, the South Coast AQMD is required to take specific actions to reduce air pollution and toxic air contaminants from commercial and industrial sources to address the disproportionate impacts of air pollution in environmental justice communities. The Wilmington, Carson, and West Long Beach (WCWLB) community, which is qualified as a high priority area, identified in its Community Emission Reduction Plan (CERP) adopted on September 6, 2019, emissions from refineries as an air quality concern, and specified initiating rule development to amend Rule 1178 − Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities (Rule 1178) to incorporate advanced leak detection technologies and requiring additional emission controls. In particular, Chapter 5b, Action 1 in the WCWLB CERP recommended incorporating new, advanced tools to modernize and improve LDAR programs for storage tanks at refineries to enhanced leak detection. Similarly, the South Los Angeles (SLA) community identified in its CERP adopted on June 3, 2022, emissions from operation of oil and gas facilities as an air quality concern. In particular, Chapter 5f, Action 1, recommended installation of emission reduction technologies at oil and gas facilities and specified initiating rule development to the Rule 1148 series to explore improved LDAR and requirements for lower-emission or zero-emission equipment. Rule 463 was not identified as an action for rule development within the 2019 WCWLB CERP or 2022 SLA CERP; however, Rule 463 regulates the same emission sources within the affected WCWLB and SLA communities.

[1] The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch. 324 (codified at Health and Safety Code Section 40400-40540).
[2] Health and Safety Code Section 40460(a).
[3] Health and Safety Code Section 40440(a).
[4] South Coast AQMD, Final 2022 Air Quality Management Plan, December 2022. http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan

Rule 463 applies to tanks that meet the following criteria: 1) above-ground stationary tanks with a capacity of 75,000 liters (19,815 gallons) or greater used for storage of organic liquids, 2) any above-ground tank with a capacity between 950 liters (251 gallons) and 75,000 liters (19,815 gallons) used for storage of gasoline, and 3) any stationary tank with a Potential For VOC Emissions of six tons per year or greater used in Crude Oil And Natural Gas Production Operations.

Proposed Amended Rule 463 (PAR 463) establishes more stringent leak detection and repair and control requirements, such as optical gas imaging tank farm inspections every other calendar week, and additional control requirements for installing domes (referred to as doming) and secondary roof seals. PAR 463 will establish Best Available Retrofit Control Technology (BARCT) requirements, including leak inspections using OGI devices. Additionally, PAR 463 will include contingency measures for both the Coachella Valley and the South Coast Air Basin, which will require more frequent OGI inspections, if triggered.

The federal Clean Air Act (CAA) requires State implementation Plans (SIPs) to include contingency measures which are triggered if an area fails to make reasonable further progress or fails to attain an air quality standard by the applicable date. Therefore, South Coast AQMD has prepared the Coachella Valley Contingency Measure State Implementation Plan (SIP) Revision for the 2008 8-Hour Ozone Standard focused on satisfying the requirement for contingency measures elements for the plan. Specifically, South Coast AQMD is amending Rule 463 to introduce a contingency measure to partially satisfy the federal CAA contingency requirement by establishing more frequent OGI inspections every calendar week for tanks storing product with a TVP of 5.0 psia or greater.

PAR 463 applies to approximately 1,600 tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. There are four major categories of storage tanks subject to Rule 463, as follows: fixed roof tanks, external floating roof tanks, domed external floating roof tanks, and internal floating roof (IFR) tanks. Storage tanks emit VOC through openings inherent in the tank design. Rule 463 requires the use of seals and covers to reduce the amount of VOC that can migrate out of the tank through the tank openings. Tank openings on fixed roof tanks include, but are not limited to, vapor recovery connection points, pressure vacuum vents and sample hatches. Floating roof tanks also contain openings that include the annular space around the floating roof, guidepoles, rim vents, pressure vents, hatches, and roof legs. Proposed amendments to Rule 463 are based on determination of feasible and cost-effective technologies and methods that were assessed through a BARCT analysis. Rule 463 already requires controls on all roof openings and as part of the PAR 463 rule development, staff reviewed additional technologies and methods to further reduce emissions from tank operation and leaks. The proposed amendments will reduce VOC emissions from these sources by approximately ~~0.43~~1.65 ton per day.

Implementation of PAR 463 is expected to result in less than significant increases of criteria air pollutants in the short-term due to construction impacts, and an overall long-term decrease in VOC emissions through minimizing fugitive losses from storage tanks at petroleum facilities.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA) is comprised of Public Resources Code Section 21000 *et seq.* and CEQA Guidelines which are codified at Title 14 California Code of Regulations, Section 15000 *et seq.* CEQA requires all potential adverse environmental impacts of proposed projects be evaluated and methods to reduce or avoid identified significant adverse

environmental impacts of these projects be implemented, if feasible. [Public Resources Code Section 21061.1 and CEQA Guidelines Section 15364]. The purpose of the CEQA process is to inform decision makers, public agencies, and interested parties of potential adverse environmental impacts that could result from implementing a proposed project and to identify feasible mitigation measures or alternatives, when an impact is significant.

Public Resources Code Section 21080.5 allows public agencies with regulatory programs certified by the Secretary of the Resources agency to prepare a plan or other written documents in lieu of a Negative Declaration or Environmental Impact Report (EIR). The South Coast AQMD's regulatory program was certified on March 1, 1989. [CEQA Guidelines Section 15251(l)]. In addition, the South Coast AQMD adopted Rule 110 – Rule Adoption Procedures to Assure Protection and Enhancement of the Environment, which implements the South Coast AQMD's certified regulatory program. Under the certified regulatory program, the South Coast AQMD typically prepares an Environmental Assessment (EA) to evaluate the environmental impacts for rule projects proposed for adoption or amendment.

The proposed amendments to Rule 463 are a discretionary action subject to South Coast AQMD Governing Board consideration that has the potential for resulting in changes to the environment, and therefore, is considered a "project" as defined by CEQA. [CEQA Guidelines Section 15378]. The lead agency is the "public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment." [Public Resources Code Section 21067]. Since the South Coast AQMD Governing Board has the primary responsibility for approving and carrying out the entire project as a whole, the South Coast AQMD is the most appropriate public agency to act as CEQA lead agency for the proposed project. [CEQA Guidelines Section 15051(b)].

The proposed project would further reduce VOC emissions from above-ground storage tanks containing volatile organic liquids through establishing optical gas imaging tank farm inspections every other calendar week and additional control requirements for doming, emission control systems, and secondary seals. However, South Coast AQMD's review of the proposed project also shows that the activities that facility operators may undertake to comply with PAR 463 may also create secondary adverse environmental impacts that would not result in significant impacts for any environmental topic area. Thus, the analysis of PAR 463 indicates that the type of CEQA document appropriate for the proposed project is an EA with no significant impacts. The EA is a substitute CEQA document, which the South Coast AQMD, as lead agency for the proposed project, prepared in lieu of a Negative Declaration with no significant impacts [CEQA Guidelines Section 15252], pursuant to the South Coast AQMD's Certified Regulatory Program [Public Resources Code Section 21080.5, CEQA Guidelines Section 15251(l); South Coast AQMD Rule 110].

The EA includes a project description in Chapter 1 and an Environmental Checklist in Chapter 2. The Environmental Checklist provides a standard tool to identify and evaluate a proposed project's adverse environmental impacts and the analysis concluded that no significant adverse impacts would be expected to occur if the proposed project is implemented. Because the proposed project would have no statewide, regional. or areawide significance, no CEQA scoping meeting is required to be held pursuant to Public Resources Code Section 21083.9(a)(2). Further, pursuant to CEQA Guidelines Section 15252, since no significant adverse impacts were identified, no alternatives or mitigation measures are required.

The Draft EA ~~is being~~ was released for a 30-day public review and comment period from March 27, 2024 to April 26, 2024. No comment letters were received during the comment period. ~~Any comments on the analysis presented in this Draft EA received during the public comment period will be responded to and included in an appendix of the Final EA.~~

Subsequent to the release of the Draft EA for public review and comment, the following modifications were made to the proposed project: 1) several definitions and other parts of the rule language were updated for clarity and consistency; 2) the secondary seal compliance schedule was updated; 3) the True Vapor Pressure (TVP) test procedure that allows for monthly averaging was added; 4) the mechanical shoe primary seal requirements for Internal Floating Roof (IFR) tanks were updated; 5) the procedure for conducting Optical gas imaging (OGI) inspections was updated; 6) requirements for vapor recovery systems were added; 7) the recordkeeping and reporting requirements for the TVP tests required for External Floating Roof (EFR) tanks, Vapor Recovery Unit (VRU) Performance Tests, and vapor recovery system performance tests were updated; 8) the exemption from Rule 463 specific to tanks regulated by Rule 1178 was updated to include the definition for Product Change; and 90) references to the revoked 1997 ozone National Ambient Air Quality Standard in the contingency for the South Coast Air Basin were removed.

Therefore, some modifications have been made to the Draft EA to make it a Final EA which include the aforementioned updates and additions made to PAR 463 after the Draft EA was released for the public review and comment period. Specifically, the CEQA analysis in the Final EA was updated to include: 1) an increase in the amount of estimated VOC emissions reductions from 0.43 ton per day to 1.65 ton per day; 2) revised inspection requirements for OGI tank farms to be conducted more frequently, from semi-annually to twice per year at four-to-eight month intervals; and 3) increased the compliance timeframe for the installation of secondary seals from 10 years to 22 years.

South Coast AQMD staff has evaluated the modifications made to PAR 463 after the release of the Draft EA for public review and comment and concluded that none of the revisions constitute significant new information, because: 1) no new significant environmental impacts would result from the proposed project; 2) there is no substantial increase in the severity of an environmental impact; 3) no other feasible project alternative or mitigation measure was identified that would clearly lessen the environmental impacts of the project and was considerably different from others previously analyzed, and 4) the Draft EA did not deprive the public from meaningful review and comment. In addition, revisions to PAR 463 and the analysis in response to verbal or written comments during the rule development process would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the Draft EA pursuant to CEQA Guidelines Sections 15073.5 and 15088.5. Therefore, the Draft EA has been revised to include the aforementioned modifications such that it is now the Final EA.

Prior to making a decision on the adoption of the proposed project, the South Coast AQMD Governing Board must review and certify the Final EA, including responses to comments, as providing adequate information on the potential adverse environmental impacts that may occur as a result of amending Rule 463.

PROJECT LOCATION

The proposed project applies to owners or operators of tanks that meet the following criteria: 1) stationary above-ground tanks with a capacity of 75,000 liters (19,815 gallons) or greater used for storage of organic liquids, 2) any above-ground tank with a capacity between 950 liters (251

gallons) and 75,000 liters (19,815 gallons) used for storage of gasoline, and 3) any stationary tank with a Potential For VOC Emissions of six tons per year or greater used in Crude Oil and Natural Gas production operations. PAR 463 applies to approximately 1,600 tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities which are located throughout South Coast AQMD's jurisdiction. However, initial estimates indicated that approximately 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed.

South Coast AQMD's jurisdiction covers an area of approximately 10,743 square miles and includes the four-county Basin (all of Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portion of the Salton Sea Air Basin and the non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin. The Basin is a subarea of South Coast AQMD's jurisdiction; it is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. The Riverside County portion of the Salton Sea Air Basin, which is a federal nonattainment area known as the Coachella Valley Planning Area, is bounded by the San Jacinto Mountains to the west and spans the eastern boundary of the Coachella Valley up to the Palo Verde Valley (see Figure 1-1).

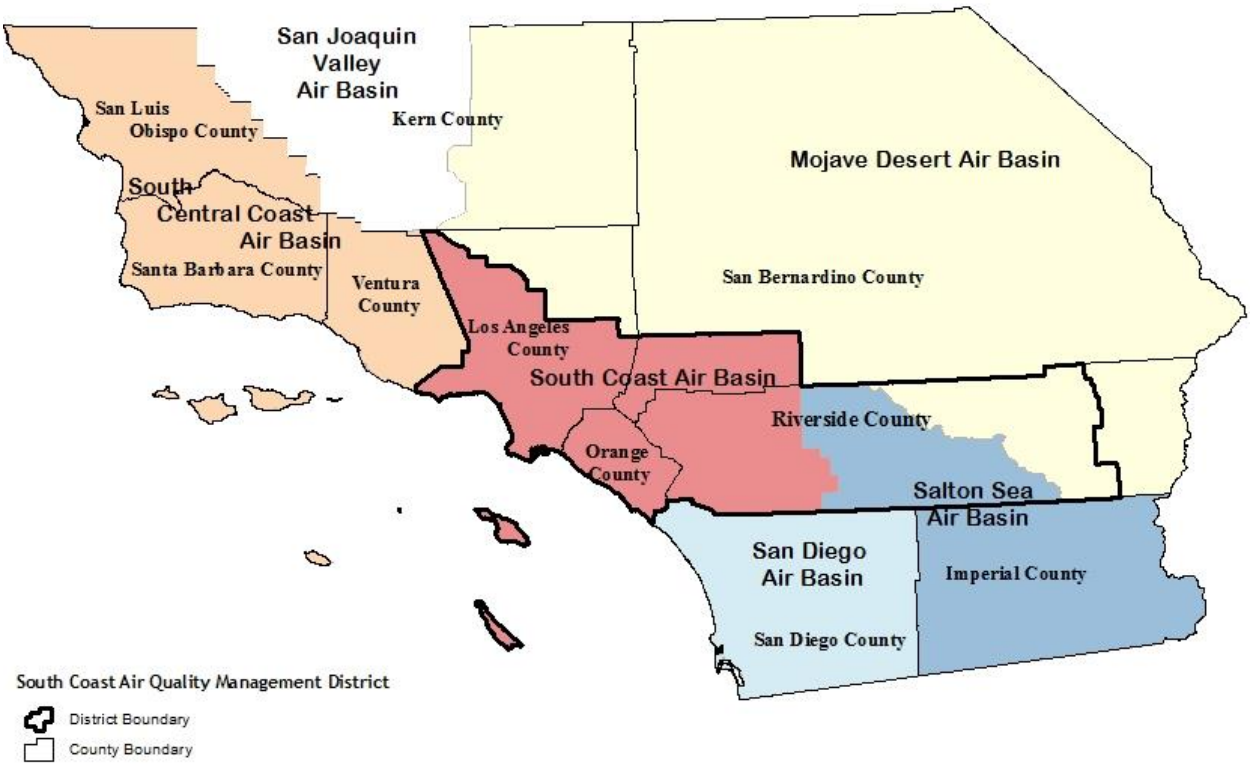

Figure 1-1
Southern California Air Basins and South Coast AQMD's Jurisdiction

PROJECT BACKGROUND

Rule 463 was adopted in August 1977 and subsequently amended six times. The 1984 amendment added a criterion for hydrogen sulfide content in crude oil contained in floating roof tanks; a subsequent amendment in March 2005 removed this limitation based on a comparative review of

similar regulations within the state and at the federal level. The December 1990 amendment addressed SIP deficiencies inconsistent with U.S. EPA policies or requirements. The March 1994 amendment restructured the rule, clarified rule language, streamlined compliance activities by including a self-compliance program, and corrected rule deficiencies identified by the U.S. EPA and California Air Resources Board (CARB). The November 2011 amendment harmonized test methods and leak standards with Rule 1178. The most recent amendment to Rule 463 in May 2023, addressed U.S. EPA's limited disapproval of CARB's Oil and Gas Methane Rule by aligning the applicability threshold with U.S. EPA's 2016 Control Techniques Guidelines for the Oil and Natural Gas Industry.

Since its adoption on August 8, 1977, Rule 463 has been applicable to any tank regardless of type of business that meets the following criteria: 1) stationary above-ground tanks with a capacity of 75,000 liters (19,815 gallons) or greater or, 2) any above-ground tank with a capacity between 950 liters (251 gallons) and 75,000 liters (19,815 gallons) used for storage of gasoline. In response U.S. EPA's limited disapproval of CARB's Oil and Gas Methane Rule, Rule 463 was amended on May 2023 to include any stationary tank with a potential for VOC emissions of six tons per year or greater used in crude oil and natural gas production operations.

In accordance with AB 617, which was signed into state law in 2017, and the CARB Community Air Protection Program which implements AB 617, the South Coast AQMD is required to take specific actions to reduce air pollution and toxic air contaminants from commercial and industrial sources to address the disproportionate impacts of air pollution in environmental justice communities, such as Wilmington, Carson, and West Long Beach. The WCWLB CERP, adopted on September 6, 2019 by this community, identified emissions from refineries as an air quality concern, and Chapter 5b, Action 1 in the WCWLB CERP recommended incorporating new, advanced tools to modernize and improve LDAR programs for storage tanks at refineries to enhanced leak detection. Similarly, the South Los Angeles (SLA) community identified in its CERP adopted on June 3, 2022, emissions from operation of oil and gas facilities as an air quality concern. In particular, Chapter 5f, Action I, recommended installation of emission reduction technologies at oil and gas facilities and specified initiating rule development to the Rule 1148 series to explore improved LDAR and requirements for lower-emission or zero-emission equipment. Rule 463 was not identified as an action for rule development within the 2019 WCWLB CERP or 2022 SLA CERP; however, Rule 463 regulates the same emission sources within the affected WCWLB and SLA communities. Recommendations for potential amendments included improving current leak detection and repair requirements by incorporating advanced leak detection technologies and requiring additional controls. Also, both the 2016 AQMP and 2022 AQMP included Control Measure FUG-01 – Improved Leak Detection and Repair (LDAR) which was specifically designed to utilize advanced remote sensing technologies to allow for the faster identification and repair of leaks from equipment at oil and gas and other facilities that are currently required to maintain a LDAR program.

In 2016, U.S. EPA released the 2016 CTG for the Oil and Gas Industry. Nonattainment areas classified as "Moderate" or worse, such as South Coast AQMD, are required to implement Reasonably Available Control Technology (RACT) for VOC sources covered by the CTG. Storage tanks covered by the 2016 CTG include those with the potential for VOC emissions of six tons per year or more, and are located at oil and natural gas facilities (excluding distribution); the RACT recommendation for such storage tanks is 95% emission control. While Rule 463 contained requirements for 95% emission control or greater, the rule did not apply to storage tanks based on the quantity of their potential VOC emissions. Rather, Rule 463 was applicable to storage tanks

based on the capacity and the TVP of the material stored. Because the U.S. EPA stated that it was unclear whether all tanks subject to the 2016 CTG were covered by the applicability requirements, Rule 463 was amended on May 5, 2023 to ensure the applicability would use direct terms to include storage tanks subject to the U.S. EPA's 2016 CTG for the Oil and Gas Industry.

PAR 463 is now being amended to partially implement the 2022 AQMP Control Measure FUG-01 and include a contingency measure in the event that the U.S. EPA determines that the South Coast AQMD had failed to meet an RFP milestone or to attain ~~an~~ applicable ozone NAAQS, and assist to achieve the goals of the WCWLB and SLA CERPs.

TECHNOLOGY OVERVIEW

The following discussion provides a general overview of the control technologies and enhanced leak detection technologies associated with aboveground storage tank emissions.

Control Technologies

Domes

Domes are roofs that can be installed onto EFR tanks. They are typically a geodesic dome shape and made of lightweight material such as aluminum. Domes that are affixed onto EFR tanks are not vapor tight and have vents along the bottom of the dome where it meets the tank shell. This is a required design for floating roof tanks to allow the floating roof to move up and down without adverse effects. Domes are effective at reducing emissions from tanks by eliminating wind moving over the external floating roof. Wind can carry vapors out from inside the tank through the secondary roof seals which float. It is estimated that installing domes on EFR tanks storing crude oil can reduce standing losses by 50%-70%.

Proximity Switches

Proximity switches are sensors designed to detect when sample hatch covers are open and are commonly used at remote oil well sites that are not inspected regularly. Proximity switches can also be used on pressure vacuum relief vents (PVRVs). The switch can alert facility personnel when a sample hatch cover or PVRV is open and result in quicker repair timelines and smaller emissions impacts. Limitations to using proximity switches include small may go undetected and other leaks that may occur from the monitored equipment would not be detected such as leaks from the gaskets or connection points.

Cable Suspension Systems

Cable suspended floating roofs are designed with cable suspension systems to support the floating roof and remove the need for roof legs. Emissions from IFR tanks are reduced with cable suspension systems by the elimination of floating roof leg penetrations that provide a potential opening where VOC can migrate from below the floating roof to atmosphere.

Emission Control Systems (Vapor Recovery)

Emission control systems are connected to fixed roof tanks and control VOC emissions with carbon adsorption or combustion. Compliance reports containing performance tests results for vapor recovery systems used at facilities applicable to Rule 463 were reviewed. All compliance reports reviewed stated the vapor recovery systems were compliant but not all specified the vapor recovery efficiency. Only the initial performance tests stated the control efficiency for the three

combustion vapor recovery systems which were specified at over 99% combustion efficiency. During a site visit, staff was informed that the facility's carbon adsorption system performs at over 99% emission control, which was further confirmed with performance test reports. ~~All compliance reports reviewed stated the vapor recovery systems were compliant but did not specify the vapor recovery efficiency. The initial performance efficiency for three combustion vapor recovery systems were specified at over 99% combustion efficiency.~~ During a site visit, staff was informed that the facility's carbon adsorption system performs at over 99% emission control, which was further confirmed with performance test reports. During the last rulemaking for Rule 1178 it was determined that 98% efficiency is achievable based on performance test results for combustion and carbon adsorption systems.

Staff recommends increasing the emission control system efficiency requirements to 98% emission control, by weight, based on available performance test results and information obtained at site visits.

Seals

Primary and secondary seals are used on floating roof tanks to seal the annular space between the floating roof and the tank shell to prevent VOC vapors from migrating out of the tank. Seal systems can have only a primary seal or a primary seal and secondary seal. Internal floating roof tanks are not required to have both a primary seal and secondary seal.

Staff identified five IFR tanks that are not equipped with secondary seals applicable to the rule.

Leak Detection Technologies

Multiple leak detection technologies and methods were considered to reduce the emissions impact from leaks from storage tanks. A review of continuous monitoring technologies including fixed gas sensor networks and open path device systems was conducted. Periodic monitoring with handheld optical gas imaging devices was also reviewed.

Continuous Monitoring Systems

Continuous monitoring solutions using open path detection and fixed gas sensor networks were assessed in 2023 for the Rule 1178 rulemaking. It was determined that the best solution for monitoring tanks is to require periodic monitoring with handheld optical gas imaging devices due to the nature of storage tank operations and the ability to identify small and large leaks. Continuous monitoring systems are limited in their ability to detect smaller leaks because they are installed at a distance from the tank. Depending on the detection technology of the continuous monitoring system, a leak may need to be significantly large at the source to be detected and has the potential to go undetected. One significant drawback to requiring stationary continuous monitoring system of gas sensors or open path devices, is the chance that a large leak goes undetected because it does not make contact with the fixed sensor or emitted open path beam. Due to the potential for the large emissions impact from large leaks, continuous monitoring systems with sensors that must come in contact with the VOC vapor may not be the most effective technologies to reduce the emissions impact from leaks from tanks. Another drawback to requiring continuous monitoring systems is the delayed implementation timeline due to the plan approval and installation timeframes.

Staff does not propose requiring the use of continuous monitoring systems in PAR 463. The continuous monitoring systems analyzed were all above the VOC cost-effectiveness threshold. Exceeding the cost-effectiveness threshold in combination with the limitations of the technologies

when compared to manual OGI inspections resulted in staff's proposal to not require continuous monitoring systems as BARCT. However, due to stakeholder interest in the opportunity to utilize continuous monitoring systems, staff will include a provision that allows for the use of U.S. EPA approved continuous monitoring methods provided they can achieve equivalent or more stringent monitoring as manual OGI inspections.

Optical Gas Imaging (OGI)

An optical gas imaging camera uses infrared technology to visualize vapors and has different detectors capable of visualizing a variety of gas wavelengths. VOC wavelengths range between 3.2 to 3.4 micrometers. The difference in views is shown in Figure 1-2 below. OGI cameras with the ability to detect or visualize in this range of wavelength contain a cryocooler that is integrated into the sensor which increases the sensitivity of the camera and the ability to detect smaller leaks. OGI cameras are widely used a screening tool for leak detection purposes.

Figure 1-2
View with Naked Eye Compared to View with an OGI Camera

Fixed OGI systems have been implemented at well sites and compression stations for continuous emissions monitoring. Handheld OGI cameras, as seen in Figure 1-3, are used widely by leak detection service providers as well as facilities for periodic monitoring.

Figure 1-3
OGI camera

Fixed OGI cameras may not catch all leaks that can be identified during an inspection where a portable OGI device is manually operated. Fixed OGI cameras are limited in the number of angles from which a tank can be viewed and would likely be stationed further away from an emissions source compared to a person conducting an inspection with a portable OGI device. Stationary and portable devices both have the capability to detect large leaks, however, there is greater chance that smaller leaks would be identified with a manual field inspection than with a stationary camera because tanks can be monitored in close proximity using portable devices such as handheld OGI cameras and toxic vapor analyzers (TVA).

Staff proposes OGI tank farm inspections every other calendar week for tanks that meet the capacity and vapor pressure thresholds that trigger control requirements in Rule 463 and additional semi-annual component inspections for tanks.

