SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Draft Staff Report

Proposed Amended Rule 1178 – Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities

Proposed Amended Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II

March 2018

Deputy Executive Officer
Planning, Rule Development, and Area Sources
Philip M. Fine, Ph.D.

Assistant Deputy Executive Officer
Planning, Rule Development, and Area Sources
Sarah Rees

Planning and Rules Manager
Planning, Rule Development, and Area Sources
David DeBoer

Author: Kennard Ellis – Air Quality Specialist

Contributors: Bahareh Brumand – Air Quality Engineer II
Paul Caballero – Air Quality Inspector III
Rudy Chacon – Supervising Air Quality Inspector
Robert Gottschalk – Air Quality Specialist
Barbara Radlein – Program Supervisor
Mike Morris – Program Supervisor
Ryan Banuelos – Air Quality Specialist
Shah Dabirian – Program Supervisor
Tom Liebel – Senior Air Quality Engineer
Paul Park – Senior Air Quality Engineer
Tran Vo – Supervising Air Quality Engineer
Danny Luong – Senior Enforcement Manager
Andrew Lee – Senior Air Quality Engineering Manager
Casey Williams – Air Quality Inspector II
Rafael Reynoso – Senior Enforcement Manager

Reviewed by: Teresa Barrera – Senior Deputy District Counsel
Brian Tomasovic - Senior Deputy District Counsel

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
GOVERNING BOARD

Chairman: DR. WILLIAM A. BURKE.
Speaker of the Assembly Appointee

Vice Chairman: DR. CLARK E. PARKER, SR.
Senate Rules Committee Appointee

MEMBERS:

MARION ASHLEY
Supervisor, Fifth District
County of Riverside

BEN BENOIT
Mayor, Wildomar
Cities of Riverside County

JOE BUSCAINO
Councilmember, 15th District
City of Los Angeles Representative

MICHAEL A. CACCIOTTI
Councilmember, South Pasadena
Cities of Los Angeles County/Eastern Region

JOSEPH K. LYOU, Ph. D.
Governor's Appointee

LARRY MCCALLON
Mayor Pro Tem, Highland
Cities of San Bernardino County

JUDITH MITCHELL
Mayor Pro Tem, Rolling Hills Estates
Cities of Los Angeles County/Western Region

SHAWN NELSON
Supervisor, Fourth District
County of Orange

DWIGHT ROBINSON
Councilmember, Lake Forest
Cities of Orange County

JANICE RUTHERFORD
Supervisor, Second District
County of San Bernardino

HILDA SOLIS
Supervisor, First District
County of Los Angeles

EXECUTIVE OFFICER:

WAYNE NASTRI

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Rule 1178 – Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities, was adopted in 2001 to further reduce emissions of volatile organic compounds (VOC) from storage tanks located at petroleum facilities. The requirements of the rule apply to aboveground storage tanks that have a capacity of greater than 75,000 liters (or 19,815 gallons), are used to store organic liquids with a true vapor pressure greater than 5 mm of mercury (Hg) absolute under actual storage conditions, and are located at any petroleum facility that emits more than 20 tons per year of VOC in any emission year starting with emission inventory year 2000. Since the 2001 adoption, the rule has been amended only once (in 2006) to include a provision that allowed the use of alternatives to a slotted membrane fabric drain cover for external floating roofs.

Proposed Amended Rule (PAR) 1178 will incorporate a flexible enclosure system that encloses the entire surface of the slotted guidepole and serves as a VOC emission reduction option as outlined in the 2000 U.S. EPA Storage Tank Emission Reduction Partnership Program (STERPP) Agreement. This rule amendment will make this option available for application in certain configurations of floating roof tanks, including those that the operator has chosen to conduct radar depth gauging. Other clarifications to the rule, including the inspection procedures and entries to compliance report forms, facilitate the inclusion of the flexible enclosure system option. The proposed amendments will provide tank operators with more flexibility, but these amendments are expected to have negligible impacts on emissions and are not expected to increase costs.

Rule 219 – Equipment Not Requiring A Written Permit Pursuant to Regulation II was adopted in 1976 and is an administrative rule that identifies equipment, processes, and operations that emit small amounts of air contaminants that do not require written permits, except for equipment, processes, and operations subject to subdivision (s) - Exceptions. Proposed Amended Rule 219 – is an administrative amendment that exempts from permit the replacement of a pole float used to control emissions from a slotted guidepole in floating roof storage tanks with a pole sleeve or a pole sleeve in combination with a flexible enclosure system. The proposed amended rule would also make paragraph (s)(1) of Rule 219 inapplicable for storage vessels that change from a pole float to a pole sleeve or to a pole sleeve in combination with a flexible enclosure system.