PROJECT DESCRIPTION

Rule 463 limits VOC emissions from any stationary storage tank with a potential for VOC emissions of six tons per year or greater used in crude oil and natural gas production operations, above-ground stationary tanks with a capacity of 19,815 gallons or greater used to store organic liquids, and above-ground tanks with a capacity between 251 and 19,815 gallons used to store gasoline. PAR 463 establishes requirements for: 1) conducting inspections, including but not limited to optical gas imaging tank farm inspections every other calendar week; 2) installing domes on EFR tanks storing organic liquids with a true vapor pressure of 3.0 psia or greater; 3) installing secondary seals on all floating roof tanks; 4) increasing the efficiency of emission control systems; 5) more stringent seal gap allowances; and 6) conducting monitoring, maintenance, recordkeeping, and reporting activities. PAR 463 will affect 429 facilities including refineries, bulk storage, loading, and oil production facilities, and is estimated to reduce VOC emissions by ~~0.43~~1.65 ton per day. Implementation of PAR 463 is expected to require physical modifications that could create secondary adverse environmental impacts relating to the installation of domes on EFR tanks and additional secondary seals on IFR tanks. The Final ~~Draft~~ EA did not identify any environmental topic areas that would be significantly adversely affected by PAR 463. Facilities with storage tanks subject to PAR 463 may be identified on lists compiled by the California Department of Toxic Substances Control per Government Code Section 65962.5 but the implementation of PAR 463 will not alter the status of the facilities on the lists.

The following is a detailed summary of the key elements contained in PAR 463. Appendix A of this EA contains draft rule language; actual text from PAR 463 is italicized while the explanation and clarification of each provision is in a non-italicized font.

Proposed Amended Rule 463

PAR 463 will contain the following subdivisions:

a) Purpose
b) Applicability
c) Definitions
d) Tank Roof Requirements
e) Other Performance Requirements
f) Monitoring Requirements
g) Reporting and Recordkeeping Requirements
h) Exemptions
i) Test Methods

j) Ozone Contingency Measures

Subdivision (a) ─ Purpose
The purpose of this rule is to reduce VOC emissions from above ground storage tanks storing organic liquids. Furthermore, PAR 463 contains a new purpose to establish contingency measures for ozone standards.

Subdivision (b) ─ Applicability

The applicability was separated from the purpose to reflect the current South Coast AQMD preferred rule format. There have been no other changes to the applicability.

Subdivision (c) ─ Definitions
Definitions were added or modified for clarity of new requirements. Key definition changes are referenced and discussed below.

- ~~*CLEANING is the process of washing or rinsing a stationary Tank, reservoir, pipelines, or other container or removing vapor, sludge, or rinsing liquid from a stationary Tank, reservoir, or other container.*~~

~~This is a new definition that uses existing rule language from South Coast AQMD Rule 1149 to clarify the meaning of cleaning within the rule language as well as consistency across South Coast AQMD rules.~~

COMPONENT is any valve, fitting, pump, compressor, pressure relief device, diaphragm, hatch, sight-glass, Roof Opening, Rim Seal System, pressure vacuum vents, guidepoles, roof legs, or meter in VOC service.

This is a definition from Rule 1173 ─ Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants (Rule 1173) that was modified to include additional tank specific parts. The definition adds clarity on the meaning of component for the proposed semi-annual OGI component inspection requirement.

- *COMPONENT INSPECTION is monitoring for Visible Vapors with a handheld Optical Gas Imaging Device of a Storage Tank roof and individual components, including but not limited to Roof Openings and Rim Seal Systems, viewable from the Tank platform or a vantage point capable of seeing the Tank roof, and ground for components not viewable from the Tank platform or vantage point but viewable at ground level.*

This is a definition from Rule 1178 that was modified to include component inspection procedures for tanks that do not have access to a tank platform. In the event there is no platform from which a component inspection can be conducted, an owner or operator can use a vantage point capable of viewing the roof of the tank and/or other vantage points needed to complete the OGI inspection.

- *PRODUCT CHANGE is the process of changing the Tank contents from one ~~product~~ Organic Liquid to another ~~product~~ Organic Liquid that has different characteristics i.e. vapor pressure, viscosity, etc.*

This is a new definition to clarify the new rule language added in PAR 463 paragraph (e)(2) in response to stakeholder request.

- *VISIBLE VAPORS are any VOC vapors detected with an Optical Gas Imaging Device, when operated and maintained in accordance with manufacturer training or certification, or equivalent California Air Resources Board (CARB) training, user manuals, specifications, and recommendations.*

This is a definition from Rule 1178 that was modified to include the CARB OGI camera training as an approved training method for OGI camera operators. The definition was also modified to remove the reference to tank farm inspections and component inspections so that visible vapors can be identified outside of those two operations.

The following definitions were added or modified to be consistent with the definitions in South Coast AQMD Rule 1178:

- *ACCESS HATCH*
- *CERTIFIED PERSON*
- *CLEANING*
- ~~*COMPONENT INSPECTION*~~
- *DOMED ROOF*
- *EMISSION INVENTORY YEAR*
- *EXTERNAL FLOATING ROOF TANK*
- *FACILITY*
- *FIXED ROOF SUPPORT COLUMN AND WELL*
- *FIXED ROOF TANK*
- *FLEXIBLE ENCLOSURE SYSTEM*
- *FUEL GAS SYSTEM*
- *GAUGE FLOAT*
- *GAUGE HATCH/SAMPLE PORT*
- *GUIDEPOLE*
- *INTERNAL FLOATING ROOF TANK*
- *LADDER AND WELL*
- *LIQUID MOUNTED PRIMARY SEAL*
- *MECHANICAL SHOE PRIMARY SEAL*
- *OPTICAL GAS IMAGING DEVICE*
- *POLE FLOAT*
- *POLE SLEEVE*
- *POLE WIPER*
- *PRIMARY SEAL*
- *RESILIENT FILLED PRIMARY SEAL*
- *RIM MOUNTED SECONDARY SEAL*
- *RIM SEAL SYSTEM*

- *RIM VENT*
- *ROOF DRAIN*
- *ROOF LEG*
- *ROOF OPENING*
- *SECONDARY SEAL*
- *SLOTTED GUIDEPOLE*
- *STORAGE TANK or TANK*
- *TANK FARM INSPECTION*
- *TRUE VAPOR PRESSURE*
- *VACUUM BREAKER*
- *VISIBLE GAP*
- ~~*VISIBLE VAPORS*~~
- *WASTE STREAM TANK*

Subdivision (d) ─ Tank Roof Requirements
PAR 463 includes revisions to existing requirements and new requirements. PAR 463 establishes requirements for rim seal gaps, secondary seals, emission control systems, doming, testing, implementation and monitoring.

Primary and Secondary Seal Gap Requirements – Clause (d)(1)(A)(v)
New seal gap requirements for primary and secondary seals were added by reference to reflect seal gap requirements contained in U.S. EPA's 40 CFR 60 Subpart Kb. The new seal gap requirements are in addition to the existing seal gap requirements specified in clauses (d)(1)(A)(i) to (d)(1)(A)(iv). Seal gap requirements are contained under requirements for external floating roofs but apply to all floating roof tanks; requirements for other floating roof tanks refer to subparagraph (d)(1)(A).

Vapor Tight Requirements for Openings – Subparagraph (d)(1)(D)
New language was added to clarify that covers and openings must be controlled in a manner that is vapor tight. Vapor tight is a defined term in Rule 463. Domed external floating roof tanks also have requirements to be in a vapor tight condition, as subparagraph (d)(4)(A) refers to paragraph (d)(1).

Maintain Tanks Free of Visible Vapors for External Floating Roof Tanks – Subparagraph (d)(1)(G) (d)(2)(C), (d)(3)(D), and (d)(4)(C)
The proposed amended rule requires tanks to be free of visible vapors that could result from a defect determined by an optical gas imaging inspection conducted pursuant to the requirements of subparagraph (f)(3)(D). Defects can be anything that leads to uncontrolled emissions such as a physical malfunction, ~~or~~ a hatch improperly closed, or components not operating as intended. For example, visible vapors resulting from a pressure vacuum relief valve (PVRV) opening to relieve pressure build up is allowable. However, if that same PVRV does not re-seal properly after being opened then that is considered a defect. Requirements to maintain tanks free of visible vapors are contained under requirements for external floating roofs but applies to all tanks; requirements for other tanks refer to subparagraph (d)(1)(G).

Visible Vapor Cause Determination – Clause (d)(1)(G)(i)

If an OGI camera detects visible vapors and an owner or operator claims the vapors are not the result of a defect, then the owner or operator must demonstrate that the vapors in question are not the result of a defect. This provision is intended to put the onus on the owner or operator to prove their claim that visible vapors detected by an OGI camera is allowable by Rule 463 (e.g., PVRV opening to temporarily relieve pressure build up). Requirements for the owner or operator to demonstrate that visible vapors are not the result of a defect are contained under requirements for external floating roof tanks but applies to all tanks; requirements for other tanks refer to subparagraph (d)(1)(G), which includes clause (d)(1)(G)(i).

Doming Requirements – Subparagraph (d)(1)(H)

PAR 463 requires that facilities install a dome on any external floating roof tank storing organic liquid with a true vapor pressure of 3 psia or greater. The new provision reflects existing doming requirements in Rule 1178. External floating roof tanks that meet the requirements of subparagraph (d)(1)(H) must install domes at the next internal API 653 inspection or the next time a tank is cleaned and degassed, whichever is sooner, but not to exceed 23 years after a test verifies that an organic liquid stored has a TVP of 3 psia or greater. Internal API 653 inspections require the tank to be taken out of service to inspect the inside of the tank and are carried out every 20 years. Tanks need to be cleaned and degassed prior to the installation of a dome for safety concerns. Furthermore, doming is not cost-effective when cleaning and degassing costs are considered. The implementation timeframe for doming begins three years after [Date of Adoption] to account for planning and budgetary needs and the permitting process. It is the responsibility of the owner or operator to submit permit applications in a timely manner to ensure that permits can be issued prior to the implementation schedule specified in subparagraph (d)(1)(H). The backstop of 23 years for installing domes was calculated by adding the three year on-ramp period to the standard 20-year interval for internal API 653 inspections The effective date of this provision is June 7, 2027~~, to allow for planning and budgetary considerations~~.

True Vapor Pressure Measurements – Subparagraph (d)(1)(I)

Facilities are required to measure and record the true vapor pressure of the organic liquid inside any external floating roof tank not equipped with a dome with an initial vapor pressure test. Any tanks storing organic liquids with a TVP less than 3.0 psia are required to conduct subsequent test on a semi-annual basis (once every six months) to verify the true vapor pressure remains less than 3 psia. This requirement is effective on January 1, 2025, and the first test must be conducted by July 1, 2025. If an EFR tank shows a single test indicating the stored organic liquid has a TVP of ≥ 3.0 psia a dome must be installed pursuant to the implementation schedule in subparagraph (d)(1)(H) unless the tank is placed out of service and the permit is surrendered or if the owner or operator elected to conduct TVP tests according to the alternative schedule specified in clauses (d)(1)(I)(i). An EFR tank with permit conditions that limit the true vapor pressure of the organic liquid stored to < 3.0 psia is not exempt from the doming requirements, if the result from a test specified in subparagraph (d)(1)(I) or the average result from tests specified in clause (d)(1)(I)(i) is ≥ 3.0 psia, with the exception of EFR tanks storing waste water where the installation domes can lead to unsafe conditions pursuant to subparagraph (d)(1)(J). However, owners or operators of EFR tanks that are pursuing the alternative compliance pathway in subparagraph (d)(1)(J) may be subject to penalties and/or additional actions if TVP tests indicate that the product stored is ≥ 3.0 psia.

Alternative True Vapor Pressure Measurements – Clauses (d)(1)(I)(i)
An owner or operator can choose to conduct monthly TVP tests and submit an average TVP of the organic liquid stored in a tank every six months. If an owner or operator opts to use this alternative pathway, the owner or operator must commence testing in January 2025. Any owner or operator that fails to test monthly as of January 2025 must comply with the semi-annual TVP test requirements specified in subparagraph (d)(1)(I). If an EFR tank subject to the alternative TVP testing schedule has an average TVP over six months that is ≥ 3.0 psia, a dome must be installed pursuant to the implementation schedule in subparagraph (d)(1)(H) unless the tank is placed out of service and the permit is surrendered. The average test results are not to be calculated on a rolling average. Each calculated six month average will include the TVP test results from tests conducted from January-to-June and July-to-December each year.

Doming Alternative for Tanks with Pyrophoric Material – Subparagraph (d)(1)(J)
~~Facilities are required to accept permit conditions that limit the TVP of the product stored to less than 3.0 psia for tanks that meet the doming requirements in subparagraph (d)(1)(H), but the installation of a dome could lead to the buildup of pyrophoric materials.~~
For wastewater EFR tanks where the installation of a dome could lead to the buildup of pyrophoric materials, PAR 463 includes an option to accept permit conditions to limit the TVP of the organic liquid stored to less than 3 psia as an alternative to doming.

Removal of Alternative Compliance Pathway for Fixed Roof Tanks with an Internal Floating Type Cover from Paragraph (d)(2)
An alternative compliance pathway which allowed fixed roof tanks with an existing internal floating type of cover approved on or before June 1, 1984, to comply with requirements applicable at the time of approval was removed from subparagraph (d)(2)~~(A)~~. All fixed roof tanks with internal floating type covers will be required to comply with the provisions in PAR 463.

~~Secondary Seals~~ Seal Requirements for Internal Floating Roof Tanks – Subparagraph (d)(2)(A)
Internal floating roof tanks must be equipped with both a primary and secondary seal. Primary seal and secondary seal are defined terms in PAR 463. In response to a comment from a stakeholder, the mechanical shoe primary seal requirements for IFR tanks were updated to require that the shoe extend 6 inches above the liquid surface and the other end extend into the liquid a minimum of 4 inches. The proposed PAR 463 requirements align with Rule 1178 and are consistent with the API 650.H.4.4.5.c requirements. Rule 463 subparagraph (d)(1)(A) requires that mechanical shoe primary seals extend a minimum vertical distance of 24 inches above the surface of the organic liquid. Since the internal floating roofs are much lighter structures and are not subject to the effects of wind, larger mechanical shoe primary seals are not required for seal control effectiveness. Furthermore, maintaining the current requirement of larger mechanical shoe primary seals for all internal floating roof tanks could cause some roof systems to fail and could result in an adverse emission impact. During the 2006 Rule 1178 amendment process staff determined, based on information provided by seal manufacturers, that there is no difference in emissions as long as the mechanical shoe length meets the API Guidelines and the structural integrity of the roof is maintained.

~~Internal Floating Roof Tank Vapor Tight Requirements for Openings – Subparagraph (d)(2)(A)~~
~~The proposed amended rule clarifies that covers and openings must be controlled in a manner that is vapor tight. Vapor tight is a defined term in Rule 463.~~

~~Maintain Tanks Free of Visible Vapors for Internal Floating Roof Tanks – Subparagraph (d)(2)(C)~~
~~A provision is included that requires that tanks be free of visible vapors that could result from a defect determined by an optical gas imaging inspection conducted pursuant to the requirements of subparagraph (f)(3)(D). Defects can be anything that leads to uncontrolled emissions such as a physical malfunction or a hatch improperly closed.~~

Compliance Schedule to Install Secondary Seals on Internal Floating Roof Tanks – Subparagraph (d)(2)(D)
Any internal floating roof tanks not equipped with a secondary seal are required to have a secondary seal installed at the time of the next internal API 653 inspection or the next time the tank is cleaned and degassed, whichever is sooner, but no later than 22 years past the date of adoption for PAR 463. Internal API 653 inspections require the tank to be taken out of service to inspect the inside of the tank and are carried out every 20 years. Tanks need to be cleaned and degassed prior to the installation of secondary seals due to safety concerns. The implementation timeframe for installing secondary seals begins two years after [Date of Adoption] to account for planning and budgetary needs as well as the permitting process. It is the responsibility of the owner or operator to submit permit applications in a timely manner to ensure that permits can be issued prior to the implementation schedule specified in subparagraph (d)(2)(D). ~~the next time the tank is emptied and degassed, but no later than ten years past the date of adoption for PAR 463.~~

~~Fixed Roof Tank Vapor Tight Requirements for Openings – Subparagraph (d)(3)(A)~~
~~New language was added to clarify that covers and openings must be controlled in a manner that is vapor tight. Vapor tight is a defined term in PAR 463.~~

Emission Control Systems for Fixed Roof Tanks – Subparagraph (d)(3)(C)
Emission control systems required on fixed roof tanks must achieve 98% control efficiency by weight. The owner or operator is required to submit early Title V permit revisions pursuant to South Coast AQMD Rule 3005.

~~Maintain Tanks Free of Visible Vapors for Fixed Roof Tanks – Subparagraph (d)(3)(D)~~
~~New language was added that requires that tanks be free of visible vapors that could result from a defect determined by an optical gas imaging inspection conducted pursuant to the requirements of subparagraph (f)(3)(D). Defects can be anything that leads to uncontrolled emissions such as a physical malfunction or a hatch improperly closed.~~

Domed External Floating Roofs – Paragraph (d)(4)
Staff added a new paragraph to specify requirements for domed external floating roofs.

Roof Openings and Rim Seal Systems for Domed External Floating Roofs – Subparagraph (d)(4)(A)
Domed external floating roofs are subject to the same requirements as external floating roofs to equip and maintain roof openings and rim seal systems, with the exception of

slotted guidepoles. Specific requirements for the components needed for slotted guidepoles are specified in subparagraph (d)(4)(A).

Concentration of Organic Vapor for Domed External Floating Roofs – Subparagraph (d)(4)(B)
Subparagraph (d)(4)(B) is based on the requirements in subparagraph (d)(2)(B) to ensure that the concentration of organic vapor in the vapor space above the floating roof does not exceed 30 percent of its lower explosive limit.

~~Maintain Tanks Free of Visible Vapors for Domed External Floating Roofs – Subparagraph (d)(4)(C)~~
~~Subparagraph (d)(4)(C) requires that tanks be free of visible vapors that could result from a defect determined by an optical gas imaging inspection conducted pursuant to the requirements of paragraph (f)(3)(D). Defects can be anything that leads to uncontrolled emissions such as a physical malfunction or a hatch improperly closed.~~

Condition Requirements for Domed Roof – Subparagraph (d)(4)(D)
Subparagraph (d)(4)(D) mirrors Rule 1178 and specifies that domes must be maintained in a condition that is free from openings that are not part of the dome design such as gaps, cracks, separations and other openings. This requirement excludes openings that are part of the dome design such as vents and access points or doors.

Subdivision (e) ─ Other Performance Requirements

Exceptions for Floating Roof During Product Change – Paragraph (e)(2)
The proposed amended rule includes product change as an activity in which an internal floating roof or external floating roof does not need to float on the organic liquid. Product change is a defined term in PAR 463. Staff updated the rule language in response to a stakeholder request. The proposed amended rule language clarifies the intent of existing rule language as tanks must be emptied during a product change, which requires floating roofs to rest on support legs (unless the roof is cable suspended).

Executive Officer Approval of Alternative Seals – Paragraph (e)(5)
Seals that are not on the current list of approved seals cannot be used unless a facility is given written approval by the Executive Officer.

Use of PAR 463 Addendum for Vapor Pressure Limits – Paragraph (e)(6)
Organic liquids listed on the Rule 463 addendum can no longer be deemed to be in compliance. The addendum can be used as a guide for compliance with the appropriate vapor pressure limits.

Subdivision (f) ─ Monitoring Requirements

Tank Roof Refloating Seal Inspections ─ Subparagraph (f)(3)(B)
~~The proposed amended rule~~ PAR 463 extends the time to conduct required seal inspections on floating roofs to 48 hours after a tank roof is refloated. A stakeholder stated that tank refilling at their facility can take up to 48 hours to complete. Under the current rule requirements, facilities are required to conduct seal inspections within 24 hours. Therefore, facilities with tank refilling operations longer than 24 hours are required to conduct seal

inspections before the tank refilling is complete; once the seal inspection is completed the facility resumes tank refilling operations. The pause in operations can lead to unintended excess auxiliary emissions. For example, if a vessel is used to refill a large tank that takes more than 24 hours to complete, the process must pause for the inspection to occur and then continue. During this pause the vessel is on standby, generating emissions. The extended seal inspection deadline accounts for longer refill operations while maintaining a deadline for seal inspections.

Electronic Notifications – Subparagraph (f)(3)(C)
The proposed amended rule specifies electronic notifications to the email address designated by the Executive Officer. The timeframe to submit notifications was also shortened to 2 days prior to the start of any tank-emptying or roof-refloating operation for planned maintenance. Electronic notifications are almost instantaneous which reduces the need for a longer notification timeframe.

Optical Gas Imaging Inspections – Subparagraph (f)(3)(D)
Effective July 1, 2025, optical gas imaging inspections are required for tanks that meet the capacity and vapor pressure requirements specified in subdivision (d) and paragraph (e)(1) to determine compliance with the requirement for tanks to be maintained in a condition that is free of visible vapors resulting from a defect or malfunction of equipment. This subparagraph contains the requirements for OGI inspections.

Certification/Training of Person Conducting OGI Inspection – Clause (f)(3)(D)(i)
Contains requirements for qualification for the persons conducting an OGI inspection. Persons conducting the OGI inspection must be certified or have undergone training for the camera used provided by the manufacturer of the OGI camera or the equivalent CARB training. The persons conducting the inspections must also complete all subsequent training or certification recommended by the OGI manufacturer. This paragraph also contains requirements for proper operation and maintenance of the OGI device. The OGI camera must be operated and maintained in accordance with all manufacturer guidance including but not limited to that stated in any training or certification course, user manuals, specifications, recommendations.

Tank Farm Inspection Requirements – Clause (f)(3)(D)(ii)
Contains requirements for tank farm inspections.

Frequency (Tank Farm Inspection) – Subclause (f)(3)(D)(ii)(A)
Inspections must be conducted at least once every two calendar weeks.

Procedure (Tank Farm Inspection) – Subclause (f)(3)(D)(ii)(B)
A person using an OGI devicen ~~inspector~~ is required to monitor for visible vapors with a tank farm inspection, as defined in PAR 463. If visible vapors are detected during a tank farm inspection, a~~n inspector~~ person must conduct an additional inspection from the tank's platform, or a vantage point for tanks without a platform, to make an effort to determine the source of emissions. From the platform or vintage point, a~~n inspector~~ person will use an OGI device to inspect components required to be maintained in a vapor tight condition or with no visible gaps~~, viewable from the tank platform~~. If visible vapors are detected from any components that are required to be maintained in a vapor tight condition or in a condition with no visible gaps, the facility must demonstrate compliance with applicable

rule requirements for any component from which visible vapors are emitted or make a repair, within three days of identifying the visible vapors. If visible vapors are detected from the roof or other components not required to be vapor tight or with no visible gaps, the ~~inspector~~ person must conduct a visual inspection to identify any defects in equipment from which visible vapors are emitted. Defects may include, but are not limited to, equipment that is not operating as intended, equipment not found in good operating condition, equipment not meeting all the requirements of Rule 463~~the rule~~, or other indicators that equipment has failed (e.g., organic liquid pooled on a floating roof). The visual inspection for defects may include the use of an OGI device. If no defects are identified, no further action is required for the inspection. If a defect is identified, a repair must be made within three days.

Component Inspections – Clause (f)(3)(D)(iii)
Contains requirements for component inspections. Component inspection~~s~~ is a defined term in PAR 463.~~include monitoring of individual components including, but not limited to rim seals, pressure-vacuum vents, hatches, guidepoles, roof legs, emission control system connections and vents.~~

Frequency (Component Inspection) – Subclause (f)(3)(D)(iii)(A)
Inspections must be conducted at least twice per year at 4 to 8 month ~~intervals~~~~once every six months~~ for floating roof tanks. The component inspection frequency mirrors the timeframe specified in Rule 463 for other required semi-annual inspections, so that component inspections may be conducted at the same time. ~~Component inspections may be conducted during other required semi-annual inspections.~~

Procedure (Component Inspection) – Subclauses (f)(3)(D)(iii)(B)-(C)
Repairs or demonstration with applicable rule requirements must be conducted when visible vapors are detected from any component or equipment, except for rim seal systems. Repairs or demonstrations with rim seal requirements must be conducted when a defect is visible from the tank platform, or a vantage point for tanks without a platform, and when visible vapors are emitted from the rim seal and are also detectable at the top of the tank shell or from roof vent.

Alternative Monitoring Method – Subparagraph (f)(3)(E)
An owner or operator my elect to use an alternative monitoring method approved in writing by the U.S. EPA that is equivalent or more stringent than the OGI inspection requirements specified in PAR 463. Alternative monitoring methods submitted to U.S. EPA for approval, but that have not received written approval from U.S. EPA, do not qualify as an approved alternative method in lieu of required OGI inspections. An owner or operator is required to submit written documentation of the U.S. EPA approved method to the South Coast AQMD, so staff can verify that the method is approved by U.S. EPA prior to the alternative monitoring method being implemented. Until the approved monitoring method is approved by South Coast AQMD, an owner or operator is subject to the OGI inspection requirements in PAR 463.

Performance Tests for Vapor Recovery Systems – Paragraph (f)(5)
An owner or operator of an existing vapor recovery system must conduct an initial performance test to verify compliance with the new control efficiency within one year of the date of adoption of PAR 463. Additional performance tests must be conducted for all

vapor recovery systems at a frequency of least once every ten years. If a vapor recovery system is changed in any way that affects the capture or control efficiency, a performance test must be conducted within 180 days of the equipment modification. For example, changing the temperature in which a combustion based vapor recovery unit achieves ignition may lead to a change in the achieved control efficiency. Under the described scenario, a performance test would need to be conducted within 180 days of the vapor recovery system modification to verify compliance with the control efficiency requirements. Fuel gas systems operating to comply with the requirements in subparagraph (d)(3)(C) are not required to conduct performance tests.