CHAPTER 1: BACKGROUND

INTRODUCTION

PUBLIC PROCESS

CONTROL TECHNOLOGY

INTRODUCTION

Rule 1178 – Further Reductions of Fugitive VOC Emissions from Storage Tanks at Petroleum Facilities was adopted on December 21, 2001, with the purpose of further reducing emissions of volatile organic compounds (VOCs) from storage seals and fittings on storage tanks at petroleum facilities with annual VOC emissions of more than 40,000 pounds (20 tons). Rule 1178 was adopted to implement Phase 1 of the 1999 Air Quality Management Plan (AQMP) Control Measure FUG-05 – Further Emission Reductions from Large Fugitive VOC Sources, Control Measure FUG-03 – Further Emission Reductions from Floating Roof Tanks, and portions of Control Measure FUG-04 – Further Emission Reductions from Fugitive Sources of the 1999 AQMP.

The rule was amended in March 2006 to include a provision that allowed the use of alternatives to a slotted membrane fabric drain cover for an external floating roof, provided that it had the equivalent control efficiency. The amendment also clarified the definition of mechanical shoe primary seal by requiring the use of VOC-impervious fabric to serve as a seal in the vapor space between the shoe seal and the roof. In addition, the amendment also specified guidelines for the distances which internal floating roof tank seals were allowed to be extended into the liquid and outside the liquid stored.

The provisions of the rule apply to petroleum facilities operating storage tanks with a design capacity equal to or greater than 75,000 liters (19,815 gallons) that are used to store organic liquids with a true vapor pressure of greater than 5 mm Hg (0.1 psi) absolute under actual storage conditions. The petroleum facilities subject to the Proposed Amended Rule 1178 include facilities engaged in the production, refining, storage, transfer or distribution of crude petroleum or petroleum products and staff estimates that there are approximately 40 facilities and more than 1,000 storage tanks that will be affected.

During the May 2017 rule development process to amend Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II, stakeholders requested consideration of exempting flexible enclosures for slotted guidepoles. The adoption resolution for Proposed Amended Rule 219 directed staff to work with stakeholders to introduce proposed amendments to Rule 1178 to incorporate VOC control technologies for guidepoles in floating roof tanks as recognized by the EPA in its 2000 STERPP agreement. The Governing Board also directed staff to explore mechanisms to minimize permitting impacts when addressing VOC control technologies for guidepoles in floating roof tanks that are subject to Rule 1178.

PUBLIC PROCESS

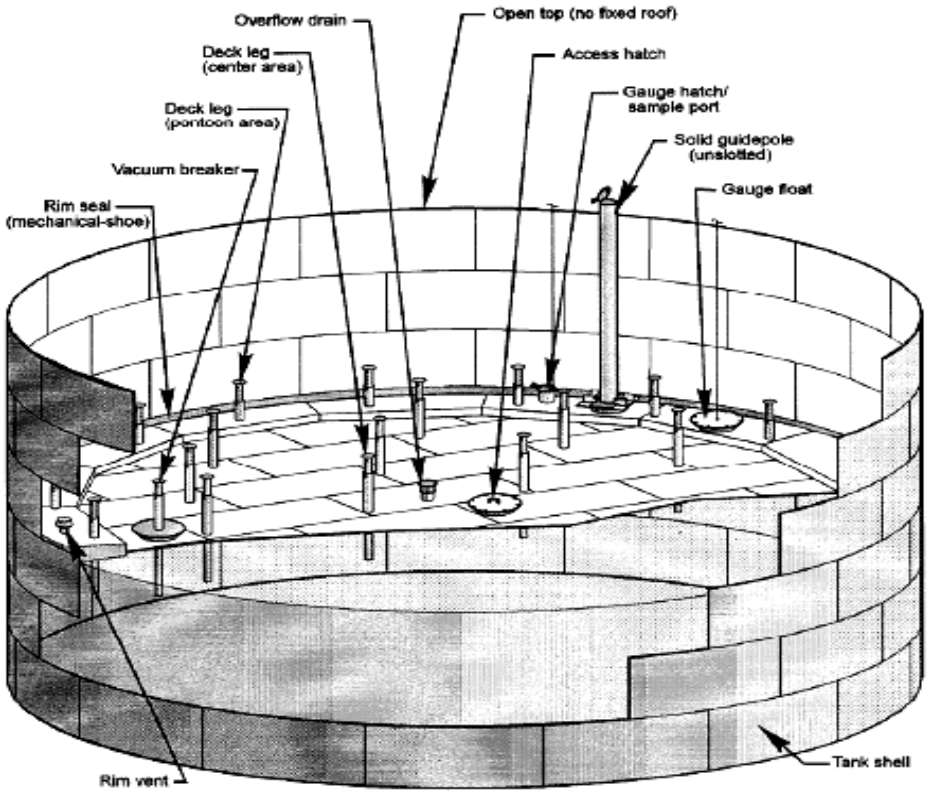
PAR 1178 is being developed through a public process. Two site visits were conducted to examine the flexible enclosure technology. A working group was formed to provide the public and stakeholders an opportunity to discuss the proposed rule amendment and provide the SCAQMD staff with important input during the rule development process. The working group and interested parties are comprised of a variety of stakeholders including representatives from industry, consultants, environmental groups, community groups, and public agency representatives. A Public Workshop was held on January 11, 2018 to present PAR 1178, the preliminary draft staff report, and receive public comment. The working group met on December 12, 2017 and on February 14, 2018. During the second working group, the proposed amendments to Rule 219 were