Subdivision (g) ─ Reporting and Recordkeeping Requirements

Electronic Compliance Inspection Report Option – Subparagraph (g)(1)(A)
Paragraph (g)(A) was updated to allow for an electronic compliance inspection report, provided that all information required in Attachment B is included.

Electronic Option for Non-Compliance Report – Subparagraph (g)(1)(C)
Paragraph (g)(C) was updated to specify that a non-compliance report is required to be submitted electronically to the email address designated by the Executive Officer.

Emissions Reporting – Subparagraph (g)(2)(A)
U.S. EPA TANKS 4.0 was removed as an option to base emission information parameters on for South Coast AQMD's Annual Emission Reporting Program. U.S. EPA TANKS 4.0 was developed using a software that is now outdated and is not reliably functional. U.S. EPA currently recommends the use of formulas found in AP-42: Compilation of Air Pollutant Emissions Factors from Stationary Sources (AP-42), Chapter 7 to estimate VOC emissions from storage tanks. Currently the U.S. EPA is developing Tanks 5.0 as a replacement for the outdated Tanks 4.0. Pending U.S. EPA approval, Tanks 5.0 would be an acceptable tool to calculate emissions, for as long as U.S. EPA deems Tanks 5.0 to be an appropriate tool to estimate VOC emissions.

Reporting and Recordkeeping Requirements for OGI Inspections – Paragraph (g)(4)
Contains notification and recordkeeping requirements for OGI inspections.

Reporting for OGI Inspections – Subparagraph (g)(4)(A)
Contains reporting requirements for tank farm inspections. Facilities must report to 1-800-CUTSMOG when visible vapors are detected during a tank farm inspection that require a demonstration with rule requirements or a repair pursuant to the requirements of subclause (f)(3)(D)(ii)(B) within 24 hours of identifying the visible vapors.

Records for Tank Farm Inspections – Subparagraph (g)(4)(B)
Contains recordkeeping requirements for tank farm inspections. Written and digital records must be kept for findings of visible vapors resulting from a defect in equipment or from components required to be vapor tight or with no visible gap.

Records for Component Inspections – Subparagraph (g)(4)(C)
Contains recordkeeping requirements for component inspections.

Recordkeeping and Reporting TVP Test Results – Paragraphs (g)(5) and (g)(6)
Contains recordkeeping and reporting requirements for the TVP tests required for EFR tanks. Test results must be kept for 20 years to confirm tanks are under the doming TVP thresholds. Any test that indicates a TVP of 3.0 psia or greater must be reported to the South Coast AQMD and contain the year of the next internal API 653 inspection and the next planned time a tank is to be cleaned and degassed to aid in determining compliance with the dome installation schedule. ~~to aid in determining compliance with the dome installation schedule.~~

Reporting for VRU Performance Tests – Paragraphs (g)(7)
Contains reporting requirements for VRU performance tests. Facilities must submit reports of any performance tests within 60 days of conducting the test.

Subdivision (h) ─ Exemptions

Exemption for Tanks Regulated by Rule 1178 – Paragraph (h)(3)
An exemption from the provisions of Rule 463 for tanks regulated by Rule 1178, with the exception of other performance requirements, ~~and~~ seal categories, and the definition for Product Change, was added to PAR 463. The new exemption increases clarity of compliance requirements for affected facilities subject to Rules 463 and 1178.

Exemption from OGI Inspections – Paragraph (h)(4)
Any tank that is out of service and complying with the requirements of Rule 1149 is exempt from OGI inspections. OGI inspections must resume once the tank is refilled and the initial inspection must be carried out within 14 days of the date the tank is filled.

Exemption from OGI Inspections Due to Safety– Paragraph (h)(5)
If a facility or person responsible for conducting an OGI inspection at a facility determines that it is unsafe to climb a tank due to safety concerns such as wind or slippery surfaces from rain, the facility is not required to conduct an inspection from the tank platform, or other vantage point for tanks without a platform. A ~~platform~~ component inspection for tanks that were identified as having visible vapors during a tank farm inspection must be conducted the first day the facility or person responsible for conducting the OGI inspection determines it safe to do so. An owner or operator is required to document the date that a required inspection was not completed and the reason.

Subdivision (i) ─ Test Methods

Additional Vapor Pressure Test Methods – Paragraph (i)(3)
Contains the approved test methods to verify compliance with the Rule 463 requirements. New test methods were added to expand the test options used to determine the Reid Vapor Pressure of organic liquids. The new test methods include ASTM – 6377 and ASTM –6378 which provide updated testing procedures for crude oils and heavier petroleum products, respectively. Additional changes include the removal of references to specific editions of U.S. EPA AP-42 and updates to include the verification of the new vapor tight requirements.

Removal of Reference to AP-42 Fifth Edition – Paragraph (i)(5)
A reference to the fifth edition of U.S. EPA AP-42 was removed, as future versions of AP-42 may be published. Removing the reference to the specific edition will reduce the need for future Rule 463 amendments.

Verification of Vapor Tight – Paragraph (i)(6)
Contains the methods used to determine the vapor tight condition for storage tanks.

Subdivision (j) ─ Ozone Contingency Measure
The proposed amendments add the required ozone contingency measures to the rule. These contingency measures would only be implemented in the event that the U.S. EPA determines that the South Coast AQMD had failed to meet an RFP milestone or to attain an ozone NAAQS. These contingency control measures are necessary as part of comprehensive efforts to timely attain ozone standards.

CHAPTER 2

ENVIRONMENTAL CHECKLIST

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's potential adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	PAR 463 – Organic Liquid Storage
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
CEQA Contact Person:	Jivar Afshar, (909) 396-2040, jafshar@aqmd.gov
PAR 463 Contact Person:	Joshua Ewell, (909) 396-2212, jewell@aqmd.gov
Project Sponsor's Name:	South Coast Air Quality Management District
Project Sponsor's Address:	21865 Copley Drive Diamond Bar, CA 91765
General Plan Designation:	Not applicable
Zoning:	Not applicable
Description of Project:	Rule 463 limits VOC emissions from any stationary storage tank with a potential for VOC emissions of six tons per year or greater used in crude oil and natural gas production operations, above-ground stationary tanks with a capacity of 19,815 gallons or greater used to store organic liquids, and above-ground tanks with a capacity between 251 and 19,815 gallons used to store gasoline. PAR 463 establishes requirements for: 1) conducting inspections, including but not limited to optical gas imaging tank farm inspections every other calendar week; 2) installing domes on external floating roof tanks storing organic liquids with a true vapor pressure of 3.0 psia or greater; 3) installing secondary seals on all floating roof tanks; 4) increasing the efficiency of emission control systems; 5) more stringent seal gap allowances; and 6) conducting monitoring, maintenance, recordkeeping, and reporting activities. PAR 463 will affect 429 facilities including refineries, bulk storage, loading, and oil production facilities, and is estimated to reduce VOC emissions by ~~0.43~~1.65 ton per day.
Surrounding Land Uses and Setting:	Various
Other Public Agencies Whose Approval is Required:	Not applicable

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with an "✓"involve at least one impact that is a "Potentially Significant Impact". An explanation relative to the determination of impacts can be found following the checklist for each area.

☐ Aesthetics	☐ Geology and Soils	☐ Population and Housing
☐ Agriculture and Forestry Resources	☐ Hazards and Hazardous Materials	☐ Public Services
☐ Air Quality and Greenhouse Gas Emissions	☐ Hydrology and Water Quality	☐ Recreation
☐ Biological Resources	☐ Land Use and Planning	☐ Solid and Hazardous Waste
☐ Cultural and Tribal Cultural Resources	☐ Mineral Resources	☐ Transportation
☐ Energy	☐ Noise	☐ Wildfire
☐ Mandatory Findings of Significance		

DETERMINATION

On the basis of this initial evaluation:

☑ I find the proposed project, in accordance with those findings made pursuant to CEQA Guidelines Section 15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts has been prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.

☐ I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.

☐ I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect: 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards; and, 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects: 1) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards; and, 2) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: March 26, 2024 **Signature:** 

Kevin Ni
Program Supervisor, CEQA
Planning, Rule Development and Implementation

ENVIRONMENTAL CHECKLIST AND DISCUSSION

As explained in Chapter 1, PAR 463 limits VOC emissions from above-ground stationary tanks with a capacity of 19,815 gallons or greater used to store organic liquids, above-ground tanks with a capacity between 251 and 19,815 gallons used to store gasoline, and any stationary storage tank with a potential for VOC emissions of six tons per year or greater used in crude oil and natural gas production operations. PAR 463 establishes requirements for: 1) conducting inspections, including but not limited to optical gas imaging tank farm inspections every other calendar week; 2) installing domes on EFR tanks storing organic liquids with a true vapor pressure of 3.0 psia or greater; 3) installing secondary seals on all floating roof tanks; 4) increasing the efficiency of emission control systems; 5) more stringent seal gap allowances; and 6) conducting monitoring, maintenance, recordkeeping, and reporting activities.

Of the proposed changes in PAR 463, only the installation of domes on some EFR tanks and the installation of secondary roof seals on some IFR tanks are expected to require physical modifications involving construction and these activities could create secondary adverse environmental impacts. Construction from doming EFR tanks involves assembling the dome, lifting it, and installing the dome; while installing secondary roof seals on IFR tanks is a one-step process. These activities create the potential for secondary adverse environmental impacts due to construction.

PAR 463 provides long time frames for when domes are required to be installed on applicable storage tanks in accordance with subparagraph (d)(1)(H), as follows: all applicable storage tanks at the time of the next internal API 653 inspection or the next time the tank is ~~emptied~~ cleaned and degassed, but no later than 23 years after a true vapor pressure test indicates the organic liquid stored is ≥ 3.0 psia. The effective date of this provision is June 7, 2027, to allow time for planning and budgetary considerations. In addition, construction activities associated with installing domes are expected to occur concurrently in situations when requirements other than PAR 463 necessitate ~~emptying~~ cleaning and degassing the tank. For example, PAR 463 subparagraph (d)(2)(D) specifies that the timing of construction should be coordinated and coincide with when the storage tank is next ~~emptied~~ cleaned and degassed when installing secondary roof seals on IFR tanks. For these reasons, storage tank ~~emptying~~ cleaning and degassing activities are not considered unique to PAR 463 and as such, the environmental impacts from these activities are excluded from the analysis. In addition, no grading or site preparation activities are required for installing domes. Thus, this construction analysis focuses on impacts from the combined efforts associated with: 1) doming EFR tanks which involves assembling the dome, lifting it, and installing the dome; and 2) installing secondary roof seals on IFR tanks as a one-step process.

Once the domes and secondary roof seals are installed, no changes in process operations involving these storage tanks are expected to occur. Therefore, other than VOC emission reductions, which are an environmental benefit to air quality, no adverse operational impacts are expected.

Other components of PAR 463, such as requirements for conducting biweekly optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions would not be expected to cause any physical changes that would create any secondary adverse environmental impacts either during construction or operation.

For these reasons, the analysis in this EA focuses on the key elements in the proposed project with the potential to create secondary adverse environmental impacts associated with doming approximately 20 EFR tanks and installing secondary seals on 22 IFR tanks.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
I.	**AESTHETICS.** Would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☑	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☑	☐
c)	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point(s).) If the project is in an urbanized area, would the project conflict with applicable zoning or other regulations governing scenic quality?	☐	☐	☑	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☑	☐

Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

- The project will block public views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of public views of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

I. a), b), & c) Less Than Significant Impact. For the purpose of determining significance under CEQA, a scenic vista is generally considered a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Some scenic vistas are officially designated

by public agencies, or informally designated by tourist guides. Vistas provide visual access or panoramic views to a large geographic area and are generally located at a point where surrounding views are greater than one mile away. Panoramic views are usually associated with vantage points over a section of urban or natural areas that provide a geographic orientation not commonly available. Examples of panoramic views might include an urban skyline, valley, mountain range, a large open space area, the ocean, or other water bodies. A substantial adverse effect to a scenic vista is one that degrades the view from such a designated view spot.

A scenic highway is generally considered a stretch of public roadway that is designated as a scenic corridor by a federal, state, or local agency. Caltrans defines a scenic highway as any freeway, highway, road, or other public right of way, that traverses an area of exceptional scenic quality.

Physical modifications associated with the proposed project are limited to doming EFR tanks and installing secondary roof seals on IFR tanks at existing facilities. The construction equipment is expected to be at the height of or just above the existing storage tanks and not substantially visible to the surrounding area due to construction occurring within each existing facility's property line, existing fencing along property lines, and existing structures currently within each facility's boundaries that may buffer the views of the construction activities.

Since the affected facilities are located in existing industrial areas, the construction equipment is not expected to be substantially discernable from other off-road equipment that exists on-site for routine operations and maintenance activities. Further, the construction activities are not expected to adversely impact views and aesthetics resources since most of the construction equipment and activities are expected to occur within the confines of each existing facility and are expected to introduce only minor visual changes to areas outside each facility, if at all, depending on the location of the construction activities within each affected facility. In addition, the construction activities are expected to be temporary in nature. Once construction is completed, all construction equipment would be removed from each facility.

Since all of the affected facilities are located in urbanized areas, any changes to the buildings or structures would require approvals from the local city or county planning departments. It is important to note that the affected facilities are located throughout the South Coast AQMD jurisdiction. Counties are mandated by the state of California to prepare a general plan containing an aesthetics element. None of the anticipated physical activities associated with implementing PAR 463 are intended to interfere or be inconsistent with the local planning department aesthetics requirements in their general plans. Physical activities resulting from the proposed project are not expected to take place in nor have a substantial adverse effect on a scenic vista or scenic highway indicated in the Los Angeles County General Plan 2035[5], Orange County General Plan[6], Riverside County General Plan[7], or San Bernardino Countywide Plan[8]. None of the affected facilities are expected to be located within the views of a scenic vista or state scenic highway as designated by

[5] Los Angeles County, General Plan 2035, Chapter 9 Section VII, Updated July 14, 2022. https://planning.lacounty.gov/wp-content/uploads/2022/11/9.0_gp_final-general-plan-ch9.pdf.

[6] Orange County, General Plan, Chapter IV Scenic Highway Plan Map, Accessed on March 21, 2024. https://ocds.ocpublicworks.com/sites/ocpwocds/files/import/data/files/8588.pdf

[7] Riverside County, General Plan – December 2015, Chapter 4 Circulation Element, Figure C-8 Scenic Highways, December 2015. https://planning.rctlma.org/sites/g/files/aldnop416/files/migrated/Portals-14-genplan-general-plan-2016-elements-Ch04-Circulation-120815.pdf

[8] San Bernardino County, Countywide Plan, Policy Plan - NR-3 Scenic Routes & Highways, Created October 27, 2020. https://countywideplan.com/wp-content/uploads/sites/68/2021/02/NR-3-Scenic-Routes-Highways-201027.pdf

the California Department of Transportation (CalTrans).[9] Therefore, PAR 463 would not be expected to conflict with applicable zoning or other regulations governing scenic quality.

The existing storage tanks that will be domed range in height from 15 feet to 65 feet and diameter from 15 feet to 299 feet. For context, the size of these storage tanks can be compared to a building that is from two to seven floors or stories in height.

Domes for these existing storage tanks are typically designed with a maximum radius equal to 1.2 times the tank diameter with a minimum of 0.7 times the tank diameter; the ratio of dome height to tank diameter is about 1:6.[10] For example, the largest of the affected storage tanks that would need a dome is 63-feet in height with a diameter of 299 feet and the new dome would be one-sixth of the diameter, or 49.8 feet which is equivalent to adding about five floors or stories in a building. After doming, the total height would be approximately 113 feet.

In conclusion, the visual character of the landscape at affected facilities is already predominantly defined by the existing storage tanks themselves, and at a height that already obstructs the surrounding views, depending on the observer's location, regardless of whether the storage tanks are located at or near the coast or coastal sightlines or more inland. Further, the installation of domes is expected to blend in with the current industrial aesthetic profile of existing domed storage tanks at affected facilities.

The requirements in PAR 463 specific to conducting monitoring and inspections would involve low-profile activities, if at all, that would be expected to blend in with routine day-to-day operations occurring within the fence line of each affected facility. Therefore, monitoring and inspections would not be expected to cause any discernable aesthetic impacts visible to outside the property lines of each facility.

Based on the preceding analysis, implementation of the proposed project would have less than significant impacts on scenic vistas and would not be expected to substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. In addition, PAR 463 would not be expected to substantially degrade the existing visual character or quality of public views of the affects sites and their surroundings. Finally, PAR 463 would not be expected to conflict with applicable zoning or other regulations governing scenic quality.

I. d) Less Than Significant Impact. PAR 463 does not include any components that would require construction activities to occur at night. Further, cities often have their own limitations and prohibitions that restrict construction from occurring during evening hours and weekends. Therefore, no additional temporary construction lighting at the facility would be expected. However, if facility operators determine that the construction schedule requires nighttime activities, temporary lighting may be required. Nonetheless, since construction activities would be completely located within the boundaries of each affected facility, additional temporary lighting is not expected to be discernable from the existing permanent night lighting.

[9] Caltrans, Officially Designated County Scenic Highways. Accessed on March 22, 2024. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways

[10] Maxwell Continental Tank Serv Engineering, https://maxwelltanks.com/domed-floating-roof-tank/alu-geodesic-dome-roofs/, accessed on March 22, 2024.

The existing buildings at the affected facilities are currently illuminated at night for safety and security purposes, and the lighting typically faces toward the interior of each facility's property so that they point downward or parallel to the ground, which has the effect of limiting the amount of lighting to what is needed to adequately illuminate the specific locations. While minimal, additional permanent light sources could potentially be installed at or near the installation of new domes, PAR 463 does not specifically require new lighting to be installed. Thus, any new lighting, if installed, would likely be consistent in intensity and type with the existing lighting on equipment and other structures at the existing facilities and directed to minimize potential lighting impacts on areas outside the property lines. These practices are followed to avoid or minimize potential lighting impacts on areas outside each facility's property. Since the anticipated modifications would occur within the boundaries of each facility's property, no new areas are expected to be illuminated off-site by permanent additional lighting, in the event any new lighting is installed.

While any new aluminum dome could create an initial glare initially, the dome's aluminum panels will gradually oxidize such that the initial glare will dull naturally over the course of three to 12 months, or sooner at facilities located within industrial areas or by the ocean. In addition, to more quickly alleviate or eliminate the glare, dome panels can also be painted or sandblasted to dull the finish.

As described earlier in the discussion for questions 1a), b), and c), the existing storage tanks are at a very tall height (e.g., ranging from 15 feet to 65 feet) and the installation of a dome would increase the total overall height by about 2.5 feet to 50 feet, depending on the tank diameter. As such, the installation of aluminum domes will mainly reflect up towards the sky except for certain angles and at certain times of the day as the sun moves across the sky. The degree of reflection will fade over time as the aluminum oxidizes. In any case, construction to install domes, whether painted, unpainted or sanded, on the affected storage tanks will be subject to local planning department aesthetics requirements to avoid any conflict with a city or county general plan's aesthetics element. PAR 463 does not contain requirements or restrictions relative to the surface features of the dome. Further, all facility owners have other existing storage tanks that are domed and prior experience and understanding of what the local planning departments and any other agencies that may have oversight have required previously and if any glare reduction actions may be needed on any new domes that are installed at the individual site. As such, facility owners will need to work with contractors and coordinate with the local planning agency when designing each dome to determine the appropriate course of action for how to employ glare minimization features on the domes, if needed.

For these reasons, the proposed project would not create a new source of substantial light or glare at any of the affected facilities in a manner that would significantly adversely affect day or nighttime views in the surrounding areas.

Conclusion

Based upon these considerations, less than significant adverse aesthetics impacts are expected from implementing the proposed project. Since no significant aesthetics impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
II.	**AGRICULTURE AND FORESTRY RESOURCES.** Would the project:				
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?	☐	☐	☐	☑
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☑
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑
e)	Involve other changes in the existing environment which, due to their location or nature, could result in the conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☑

Significance Criteria

Project-related impacts on agriculture and forest resources will be considered significant if any of the following conditions are met:

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project conflicts with existing zoning for, or causes rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined in Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).

- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

Discussion
PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

II. a), b), c), d), & e) No Impact. Pursuant to the California Land Conservation Act of 1965, a Williamson Act Contract enables private landowners to voluntarily enter into contracts with local governments for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive lower property tax assessments based upon farming and open space uses as opposed to full market value.

The affected facilities and their immediately surrounding areas are not located on or near areas zoned for agricultural use, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Department of Conservation.[11] Therefore, the proposed project would not result in any construction of new buildings or other structures that would require converting farmland to non-agricultural use or conflict with zoning for agriculture use or a Williamson Act contract. The construction and operation activities would be expected to occur within the confines of existing industrial facilities; thus, the proposed project is not expected to result in converting farmland to non-agricultural use; conflict with existing zoning for agricultural use, or a Williamson Act Control.

All of the facilities are located in industrial use areas in the urban portion of South Coast AQMD's jurisdiction and, as such, are not near forest land. Therefore, the proposed project is not expected to conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)) or result in the loss of forest land or conversion of forest land to non-forest use. Consequently, the proposed project would not create any significant adverse agriculture or forestry impacts.

Conclusion
Based upon these considerations, significant adverse agriculture and forestry resources impacts are not expected from implementing the proposed project. Since no significant agriculture and forestry resources impacts were identified, no mitigation measures are necessary or required.

[11] California Department of Conservation, California Important Farmland Finder, Accessed March 2024. https://maps.conservation.ca.gov/DLRP/CIFF/

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☑
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☑	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
d) Create objectionable odors affecting a substantial number of people?	☐	☐	☑	☐
e) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☑	☐
f) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☑	☐
g) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☑	☐

Significance Criteria

To determine whether or not air quality and greenhouse gas impacts from implementing the proposed project are significant, impacts will be evaluated and compared to the criteria in Table 2-1. The proposed project will be considered to have significant adverse impacts if any one of the thresholds in Table 2-1 are equaled or exceeded.

Table 2-1

South Coast AQMD Air Quality Significance Thresholds

Mass Daily Thresholds [a]		
Pollutant	**Construction**	**Operation**
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to South Coast AQMD Rule 402	
GHG	10,000 MT/yr CO_2eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants [b]		
NO_2 1-hour average annual arithmetic mean	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM_{10} 24-hour average annual average	10.4 μg/m^3 (construction)[c] & 2.5 μg/m^3 (operation) 1.0 μg/m^3	
$PM_{2.5}$ 24-hour average	10.4 μg/m^3 (construction)[c] & 2.5 μg/m^3 (operation)	
SO_2 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 μg/m^3 (state)	
CO 1-hour average 8-hour average	South Coast AQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day Average Rolling 3-month average	1.5 μg/m^3 (state) 0.15 μg/m^3 (federal)	

[a] Source: South Coast AQMD CEQA Handbook (South Coast AQMD, 1993)
[b] Ambient air quality thresholds for criteria pollutants based on South Coast AQMD Rule 1303, Table A-2 unless otherwise stated.
[c] Ambient air quality threshold based on South Coast AQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million μg/m^3 = microgram per cubic meter ≥ = greater than or equal to
MT/yr CO_2eq = metric tons per year of CO_2 equivalents > = greater than

Revision: March 2023

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

III. a) No Impact. The South Coast AQMD is required by law to prepare a comprehensive district-wide AQMP which includes strategies (e.g., control measures) to reduce emission levels to achieve and maintain state and federal ambient air quality standards, and to ensure that new sources of emissions are planned and operated to be consistent with the South Coast AQMD's air quality goals. The AQMP's air pollution reduction strategies include control measures which target stationary, area, mobile, and indirect sources. These control measures are based on feasible methods of attaining ambient air quality standards. Pursuant to the provisions of both the state and federal Clean Air Acts, the South Coast AQMD is also required to attain the state and federal ambient air quality standards for all criteria pollutants.

The most recent regional blueprints for how the South Coast AQMD will achieve air quality standards and healthful air are outlined in the 2022 AQMP[12] which contains multiple goals of promoting reductions of criteria air pollutants, greenhouse gases, and toxics. In particular, the 2022 AQMP contains Control Measure FUG-01– Improved Leak Detection and Repair (LDAR), which explores the potential for newer leak detection technologies to improve current LDAR requirements thereby reducing emissions of VOC from fugitive leaks from process and storage equipment from a variety of sources including, but not limited to, oil and gas production, petroleum refining, storage and transfer, etc.

The proposed project is not expected to obstruct or conflict with the implementation of the 2022 AQMP because minimizing VOC emissions from implementing the proposed project is in accordance with the emission reduction goals in the 2022 AQMP, and in particular, Control Measure FUG-01. Thus, implementing the proposed project would not conflict with or obstruct implementation of the applicable air quality plan.

III. b) and e) Less Than Significant Impact. While the proposed project is designed to reduce fugitive VOC emissions from aboveground storage tanks, secondary air quality impacts are expected due to PAR 463 physical activities that would occur from its implementation, in particular from the assembly and installation of domes on EFR tanks, and the installation of secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse air quality impacts. Because the proposed project will not affect operation, no secondary adverse

[12] South Coast AQMD, Final 2022 Air Quality Management Plan, December 2022. http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan

impacts to air quality or greenhouse gases are expected from operation. Thus, the analysis in this EA only examines the potential adverse air quality impacts from construction activities.