discussed. Comments that were received from the Public Workshop and subsequent communications have been incorporated into Appendix A of this draft staff report document.

CONTROL TECHNOLOGY

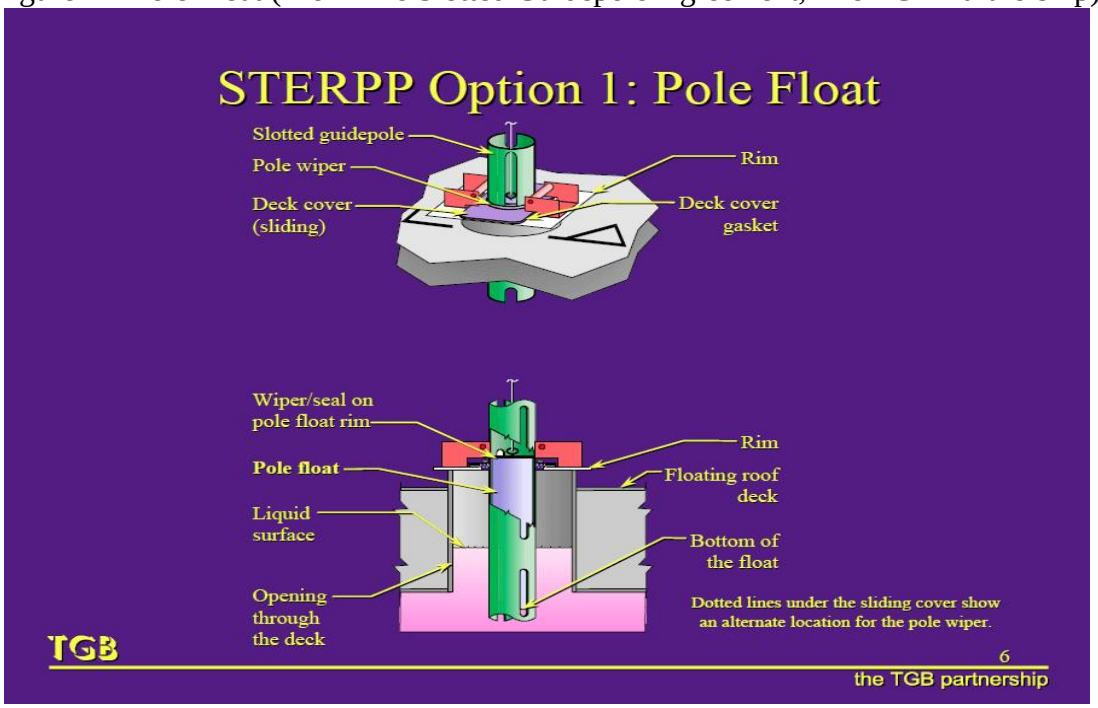
Floating roof storage tanks have fugitive VOC emissions caused by the evaporation of organic liquids stored. These emissions come from the annular space between the floating roof and the tank wall or from any deck openings. Seals are used to control emissions from the space between the walls and the roof; access hatches and deck openings are covered, gasketed and/or bolted. One such opening is from slotted guidepoles. A slotted guidepole is a cylindrical hollow shaft used in storage tanks as an anti-rotational device to guide the motion of the roof as it floats on the liquid surface of the storage tank contents. The slots allow the fluid to fill the shaft up to the liquid level which accommodates level depth gauging and sampling. Level depth gauging is often conducted by attaching a float to an incrementally marked cable or tape measure. The float is lowered through a hatch at the top of the slotted guidepole. Similarly, sampling is conducted by lowering a liquid sampler via a cable down the slotted guidepole hatch. Level depth gauging and liquid sampling are often conducted on a daily basis. Without emission controls, these slotted guidepoles allow significant VOC emissions.

Figure 1 –Floating Roof Tank (From AP-42, Section 7.1, U.S. EPA)



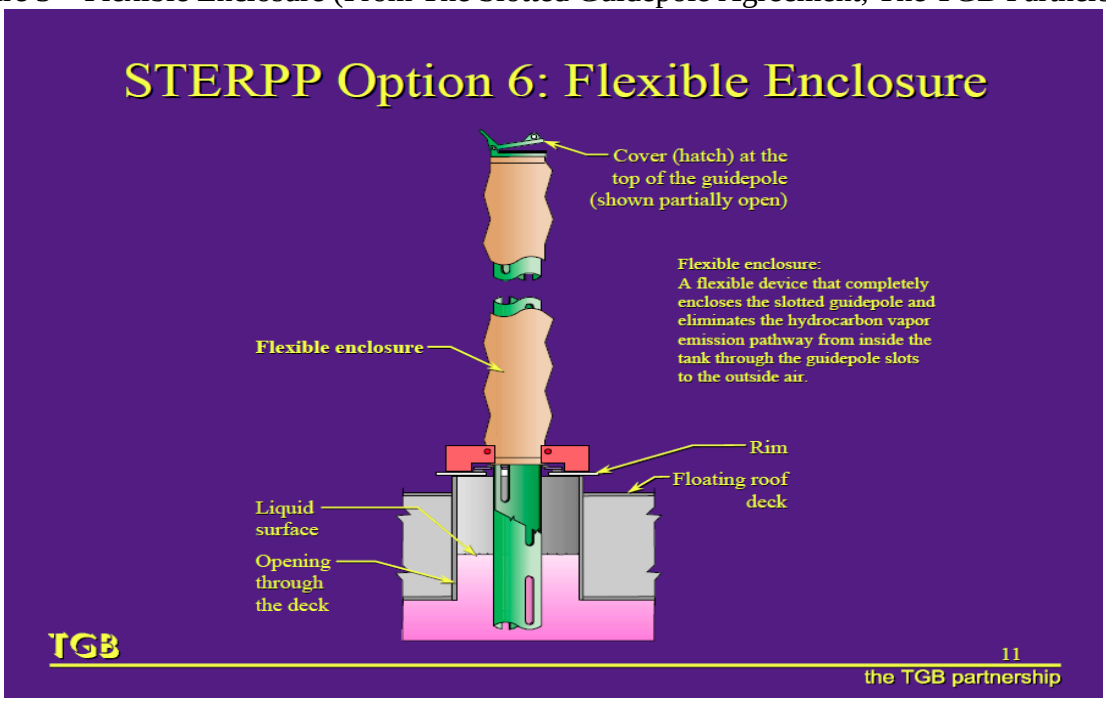
In 2001, Rule 1178 addressed this emission source by requiring a gasketed cover, a pole wiper, and a pole float wiper as depicted below in Figure 2 for a storage tank with a slotted guidepole that is equipped with a pole float. For a slotted guidepole that did not have a pole float the rule included a provision that allowed the operator to control guidepole emissions by equipping it with a gasketed cover, a pole wiper and a pole sleeve. These were recognized as acceptable options to control slotted guidepole emissions by the U.S. EPA in its 2000 Storage Tank Emission Reduction Partnership Program (STERPP) agreement, notice of which was published at 65 Fed. Reg. 19891 (April 13, 2000).