Construction Impacts

PAR 463 provides long time frames for when domes are required to be installed on applicable storage tanks in accordance with subparagraph (d)(1)(H), as follows: all applicable storage tanks after being ~~emptied~~ cleaned or degassed but no later than 20 years after a true vapor pressure test indicates the organic liquid stored is ≥ 3.0 psia. The effective date of this provision is June 7, 2027, to allow for planning and budgetary considerations. In addition, construction activities associated with installing domes are expected to occur concurrently in situations when requirements other than PAR 463 necessitate emptying ~~cleaning~~ and degassing the tank. For example, PAR 463 subparagraph (d)(2)(D) specifies that the timing of construction should be coordinated and coincide with when the storage tank is next ~~emptied~~ cleaned or degassed when installing secondary roof seals on IFR tanks. For these reasons, storage tank cleaning ~~emptying~~ and degassing activities are not considered unique to PAR 463 and as such, the environmental impacts from these activities are excluded from the analysis of construction activities. In addition, no grading or site preparation activities are required for constructing domes. Thus, this construction analysis focuses on impacts from the combined efforts associated with: 1) doming EFR tanks which involves assembling the dome, lifting it, and installing the dome; and 2) installing secondary roof seals on IFR tanks as a one-step process.

Because of the long timeframe (e.g., up to 20 years) allowing facility operators to comply with PAR 463 and because of varying tank ages combined with the fact that only 20 tanks will need to be domed and 22 tanks will need secondary roof seals, as a practical matter, it is unlikely that construction will occur on more than one tank at a time at an affected facility, or that a large number of facilities will concurrently be under construction on the same day. However, since multiple facilities have both EFR and IFR tanks that would be subject to the requirements in PAR 463 and which may need to be domed and/or have secondary roof seals installed, this analysis considers a worst-case scenario and assumes that five EFR tanks would be domed and 11 IFR tanks would have secondary roof seals installed on a peak day.

Because the nature of the physical modifications that may occur if PAR 463 is implemented is similar to physical modifications analyzed for the September 2023 amendment to Rule 1178, the following construction analysis incorporates information from the September 2023 Final Environmental Assessment (EA) for Rule 1178.[13] While the largest tank analyzed in the September 2023 Final EA for Rule 1178 had a diameter of 260 feet, the largest tank in the PAR 463 universe of equipment is somewhat larger at 299 feet in diameter. Nonetheless, the construction process for PAR 463, including the construction equipment used and timeframes, is expected to be the same or similar to what was analyzed in the September 2023 Final EA for Rule 1178.

The following bullets summarize the assumptions relied upon for the construction analysis:

Doming an External Floating Roof Tank

- On-road Motor Vehicles:
  - 1 Material Delivery Truck driving 50 miles per day

[13] South Coast AQMD, Final Environmental Assessment for Proposed Amended Rule 1178 - Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities, September 2023. http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2023/final-environmental-assessment-for-proposed-amended-rule-1178.pdf

- 10 Worker Vehicles driving 40 miles per day

- Off-road Construction Equipment:
  - 1 Crane, 3 Welders, and 1 Compressor each operating for 10 hours per day, 6 days per week, for 16 weeks

Installing Secondary Roof Seals on an Internal Floating Roof Tank

- On-road Motor Vehicles:
  - 1 Material Delivery Truck driving 50 miles per day
  - 10 Worker Vehicles driving 40 miles per day
- Off-road Construction Equipment:
  - 1 Crane for 4 hours per day, 5 days per week, and 8 weeks
  - 1 Compressor for 8 hours per day, 5 days per week, and 8 weeks

Criteria pollutant emissions were calculated for off-road construction equipment used for retrofitting the storage tanks and on-road motor vehicles transporting workers and material deliveries during construction using the California Emissions Estimator Model® (CalEEMod), version 2022.1.1.21. The detailed output reports for the CalEEMod[14] runs, and a summary excel sheet with the peak daily construction impacts by construction activity type and season are included in Appendix B.

Table 2-2 summarizes the peak daily emissions associated with doming one EFR tank, installing a secondary roof seal on one tank, and the worst-case scenario based on the assumption that five EFR tanks would be domed and 11 IFR tanks would have secondary roof seals installed on a peak day.

Table 2-2
Peak Daily Construction Emissions by Pollutant (lb/day)

Construction Activity	VOC	NOx	CO	SOx	PM10	PM2.5
Doming 1 EFR Tank	1.37	10.90	13.40	0.03	0.67	0.40
Installing a Secondary Roof Seal on 1 IFR Tank	0.52	3.93	5.55	0.01	0.45	0.19
Doming 5 EFR Tanks and Installing Secondary Roof Seals on 11 IFR Tanks	**12.57**	**97.95**	**128.05**	**0.26**	**8.3**	**4.09**
Significance Threshold for Construction	75	100	550	150	150	55
Significant?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

The air quality analysis indicates that the peak daily construction emissions do not exceed the South Coast AQMD's air quality significance thresholds for any pollutant during construction. Thus, the air quality impacts during construction are concluded to be less than significant.

[14] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas emissions associated with both construction and operations from a variety of land use projects.

Cumulatively Considerable Impacts

Based on the foregoing analysis, since criteria pollutant project-specific air quality impacts from implementing the proposed project would not be expected to exceed any of the air quality significance thresholds in Table 2-1, cumulative air quality impacts are also expected to be less than significant. South Coast AQMD cumulative air quality significance thresholds are the same as project-specific air quality significance thresholds. Therefore, potential adverse impacts from implementing the proposed project would not be "cumulatively considerable" as defined by CEQA Guidelines Section 15064(h)(1) for air quality impacts. Per CEQA Guidelines Section 15064(h)(4), the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable.

The South Coast AQMD's guidance on addressing cumulative impacts for air quality is as follows: "As Lead Agency, the South Coast AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR." "Projects that exceed the project-specific significance thresholds are considered by the South Coast AQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."[15]

This approach was upheld by the Court in *Citizens for Responsible Equitable Environmental Development v. City of Chula Vista* (2011) 197 Cal. App. 4th 327, 334. The Court determined that where it can be found that a project did not exceed the South Coast AQMD's established air quality significance thresholds, the City of Chula Vista properly concluded that the project would not cause a significant environmental effect, nor result in a cumulatively considerable increase in these pollutants. The court found this determination to be consistent with CEQA Guidelines Section 15064.7, stating, "The lead agency may rely on a threshold of significance standard to determine whether a project will cause a significant environmental effect." The court found that, "Although the project will contribute additional air pollutants to an existing non-attainment area, these increases are below the significance criteria…" "Thus, we conclude that no fair argument exists that the Project will cause a significant unavoidable cumulative contribution to an air quality impact." As in *Chula Vista*, here the South Coast AQMD has demonstrated, when using accurate and appropriate data and assumptions, that the project will not exceed the established South Coast AQMD significance thresholds. See also, *Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal. App. 4th 899. Here again the court upheld the South Coast AQMD's approach to utilizing the established air quality significance thresholds to determine whether the impacts of a project would be cumulatively considerable. Thus, it may be concluded that the proposed project would not contribute to a significant unavoidable cumulative air quality impact. Since no cumulatively significant air quality impacts were identified, no mitigation measures are necessary or required.

[15] South Coast AQMD Cumulative Impacts Working Group White Paper on Potential Control Strategies to Address Cumulative Impacts From Air Pollution, August 2003, Appendix D, Cumulative Impact Analysis Requirements Pursuant to CEQA, at D-3. http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf

III. c) Less Than Significant Impact.

Toxic Air Contaminants (TACs) During Construction

Diesel powered vehicles and equipment would be utilized during construction activities. Diesel PM is considered a carcinogenic and chronic TAC. A construction activity would be completed within four months; thus, a Health Risk Assessment (HRA) was not conducted, which is consistent with the Office of Environmental Health Hazard Assessment (OEHHA) Guidance Manual (2015). The analysis in Section III b) and e) concluded that the quantity of pollutants that may be generated from implementing the proposed project would be less than significant during construction. Because the emissions from all activities that may occur as part of implementing the proposed project are at less than significant levels, neither would the emissions be substantial, regardless of whether sensitive receptors are located near the affected facilities. Therefore, PAR 463 is not expected to generate significant adverse TAC impacts from construction or expose sensitive receptors to substantial pollutant concentrations. Since no significant air quality impacts were identified for TACs, no mitigation measures are necessary or required.

III. d) Less Than Significant Impact.

Odor Impacts

Odor problems depend on individual circumstances. For example, individuals can differ quite markedly from the populated average in their sensitivity to odor due to any variety of innate, chronic or acute physiological conditions. This includes olfactory adaptation or smell fatigue (i.e., continuing exposure to an odor usually results in a gradual diminution or even disappearance of the small sensation).

During construction, diesel-fueled equipment and vehicles would be operated. Diesel fuel is required to have a low sulfur content (e.g., 15 ppm by weight or less) in accordance with South Coast AQMD Rule 431.2 – Sulfur Content of Liquid Fuels[16]; thus, the fuel is expected to have minimal odor. The operation of construction equipment would occur within the boundaries of existing affected facilities. It would be expected that sufficient dispersion of diesel emissions over distance generally occurs such that odors associated with diesel emissions may not be discernable to off-site receptors, depending on the location of the equipment and its distance relative to the nearest off-site receptor. The diesel trucks and equipment that would be operated on-site as a part of construction activities would not be allowed to idle longer than five minutes per any one location in accordance with the CARB idling regulation[17], so lingering odors from idling vehicles would not be expected. In addition, construction activities would be temporary. Thus, PAR 463 is not expected to create significant adverse objectionable odors during construction. Since no significant air quality impacts were identified for odors, no mitigation measures for odors are necessary or required.

[16] South Coast AQMD, Rule 431.2 – Sulfur Content of Liquid Fuels, September 15, 2000. http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-431-2.pdf

[17] CARB, Guide to Off-Road Vehicle & Equipment Regulations, https://ww2.arb.ca.gov/sites/default/files/offroadzone/pdfs/offroad_booklet.pdf.

III. f) and g) Less Than Significant Impacts.

Greenhouse Gas (GHG) Impacts

Significant changes in global climate patterns have recently been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, attributed to accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through the combustion of fossil fuels (i.e., fuels containing carbon) in conjunction with other human activities, appears to be closely associated with global warming. State law defines GHG to include the following: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6) (Health and Safety Code Section 38505(g)). The most common GHG that results from human activity is CO2, followed by CH4 and N2O.

Traditionally, GHGs and other global warming pollutants are perceived as solely global in their impacts and that increasing emissions anywhere in the world contributes to climate change anywhere in the world. A study conducted on the health impacts of CO2 "domes" that form over urban areas cause increases in local temperatures and local criteria pollutants, which have adverse health effects[18].

The analysis of GHGs is a different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants, the significance thresholds are based on daily emissions because attainment or non-attainment is primarily based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health (e.g., one-hour and eight-hour standards). Since the half-life of CO2 is approximately 100 years, for example, the effects of GHGs occur over a longer term which means they affect the global climate over a relatively long timeframe. As a result, the South Coast AQMD's current position is to evaluate the effects of GHGs over a longer timeframe than a single day (i.e., annual emissions). GHG emissions are typically considered to be cumulative impacts because they contribute to global climate effects.

Since GHG impacts are defined on an annual, instead of a peak daily basis, the GHG emissions for construction were quantified by summing all of the GHGs occurring during construction activities for installing 20 domes on EFR tanks, and 22 secondary roof seals on IFR tnks, and then amortizing the total construction GHGs over 30 years.

The South Coast AQMD convened a "Greenhouse Gas CEQA Significance Threshold Working Group" to consider a variety of benchmarks and potential significant thresholds to evaluate GHG impacts. On December 5, 2008, the South Coast AQMD adopted an interim CEQA GHG Significance Threshold for projects where the South Coast AQMD is the lead agency (South Coast AQMD 2008). This GHG interim threshold is set at 10,000 metric tons (MT) of CO2 equivalent emissions (CO2eq) per year. Projects with incremental increases below this threshold will not be

[18] Jacobsen, Mark Z. Environmental Protection Agency Hearing on California Waiver: "Effects of Local CO2 Domes and of Global CO2 Changes on California's Air Pollution and Health," March 5, 2009. https://web.stanford.edu/group/efmh/jacobson/PDFfiles/0903EPACalif.pdf

cumulatively considerable. GHG impacts from the implementation of the proposed project were calculated at the project-specific level during construction activities.

PAR 463 involves construction activities associated with installing domes on 20 EFR tanks and installing secondary seals on 22 IFR tanks which rely on construction equipment that emit GHGs when in use. Once construction is completed, PAR 463 does not have any requirements that would generate GHGs during operation of the storage tanks. Table 2-3 summarizes the GHG analysis which shows that the proposed project may result in the generation of 97 MT per year of CO2eq from construction activities, which is less than the South Coast AQMD's air quality significance threshold for GHGs. Detailed calculations of project GHG emissions can be found in Appendix B.

Table 2-3
Summary of GHG Emissions

Construction Activity	CO2eq Emissions (MT/yr)
Doming 1 EFR Tank	118
Installing Secondary Roof Seals on 1 IFR Tank	26
Doming 20 EFR Tanks and Installing Secondary Roof Seals on 22 IFR Tanks	**97**
Significance Threshold	10,000
Significant?	**No**

Note: 1 metric ton = 2,205 pounds. GHGs from short-term construction activities are amortized over 30 years.

As shown in Table 2-3, the South Coast AQMD air quality significance threshold for GHGs would not be exceeded. For this reason, implementing the proposed project would not be expected to generate significant adverse cumulative GHG air quality impacts. Further, as noted in Section III. a), implementation of the proposed project would not be expected to conflict with an applicable plan, policy or regulation adopted for the purpose of reducing criteria pollutants and the same is true for GHG emissions since the quantity of increased GHG emissions is at less than significant levels. Since significant air quality impacts were not identified for GHGs, no mitigation measures are necessary or required.

Conclusion
Based upon these considerations, significant air quality and GHG emissions impacts are not expected from implementing the proposed project. Since no significant air quality and GHG emissions impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES.** Would the project:				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f)	Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

Significance Criteria

Impacts on biological resources will be considered significant if any of the following criteria apply:

- The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.
- The project interferes substantially with the movement of any resident or migratory wildlife species.
- The project adversely affects aquatic communities through construction or operation of the project.

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

IV. a), b), c), & d) No Impact. Implementation of PAR 463 would occur at existing affected facilities, which are located in industrial areas. Additionally, the physical improvements are expected to occur within the existing facility property boundaries which have been previously disturbed. Thus, PAR 463 is not expected to adversely affect in any way habitats that support riparian habitat, federally protected wetlands, or migratory corridors. Similarly, special status plants, animals, or natural communities identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service are not expected to be found on or in close proximity to affected facilities. Therefore, PAR 463 would have no direct or indirect impacts that could adversely affect plant or animal species or the habitats on which they rely. PAR 463 does not require the acquisition of additional land or further conversions of riparian habitats or sensitive natural communities where endangered or sensitive species may be found. In addition, any construction from the implementation of PAR 463 would take place at the existing facilities and would not occur on or near a wetland or in the path of migratory species.

IV. e) & f) No Impact. The proposed project is not expected to conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans, because land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by implementation of PAR 463. Projects resulting in an air quality benefit: decreasing air pollutant emissions while not changing the type of pollutants emitted, will not conflict with any U.S. Department of Fish and Wildlife Habitat Conservation Plans (HCP). In addition, the doming and secondary roof seal requirements imposed on the existing storage tanks due to the implementation of PAR 463 will not necessitate ant grading activities that could adversely impact any natural habitat. Thus, PAR 463 would not conflict with any adopted HCP, Natural Community Conservation Plan, or any other relevant habitat conservation plan, and would not create divisions in any existing communities because compliance with PAR 463 would occur at existing facilities in previously disturbed areas which are not typically subject to Habitat or Natural Community Conservation Plans.

Conclusion

Based upon these considerations, significant biological resource impacts are not expected from implementing the proposed project. Since no significant biological resource impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
V.	**CULTURAL AND TRIBAL CULTURAL RESOURCES.** Would the project:				
a)	Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?	☐	☐	☐	☑
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	☐	☐	☐	☑
c)	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☑
d)	Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074, as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is either:				
	• Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	☐	☐	☐	☑
	• A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c)? (In applying the criteria set forth in Public Resources Code Section 5024.1(c), the lead agency shall consider the significance of the resource to a California Native American tribe.)	☐	☐	☐	☑

Significance Criteria

Impacts to cultural resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance, or tribal cultural significance to a community or ethnic or social group or a California Native American tribe.
- Unique resources or objects with cultural value to a California Native American tribe are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

V. a) No Impact. There are existing laws in place that are designed to protect and mitigate potential impacts to cultural resources. For example, CEQA Guidelines state that generally, a resource shall be considered "historically significant" if the resource meets the criteria for listing in the California Register of Historical Resources, which include the following:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual, or possesses high artistic values;
- Has yielded or may likely to yield information important in prehistory or history (CEQA Guidelines Section 15064.5).

Buildings, structures, and other potential culturally significant resources that are less than 50 years old are generally excluded from listing in the National Register of Historic Places, unless they are shown to be exceptionally important. Buildings or structures that may be affected by PAR 463 are used for industrial purposes and would generally not be considered to be historically significant, since they would not have any of the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values. Therefore, PAR 463 is not expected to cause any impacts to historically significant cultural resources.

V. b), c), & d) No Impact. Construction-related activities associated with installing domes and secondary roof seals on existing IFR tanks are expected to be confined within the affected existing industrial facility boundaries and will occur aboveground. In addition, as mentioned in Section V. a) the existing storage tanks subject to PAR 463 are considered heavy industrial equipment and as such, are not unique resources or identified as having any cultural or tribal importance. Thus, PAR

463 is not expected to require physical changes to the environment which may disturb paleontological or archaeological resources. Furthermore, it is envisioned that these areas are already either devoid of significant cultural resources or whose cultural resources have been previously disturbed. Therefore, PAR 463 has no potential to cause a substantial adverse change to a historical or archaeological resource, directly or indirectly to destroy a unique paleontological resource or site or unique geologic feature, or to disturb any human remains, including those interred outside formal cemeteries. Implementing PAR 463 is, therefore, not anticipated to result in any activities or promote any programs that could have a significant adverse impact on cultural resources.

PAR 463 is not expected to require physical changes to a site, feature, place, cultural landscape, sacred place or object with cultural value to a California Native American Tribe. Furthermore, PAR 463 is not expected to result in a physical change to a resource determined to be eligible for inclusion or listed in the California Register of Historical Resources or included in a local register of historical resources. Similarly, PAR 463 is not expected to result in a physical change to a resource determined by the South Coast AQMD to be significant to any tribe. For these reasons, PAR 463 is not expected to cause any substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074.

As part of releasing this CEQA document for public review and comment, the South Coast AQMD also provided a formal notice of the proposed project to all California Native American Tribes (Tribes) that requested to be on the Native American Heritage Commission's (NAHC) notification list per Public Resources Code Section 21080.3.1(b)(1). The NAHC notification list provides a 30-day period during which a Tribe may respond to the formal notice, in writing, requesting consultation on the proposed project.

In the event that a Tribe submits a written request for consultation during this 30-day period, the South Coast AQMD will initiate a consultation with the Tribe within 30 days of receiving the request in accordance with Public Resources Code Section 21080.3.1(b). Consultation ends when either: 1) both parties agree to measures to avoid or mitigate a significant effect on a Tribal Cultural Resource and agreed upon mitigation measures shall be recommended for inclusion in the environmental document [see Public Resources Code Section 21082.3(a)]; or 2) either party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached [see Public Resources Code Section 21080.3.2(b)(1)-(2) and Section 21080.3.1(b)(1)].

Conclusion

Based upon these considerations, significant adverse cultural and tribal cultural resources impacts are not expected from implementing the proposed project. Since no significant cultural and tribal cultural resources impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VI.	**ENERGY.** Would the project:				
a)	Conflict with or obstruct adopted energy conservation plans, a state or local plan for renewable energy, or energy efficiency?	☐	☐	☐	☑
b)	Result in the need for new or substantially altered power or natural gas utility systems?	☐	☐	☑	☐
c)	Create any significant effects on local or regional energy supplies and on requirements for additional energy?	☐	☐	☑	☐
d)	Create any significant effects on peak and base period demands for electricity and other forms of energy?	☐	☐	☑	☐
e)	Comply with existing energy standards?	☐	☐	☐	☑
f)	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☑
g)	Require or result in the relocation or construction of new or expanded electric power, natural gas or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☑

Significance Criteria

Impacts to energy resources will be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses energy resources in a wasteful and/or inefficient manner.

Discussion
PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

VI. a), e), f), & g) No Impact. The proposed project is not expected to conflict with any adopted energy conservation plans or violate any energy conservation standards because existing facilities would be expected to continue implementing any existing energy conservation plans that are currently in place regardless of whether the proposed project is implemented. The effects of implementing PAR 463 would apply to existing facilities. Any energy resources that may be necessary to dome EFR tanks, install secondary roof seals on IFR tanks, and utilize additional OGI technology would be used to achieve reductions in VOC; and therefore, would not be using non-renewable resources in a wasteful manner. For these reasons, the proposed project is not expected to conflict with energy conservation plans or existing energy standards, or use non-renewable resources in a wasteful manner. In addition, the construction and operation of domes is not expected to rely on electric power, natural gas or telecommunication facilities, as such PAR 463 will not cause the relocation or construction of new or expanded electric power, natural gas or telecommunication facilities. Therefore, no impacts are expected.

VI. b), c), & d) Less Than Significant Impact.

Fuel Usage during Construction
Implementation of the proposed project would result in the installation of domes and secondary roof seals, and the utilization of OGI technology. To accomplish these activities, use of energy in terms of gasoline and diesel fuel would be needed for on-road passenger vehicles and heavy duty trucks associated with delivering supplies and construction materials, and off-road construction equipment, respectively. While construction under the proposed project is expected to be spaced out across multiple years, to estimate worst-case energy impacts associated with construction activities, South Coast AQMD staff estimated the total gasoline and diesel fuel consumption for doming 20 EFR tanks and installing secondary roof seals for 22 tanks all occurring in one year. Each installation of a dome or secondary seal is estimated to require 10 worker trips and one material delivery trip per day, with doming requiring one crane, three welders, and one air compressor, each for 10 hours per day and 97 days for completion (~ six days per week for 16 weeks); and installation of secondary roof seals requiring one crane four hours per day and one air compressor eight hours per day and 42 days for completion (~ 5 days per week for 8 weeks).

On-road passenger vehicles were modelled as gasoline passenger cars (LDA) and light-duty trucks (LDT1 and LDT2) traveling 40 miles per day, and heavy duty trucks associated with delivering supplies and construction materials were modelled as diesel Tier 7 CA International Registration Plan Trucks (T7 CAIRP) travelling 50 miles per day. Fuel use was estimated using EMFAC2021 version 1.0.2 for calendar year 2026. Fuel use for offroad equipment was estimated using equipment specifications from CalEEMod version 2022.1.1.21 and OFFROAD2021 version 1.0.3. Table 2-4 summarizes the projected fuel use impacts associated with construction activities and

compares it to the gasoline and diesel consumption rates in the South Coast AQMD jurisdiction, for 2017. Detailed fuel use calculations can be found in Appendix B.

Table 2-4
Annual Total Projected Fuel Usage for Construction Activities

	Diesel	Gasoline
Projected Construction Energy Use (gal/yr)	73,474	4,238
Year 2017 South Coast AQMD Jurisdiction Estimated Fuel Demand (gal/yr)	775,000,000	7,086,000,000
Total Increase Above Baseline	0.00948%	0.000060%
Significance Threshold	1%	1%
Significant?	**No**	**No**

Based on the foregoing analyses, the construction-related activities associated with the implementation of the proposed project would not use energy in a wasteful manner, would not result in substantial depletion of existing energy resource supplies, or create a significant demand of energy when compared to existing supplies. Thus, there are no significant adverse energy impacts associated with the implementation of PAR 463.

Conclusion
Based upon these considerations, significant adverse energy impacts are not expected from implementing the proposed project. Since no significant energy impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VII. <u>GEOLOGY AND SOILS</u>. Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	☑
• Strong seismic ground shaking?	☐	☐	☐	☑
• Seismic-related ground failure, including liquefaction?	☐	☐	☐	☑
• Landslides?	☐	☐	☐	☑
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☑
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☑
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☑
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☐	☐	☑

Significance Criteria

Impacts on the geological environment will be considered significant if any of the following criteria apply:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.
- Unique paleontological resources or sites or unique geologic features are present that could be directly or indirectly destroyed by the proposed project.

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

VII. a), b), c), d), e), f) No Impact. The proposed project involves constructing new domes and installing roof tank seals on existing storage tanks located in already developed industrial settings and these activities would occur aboveground and as such, would not require any grading or site preparation activities. Therefore, the proposed project is not expected to adversely affect geophysical conditions in the South Coast AQMD jurisdiction.

Southern California is an area of known seismic activity. As part of the issuance of building permits, local jurisdictions are responsible for assuring that the Uniform Building Code is adhered to and can conduct inspections to ensure compliance. The Uniform Building code is considered to be a standard safeguard against major structural failures and loss of life. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represents the foundation condition at the site. The Uniform Building Code requirements also consider liquefaction potential and establish stringent requirements for building foundations in areas potentially subject to liquefaction. The proposed project will not require the modification of existing structures at existing facilities in a manner that would not conform to the Uniform Building Code or any other state and local building codes. Structures must be designed to comply with the Uniform Building Code Zone 4 requirements if they are located in a seismically active area. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. Thus, the proposed project would not alter the exposure of people or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards. As a result, substantial exposure of people or structures to the risk of loss,

injury, or death involving the rupture of an earthquake fault, seismic ground shaking, ground failure or landslides is not anticipated.