Figure 2 – Pole Float (From The Slotted Guidepole Agreement, The TGB Partnership)



Another acceptable option in the STERPP Agreement is a flexible enclosure system as depicted in Figure 3 below. The amendments being proposed for Rule 1178 would provide a facility the option to remove the pole float and the pole float wiper, and replace them with a pole sleeve and flexible enclosure system from external floating roof tanks. The amendments also propose that facility has the option to replace a pole float and pole float wiper on internal floating roof tanks and external domed floating roof tanks with a flexible enclosure system.

Figure 3 – Flexible Enclosure (From The Slotted Guidepole Agreement, The TGB Partnership)



The flexible enclosure system is a fabric cover that completely encloses the slotted guidepole. The cover is made of material that is impervious to petroleum vapors and is clamped to the floating roof and the hatch. The emission pathway from liquid inside the tank to the atmosphere is blocked by the flexible enclosure system. With the pole float removed, radar level gauging systems may be used while still minimizing emissions. The radar level gauging system works by using a non-contact radar measurement system with no moving parts and only an antenna that is placed inside the tank atmosphere. The signal sent by the radar provides a measurement with high accuracy. This would reduce the need to conduct manual level depth gauging which requires the hatch to be opened, with subsequent fugitive VOC losses. However, sampling practices are expected to remain unchanged when the slotted guidepole is equipped with either the pole float or the flexible enclosure system.

CHAPTER 2: SUMMARY OF PROPOSED AMENDED RULES 1178 AND 219

PROPOSED AMENDED RULE 1178

PROPOSED AMENDED RULE 219

PAR 1178 FACILITIES

PROPOSED AMENDED RULE 1178

PAR 1178 will incorporate the Flexible Enclosure System (FES) as a VOC emission reduction option for floating roof tanks that employ slotted guidepoles as outlined in the U.S. EPA STERPP Agreement. This option will specifically allow facilities to replace a pole float and pole float wiper (or pole float seal) with an FES which completely encloses the slotted guidepole in internal floating roof tanks or domed floating roof tanks. For external floating roof tanks, the proposed amendment will allow the replacement of a pole float with a pole sleeve in combination with a flexible enclosure system.

Definitions - Subdivision (c)

PAR 1178 will include the definition for the term Flexible Enclosure System. This VOC reduction system shall be constructed of a VOC impervious material that is resistant to ultraviolet light to prevent degradation. The system shall completely enclose the slotted guidepole thus controlling the vapor emission pathway from the organic liquid inside the storage tank to the air outside.

Requirements - Subdivision (d)

The proposed rule has been modified to provide the operator with additional combinations of configurations that are acceptable for controlling emissions from slotted guidepoles. Previously, clauses (d)(1)(A)(ix) and (d)(1)(A)(x) provided the operator with the option of operating an external floating roof tank with either a gasketed cover, a pole wiper and a pole sleeve, or a gasketed cover, a pole wiper and a pole float wiper. PAR 1178 now incorporates these two provisions with a new provision [into clause (d)(1)(A)(ix)] that allows the use of a flexible enclosure system when a pole float is replaced, provided a pole sleeve is in place. Clause (d)(1)(A)(x) is language that was formerly in clause (d)(1)(A)(xii). Clause (d)(1)(A)(xi) replaces the previous provision to address the specific conditions under which the FES may be operated. It must completely enclose the slotted guidepole such that it minimizes the transfer of VOC emissions from the liquid in the storage tank to the atmosphere by being free of holes, tears, slots, or rips; and be tightly double-clamped at the top of the guidepole and be secured to the tank roof with no visible gaps.

While paragraph (d)(1) refers directly to external floating roof tanks, its provisions are also referenced for domed external floating roof tanks and internal floating roof tanks. As such, modifications made to the provisions in paragraph (d)(1) would also be applicable to these two tank categories as well, including storage tanks having slotted guidepoles equipped with an FES.

Subparagraphs (d)(2)(D) and (d)(3)(C) have also been amended to recognize flexible enclosure systems as an acceptable option for controlling VOC emissions from slotted guidepoles in domed external floating roof tanks and internal floating roof tanks, respectively. Subparagraphs (d)(2)(D) and (d)(3)(C) outline the combination of components that are required to be used on a slotted guidepole similar to subparagraph (d)(1)(A)(ix) with the only difference being that when a pole float is removed, it may be replaced by a flexible enclosure system. The specific conditions under which the FES must be operated as outlined in clause (d)(1)(A)(xi) also apply.