Physical modifications as a result of the proposed project are limited to retrofitting existing aboveground storage tanks and require no grading activities or soil disturbance that would create any issues with erosion. For this reason, no unstable earth conditions or changes in geologic substructures are expected to result from implementing the proposed project and therefore, no impacts to the loss of topsoil or soil erosion will occur. Further, since soil at existing facilities will not be disturbed, it will not be made further susceptible to expansion or liquefaction. Further, the proposed project will not create any new conditions that would cause subsidence landslides, or alter unique geologic features at any of the facilities. Thus, the proposed project would not be expected to increase or exacerbate any existing risks associated with soils at any facility. Implementation of the proposed project would not involve re-locating facilities on a geologic unit or soil that is unstable or that would become unstable as a result of the project; therefore, it would not be expected to potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. No impacts are anticipated.

The proposed project would not require the installation of septic tanks or other alternative wastewater disposal systems. Therefore, no persons or property would be exposed to new impacts related to expansive soils or soils incapable of supporting water disposal. Thus, the implementation of the proposed project would not adversely affect soils associated with the installation of a new septic system or alternative wastewater disposal system or modification of an existing sewer.

The proposed project does not cause or require the construction of any new facilities. No previously undisturbed land that may contain a unique paleontological resource or site or unique geological feature would be affected. Therefore, the proposed project is not expected to directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

Conclusion
Based upon these considerations, significant adverse geology and soils impacts are not expected from the implementation of the proposed project. Since no significant geology and soils impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VIII.	**HAZARDS AND HAZARDOUS MATERIALS.** Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☑
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☑
c)	Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☑
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☐	☑
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑	☐
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
g)	Significantly increased fire hazard in areas with flammable materials?	☐	☐	☐	☑

Significance Criteria

Impacts associated with hazards will be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.
- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

VIII. a), b) & c) No Impact. While the proposed project will result in construction at affected facilities, doming EFR tanks, installing secondary roof seals on IFR tanks, and utilizing additional OGI technology will not require use or disposal of hazardous materials. Implementation of the proposed project is not expected to affect operations pertaining to hazardous materials, such as the processing of petroleum; thus, there will be no increase in nor creation of: a) significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; b) significant hazard to the public or the environment in the event of upset or accident conditions involving the release of hazardous materials from these storage tanks into the environment; or c) hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school if an existing facility happens to be located near an existing or proposed school.

VIII. d) No Impact. Government Code Section 65962.5 refers to hazardous waste handling practices at facilities subject to the Resources Conservation and Recovery Act (RCRA). Implementation of the proposed project is not expected to affect operations pertaining to hazardous materials, such as the processing of petroleum; thus, there will be no increase in or creation of a new significant hazard to the public or the environment if an existing facility happens to be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

VIII. e) Less than Significant Impact. Federal Aviation Administration regulation, 14 CFR Part 77 – Safe, Efficient Use and Preservation of the Navigable Airspace, provide information regarding the types of projects that may affect navigable airspace. Projects may adversely affect navigable airspace if they involve construction or alteration of structures greater than 200 feet above ground level within a specified distance from the nearest runway or objects within 20,000 feet of an airport or seaplane base with at least one runway more than 3,200 feet in length and the object would exceed a slope of 100:1 horizontally (100 feet horizontally for each one foot vertically from the nearest point of the runway). Some facilities may be located within a two-mile

radius of an airport that may require potential construction activities to install domes and roof tank seals on existing storage tanks. However, none of these facilities' storage tanks are expected to be taller than 200 feet above-ground. In addition, these facilities may have other heavy industrial equipment that will not be affected by PAR 463 but that are much taller than the existing storage tanks. Thus, for the facilities located near a runway or an airport, the facility operators will already have safety protocols and procedures in place for alerting the Federal Aviation Administration of any potential changes involving equipment greater than 200 feet above ground level. Thus, implementation of PAR 463 is not expected to interfere with navigable airspace or affect existing operations pertaining to hazardous materials, such as the processing of petroleum. Finally, PAR 463 does not contain any requirements that would interfere with any applicable design code or regulation the Federal Aviation Administration may have in effect for safety reasons. Thus, there will be no significant increase in existing safety hazards or the creation of new safety hazards to peoples working or residing in the vicinity of public/private airports.

VIII. f) No Impact. Health and Safety Code Section 25506 specifically requires all businesses handling hazardous materials to submit a business emergency response plan to assist local administering agencies in the emergency release or threatened release of a hazardous material. Business emergency response plans generally require the following:

- Identification of individuals who are responsible for various actions, including reporting, assisting emergency response personnel and establishing an emergency response team;
- Procedures to notify the administering agency, the appropriate local emergency rescue personnel, and the California Office of Emergency Services;
- Procedures to mitigate a release or threatened release to minimize any potential harm or damage to persons, property or the environment;
- Procedures to notify the necessary persons who can respond to an emergency within the facility;
- Details of evacuation plans and procedures;
- Descriptions of the emergency equipment available in the facility;
- Identification of local emergency medical assistance; and,
- Training (initial and refresher) programs for employees in:
    1. The safe handling of hazardous materials used by the business;
    2. Methods of working with the local public emergency response agencies;
    3. The use of emergency response resources under control of the handler;
    4. Other procedures and resources that will increase public safety and prevent or mitigate a release of hazardous materials.

In general, every county or city and all facilities using a minimum amount of hazardous materials are required to formulate detailed contingency plans to eliminate, or at least minimize, the possibility and effect of fires, explosion, or spills. In conjunction with the California Office of Emergency Services, local jurisdictions have enacted ordinances that set standards for area and business emergency response plans. These requirements include immediate notification,

mitigation of an actual or threatened release of a hazardous material, and evacuation of the emergency area.

Emergency response plans are typically prepared in coordination with the local city or county emergency plans to ensure the safety of not only the public (surrounding local communities), but the facility employees as well. The proposed project would not impair the implementation of, or physically interfere with any adopted emergency response plans or emergency evacuation plans that may be in place at existing facilities.

VIII. g) No Impact. The Uniform Fire Code and Uniform Building Code set standards intended to minimize risks from flammable or otherwise hazardous materials. Local jurisdictions are required to adopt the uniform codes or comparable regulations. Local fire agencies require permits for the use or storage of hazardous materials and permit modifications for proposed increases in their use. Permit conditions depend on the type and quantity of the hazardous materials at the facility. Permit conditions may include, but are not limited to, specifications for sprinkler systems, electrical systems, ventilation, and containment. The fire departments make annual business inspections to ensure compliance with permit conditions and other appropriate regulations. Further, businesses are required to report increases in the storage or use of flammable and otherwise hazardous materials to local fire departments. Local fire departments ensure that adequate permit conditions are in place to protect against the potential risk of upset. The proposed project would not change the existing requirements and permit conditions for the proper handling of flammable materials.

Conclusion
Based upon these considerations, significant adverse hazards and hazardous materials impacts are not expected from implementing the proposed project. Since no significant hazards and hazardous materials impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IX.	**HYDROLOGY AND WATER QUALITY.** Would the project:				
a)	Violate any water quality standards, waste discharge requirements, or otherwise substantially degrade surface or ground water quality?	☐	☐	☐	☑
b)	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☑
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
	• Result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☑
	• Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☑
	• Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☑
	• Impede or redirect flood flows?	☐	☐	☐	☑
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☑
e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
f)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, facilities or new storm water drainage facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☑
g)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☑
h)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑

Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.
- The project increases demand for total water by more than five million gallons per day.

Water Quality:

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Discussion
PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

IX. a), b), e), f), g) & h) No Impact. Implementation of PAR 463 would require construction activities associated with installing domes on existing EFR tanks and installing secondary roof seals on existing IFR tanks. These activities might first require storage tanks to be ~~emptied~~ cleaned and degassed if other repairs are needed, but those steps already occur as part of regular tank inspections, and not because of PAR 463.

PAR 463 subparagraph (d)(2)(D) specifies that the timing of construction should be coordinated and coincide with when the storage tank is next ~~emptied~~ cleaned or degassed when installing secondary roof seals on IFR tanks. For these reasons, storage tank ~~emptying~~ cleaning and degassing activities are not considered unique to PAR 463 and as such, the environmental impacts from these activities are excluded from the analysis of construction activities. It is important to note that dome suppliers and affected facilities say that a storage tank does not need to be ~~emptied~~ cleaned and degassed in order to install domes and secondary roof seals, unless the tank shell is in need of reinforcement and repairs that involve welding. Further, if a storage tank is ~~emptied~~ cleaned and degassed, water is not required for this process so no increase in water demand is expected. In addition, PAR 463 does not contain any requirements that would require the use of water during construction or operation. Further, since water is not needed to implement PAR 463, no wastewater would be expected to be generated and. Since no wastewater is generated and no increase in water demand is created from the proposed project, the proposed project would not be expected to: 1) violate any water quality standards, waste discharge requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade surface or ground water quality; 2) require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, facilities or new storm water drainage facilities; 3) substantially decrease groundwater supplies or interfere substantially with groundwater recharge or impede sustainable groundwater management of the basin; 4) conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan; 5) impact the water supply available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years; and 6) give cause for the wastewater treatment provider to question or evaluate whether adequate wastewater capacity exists in addition to the provider's existing commitments.

Conclusion
Based upon these considerations, significant adverse hydrology and water quality impacts are not expected from implementing the proposed project. Since no significant hydrology and water quality impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
X.	**LAND USE AND PLANNING.** Would the project:				
a)	Physically divide an established community?	☐	☐	☐	☑
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑

Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

X. a) & b) No Impact. The proposed project does not require the construction of new facilities, and the physical effects that would result from the proposed project would occur at existing facilities located in industrial areas and would occur within existing facility boundaries. For this reason, implementation of PAR 463 is not expected to physically divide an established community. Therefore, no impacts are anticipated.

Further, land use and other planning considerations are determined by local governments and the proposed project does not alter any land use or planning requirements. Compliance with the proposed project would apply to existing storage tanks operating within the boundary of existing facilities. Thus, the proposed project would not be expected to affect or conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Conclusion

Based upon these considerations, significant adverse land use and planning impacts are not expected from implementing the proposed project. Since no significant land use and planning impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XI.	**MINERAL RESOURCES.** Would the project:				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☑

Significance Criteria

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

XI. a) & b) No Impact. There are no provisions in the proposed project that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plant or other land use plant. Some examples of mineral resources are gravel, asphalt, bauxite, and gypsum, which are commonly used for construction activities or industrial processes. Implementation of the proposed project would result in the installation of domes and secondary roof seals; all of which have no effect on the use of minerals, such as those described above. Therefore, no new demand on mineral resources is expected to occur and no significant adverse mineral resources impacts from implementing the proposed project are anticipated.

Conclusion

Based upon these considerations, significant adverse mineral resource impacts are not expected from implementing the proposed project. Since no significant mineral resource impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XII.	**NOISE.** Would the project result in:				
a)	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑	☐
b)	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☑	☐
c)	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

Significance Criteria

Noise impact will be considered significant if:

- Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

XII. a) & b) Less than Significant Impact. The facilities subject to PAR 463 are located in urbanized industrial areas. The existing noise environment at each of the facilities is typically dominated by noise from existing equipment on-site, vehicular traffic around the facilities, and

trucks entering and existing facility premises. Large, potentially noise-intensive construction equipment may be needed temporarily to dome EFR tanks and install secondary roof seals on IFR tanks. Operation of the construction equipment would be expected to comply with all existing noise control laws and ordinances. Since all of the facilities are located in heavy industrial areas, which have a higher background noise level when compared to other areas, the noise generated during construction would likely be indistinguishable from the background noise levels at the property line. Further, Occupational Safety and Health Administration (OSHA) and California-OSHA have established noise standards to protect worker health both indoors and outdoors. Furthermore, compliance with local noise ordinances typically limit the hours of construction to reduce the temporary noise impacts from construction to sensitive and offsite receptors. These potential noise increases would only be temporary until construction is completed and would be expected to be within the allowable noise levels established by the local noise ordinances for industrial areas; thus, impacts are expected to be less than significant.

XII. c) No Impact. As stated in Section VIII e), some facilities may be located within a two-mile radius of an airport that may require potential construction activities to install domes and secondary roof tank seals on existing storage tanks. However, these facilities are located within an existing industrial zone which are dominated by noise from existing equipment on-site, vehicular traffic around the facilities, and trucks entering and exiting facility premises. Thus, any new noise impacts from temporary construction activities would be likely to generate noise that is indistinguishable from the background levels at the property line. Thus, PAR 463 is not expected to expose persons residing or working within two miles of a public airport or private airstrip to excessive noise levels.

Conclusion

Based upon these considerations, significant adverse noise impacts are not expected from the implementing the proposed project. Since no significant noise impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIII.	**POPULATION AND HOUSING.** Would the project:				
a)	Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☑
b)	Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

Significance Criteria

Impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

XIII. a) No Impact. The construction activities associated with the proposed project are not expected to involve the relocation of individuals, require new housing or commercial facilities, or change the distribution of the population. Approximately 10 construction workers per facility may be needed to perform construction activities to comply with PAR 463, and these workers can be supplied from the existing labor pool in the local Southern California area. The proposed project is not expected to affect day-to-day operations. As such, PAR 463 is not anticipated to cause change in population densities, population distribution, or induce significant growth in population.

XIII. b) No Impact. The proposed project would result in construction activities that are expected to occur within the confines of existing facilities, and would not be expected to substantially alter existing operations. Consequently, PAR 463 is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of persons or housing elsewhere within the South Coast AQMD's jurisdiction.

Conclusion

Based upon these considerations, significant adverse population and housing impacts are not expected from implementing the proposed project. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIV. <u>PUBLIC SERVICES</u>. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
a) Fire protection?	☐	☐	☐	☑
b) Police protection?	☐	☐	☐	☑
c) Schools?	☐	☐	☐	☑
d) Parks?	☐	☐	☐	☑
e) Other public facilities?	☐	☐	☐	☑

Significance Criteria

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time, or other performance objectives.

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ <u>1.65</u> ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections <u>twice per year at four- to eight-month intervals</u> and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

XIV. a) & b) No Impact. Implementation of PAR 463 would require construction activities associated with installing domes on existing EFR tanks and installing secondary roof seals on existing IFR tanks. If other repairs to the storage tanks need to be made, then these activities may require storage tanks to first be ~~emptied~~ <u>cleaned</u> and degassed, but those steps occur as part of regular tank inspection. As such, no special circumstances with handling sensitive materials during construction would be expected. For these reasons, new safety hazards are not expected to occur during construction, and implementation of PAR 463 is not expected to substantially alter or

increase the need or demand for additional public services (e.g., fire and police departments and related emergency services, etc.) above current levels. No significant impact to these existing services is anticipated.

XIV. c), d), & e) No Impact. As explained in Section XIII. a), PAR 463 is not anticipated to generate any significant effects, either direct or indirect, on the population or population distribution within South Coast AQMD's jurisdiction as no permanent additional workers are anticipated to be required for compliance. Because PAR 463 is not expected to induce substantial population growth in any way, and because the local labor pool (e.g., workforce) would remain the same since PAR 463 would not trigger changes to current usage practices, no additional schools would need to be constructed. The analysis assumes that 10 construction workers per facility may be needed but any construction activities would be temporary and be expected to be supplied from the existing labor pool in the local Southern California area. There would be no corresponding impacts to local schools or parks, and there would be no corresponding need for new or physically altered public facilities in order to maintain acceptable service ratios, response times, or other performance objectives. Therefore, no impacts would be expected to schools, parks or other public facilities.

Conclusion
Based upon these considerations, significant adverse public services impacts are not expected from implementing the proposed project. Since no significant public services impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XV.	**RECREATION.**				
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment or recreational services?	☐	☐	☐	☑

Significance Criteria

Impacts to recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

XV. a) & b) No Impact. As previously explained in Section XIII – Population and Housing, the proposed project is not expected to affect population growth or distribution within the South Coast AQMD's jurisdiction because only about 10 construction workers per facility will be needed to dome EFR tanks, install secondary roof seals on IFR tanks, and utilize additional OGI technology for compliance with the proposed project. These required construction workers can be supplied by the existing labor pool in the local Southern California area. As such, the proposed project is not anticipated to generate any significant adverse effects, either indirectly or directly on population growth within the South Coast AQMD's jurisdiction or population distribution, and thus no additional demand for recreational facilities would be necessary or expected. No requirements in the proposed project would be expected to affect recreation in any way. Therefore, the proposed project would not increase the demand for or use of existing neighborhood and regional parks or other recreational facilities or require the construction of new or expansion of existing recreational

facilities that might have an adverse physical effect on the environment because it would not directly or indirectly increase or redistribute population.

Conclusion

Based upon these considerations, significant adverse recreation impacts are not expected from implementing the proposed project. Since no significant recreation impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVI. SOLID AND HAZARDOUS WASTE. Would the project:				
a) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☑
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	☐	☐	☐	☑

Significance Criteria

The proposed project impacts on solid and hazardous waste will be considered significant if the following occurs:

- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

XVI. a) & b) No Impact. While the proposed project will involve doming of EFR tanks, installation of secondary roof seals on IFR tanks, and utilization of additional OGI technology, construction will not require removal or replacement of existing equipment. Therefore, little to no solid construction waste would be generated that would need to be disposed of in a landfill, and the proposed project is not expected to impact existing permitted landfill capacity.

Current operations at facilities are assumed to comply with all applicable local, state, or federal waste disposal regulations, and PAR 463 does not contain any provisions that would weaken, alter, or interfere with current practices. Thus, implementation of the proposed project is not expected to interfere with any affected facility's ability to comply with applicable local, state, or federal waste disposal regulations in a manner that would cause a significant adverse solid and hazardous waste impact.

Conclusion

Based upon these considerations, significant adverse solid and hazardous waste impacts are not expected from implementing the proposed project. Since no significant solid and hazardous waste impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVII.	**TRANSPORTATION.** Would the project:				
a)	Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☑	☐
b)	Conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b)?	☐	☐	☑	☐
c)	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☑
d)	Result in inadequate emergency access?	☐	☐	☐	☑

Significance Criteria

Impacts on transportation will be considered significant if any of the following criteria apply:

- A major roadway is closed to all through traffic, and no alternate route is available.
- The project conflicts with applicable policies, plans or programs establishing measures of effectiveness, thereby decreasing the performance or safety of any mode of transportation or contributes to changes in overall vehicle miles traveled.
- There is an increase in vehicle miles traveled that is substantial in relation to the existing travel activity.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.
- The need for more than 350 employees.
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day.
- Increase customer traffic by more than 700 visits per day.

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

XVII. a) & b) Less than Significant Impact. As previously discussed in Section III – Air Quality and Greenhouse Gas Emissions, compliance with PAR 463 would require construction activities to dome EFR tanks, install secondary roof seals on IFR tanks, and utilize additional OGI technology. To accomplish these various activities, on-road passenger vehicles and heavy duty trucks would be dispatched to the affected facilities in order to deliver supplies and construction materials.

Table 2-5 presents the number of vehicles round trips that may occur on a peak day which involves doming five EFR tanks and installing secondary roof seals on 11 IFR tanks.

Table 2-5
Number of Round Trips in a Peak Day

Activity	Vehicle Trips
Doming 5 EFR Tanks	5 Delivery Trucks 50 Passenger Autos
Installing Secondary Roof Seals for 11 IFR Tanks	11 Delivery Trucks 110 Passenger Autos
Total in a Peak Day	**176 Vehicle Trips**

In accordance with the promulgation of SB 743 which requires analyses of transportation impacts in CEQA documents to consider a project's vehicle miles traveled (VMT) in lieu of applying a LOS metric when determining significance for transportation impacts, CEQA Guidelines Section 15064.3(b)(4) gives a lead agency to use discretion to choose the most appropriate methodology to evaluate a project's VMT, allowing the metric to be expressed as a change in absolute terms, per capita, per household, or in any other measure.

On a peak day, these construction activities are estimated to result in 16 heavy duty delivery truck round trips and 160 passenger auto round trips, the former which is less than the threshold of 350 truck round trips per day. The proposed project is not expected to result in the need of 350 new employees; assumptions, such as that installing secondary roof seals for one IFR tank requires 10 workers similar to doming an EFR tank is to overestimate impacts for a peak day. The proposed project is not expected to cause a significant adverse transportation impact. Therefore, the proposed project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b). Further, because implementation of the proposed project would not alter any transportation plans, the proposed project would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

XVII. c) & d) No Impact. No existing roadways would need to be modified and no new roadways would need to be constructed as a result of the proposed project. Thus, there would be no change to current public roadway designs including a geometric design feature that could increase traffic hazards. Further, the proposed project is not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to the facilities. Construction-related activities are expected to be temporary and occur over a short-term. Since construction activities and associated passenger vehicle trips and delivery truck trips would cease after construction is completed, the proposed project is not expected to alter the existing long-term circulation patterns within the areas of each affected facility during construction. Thus, no long-term impacts on the traffic circulation system are expected to occur. Further, existing emergency access at the affected facilities would also not

be affected because PAR 463 does not contain any requirements specific to emergency access points and each facility would be expected to continue to maintain their existing emergency access. As a result, PAR 463 is not expected to result in inadequate emergency access.

Conclusion

Based upon these considerations, significant adverse transportation impacts are not expected from implementing the proposed project. Since no significant transportation impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVIII. <u>WILDFIRE</u>. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☑
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☑
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☑
e) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildfires?	☐	☐	☐	☑

Significance Criteria

A project's ability to contribute to a wildfire will be considered significant if the project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, and any of the following conditions are met:

- The project would substantially impair an adopted emergency response plan or emergency evacuation plan.
- The project may exacerbate wildfire risks by exposing the project's occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, and other factors.
- The project may exacerbate wildfire risks or may result in temporary or ongoing impacts to the environment because the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) are required.
- The project would expose people or structures to significant risks such as downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

- The project would expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildfires.

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

XVIII. a), b), c), d) & e) No Impact. Implementation of the proposed project would neither require the construction of any new facilities nor result in the construction of any occupied buildings or structures beyond the current boundaries of each affected facility. Thus, PAR 463 is not expected to substantially impair an adopted emergency response plan or emergency evacuation plan. Further, the existing facilities which are subject to PAR 463 are located in industrial areas, and not near wildlands. In the event of a wildfire, no exacerbation of wildfire risks, and no consequential exposure of the project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire due to slope, prevailing winds, or other factors would be expected to occur. Similarly, the existing facilities which are subject to PAR 463 are located in industrial areas and no new facilities are required to be constructed. Thus, PAR 463 would neither expose people or structures to new significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes, nor would it expose people or structures, either directly or indirectly, to a new significant risk of loss, injury or death involving wildfires. Finally, because PAR 463 does not require any construction beyond existing facility boundaries, the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment are not required.

Conclusion

Based upon these considerations, significant adverse wildfire risks are not expected from implementing the proposed project. Since no significant wildfire risks were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIX.	**MANDATORY FINDINGS OF SIGNIFICANCE.**				
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☑
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☐	☐	☑	☐
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☑	☐

Discussion

PAR 463 applies to storage tanks located at 429 facilities including refineries, bulk storage, loading, and oil production facilities. Staff estimates 20 tanks will need to be domed and 22 tanks will need secondary roof seals installed. PAR 463 is estimated to reduce VOC emissions by ~~0.43~~ 1.65 ton per day. The components of PAR 463 that would be expected to have physical effects are installing domes on EFR tanks and secondary roof seals on IFR tanks. Other components of PAR 463, such as requirements for conducting optical gas imaging tank farm inspections every other calendar week, ~~semi-annual~~ component inspections twice per year at four- to eight-month intervals and implementing recordkeeping and reporting provisions are not expected to create any secondary adverse environmental impacts.

XIX. a) No Impact. As explained in Section IV - Biological Resources, PAR 463 is not expected to significantly adversely affect plant or animal species, or the habitat on which they rely because any construction and operational activities are expected to occur entirely within the boundaries of

existing developed facilities in areas that have been greatly disturbed and that currently do not support any species of concern or the habitat on which they rely. For these reasons, PAR 463 is not expected to reduce or eliminate any plant or animal species or destroy prehistoric records of the past.

XIX. b) Less Than Significant Impact. Based on the preceding analyses, PAR 463 would not result in significant adverse project-specific environmental impacts. Potential adverse impacts from implementing PAR 463 would not be "cumulatively considerable" as defined by CEQA Guidelines Section 15064(h)(1) for any environmental topic because there are no, or only minor incremental project-specific impacts that were concluded to be less than significant. Per CEQA Guidelines Section 15064(h)(4), the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulative considerable. South Coast AQMD cumulative significant thresholds are the same as project-specific significance thresholds.

Therefore, there is no potential for significant adverse cumulative or cumulatively considerable impacts to be generated by PAR 463 for any environmental topic area.

XIX. c) Less Than Significant Impact. Based on the preceding analyses, PAR 463 is not expected to cause adverse effects on human beings for any environmental topic, either directly or indirectly because: 1) aesthetics impacts were determined to be less than significant as analyzed in Section I – Aesthetics; 2) the air quality and GHG impacts were determined to be less than the significance thresholds as analyzed in Section III – Air Quality and Greenhouse Gases; 3) energy impacts were determined to be less than significant as analyzed in Section VI – Energy; 4) the noise impacts were determined to be less than significant as analyzed in Section XII – Noise; and 5) transportation impacts were determined to be less than the significant as analyzed in Section XVII – Transportation. In addition, the analysis concluded that there would be no significant environmental impacts for the following remaining environmental impact topic areas: agriculture and forestry resources, biological resources, cultural and tribal cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, population and housing, public services, recreation, solid and hazardous waste, transportation, and wildfire.