Maintenance Requirements - Subdivision (g)

Language has been added to subdivision (g) for clarification indicating that repairs or replacement shall occur within 72 hours after any inspection where a defect, visible gap, or non-vapor tight condition specified in subdivision (f) determines that the equipment is not operating in compliance.

Record Keeping and Reporting Requirements - Paragraph (h)(3)

Language has been added to paragraph (h)(3) to clarify that semiannual reports for fixed roof tanks are due on January 31 and July 31, respectively, upon completion of two (2) consecutive quarterly inspections.

Attachment A – Inspection Procedures and Compliance Report Forms

The inspection procedure for internal floating roof and external domed floating roof tanks has been updated to require a visual inspection of the slotted guidepole flexible enclosure system if so equipped. Additionally, the language has been clarified that measurement of the organic vapor concentration in the vapor space above the roof applies to both internal floating roof and external domed floating roof tanks.

Rule 1178 Compliance Report

A provision has been included in the Compliance Report to include a visual inspection of the slotted guidepole flexible enclosure system, if applicable, at the same time as conducting the visual inspection of the roofs and secondary seals.

PROPOSED AMENDED RULE 219

Proposed Amended Rule (PAR) 219 is an administrative amendment made to Rule 1178 to provide for the use of a Flexible Enclosure System (FES) as a VOC emission control option for floating roof storage tanks that have slotted guidepoles.

PAR 219 seeks to add paragraph (m)(25) as follows:

(m) Storage and Transfer Equipment

(25) Replacement of a pole float used to control emissions from slotted guidepoles in floating roof storage tanks with a pole sleeve or a pole sleeve in combination with a flexible enclosure system. Paragraph (s)(1) does not apply to equipment utilizing this provision, but does not excuse the duty to comply with any requirements of regulations listed in paragraph (s)(1) as those requirements may separately apply to the equipment.

The amended rule would make paragraph (s)(1) of Rule 219 inapplicable for storage vessels that change from a pole float to a pole sleeve or to a pole sleeve in combination with a flexible enclosure system. While older storage vessels are not necessarily subject to more recent federal and state requirements, it is estimated that most storage vessels are subject to NSPS, a NESHAP, or both. If subparagraph (s)(1) were made to apply as it does for other equipment and processes listed, it would, by its terms, provide no exemption from the requirement for a written permit pursuant to Regulation II when an NSPS or NESHAP does apply to the storage vessel. The proposed language of (m)(25) would override this. However, the language also explains that nothing proposed in paragraph (m)(25) should be construed to limit or excuse the duty to comply with applicable requirements of NSPS or NESHAPs, as those requirements may separately apply. Of additional note, many storage vessels are part of a source that may also be a Title V permitted facility. Nothing in proposed paragraph (m)(25) should be construed to limit or excuse the duty to comply with separately applicable permit revision requirements of Title V and Regulation XXX.

While proposed paragraph (m)(25) would not require a permit pursuant to Regulation II, revision of a Title V permit, if applicable, may be needed and appropriate. It is expected that the minor permit revision process may be needed and used in many cases, but at minimum, all appropriate Title V permit changes should be incorporated at the time of renewal.

It should be noted that there is a slight difference between the acceptable slotted guidepole configurations as proposed in PAR 1178 and the exemption provision proposed in PAR 219. For internal floating roof tanks and domed external floating roof tanks, PAR 1178 allows the use of an FES without a pole sleeve. However, the exemption from a permit under PAR 219 requires that the FES be utilized in combination with a pole sleeve. Thus internal floating roof tanks and domed external floating roof tanks using an FES without a pole sleeve would be required to modify their permit prior to making any changes to the guidepole. Internal floating roof tanks and domed external floating roof tanks using an FES in combination with a pole sleeve would not require a written permit pursuant to Regulation II, although, when applicable, permit revision under Regulation XXX may remain a consideration. The proposed exemption would apply when the only change made to the floating roof tank was to incorporate a pole sleeve or a pole sleeve in combination with the FES. Other physical changes made to the tank or changes to the process or contents of the tank may trigger the need for a written permit pursuant to Regulation II.