Conclusion

As previously discussed in environmental topics I through XIX, the proposed project has no potential to cause significant adverse environmental effects. Since no significance adverse environmental impacts were identified, no mitigation measures are necessary or required.

APPENDICES

Appendix A: Proposed Amended Rule 463 – Organic Liquid Storage

Appendix B: Modeling Files, Assumptions, and Calculations

APPENDIX A

Proposed Amended Rule 463 – Organic Liquid Storage

In order to save space and avoid repetition, please refer to the latest version of PAR 463 located elsewhere in the Governing Board Agenda for the public hearing scheduled on June 7, 2024. The version of PAR 463 that was circulated with the Draft EA for a 30-day public review and comment period from March 27, 2024 to April 26, 2024 was identified as the "Preliminary Draft Rule PAR 463, revision date March 22, 2024," which is available from the South Coast AQMD's website at: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-463/par-463-preliminary-draft-rule-language.pdf. An original hard copy of the Draft EA, which included the draft version of PAR 463 listed above, can be obtained through the South Coast AQMD Public Information Center by phone at (909) 396-2001 or by email at PICrequests@aqmd.gov.

APPENDIX B

Modeling Files, Assumptions, and Calculations

Peak Daily Construction Impacts by Construction Activity and Season (lb/day for Criteria Pollutants, MT/yr for GHG)

Doming 1 External Floating Roof Tank

	VOC	NOx	CO	SO_2	PM10T	PM2.5T	CO_2e
Winter	1.37	10.90	13.40	0.03	0.67	0.40	
Summer	1.37	10.90	13.20	0.03	0.67	0.40	
Max	1.37	10.90	13.40	0.03	0.67	0.40	118

Installing Additional Roof Seals for 1 Internal Floating Roof Tank

	VOC	NOx	CO	SO_2	PM10T	PM2.5T	CO_2e
Winter	0.51	3.95	5.32	0.01	0.45	0.19	24
Summer	0.52	3.93	5.55	0.01	0.45	0.19	26
Max	0.52	3.95	5.55	0.01	0.45	0.19	26

Doming 5 External Floating Roof Tanks and Installing Additional Roof Seals for 11 Internal Floating Roof Tanks

	VOC	NOx	CO	SO_2	PM10T	PM2.5T
Max	12.57	97.95	128.05	0.26	8.30	4.09

Doming 20 External Floating Roof Tanks and Installing Additional Roof Seals for 22 Internal Floating Roof Tanks

CO_2e
97

PAR 463-Dome Detailed Report

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5.18.1.1. Unmitigated

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	PAR 463-Dome
Construction Start Date	2/6/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	16.0
Location	33.78242008132466, -118.2666105636882
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4641
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Heavy Industry	36.0	1000sqft	0.83	36,000	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.65	1.37	10.9	13.4	0.03	0.35	0.32	0.67	0.32	0.08	0.40	—	2,683	2,683	0.11	0.05	1.40	2,702
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.65	1.37	10.9	13.2	0.03	0.35	0.32	0.67	0.32	0.08	0.40	—	2,668	2,668	0.11	0.05	0.04	2,685
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.44	0.36	2.90	3.51	0.01	0.09	0.09	0.18	0.09	0.02	0.11	—	710	710	0.03	0.01	0.16	715
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.07	0.53	0.64	< 0.005	0.02	0.02	0.03	0.02	< 0.005	0.02	—	118	118	< 0.005	< 0.005	0.03	118

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2026	1.65	1.37	10.9	13.4	0.03	0.35	0.32	0.67	0.32	0.08	0.40	—	2,683	2,683	0.11	0.05	1.40	2,702
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.65	1.37	10.9	13.2	0.03	0.35	0.32	0.67	0.32	0.08	0.40	—	2,668	2,668	0.11	0.05	0.04	2,685
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.44	0.36	2.90	3.51	0.01	0.09	0.09	0.18	0.09	0.02	0.11	—	710	710	0.03	0.01	0.16	715
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.08	0.07	0.53	0.64	< 0.005	0.02	0.02	0.03	0.02	< 0.005	0.02	—	118	118	< 0.005	< 0.005	0.03	118

3. Construction Emissions Details

3.1. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.59	1.32	10.7	12.0	0.02	0.35	—	0.35	0.32	—	0.32	—	2,243	2,243	0.09	0.02	—	2,251
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.59	1.32	10.7	12.0	0.02	0.35	—	0.35	0.32	—	0.32	—	2,243	2,243	0.09	0.02	—	2,251
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.42	0.35	2.84	3.19	0.01	0.09	—	0.09	0.09	—	0.09	—	596	596	0.02	< 0.005	—	598
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.06	0.52	0.58	< 0.005	0.02	—	0.02	0.02	—	0.02	—	98.7	98.7	< 0.005	< 0.005	—	99.0
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.08	1.31	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	291	291	0.01	0.01	0.99	295
Vendor	0.01	< 0.005	0.13	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.41	156
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.09	1.09	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	276	276	0.01	0.01	0.03	279
Vendor	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.01	155
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.03	0.31	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	74.4	74.4	< 0.005	< 0.005	0.11	75.3
Vendor	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	39.5	39.5	< 0.005	0.01	0.05	41.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.02	12.5

Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.55	6.55	< 0.005	< 0.005	0.01	6.84
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Building Construction	Building Construction	1/1/2026	4/23/2026	6.00	97.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Cranes	Diesel	Average	1.00	10.0	367	0.29
Building Construction	Air Compressors	Diesel	Average	1.00	10.0	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	10.0	82.0	0.20

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	—	—	—	—
Building Construction	Worker	10.0	40.0	LDA,LDT1,LDT2
Building Construction	Vendor	1.00	50.0	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Heavy Industry	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	690	0.05	0.01

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	5.07	annual days of extreme heat
Extreme Precipitation	4.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	17.6

AQ-PM	67.2
AQ-DPM	99.3
Drinking Water	42.4
Lead Risk Housing	91.8
Pesticides	0.00
Toxic Releases	97.1
Traffic	23.6
Effect Indicators	—
CleanUp Sites	71.7
Groundwater	76.2
Haz Waste Facilities/Generators	62.6
Impaired Water Bodies	0.00
Solid Waste	52.9
Sensitive Population	—
Asthma	83.0
Cardio-vascular	92.8
Low Birth Weights	72.9
Socioeconomic Factor Indicators	—
Education	99.6
Housing	58.2
Linguistic	97.3
Poverty	97.4
Unemployment	91.3

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract

Economic	—
Above Poverty	3.734120364
Employed	20.67239831
Median HI	8.109842166
Education	—
Bachelor's or higher	1.706659823
High school enrollment	20.74939048
Preschool enrollment	24.62466316
Transportation	—
Auto Access	9.085076351
Active commuting	86.1157449
Social	—
2-parent households	52.29051713
Voting	11.8311305
Neighborhood	—
Alcohol availability	4.516874118
Park access	81.35506224
Retail density	53.26575132
Supermarket access	94.25125112
Tree canopy	9.559861414
Housing	—
Homeownership	5.427948159
Housing habitability	2.361093289
Low-inc homeowner severe housing cost burden	14.65417683
Low-inc renter severe housing cost burden	73.7071731
Uncrowded housing	0.192480431
Health Outcomes	—

Insured adults	3.002694726
Arthritis	74.6
Asthma ER Admissions	21.3
High Blood Pressure	64.8
Cancer (excluding skin)	96.9
Asthma	13.4
Coronary Heart Disease	40.3
Chronic Obstructive Pulmonary Disease	22.0
Diagnosed Diabetes	11.9
Life Expectancy at Birth	10.9
Cognitively Disabled	46.5
Physically Disabled	63.7
Heart Attack ER Admissions	21.1
Mental Health Not Good	2.6
Chronic Kidney Disease	20.1
Obesity	3.6
Pedestrian Injuries	98.5
Physical Health Not Good	2.9
Stroke	29.9
Health Risk Behaviors	—
Binge Drinking	69.8
Current Smoker	4.4
No Leisure Time for Physical Activity	4.2
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	3.5

Elderly	97.8
English Speaking	3.7
Foreign-born	92.7
Outdoor Workers	6.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	3.2
Traffic Density	49.8
Traffic Access	87.4
Other Indices	—
Hardship	99.2
Other Decision Support	—
2016 Voting	0.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	95.0
Healthy Places Index Score for Project Location (b)	6.00
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	Wilmington Long Beach Carson

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	PAR 1178 was used as a referenced.
Construction: Off-Road Equipment	The hours of operation was revised from 6 to 8 for worst case scenario.
Construction: Trips and VMT	Referenced Final EA or PAR 1178.

PAR 463-Seals-Summer Detailed Report

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5.18.1. Land Use Change

5.18.1.1. Unmitigated

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	PAR 463-Seals-Summer
Construction Start Date	6/1/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	16.0
Location	33.782633950840065, -118.26814130827408
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4640
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Heavy Industry	36.0	1000sqft	0.83	36,000	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.62	0.52	3.93	5.55	0.01	0.13	0.32	0.45	0.12	0.08	0.19	—	1,246	1,246	0.05	0.04	1.40	1,260
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.06	0.49	0.66	< 0.005	0.02	0.04	0.06	0.01	0.01	0.02	—	152	152	0.01	< 0.005	0.07	154
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.09	0.12	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.2	25.2	< 0.005	< 0.005	0.01	25.5

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.62	0.52	3.93	5.55	0.01	0.13	0.32	0.45	0.12	0.08	0.19	—	1,246	1,246	0.05	0.04	1.40	1,260
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.08	0.06	0.49	0.66	< 0.005	0.02	0.04	0.06	0.01	0.01	0.02	—	152	152	0.01	< 0.005	0.07	154
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.01	0.01	0.09	0.12	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.2	25.2	< 0.005	< 0.005	0.01	25.5

3. Construction Emissions Details

3.1. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	3.72	4.18	0.01	0.12	—	0.12	0.11	—	0.11	—	807	807	0.03	0.01	—	809
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.46	0.52	< 0.005	0.02	—	0.02	0.01	—	0.01	—	99.4	99.4	< 0.005	< 0.005	—	99.8
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.5	16.5	< 0.005	< 0.005	—	16.5

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.08	1.31	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	291	291	0.01	0.01	0.99	295
Vendor	0.01	< 0.005	0.13	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.41	156
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	34.5	34.5	< 0.005	< 0.005	0.05	34.9
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	18.3	18.3	< 0.005	< 0.005	0.02	19.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.71	5.71	< 0.005	< 0.005	0.01	5.78
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.04	3.04	< 0.005	< 0.005	< 0.005	3.17
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Building Construction	Building Construction	6/1/2026	8/1/2026	5.00	45.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Air Compressors	Diesel	Average	1.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	—	—	—	—
Building Construction	Worker	10.0	40.0	LDA,LDT1,LDT2
Building Construction	Vendor	1.00	50.0	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Heavy Industry	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	690	0.05	0.01

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	5.07	annual days of extreme heat
Extreme Precipitation	4.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2

Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	20.8
AQ-PM	67.2
AQ-DPM	59.7
Drinking Water	42.4
Lead Risk Housing	94.8
Pesticides	44.1
Toxic Releases	98.0
Traffic	32.5
Effect Indicators	—
CleanUp Sites	28.7
Groundwater	79.1

Haz Waste Facilities/Generators	43.7
Impaired Water Bodies	0.00
Solid Waste	37.6
Sensitive Population	—
Asthma	83.0
Cardio-vascular	92.8
Low Birth Weights	35.6
Socioeconomic Factor Indicators	—
Education	88.7
Housing	64.5
Linguistic	80.2
Poverty	71.7
Unemployment	74.1

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	28.7052483
Employed	80.73912486
Median HI	28.56409598
Education	—
Bachelor's or higher	11.58732196
High school enrollment	100
Preschool enrollment	70.15270114
Transportation	—
Auto Access	15.9373797

Active commuting	71.46156807
Social	—
2-parent households	29.78313871
Voting	18.19581676
Neighborhood	—
Alcohol availability	4.516874118
Park access	81.35506224
Retail density	92.85255999
Supermarket access	94.25125112
Tree canopy	32.76016938
Housing	—
Homeownership	26.45964327
Housing habitability	13.98691133
Low-inc homeowner severe housing cost burden	62.17117926
Low-inc renter severe housing cost burden	30.28358784
Uncrowded housing	5.889901193
Health Outcomes	—
Insured adults	9.008084178
Arthritis	88.1
Asthma ER Admissions	21.3
High Blood Pressure	81.4
Cancer (excluding skin)	93.3
Asthma	55.1
Coronary Heart Disease	69.4
Chronic Obstructive Pulmonary Disease	74.0
Diagnosed Diabetes	29.7
Life Expectancy at Birth	13.0

Cognitively Disabled	70.6
Physically Disabled	57.4
Heart Attack ER Admissions	21.1
Mental Health Not Good	27.8
Chronic Kidney Disease	35.4
Obesity	19.4
Pedestrian Injuries	94.5
Physical Health Not Good	27.0
Stroke	70.4
Health Risk Behaviors	—
Binge Drinking	32.5
Current Smoker	39.2
No Leisure Time for Physical Activity	26.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	15.5
Elderly	91.2
English Speaking	12.1
Foreign-born	75.5
Outdoor Workers	37.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	11.6
Traffic Density	71.5
Traffic Access	87.4
Other Indices	—
Hardship	81.2

Other Decision Support	—
2016 Voting	11.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	85.0
Healthy Places Index Score for Project Location (b)	34.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	Wilmington Long Beach Carson

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Referenced Final EA for PAR 1178.
Construction: Off-Road Equipment	Reference Final EA for PAR 1178.
Construction: Trips and VMT	Reference Final EA for PAR 1178.

PAR 463- Seals-Winter Detailed Report

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5.18.1. Land Use Change

5.18.1.1. Unmitigated

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	PAR 463- Seals-Winter
Construction Start Date	1/1/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	16.0
Location	33.782633950840065, -118.26814130827408
County	Los Angeles-South Coast
City	Los Angeles
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4640
EDFZ	16
Electric Utility	Los Angeles Department of Water & Power
Gas Utility	Southern California Gas
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Heavy Industry	36.0	1000sqft	0.83	36,000	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.62	0.51	3.95	5.32	0.01	0.13	0.32	0.45	0.12	0.08	0.19	—	1,231	1,231	0.05	0.04	0.04	1,243
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.07	0.06	0.46	0.62	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	142	142	0.01	< 0.005	0.07	144
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.08	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.5	23.5	< 0.005	< 0.005	0.01	23.8

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.62	0.51	3.95	5.32	0.01	0.13	0.32	0.45	0.12	0.08	0.19	—	1,231	1,231	0.05	0.04	0.04	1,243

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.07	0.06	0.46	0.62	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	142	142	0.01	< 0.005	0.07	144
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.01	0.01	0.08	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	23.5	23.5	< 0.005	< 0.005	0.01	23.8

3. Construction Emissions Details

3.1. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	3.72	4.18	0.01	0.12	—	0.12	0.11	—	0.11	—	807	807	0.03	0.01	—	809
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.43	0.48	< 0.005	0.01	—	0.01	0.01	—	0.01	—	92.8	92.8	< 0.005	< 0.005	—	93.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.4	15.4	< 0.005	< 0.005	—	15.4

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.09	1.09	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	276	276	0.01	0.01	0.03	279
Vendor	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	149	149	< 0.005	0.02	0.01	155
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	32.2	32.2	< 0.005	< 0.005	0.05	32.6
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	17.1	17.1	< 0.005	< 0.005	0.02	17.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.33	5.33	< 0.005	< 0.005	0.01	5.40
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.83	2.83	< 0.005	< 0.005	< 0.005	2.96
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Building Construction	Building Construction	1/1/2026	3/1/2026	5.00	42.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Air Compressors	Diesel	Average	1.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	—	—	—	—
Building Construction	Worker	10.0	40.0	LDA,LDT1,LDT2
Building Construction	Vendor	1.00	50.0	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Heavy Industry	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	690	0.05	0.01

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	5.07	annual days of extreme heat
Extreme Precipitation	4.20	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2

Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	20.8
AQ-PM	67.2
AQ-DPM	59.7
Drinking Water	42.4
Lead Risk Housing	94.8
Pesticides	44.1
Toxic Releases	98.0
Traffic	32.5
Effect Indicators	—
CleanUp Sites	28.7
Groundwater	79.1

Haz Waste Facilities/Generators	43.7
Impaired Water Bodies	0.00
Solid Waste	37.6
Sensitive Population	—
Asthma	83.0
Cardio-vascular	92.8
Low Birth Weights	35.6
Socioeconomic Factor Indicators	—
Education	88.7
Housing	64.5
Linguistic	80.2
Poverty	71.7
Unemployment	74.1

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	28.7052483
Employed	80.73912486
Median HI	28.56409598
Education	—
Bachelor's or higher	11.58732196
High school enrollment	100
Preschool enrollment	70.15270114
Transportation	—
Auto Access	15.9373797

Active commuting	71.46156807
Social	—
2-parent households	29.78313871
Voting	18.19581676
Neighborhood	—
Alcohol availability	4.516874118
Park access	81.35506224
Retail density	92.85255999
Supermarket access	94.25125112
Tree canopy	32.76016938
Housing	—
Homeownership	26.45964327
Housing habitability	13.98691133
Low-inc homeowner severe housing cost burden	62.17117926
Low-inc renter severe housing cost burden	30.28358784
Uncrowded housing	5.889901193
Health Outcomes	—
Insured adults	9.008084178
Arthritis	88.1
Asthma ER Admissions	21.3
High Blood Pressure	81.4
Cancer (excluding skin)	93.3
Asthma	55.1
Coronary Heart Disease	69.4
Chronic Obstructive Pulmonary Disease	74.0
Diagnosed Diabetes	29.7
Life Expectancy at Birth	13.0

Cognitively Disabled	70.6
Physically Disabled	57.4
Heart Attack ER Admissions	21.1
Mental Health Not Good	27.8
Chronic Kidney Disease	35.4
Obesity	19.4
Pedestrian Injuries	94.5
Physical Health Not Good	27.0
Stroke	70.4
Health Risk Behaviors	—
Binge Drinking	32.5
Current Smoker	39.2
No Leisure Time for Physical Activity	26.6
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	15.5
Elderly	91.2
English Speaking	12.1
Foreign-born	75.5
Outdoor Workers	37.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	11.6
Traffic Density	71.5
Traffic Access	87.4
Other Indices	—
Hardship	81.2

Other Decision Support	—
2016 Voting	11.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	85.0
Healthy Places Index Score for Project Location (b)	34.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	Wilmington Long Beach Carson

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Referenced Final EA for PAR 1178.
Construction: Off-Road Equipment	Reference Final EA for PAR 1178.
Construction: Trips and VMT	Referenced Final EA for PAR 1178.

On-Road Vehicles, VMT + Fuel Usage (As Published in the Draft EA)

Activity	Description	Trip Distance (miles)	Number Trips/yr	VMT	Fuel Type	MPG	Fuel Use (Gal/yr)
Doming 20 External Floating Roof Tanks	Equipment Delivery - Heavy-Heavy Duty Vendor Trucks	50	1940	97000	Diesel	6.4	15,226
	Equipment Installation - Passenger Auto	40	1940	77600	Gas	27.0	2,871
Installing Additional Seals for 22 Internal Flaoting Roof Tanks	Equipment Delivery - Heavy-Heavy Duty Vendor Trucks	50	924	46200	Diesel	6.4	7,252
	Equipment Installation - Passenger Auto	40	924	36960	Gas	27.0	1,367

Fuel Usage = VMT / MPG

Offroad Equipment Fuel Usage

Activity	Equipment	Number of Equipment	Usage Hours/day	Horse power	Load Factor	Fuel Rate (Gal/hr)	Fuel Use (Gal/day)
Doming 20 External Floating Roof Tanks	Cranes	20	10	367	0.29	3.4	199.7
	Welders	60	10	82	0.2	1.5	174.7
	Air Compressors	20	10	84	0.37	1.1	82.1
Installing Additional Seals for 22 Internal Flaoting Roof Tanks	Cranes	22	4	367	0.29	3.4	87.9
	Air Compressors	22	8	84	0.37	1.1	72.2
Total Diesel Fuel Usage from Offroad Equipment (Gal/yr)							50996.2

Fuel Usage = Hours/day * Days * Load Factor * Fuel Rate

Notes: Horsepower and Load Factor from CalEEMod version 2022.1.1.3

Fuel Type	Construction
Diesel Fuel Usage (Gallons)	73,474
Gas Fuel Usage (Gallons)	4,238

Annual Total Projected Fuel Usage for Construction Activities		
	Diesel	**Gasoline**
Projected Operational Energy Use (gal/yr)[a]	73,474	4,238
Year 2017 South Coast AQMD Jurisdiction Estimated Fuel Demand (gal/yr)	775,000,000	7,086,000,000
Total Increase Above Baseline	0.00948%	0.000060%
Significance Threshold	1%	1%
Significant?	**No**	**No**

Notes:

[a] Estimated peak fuel usage from construction activities. Diesel usage estimates are based on the vendor trips and offroad equipment. Gasoline usage estimates are derived from worker trips.

ATTACHMENT I

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Socioeconomic Impact Assessment For: Proposed Amended Rule 463 – Organic Liquid Storage

June 2024

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EXECUTIVE SUMMARY

On March 17, 1989, the South Coast Air Quality Management District (South Coast AQMD) Governing Board adopted a resolution which requires an analysis of the economic impacts associated with adopting and amending rules and regulations. In addition, Health and Safety Code Section 40440.8 requires a socioeconomic impact assessment for any proposed rule, rule amendment, or rule repeal which "will significantly affect air quality or emissions limitations." Lastly, Health and Safety Code Section 40920.6 requires an incremental cost-effectiveness analysis for a proposed rule or amendment which imposes Best Available Retrofit Control Technology (BARCT) or "all feasible measures" requirements relating to emissions of ozone, carbon monoxide (CO), sulfur oxides (SOx), nitrogen oxides (NOx), volatile organic compounds (VOC), and their precursors.

Proposed Amended Rule 463 (PAR 463) has been developed to reduce VOC emissions from the storage of organic liquids in above-ground tanks and establish contingency measures for applicable ozone standards in order to have a backstop for achieving the VOC emission reductions. A socioeconomic impact assessment has been conducted accordingly, and the following presents a summary of the analysis and findings.

Key Elements of PAR 463

PAR 463 would reduce VOC emissions from storage tanks by requiring periodic optical gas imaging (OGI) inspections at affected facilities, doming for external floating roof (EFR) storage tanks, installation of secondary seals on internal floating roof (IFR) storage tanks, and increased control efficiency and performance testing for fixed-roof tank vapor recovery units (VRUs).

Affected Facilities and Industries

PAR 463 is applicable to approximately 1,600 tanks located at 429 facilities, with 320 located in Los Angeles County, 94 located in Orange County, 10 located in San Bernardino County, and five located in Riverside County. The 429 facilities are distributed according to their applicable North American Industrial Classification System (NAICS) codes as follows: 336 facilities are classified under the Oil and Gas Extraction industry (NAICS 211); 30 facilities are classified under the Wholesale Trade industry (NAICS 42); 18 facilities are Petroleum and Coal Products Manufacturers (NAICS 324); and the remaining facilities are spread over various industry sectors.

A small business analysis was conducted for the facilities affected by PAR 463. The following table presents the number of affected facilities that qualify as a small business which is dependent on the specific applicable definition used in the analysis:

Definition	Number of Facilities
South Coast AQMD Rule 102	63
South Coast AQMD's Small Business Assistance Office	262
U.S. Small Business Administration	282

Assumptions for the Analysis

The key requirements of PAR 463 that would have cost impacts for the affected facilities include: 1) periodic OGI inspections; 2) doming of EFR storage tanks; 3) installation of secondary seals on IFR storage tanks; and 4) periodic performance testing on fixed-roof storage tank VRUs.

Approximately 1,600 storage tanks would be subject to PAR 463. However, only the following would be subject to PAR 463 OGI requirements: 1) stationary above-ground tanks with a capacity > 19,815 gallons storing organic liquid with a true vapor pressure (TVP) ≥ 1.5 psi; 2) above-ground stationary tanks with a capacity ≥ 39,630 gallons storing organic liquid with TVP ≥ 0.5 psi; 3) above-ground tanks used to store gasoline with capacity between 251 gallons and 19,815 gallons; and 4) stationary tanks with a potential for VOC emissions of six tons per year or greater used in Crude Oil And Natural Gas Production Operations. Given these thresholds, approximately 679 storage tanks located at 429 facilities, which are owned by 91 companies will be subject to the OGI requirements.

PAR 463 would require the doming of EFR tanks storing organic liquid with a TVP of 3 psia or greater at the next internal API 653 inspection or the next time a tank is cleaned and degassed, but not to exceed 23 years after a test verifies that an organic liquid stored has a TVP of 3 psia or greater. Staff identified approximately 89 EFR storage tanks and estimated that 20 out of the 89 EFR tanks will need to install domes.

PAR 463 would require the installation of secondary seals on IFR storage tanks. Staff identified approximately 98 IFR storage tanks within the PAR 463 universe and estimated 22 out of the 98 IFR tanks would need to install secondary seals. Installation would be required the next time the tanks are cleaned and degassed, but no later than 22 years after the date of adoption of PAR 463.

Lastly, PAR 463 would require performance testing on fixed-roof tank VRUs to ensure they meet the 98 percent efficiency standard. Staff identified approximately 479 storage tanks that will need VRU performance testing.

The cost analysis uses a forecast period from 2024-2080 in order to annualize all the costs associated with doming and secondary seal installation within equipment lifetime. The cost estimates of complying with

PAR 463 over the period from 2024-2080 take into account: 1) the payment of permit fees pertaining to secondary seal and VRU performance testing requirement in 2024; 2) the purchase of OGI cameras in 2025; 3) payment of permit fees pertaining to doming requirement in 2025; 4) the purchase and installation of secondary seals in 2026; 5) the purchase and installation of domes and fire suppression systems in 2027; and 6) performance testing every 10 years for fixed-roof tank VRUs beginning with an initial performance test in 2025.

Compliance Costs

The total present value of the compliance costs of PAR 463 is estimated at $147.60 million and $71.77 million with a 1 percent and 4 percent discount rate, respectively. The average annual compliance costs of PAR 463 are estimated to range from $2.95 million to $3.47 million, for a 1 percent to 4 percent real interest rate, respectively. The following table presents a summary of the average annual cost of PAR 463 by cost category.

	Annual Average Cost of PAR 463 (2024 – 2080)	
Cost Categories	**1% Real Interest Rate**	**4% Real Interest Rate**
Capital/One-time Costs		
Domed EFR - Materials	$212,052	$375,747
Domed EFR - Installation	$212,052	$375,747
Domed EFR - Permitting	$2,824	$5,004
Domed EFR - Title V Fee (Permit Revision)	$749	$1,327
Domed EFR - Fire Suppression System	$40,483	$71,733
Secondary Seal - Installation and Materials	$17,820	$22,979
Secondary Seal - Title V Fee (Permit Revision)	$1,180	$1,521
Secondary Seal - Permitting	$4,538	$5,852
OGI Camera	$1,121,514	$1,271,843
VRU - Title V Revision and Permitting	$1,403	$1,403
Recurring Costs		
Domed EFR - Operating and Maintenance	$48,421	$48,421
Secondary Seal - Operating and Maintenance	$5,118	$5,118
OGI - Operating and Maintenance	$134,105	$134,105
OGI - Inspection Labor	$929,796	$929,796
VRU Testing	$218,491	$218,491
Total	**$2,950,547**	**$3,469,089**

Using a 4 percent real interest rate, this analysis indicates roughly 67 percent of the annual average compliance cost would result from OGI inspections, followed by doming (25 percent), VRU testing (6 percent), and secondary seals (1 percent).

Job Impacts

Direct costs and corresponding revenues of PAR 463 are used as inputs to the Regional Economic Models, Inc (REMI PI+) model to assess job impacts and secondary/induced impacts for all the industries in the four-county economy on an annual basis from 2024 to 2080.

When the compliance cost is annualized using a 4 percent real interest rate, the REMI analysis forecasted 25 net jobs foregone annually in the 4-county economy on average over the forecast period, relative to the baseline forecast. The 25 annual jobs forgone represent approximately 0.0002 percent of total annual jobs in the four-county area.

The largest job loss is projected to occur in 2056, when most of the PAR 463 requirements that have cost impacts are fully implemented. In 2056, PAR 463 is projected to result in 43 jobs foregone relative to the baseline scenario according to the REMI model simulation.

Competitiveness and Price Impacts

The overall impact of PAR 463 on production cost and delivered prices in the region is not expected to be substantial. According to the REMI Model, PAR 463 is projected to increase the relative delivered price of products produced by the Oil and Gas Extraction industry by a maximum of 0.016 percent in 2025, relative to the baseline. The relative cost of production for the Oil and Gas Extraction industry is forecasted to increase by a maximum of 0.488 percent relative to the baseline scenario, which is expected to occur in 2025.

INTRODUCTION

Rule 463 – Organic Liquid Storage, limits VOC emissions from tanks storing organic liquids. This rule applies to any above-ground stationary tank with a capacity of 19,815 gallons or greater used for storage of organic liquids, and any above-ground tank with a capacity between 251 gallons and 19,815 gallons used for storage of gasoline. Rule 463 also applies to stationary tanks with a potential for VOC emissions of six tons per year (tpy) or more used in crude oil and natural gas production operations. Rule 463 requires tanks that meet the capacity and vapor pressure requirements to install control equipment based on tank type. Control requirements include specifications for tank roofs, seals, emission control systems, and covers for roof openings. For some specific types of tanks, inspection and monitoring is also required. Rule 463 tank types include fixed roof, internal floating roof (IFR), and external floating roof (EFR). Rule 463 was adopted in August 1977 and last amended in 2023.

PAR 463 was developed to further limit VOC emissions from tanks storing organic liquids by establishing more stringent leak detection and control requirements. Specifically, PAR 463 seeks to establish requirements for: 1) periodic OGI inspections with contingency measures to fulfill ozone attainment plan requirements; 2) doming EFR storage tanks; 3) installing secondary seals on IFR storage tanks; and 4) increasing the control efficiency on fixed-roof storage tank VRUs.[1]

PAR 463 would affect approximately 1,600 storage tanks at 429 facilities in the South Coast AQMD jurisdiction.

LEGISLATIVE MANDATES

The legal mandates directly related to the socioeconomic impact assessment of PAR 463 include South Coast AQMD Governing Board resolutions and various sections of the Health and Safety Code.

South Coast AQMD Governing Board Resolution

On March 17, 1989, the South Coast AQMD Governing Board adopted a resolution that requires an analysis of the economic impacts associated with adopting and amending rules and regulations that considers all of the following elements:

- Affected industries;
- Range of probable costs;
- Cost-effectiveness of control alternatives; and
- Public health benefits.

Health and Safety Code Requirements

The state legislature adopted legislation which reinforces and expands the South Coast AQMD Governing Board resolution requiring socioeconomic impact assessments for rule development projects. Health and Safety Code Section 40440.8, which went into effect on January 1, 1991, requires a socioeconomic impact assessment for any proposed rule, rule amendment, or rule repeal

[1] For more information and background on why PAR 463 was developed, ~~the Coachella Valley Contingency Measure State Implementation Plan (SIP)~~ please see Chapter 1 Background Section of Draft Staff Report for PAR 463, https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-463. The Final Staff Report is located in Attachment G of the June 7, 2024 Governing Board package for PAR 463, which upon posting, will be available 72 hours prior to the Governing Board meeting at https://www.aqmd.gov/home/news-events/meeting-agendas-minutes.

which "will significantly affect air quality or emissions limitations."

To satisfy the requirements in Health and Safety Code Section 40440.8, the scope of the socioeconomic impact assessment should include all of the following information:

- Type of affected industries;
- Impact on employment and the regional economy;
- Range of probable costs, including those to industry;
- Availability and cost-effectiveness of alternatives to the rule;
- Emission reduction potential; and
- Necessity of adopting, amending, or repealing the rule in order to attain state and federal ambient air quality standards.

Health and Safety Code Section 40728.5, which went into effect on January 1, 1992, requires the South Coast AQMD Governing Board to: 1) actively consider the socioeconomic impacts of regulations; 2) make a good faith effort to minimize adverse socioeconomic impacts; and 3) include small business impacts. To satisfy the requirements in Health and Safety Code Section 40728.5, the socioeconomic impact assessment should include the following information:

- Type of industries or business affected, including small businesses; and
- Range of probable costs, including costs to industry or business, including small business.

Finally, Health and Safety Code Section 40920.6, which went into effect on January 1, 1996, requires an incremental cost-effectiveness analysis for a proposed rule or amendment which imposes Best Available Retrofit Control Technology (BARCT) or "all feasible measures" requirements relating to emissions of ozone, carbon monoxide (CO), sulfur oxides (SOx), nitrogen oxides (NOx), VOC, and their precursors. A cost-effectiveness analysis was conducted for PAR 463 and can be found in Chapter 4 of the PAR 463 ~~Draft~~ Final Staff Report.[2]

AFFECTED FACILITIES

PAR 463 would affect 1,600 storage tanks at 429 facilities in the four-county area. Out of the 429 affected facilities, 320 are located in Los Angeles County, 94 are located in Orange County, 10 are located in San Bernardino County, and five are located in Riverside County. Table 1 presents the number of affected facilities by industry. The majority of the affected facilities are in the Oil and Gas extraction sector (78.3 percent), followed by the Wholesale Trade sector (7.0 percent) and the Petroleum and Coal Products Manufacturing sector (4.2 percent).

[2] South Coast AQMD, Draft Staff Report for Proposed Amended Rule 463 – Organic Storage Liquid, http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-463/par-463-draft-staff-report-5-7-24.pdf, accessed May 2024. The Final Staff Report is located in Attachment G of the June 7, 2024 Governing Board package for PAR 463, which upon posting, will be available 72 hours prior to the Governing Board meeting at https://www.aqmd.gov/home/news-events/meeting-agendas-minutes.

Table 1
Affected Facilities by Industry

NAICS	Industry Name	Number of Facilities	Percentage of Facilities
211	Oil and gas extraction	336	78.3%
42	Wholesale trade	30	7.0%
324	Petroleum and coal products manufacturing	18	4.2%
325	Chemical manufacturing	9	2.1%
493	Warehousing and storage	7	1.6%
562	Waste management and remediation services	6	1.4%
486	Pipeline transportation	5	1.2%
213	Support activities for mining	3	0.7%
327	Nonmetallic mineral product manufacturing	2	0.5%
339	Miscellaneous manufacturing	2	0.5%
312	Beverage and tobacco product manufacturing	2	0.5%
92	State and Local Government	1	0.2%
22	Utilities	1	0.2%
811	Repair and maintenance	1	0.2%
54	Professional, scientific, and technical services	1	0.2%
332	Fabricated metal product manufacturing	1	0.2%
311	Food manufacturing	1	0.2%
326	Plastics and rubber product manufacturing	1	0.2%
481	Air transportation	1	0.2%
622	Hospitals	1	0.2%
Total		**429**	100%

SMALL BUSINESS

The South Coast AQMD defines a "small business" in Rule 102 for purposes of fees as one which employs 10 or fewer persons and which earns less than $500,000 in gross annual receipts. The South Coast AQMD also defines "small business" for the purpose of qualifying for access to services from the South Coast AQMD's Small Business Assistance Office as a business with an annual receipt of $5 million or less, or with 100 or fewer employees. In addition to the South Coast AQMD's definition of a small business, the United States (U.S.) Small Business Administration and the federal 1990 Clean Air Act Amendments (1990 CAAA) each have their own definition of a small business.

The 1990 CAAA classifies a business as a "small business stationary source" if it: 1) employs 100 or fewer employees; 2) does not emit more than 10 tons per year of either VOC or NOx; and 3) is a small business as defined by the U.S. Small Business Administration. Based on firm revenue and employee count, the U.S. Small Business Administration definition of a small business varies by six-digit NAICS codes.[3] For example, according to the U.S. Small Business Administration definition, a business with less than 1,250 employees in the sector of Crude Petroleum Extraction (NAICS 211120) is classified as a small business, while a business in the Petroleum Bulk Stations

[3] U.S. Small Business Administration, 2023 Small Business Size Standards, https://www.sba.gov/document/support-table-size-standards, accessed March 29, 2024.

and Terminals (NAICS 424710) sector is considered a small business with only 225 employees.

South Coast AQMD mostly relies on Dun & Bradstreet data to conduct small business analyses for private companies. In cases where the Dun & Bradstreet data are unavailable or unreliable, other external data sources such as Manta, Hoover, LinkedIn, and company website data will be used. The determination of data reliability is based on data quality confidence codes in the Dun & Bradstreet data as well as staff's discretion. Revenue and employee data for publicly owned companies are gathered from Securities and Exchange Commission (SEC) filings. Since subsidiaries under the same parent company are interest-dependent, the revenue and employee data of a facility's parent company will be used for the determination of its small business status. Staff excluded government owned facilities from the small business analysis, which left 423 of the 429 affected facilities. Employment and revenue estimates from 2024 Dun and Bradstreet data as well as other external sources are available for only 378 facilities. Note that although the employment and revenue data for some facilities are unknown or missing, the current data used for this small business analysis represent the most thorough and accurate information obtainable as of the date of this ~~draft~~ report. The number of affected facilities that are small businesses based on each of the three definitions is presented in Table 2.:

Table 2
Number of Affected Small Business Facilities Based on Various Definitions

Definition	Number of Facilities
South Coast AQMD Rule 102	63
South Coast AQMD's Small Business Assistance Office	262
U.S. Small Business Administration	282

Note that staff was unable to conduct a small business analysis for the 1990 CAAA definition of a small business as most of the facilities are not required to submit annual emission reports pursuant to South Coast AQMD Rule 222.[4]

[4] South Coast AQMD, Rule 222 – Filling Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation II, https://www.aqmd.gov/docs/default-source/rule-book/reg-ii/Rule-222.pdf, accessed April 11, 2024.

COMPLIANCE COST

The key requirements of PAR 463 that would have cost impacts for the affected facilities include: 1) periodic OGI inspections for leak detection; 2) doming of EFR storage tanks; 3) installation of secondary seals on IFR storage tanks; and 4) periodic performance testing on fixed-roof storage tank VRUs.

PAR 463 would require one-time investments in: 1) OGI cameras; 2) doming materials and installation; 3) fire suppression systems for EFR tanks that will be domed; 4) secondary seal materials and installation; and 5) permit and Title V revision fees. In addition, the affected facilities would also incur recurring O&M costs for domes, secondary seals, and OGI cameras, bi-weekly labor costs for OGI inspections, and performance testing costs on fixed-roof tank VRUs every 10 years. The compliance cost for PAR 463 is forecasted for a 57-year period from 2024 to 2080.

Costs assumptions for PAR 463 were obtained from a variety of sources including the 2023 rule amendments for Rule 1178 and the ongoing rule development for Proposed Amended Rule 1148.1.[5,6] All the costs discussed in this Socioeconomic Impact Assessment are presented in 2023 dollars. The estimation procedure and assumptions for each cost category are discussed in the following sections.

Capital or One-Time Costs

Doming

PAR 463 requires facilities to install a dome on each EFR tank storing organic liquid with a TVP of 3 psia or greater. A domed roof is defined as a self-supporting fixed roof attached to the top of an EFR tank to reduce evaporative losses.[7] Staff identified 89 EFR tanks that would potentially be affected by PAR 463 doming requirements. According to the PAR 463 ~~Draft~~ Final Staff Report, a random sample of 35 EFR tanks from the total affected universe of 89 tanks indicated that eight tanks (23%) already have domes installed, 20 tanks (57%) are below the TVP threshold, and seven tanks (20%) would be required to install domes. In addition, in response to stakeholders' comments, the number of tanks relied upon to conduct a cost analysis for doming was increased from seven to nine to include two additional tanks with diameters of 253 and 299 feet, respectively. Staff estimated that 20 tanks would be required to have domes installed in accordance with PAR 463 requirements. The timing of when the domes would be installed on EFR tanks is expected to occur during the next internal API 653 inspection or the next time a tank is cleaned and degassed, but not to exceed 23 years after a test verifies that the organic liquid stored in a tank has a TVP of

[5] South Coast AQMD, September 2023, Governing Board Meeting Agenda No. 34, Rule 1178 - Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities Amendment Process, http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2023/2023-Sep1-034.pdf, accessed April 9, 2024.

[6] South Coast AQMD, Proposed Amended Rule 1148.1 – Oil and Gas Production Wells Development Process, https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1148-1, accessed April 9, 2024.

[7] South Coast AQMD, Draft Rule Language for Proposed Amended Rule 463 – Organic Liquid Storage, https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-463, accessed May 2024. Final Rule Language for PAR 463 is located in Attachment F of the June 7, 2024 Governing Board package, which upon posting, will be available 72 hours prior to the Governing Board meeting at https://www.aqmd.gov/home/news-events/meeting-agendas-minutes.

3 psia or greater.[8] Based on this provision, installations of domes on the estimated 20 EFR tanks would occur as early as 2027 but no later than 2048, based on an anticipated equipment life of 50 years. This analysis assumes that an equal portion of the 20 EFR tanks will be domed in each year over the period from 2027 to 2048.

The cost of doming varies substantially depending on the diameter of the tank. During the 2023 amendments to Rule 1178, cost estimates from vendors and facilities were analyzed for tanks across a range of diameters and doming costs were found to increase exponentially with diameter.[5] Cost curves created from best fit equations that relied on this data were then relied upon in this analysis to estimate doming costs.

In addition, the diameters of the seven tanks from the initial 35-tank sample as well as the two additional, larger tanks noted by stakeholders were included as inputs to the cost curves. The total estimated cost to dome nine tanks was then used to proportionally extrapolate the total doming costs of the universe of 20 tanks that would need to have domes installed in accordance with the requirements of PAR 463. Specifically, the cost to dome the nine sample tanks (45% of the estimated number of tanks required to dome) was multiplied by 1/.45 to estimate the total costs to dome all 20 tanks. The total capital cost to purchase and install domes under this method is estimated to be $22,000,000 for the 20 EFR tanks.

Fire Suppression Systems

The analysis assumed that for each EFR tank needing a dome installed, a fire suppression system would also be required. The fire suppression system is expected to cost $105,000 per EFR tank according to quotes provided by vendors. The installation of the fire suppression system is assumed to occur in the same year as the dome installation and is anticipated to have a 50-year useful life. The total capital cost across all affected facilities attributed to fire suppression systems for the 20 EFR tanks is estimated to be $2,100,000.

Secondary Seals

PAR 463 requires facilities to install secondary seals on IFR tanks. A secondary seal is a seal mounted above the primary seal of a rim seal system that consists of two seals and 98 IFR tanks were identified that would potentially require the installation of secondary seals. However, according to permit data, approximately 22 of the 98 IFR tanks have not already installed secondary seals. PAR 463 would require secondary seals to be installed the next time an IFR tank is cleaned and degassed, but no later than 22 years after the date of adoption. Based on this provision, secondary seal installations would take place as early as 2026 and no later than 2046, with an anticipated equipment life of 20 years. This analysis assumes that the number of EFR tanks that have secondary seals installed is evenly distributed over the 2026-2046 period.

Secondary seal costs are based on the linear footage of the IFR's circumference. Installing each secondary seal would involve the following costs: equipment, installation, and permit application

[8] Please note that the effective date of this provision is June 7, 2027, to allow for planning and budgetary considerations. For more information see Draft Rule Language for PAR 463, https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-463. Final Rule Language for PAR 463 is located in Attachment F of the June 7, 2024 Governing Board package, which upon posting, will be available 72 hours prior to the Governing Board meeting at https://www.aqmd.gov/home/news-events/meeting-agendas-minutes.

fees. Costs were obtained from the Final Staff Report for Rule 1178 and estimated to be $220 per foot.[9]

The analysis estimated the average cost of secondary seal materials and installation to be approximately $18,700 per tank, based on the average tank diameter of 85 feet of the 22 IFR tanks that do not already have secondary seals installed. The total capital cost across all affected facilities attributed to secondary seal materials and installation is estimated to be $411,400.

OGI Cameras

PAR 463 requires facilities to monitor storage tanks for leaks by conducting inspections with an OGI device every other calendar week (biweekly) for all tanks as well as semi-annual component inspections. An OGI device as defined as an infrared camera with a detector capable of visualizing gases in the 3.2-3.4 micrometer waveband.[7] Approximately 1,600 tanks would be subject to PAR 463; however, only above-ground stationary tanks with a capacity > 19,815 gallons storing organic liquid with TVP ≥ 1.5 psi, above-ground stationary tanks with a capacity ≥ 39,630 gallons storing organic liquid with TVP ≥ 0.5 psi, above-ground tanks used to store gasoline with a capacity between 251 gallons and 19,815 gallons, and stationary tanks with a potential for VOC emissions of 6 tons per year or greater year used in crude oil and natural gas production operations will be subject to OGI inspections. Approximately 679 tanks located at 429 facilities would be subject to the OGI monitoring requirement and this analysis assumes that each parent company that operates an affected facility will purchase one OGI camera. Estimates indicate that there are 91 parent companies which own the 429 facilities that may be subject to PAR 463, and that these companies would purchase OGI cameras in 2025.[10]

Costs for OGI cameras were previously obtained from the 2023 amendments to Rule 1178 as well as from the ongoing development of PAR 1148.1 and OGI camera costs are estimated at $120,000 per device, with an anticipated equipment lifetime of 10 years. The total capital cost across all affected facilities attributed to OGI cameras is estimated to be $10,920,000.[11]

Title V Revisions and Permitting

Facilities with tanks subject to the doming and secondary seal requirements in PAR 463 will need to revise their Title V facility permits. In addition, there are 24 Title V facilities that will be subject to the VRU performance testing requirement and their Title V facility permits will need to be revised accordingly. The Title V permit revisions are estimated to cost $1,857 per revision.

PAR 463 would require affected facilities to submit a permit application for dome and secondary seal installations with a permit application fee of approximately $7,002 and $7,143 for installing a dome and secondary seal, respectively. Considering the timing between the submittal date of a

[9] South Coast AQMD, September 2023, Governing Board Meeting Agenda No. 34, Proposed Amended Rule 1178 - Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities, Attachment G - Final Staff Report, pg. 94, http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2023/2023-Sep1-034.pdf.

[10] For more information on cost effectiveness analysis for OGI cameras see Chapter 4 Cost and Cost Effectiveness Analysis Section of the Draft Staff Report for PAR 463, https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-463. The Final Staff Report is located in Attachment G of the June 7, 2024 Governing Board package for PAR 463, which upon posting, will be available 72 hours prior to the Governing Board meeting at https://www.aqmd.gov/home/news-events/meeting-agendas-minutes.

[11] Please note that affected facilities would need to repurchase OGI cameras at the end of the camera's useful life (every ten years), which is about five times during the analysis period (2024-2080).

permit application and the issuance of the permit, the permit application and Title V facility permit revision fees are expected to be paid up to two years prior to doming and secondary seal installation.

For the anticipated permits needed for the 24 Title V facilities that will be subject to the VRU performance test requirement in PAR 463, the estimated costs will include: 1) $1,857, to update the permit conditions of the vapor recovery systems to reflect the new control efficiency standard of 98%; and 2) $1,476, to incorporate a schedule D modification. The total cost of both Title V permit revisions ($3,333 per facility) is expected to be paid one year prior to the initial 3-run test scheduled to occur in 2025.

Recurring Costs

Doming Operation and Maintenance

According to feedback from industry stakeholders, domes require minor and infrequent maintenance activities, such as resealing of seams. During the 2023 amendments to Rule 1178, staff estimated the lifetime cost of doming maintenance to increase linearly with tank diameter based on quotes from manufacturers and affected facilities.[12] Based on the average tank diameter of 123 feet of the 20 applicable EFR tanks, staff estimates the average lifetime O&M cost to be $138,000 per tank. The total cost of these recurring expenses for all 20 EFR tanks is approximately $2,760,000 over the analysis period. Maintenance activities are not expected to take place immediately and will depend on weather conditions and other variables. For the purpose of this analysis, these costs were assumed to be incurred 20 years into each tank's useful life.

Secondary Seals Operation and Maintenance

Secondary seals would require the replacement of the rubber components of the seal 10 years after installation. The cost to replace the rubber component of the secondary seal depends on the diameter of the IFR tank and is estimated to cost approximately $42 per foot. Using the average tank diameter of 85 feet, the estimated secondary seal maintenance cost is $3,570 every 10 years per tank.

OGI Operation and Maintenance

OGI cameras would require annual maintenance and calibration to ensure equipment performance. The annual maintenance cost per camera is approximately $1,500. OGI camera maintenance costs are anticipated to begin in 2025, which is the year when affected facilities would purchase OGI cameras and would recur on an annual basis throughout the forecast period. The total annual cost of OGI camera maintenance is estimated to be $136,500 for all the 91 companies.

Labor for OGI Inspections

PAR 463 requires biweekly OGI inspections at each affected facility to detect potential leaks. This analysis assumes that inspections will be conducted by employees of the parent companies which own these facilities, and that inspections can be performed in one day for all the facilities under each parent company's ownership, on average. With an assumed pay rate of $50 per hour and eight

[12] South Coast AQMD, September 2023, Governing Board Meeting Agenda No. 34, Proposed Amended Rule 1178 - Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities, Attachment G – Final Staff Report, p. 89, http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2023/2023-Sep1-034.pdf.

hours required to conduct the inspection, the total annual labor cost of OGI inspection is estimated at $10,400 per parent company ($50/hour x 8 hours per day x 26 inspection days/year). The total annual labor cost for OGI inspections is estimated to be $946,400 for all 91 parent companies.

Vapor Recovery Unit (VRU) Performance Tests

PAR 463 requires facilities to conduct performance tests on fixed-roof tank VRUs to ensure they meet the 98 percent efficiency standard. Approximately 479 fixed-roof storage tanks were identified as needing VRU performance testing. Tests are required to be performed within one year of rule adoption, and every 10 years thereafter. The first test is expected to cost $6,000 per tank for a more robust 3-run test, while the recurring tests every 10 years are estimated to cost $4,000 per tank for a single-run test. The initial 3-run test is expected to occur in 2025 and the recurring test will occur in 10-year intervals following the initial test. The total costs for VRU performance tests are estimated to be $2,874,000 for the initial 3-run tests and $1,916,000 every 10 years for the single-run tests for the 479 affected fixed-roof tanks.