CHAPTER 3: IMPACT ASSESSMENT

AFFECTED FACILITIES

The petroleum facilities subject to PAR 1178 include facilities engaged in the production, refining, storage, transfer or distribution of crude petroleum or petroleum products as defined in the Standard Industrial Classification for crude petroleum and natural gas (SIC code 1311), petroleum refining (SIC code 2911), petroleum bulk stations and terminals (SIC code 5171), or other related industries (e.g., SIC codes 4226, 4612, 4613, 4923 and 5541). Staff estimates that there are approximately 40 facilities and 1,000 storage tanks that may be affected by this amendment of Rule 1178. While the proposed amendments provide additional regulatory flexibility and also clarify rule requirements, the option of removing a pole float from a slotted guidepole and replacing it with an FES may only be exercised by operators at some facilities to facilitate activities, including automatic radar gauging that may more accurately measure the organic liquid depth in storage tanks. This option is not expected to adversely impact applicable facilities.

EMISSION IMPACT

The proposed amendments recognize an acceptable emission control option identified by the 2000 U.S. EPA STERPP Agreement and are expected to have negligible emission impacts. Specifically, the proposed amendment will allow facilities to replace a pole float and float wiper/seal with a Flexible Enclosure System (FES), which completely encloses the slotted guidepole, in internal floating tanks or domed floating tanks. For external floating tanks, the proposed amendment will allow the same replacement provided pole sleeves are also employed.

Emission calculations were performed using US EPA's TANKS 4.0.9d program which estimates volatile organic compound (VOC) emissions from different types of storage tanks based on the emission estimation procedures from Chapter 7 of EPA's Compilation of Air Pollutant Emission Factors (AP-42). The TANKS 4.09d program does not provide an option to estimate emissions from the use of the FES. Based on the results of the calculations, the emission reductions estimates are comparable for all three slotted guidepole control configurations for domed external or internal floating roof tanks. Estimates indicate that there may be a negligible increase (less than one percent) when an FES is utilized. In the case of an external floating roof tank, there may be a more significant emission increase when replacing a pole float with an FES. Based on these emission reduction estimates, staff believes that a pole sleeve with a FES will provide equivalent emissions control as that of a pole float with float wiper/seal for external floating roof tanks, which are required under the existing rule requirements. However, for internal or domed external floating roof tanks, pole sleeves will not be required with FES given the minimal emission reduction difference. It should be noted that the STERPP agreement does not require the inclusion of a pole sleeve with a FES for external floating roofs. The proposed amendment seeks to make the proposed options equivalent in emissions to the options allowed under the existing rule and provides greater emission control than the 2000 U.S. EPA STERPP Agreement.

However, if it is determined that a modification that employs the FES option results in emission increases, Best Available Control Technology (BACT) will be required, pursuant to Regulation XIII – New Source Review.

SOCIOECONOMIC IMPACT ASSESSMENT

The proposed amendments to Rule 1178 clarify rule requirements and provide additional regulatory flexibility. Specifically, the proposed amendments will allow facilities to replace a pole float and float wiper/seal with a flexible enclosure system, which completely encloses the slotted guidepole in floating roof tanks. The cost of installing a flexible enclosure system for a 48 foot tall tank is estimated at $5,500 with an additional cost of $2,200 for an optional transition box. (https://www.mesaetp.com/tank-products/vapor-guard-gauge-pole-cover/). The proposed amendment that allows the use of the flexible enclosure system is completely voluntary and as such will have no adverse socioeconomic impacts.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Pursuant to the California Environmental Quality Act (CEQA) and SCAQMD Rule 110, the SCAQMD, as lead agency for the proposed project, has reviewed the proposed amendments to Rules 1178 and 219 in accordance with: 1) CEQA Guidelines Section 15002(k) - General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA; and 2) CEQA Guidelines Section 15061 - Review for Exemption, procedures for determining if a project is exempt from CEQA. SCAQMD staff has determined that it can be seen with certainty that there is no possibility that the proposed amendments to Rules 1178 and 219 may have a significant adverse effect on the environment. Therefore, the project is considered to be exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Activities Covered by General Rule. A Notice of Exemption has been prepared pursuant to CEQA Guidelines Section 15062 – Notice of Exemption. If the project is approved, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside and San Bernardino counties.

DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE SECTION 40727

Requirements to Make Findings

California Health and Safety Code Section 40727 requires that prior to adopting, amending or repealing a rule or regulation, the SCAQMD 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 staff report.

Necessity

Proposed Amended Rule 1178 and Proposed Amended Rule 219 are needed to clarify existing rule requirements and provide additional regulatory flexibility.

Authority

The SCAQMD Governing Board has authority to adopt Proposed Amended Rule 1178 and Proposed Amended Rule 219 pursuant to the California Health and Safety Code Sections 39002, 39650 et. seq., 40000, 40001, 40440, 40441, 40702, 40725 through 40728, 41508, 41700, and 41706.