Total Compliance Cost

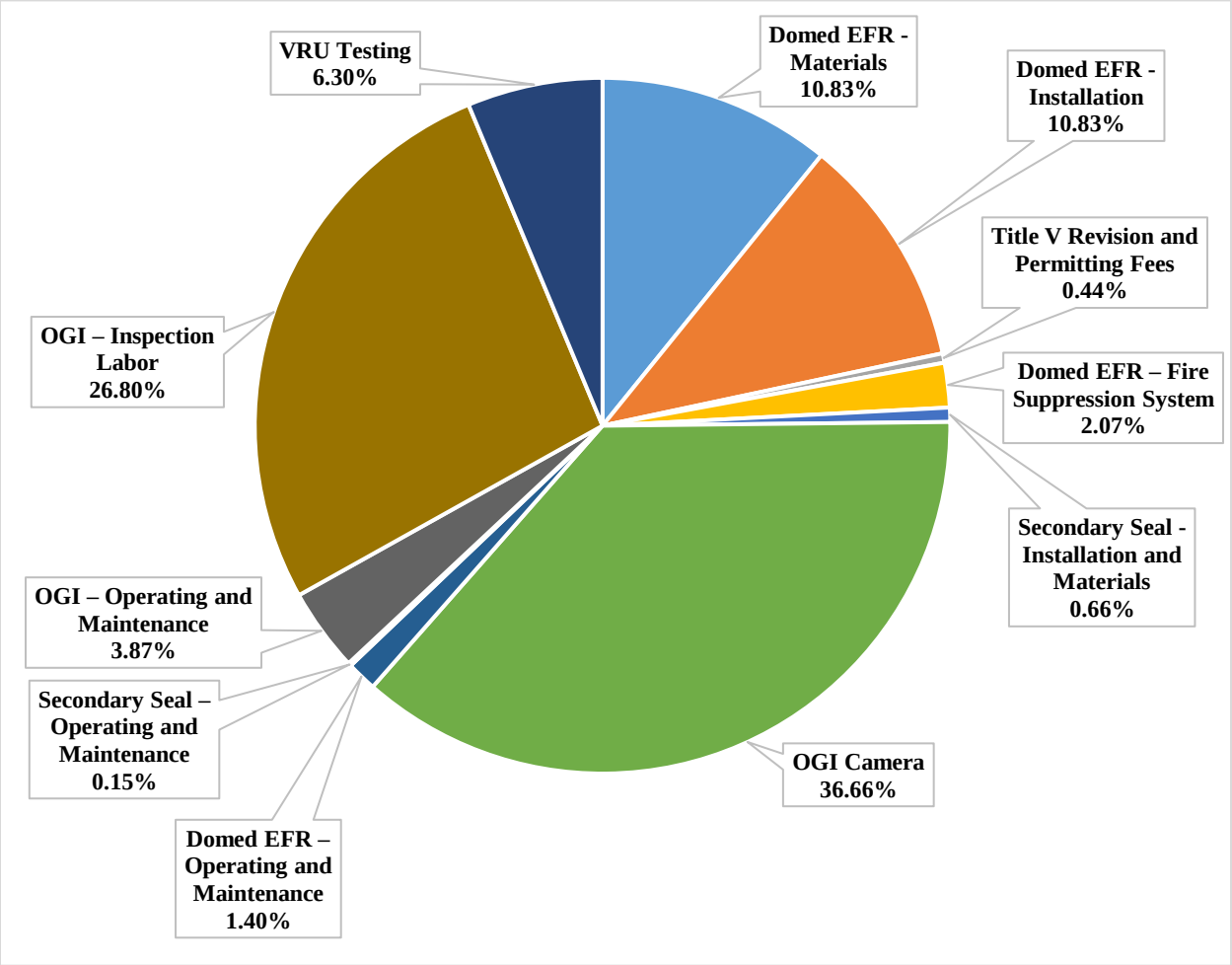
The total compliance cost includes all the estimated costs over a 57-year period, from 2024 to 2080. The total present value of compliance cost is estimated at $147.60 million and $71.77 million for a 1 percent and 4 percent discount rate, respectively. The average annual compliance costs of PAR 463 are estimated to range from $2.95 million to $3.47 million for a 1 percent to 4 percent real interest rate, respectively. Table 3 presents the estimated present value and average annual compliance cost of PAR 463 by expense categories.

Table 3
Total Present Value and Average Annual Estimated Costs of PAR 463

	Present Worth Value (2024)		Annual Average (2024-2080)	
Cost Categories	**1% Discount Rate**	**4% Discount Rate**	**1% Real Interest Rate**	**4% Real Interest Rate**
Capital Costs				
Domed EFR - Materials	$15,209,738	$6,159,178	$212,052	$375,747
Domed EFR - Installation	$15,209,738	$6,159,178	$212,052	$375,747
Domed EFR - Permitting	$204,671	$86,178	$2,824	$5,004
Domed EFR -Title V Fee (Permit Revision)	$54,281	$22,855	$749	$1,327
Domed EFR - Fire Suppression System	$2,903,677	$1,175,843	$40,483	$71,733
Secondary Seal - Installation and Materials	$937,056	$389,623	$17,820	$22,979
Secondary Seal - Title V Fee (Permit Revision)	$68,144	$35,292	$1,180	$1,521
Secondary Seal - Permitting	$262,120	$135,753	$4,538	$5,852
OGI Camera	$54,755,818	$27,658,439	$1,121,514	$1,271,843
VRU - Title V Revision and Permitting	$159,192	$156,907	$1,403	$1,403
Recurring Costs				
Domed EFR - Operating and Maintenance	$1,980,878	$760,926	$48,421	$48,421
Secondary Seal - Operating and Maintenance	$199,621	$70,147	$5,118	$5,118
OGI - Operating and Maintenance	$5,773,544	$2,916,351	$134,105	$134,105
OGI - Inspection Labor	$40,029,902	$20,220,036	$929,796	$929,796
VRU Testing	$9,854,123	$5,826,779	$218,491	$218,491
Total	**$147,602,503**	**$71,773,485**	**$2,950,547**	**$3,469,089**

Figure 1 presents the estimated average annual compliance costs of PAR 463 by expense category. The expense for OGI camera purchase accounts for 37 percent – the largest share of the average annual compliance cost, followed by OGI inspection labor (27%), doming materials (11%), and doming installation (11%).

Figure 1
Average Annual Estimated Costs of PAR 463 by Expense Category



MACROECONOMIC IMPACTS ON THE REGIONAL ECONOMY

The Regional Economic Models, Inc (REMI) PI+ v3 model was used to assess the socioeconomic impacts of PAR 463.[13] The model links the economic activities in the counties of Los Angeles, Orange, Riverside, and San Bernardino, and it is comprised of five interrelated blocks: 1) output and demand; 2) labor and capital; 3) population and labor force; 4) wages, prices, and costs; and 5) market shares.[14]

It should be noted that the REMI model is not designed to assess impacts on individual operations. The model was used to assess the impacts of the proposed amended rule on various industries that make up the local economy. Cost impacts on individual operations were assessed outside of the REMI model and were aggregated to the 70-sector NAICS code level to be used as inputs into the REMI model.

Impact of PAR 463

This assessment is performed relative to a baseline ("business as usual") forecast where PAR 463 would not be implemented. The analysis assumed that the affected facilities would finance the capital and one-time costs described above at a 4 percent interest rate, and that these one-time costs are amortized over the useful life of each piece of equipment.

Direct costs of PAR 463 are used as inputs to the REMI model which uses this information to assess secondary and induced impacts for all the industries in the four-county economy on an annual basis over the 2024-2080 period. Direct effects of PAR 463 include the purchase of domed roofs, secondary seals, OGI cameras, and contracting for installation, labor, and other costs discussed in the compliance cost section above. The total cost of each item is allocated to the four counties based on the location of affected equipment. For example, since 69 of the 89 identified EFR tanks are located in Los Angeles County, 77.5 percent of the total doming costs will be allocated to Los Angeles County in the REMI Model.

While the compliance expenditures that are incurred by affected facilities would increase their cost of doing business, the purchase of required equipment and services would increase the sales and subsequent spending of businesses in various sectors, some of which may be located in South Coast AQMD's jurisdiction. Table 4 lists the 70-sector NAICS codes modeled in REMI that would either incur direct cost or directly benefit from the compliance spending.

[13] Regional Economic Modeling Inc. (REMI). Policy Insight® for the South Coast Area (70-sector model). Version 3. 2023.

[14] Within each county, producers are made up of 156 private non-farm industries and sectors, three government sectors, and a farm sector. Trade flows are captured between sectors as well as across the four counties and the rest of U.S. Market shares of industries are dependent upon their product prices, access to production inputs, and local infrastructure. The demographic/migration component has 160 ages/gender/race/ethnicity cohorts and captures population changes in births, deaths, and migration. (For details, please refer to REMI online documentation at http://www.remi.com/products/pi.).

Table 4
Industries Incurring and Benefitting from Compliance Costs/Spending

Source of Compliance Cost	REMI Industries Incurring Compliance Cost (NAICS)	REMI Industries Benefitting from Compliance Spending (NAICS)
Doming Installation	Oil and gas extraction (211) Wholesale trade (42) Petroleum and coal products manufacturing (324) Chemical manufacturing (325) Warehousing and storage (493) Waste management and remediation services (562) Pipeline transportation (486) Support activities for mining (213) Nonmetallic mineral product manufacturing (327) Miscellaneous manufacturing (339) Beverage and tobacco product manufacturing (312) State and Local Government (92) Utilities (22) Repair and maintenance (811) Professional, scientific, and technical services (54) Fabricated metal product manufacturing (332) Food manufacturing (311) Plastics and rubber product manufacturing (326) Air transportation (481) Hospitals (622)	Construction (23)
Doming Materials		Fabricated metal product manufacturing (332)
Permitting and Title V Fees		State and Local Government (92)
Doming Fire Suppression System		Construction (23)
Secondary Seals Installation and Materials		Construction (23)
OGI Camera		Computer and Electronic Product Manufacturing (334)
Doming O&M		Fabricated metal product manufacturing (332)
Secondary Seals O&M		Construction (23)
OGI O&M		Computer and Electronic Product Manufacturing (334)
OGI Labor Costs		All Industries Benefiting from OGI Labor*
VRU Performance Tests		Professional, scientific, and technical services (54)

*Labor for OGI inspections is modeled as additional compensation in each affected industry, reflecting the assumption that these inspections would be performed by existing employees of affected facilities working overtime.

Regional Job Impacts

When the compliance cost is annualized using a 4 percent real interest rate, the REMI model projects that there will be 25 foregone jobs annually on average over the 2024 – 2080 period relative to the baseline forecast. The sectors of Professional, Scientific, and Technical Services, Construction, and State and Local Government are expected to forego four, three, and three jobs annually, respectively, on average relative to the baseline forecast, while the Computer and Electronic Product Manufacturing industry is anticipated to gain one job annually on average. Table 4 presents the forecasted jobs foregone or added for selected years in the sectors with the largest magnitude of average annual job impacts. The "Other Industries" row in Table 5 shows the sum of job impacts for all the other industries excluding the 10 selected industries presented

in the table.

Table 5
Projected Job Impacts of PAR 463 for Selected Industries and Years

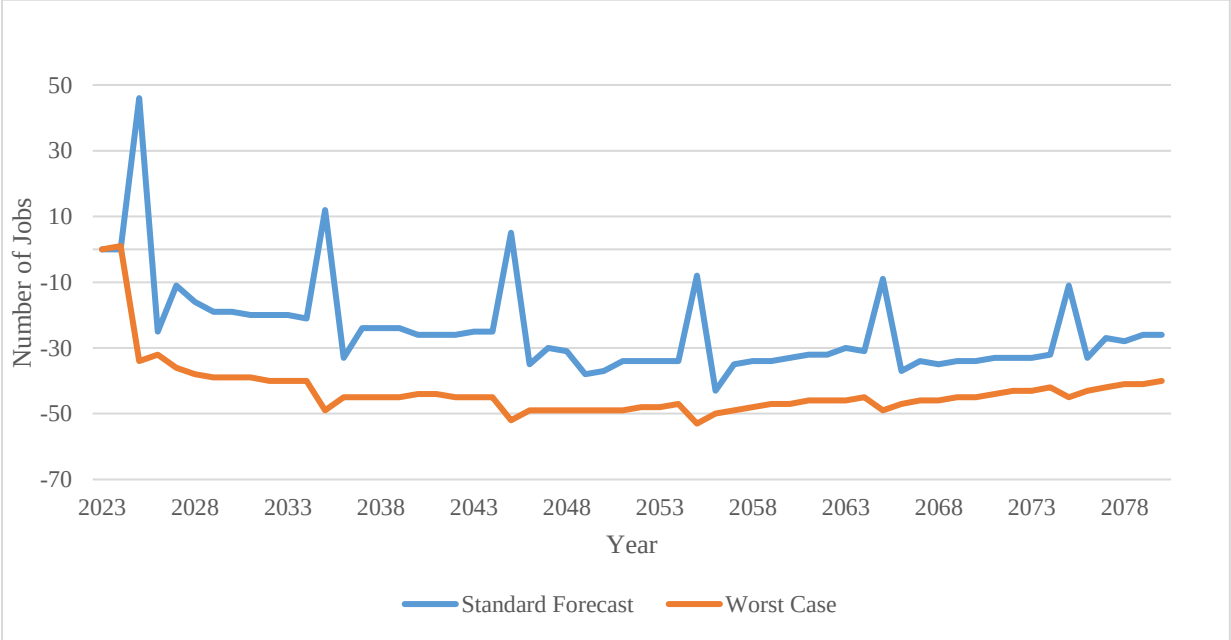
Industry	2025	2030	2050	2070	Annual Average (2024-2080)	Baseline Number of Jobs	% Of Baseline
Professional, scientific, and technical services (54)	17	-3	-6	-6	-4	1,103,469	-0.0004%
Construction (23)	0	-4	-6	-3	-3	564,165	-0.0006%
State and Local Government (NA)	2	-2	-4	-4	-3	988,219	-0.0003%
Oil and gas extraction (211)	-2	-3	-3	-2	-3	2,394	-0.1077%
Retail trade (44-45)	1	-2	-3	-3	-2	850,353	-0.0003%
Administrative and support services (561)	3	-2	-3	-3	-2	920,724	-0.0002%
Real estate (531)	1	-1	-2	-2	-2	581,801	-0.0003%
Wholesale trade (42)	2	-1	-2	-2	-2	734,489	-0.0002%
Food services and drinking places (722)	0	-1	-2	-1	-1	420,839	-0.0003%
Computer and electronic product manufacturing (334)	12	0	0	0	1	138,827	0.0006%
Other Industries	10	0	-6	-8	-4	6,026,573	-0.0001%
All Industries	**46**	**-19**	**-37**	**-34**	**-25**	**12,331,853**	**-0.0002%**

In addition, in 2013, South Coast AQMD contracted with Abt Associates Inc. to review the South Coast AQMD socioeconomic assessments for Air Quality Management Plans and individual rules with the goal of providing recommendations that could enhance South Coast AQMD's socioeconomic analyses. In 2014, Abt Associates Inc. published a report which included a recommendation for South Coast AQMD to enhance socioeconomic analyses by testing major assumptions through conducting a scenario analysis. As such, South Coast AQMD generally includes an alternative worst-case scenario in Socioeconomic Impact Assessments which analyzes a scenario that assumes the affected facilities would purchase all feasible monitoring equipment and services from providers located outside of the South Coast AQMD's jurisdiction.[15] Permitting

[15] Abt Associates Inc., August 2014, Review of the SCAQMD Socioeconomic Assessments, Chapter 6, Section 3, https://www.aqmd.gov/docs/default-source/Agendas/aqmp/scaqmd-report---review-socioeconomic-assessments.pdf, accessed April 2, 2024.

fee revenues were included in this scenario, as these permits are for equipment operating within the Basin and must be obtained from South Coast AQMD. In simple terms, this alternative worst-case scenario only models the impacts of the costs of compliance with PAR 463 while excluding the majority of revenues which would benefit equipment and service providers. This hypothetical scenario is designed to test the sensitivity of the embedded assumptions in the REMI model about how compliance costs and revenues would be distributed inside and outside of South Coast AQMD's jurisdiction. In practice, construction is likely to be provided by local companies and OGI inspections are likely to be performed by company employees. This worst-case scenario would result in an annual average of approximately 39 jobs foregone relative to the baseline scenario. The 39 jobs foregone represent a negligible portion of the average forecasted baseline jobs in the regional economy at an estimated 0.0003 percent. Figure 2 presents the projected regional job impacts over the 2024 – 2080 period for both the standard and the worst-case forecasts.

Figure 2
Projected Regional Job Impact, 2024 – 2080



Price Impact and Competitiveness

The impact of PAR 463 on production costs and delivered prices in the region is not expected to be substantial. In the Oil and Gas Extraction industry, which bears the majority of compliance costs associated with PAR 463, the REMI model projects an average increase in relative delivered prices of 0.007 percent over the forecast period, with a maximum increase of 0.016 percent forecasted in the year 2025. The relative cost of production for the Oil and Gas Extraction industry is forecasted to increase by 0.223 percent on average relative to the baseline scenario, with a maximum increase of 0.488 percent expected to occur in 2025. The larger percentage increase in the cost of production relative to delivered prices suggests companies in the Oil and Gas Extraction industry are largely unable to pass on additional costs to consumers. However, the small magnitude of the production cost increase implies that firms in the Oil and Gas Extraction industry should be able to absorb these costs.

REFERENCES

Abt Associates Inc., August 2014, Review of the SCAQMD Socioeconomic Assessments, Chapter 6, Section 3, https://www.aqmd.gov/docs/default-source/Agendas/aqmp/scaqmd-report---review-socioeconomic-assessments.pdf.

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South Coast AQMD, May 2024, Draft Rule Language for Proposed Amended Rule 463 - Organic Liquid Storage, https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-463.

South Coast AQMD, May 2024, Draft Staff Report for Proposed Amended Rule 463 - Organic Liquid Storage, https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-463.

United States Small Business Administration, March 2023, Table of Small Business Size Standards, https://www.sba.gov/document/support-table-size-standards.

Attachment J

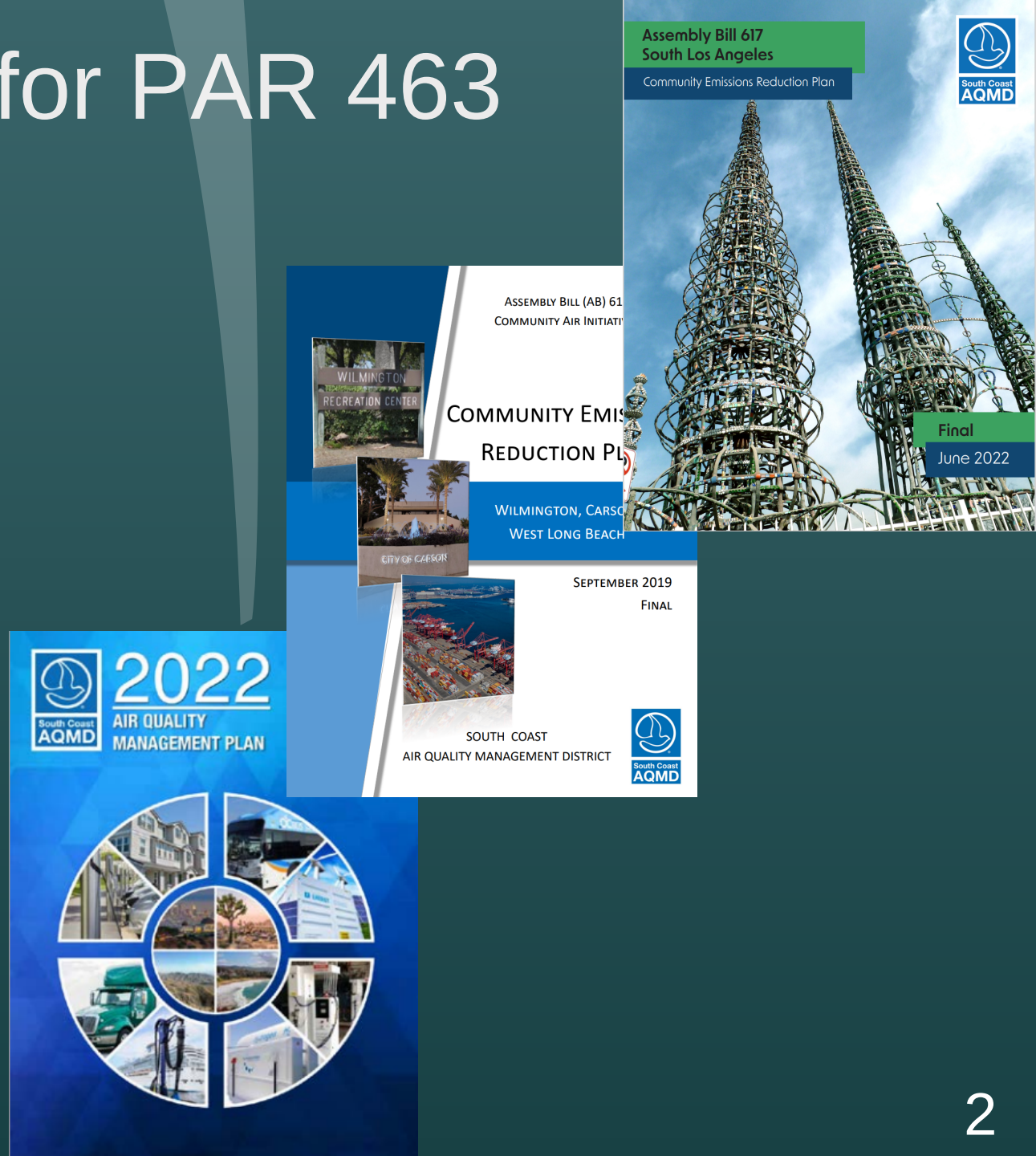
Proposed Amended Rule 463 – Organic Liquid Storage

Board Meeting
June 7, 2024

South Coast AQMD

Background and Need for PAR 463

- Rule 463 was adopted in 1977 to reduce volatile organic compound (VOC) emissions from above-ground organic liquid storage tanks
- Proposed Amended Rule 463 (PAR 463) affects 429 facilities and approximately 1,600 tanks
- Rule development was initiated in response to:
  - Objectives in the Wilmington, Carson, West Long Beach Community Emission Reduction Plan (CERP) and the South Los Angeles CERP
  - Implement control measures in the 2012, 2016, and 2022 Air Quality Management Plans



Key Proposals in PAR 463

- Require optical gas imaging (OGI) tank farm inspections every other week for all tanks and semi-annual OGI component inspections for floating roof tanks
- Require the installation of domes on external floating roof tanks storing higher volatility products
- Require secondary seals and more stringent seal gap requirements for all floating roof tanks
- Increase vapor recovery emission control efficiency from 95% to 98% for fixed roof tanks

Cost-Effectiveness and Emission Reductions

The overall rule cost-effectiveness of PAR 463 is $27,300*

Proposed Requirement	Cost-Effectiveness	Emission Reductions (tons per day)	Implementation Date
OGI Monitoring	$15,400	0.40	July 1, 2025
Doming	$24,800	0.05	When the tank is next emptied (no later than 23 years)
Secondary Seals	$6,700	0.01	When the tank is next emptied (no later than 22 years)

*The overall rule cost-effectiveness includes the costs associated with performance testing and permitting for vapor recovery units, but does not include the corresponding emission reductions as it is assumed facilities are already meeting the proposed standard

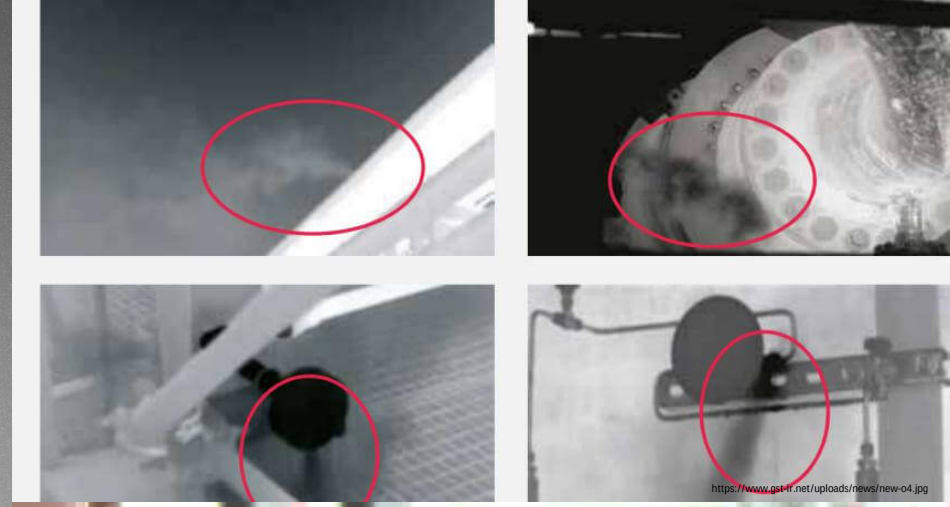
Contingency Measures

The Clean Air Act requires air districts to implement contingency measures for any area classified as “serious” or above for nonattainment of National Ambient Air Quality Standards (NAAQS)

PAR 463 includes contingency measures for both the Coachella Valley and the South Coast Air Basin for multiple ozone NAAQS

If triggered, some facilities would be required to conduct more frequent (weekly) OGI inspections

- Triggers are failure to meet a reasonable further progress milestone or attain an ozone NAAQS



CEQA and Socioeconomic Analysis

- An Environmental Assessment was prepared pursuant to the California Environmental Quality Act (CEQA)
  - Analyzed impacts from installation of domes and additional secondary seals
  - Analysis concluded no significant environmental impacts
  - No public comments were received
- Socioeconomic Impact Assessment was conducted
  - ~ 429 affected facilities with 1,600 tanks across four county region
  - For 2024-2080, average annual cost = $3.47 million at 4 percent interest rate
  - ~ 25 jobs foregone annually on average using 4 percent real interest rate

Staff Recommendations

Adopt Resolution:

- Certifying the Final Environmental Impact Assessment for PAR 463
- Amending Rule 463