Clarity
Proposed Amended Rule 1178 and Proposed Amended Rule 219 are written or displayed so that its meaning can be easily understood by the persons directly affected by it.

Consistency
Proposed Amended Rule 1178 and Proposed Amended Rule 219 are in harmony with and not in conflict with or contradictory to, existing statutes, court decisions or state or federal regulations.

Non-Duplication
Proposed Amended Rule 1178 and Proposed Amended Rule 219 will not impose the same requirements as any existing state or federal regulations. The proposed amended rules are necessary and proper to execute the powers and duties granted to, and imposed upon, the SCAQMD.

Reference
By adopting PAR 1178 and PAR 219, the SCAQMD Governing Board will be implementing, interpreting or making specific the provisions of the California Health and Safety Code Sections 40001 (rules to achieve and maintain ambient air quality standards), 41700 (nuisance), 41706(b) (emission standards for lead compounds from non-vehicular sources), Federal Clean Air Act (CAA) Section 112 (Hazardous Air Pollutants), and CAA Section 116 (more stringent state standards).

COMPARATIVE ANALYSIS

Health and Safety Code 40727.2 requires a comparative analysis of the proposed rule with any Federal or SCAQMD rules and regulations applicable to the same source. See Table 3-1.

The proposed amendments to Rule 219 allow replacement of a pole float used to control emissions with a pole sleeve or a pole sleeve in combination with a flexible enclosure system. These emissions are expected to be negligible. In addition, there are no federal rules or regulations that exempt facilities from requiring a permit for equipment. Therefore, a comparative analysis would not be required for PAR 219.

Table 3-1: Comparison of PAR 1178 with Rule 463 and 40CFR60 K, Ka and Kb and BAAQMD Regulation 8, Rule 5

Applicability			
PAR 1178	Rule 463	40CFR60	BAAQMD Regulation 8, Rule 5
Above ground storage tanks at petroleum facilities emitting 20tpy or more as of inventory year 1999, equal to or greater than 19,815 gallons, that are used to store petroleum liquids with a vapor pressure of 0.1 psia or greater.	Storage tanks from 19,815 gallons to 39,630 gallons containing organic liquids with a vapor pressure of 1.5 psia or greater. Storage tanks from 39,630 gallons containing organic liquids with a vapor pressure of 0.5 psia or greater. Storage tanks from 251 gal to 19,815 gal storing gasoline.	**Subpart K** Storage tanks from 40,000 gallons to 65,000 gallons built after 3/8/74, but before 5/19/78, containing petroleum liquids with a vapor pressure of 1.5 psia to 11.1 psia. Storage tanks from 40,000 gallons to 65,000 gallons built after 3/8/74, but before 5/19/78, containing petroleum liquids with a vapor pressure of 1.5 psia to 11.1 psia. Storage tanks from 65,000 gallons built after 6/11/73 but before 5/19/78, containing petroleum liquids with a true vapor pressure of 1.5 psia up to 11.1 psia. **Subpart Ka** Storage tanks from 40,000 gallons built after 5/18/78 and prior to 7/23/84, containing petroleum liquids with a true vapor pressure of 1.5 psia up to 11.1 psia. **Subpart Kb** Storage tanks built after 7/23/84, containing volatile organic liquids (including petroleum liquids) from 19,185 gallons up to 39,889 gallons with a vapor pressure between 4 psia and 11.1 psia and storage tanks greater than 39,889 gal with a maximum vapor pressure between 0.75 psia and 11.1 psia.	Storage Tanks between 9,906 gallons and 19,803 gallons storing a liquid with a true vapor pressure greater than 1.5 psia. Storage Tanks between 19,803 gallons and 39,626 gallons storing a liquid with true vapor pressure greater than 1.5 psia. Storage Tanks with a capacity less than or equal to 39,626 gallons storing a liquid with a true vapor pressure greater than 0.5 psia. Storage Tanks with capacity equal to or greater than 39,626 gallons with a true vapor pressure greater than 0.5 psia. Gasoline Storage Tanks less than or equal to 19,813 gallons. Storage tanks with a true vapor pressure greater than 11 psia.

External Floating Roof Tank Requirements (Seals/Gaps)

PAR 1178	Rule 463	40CFR60	BAAQMD Regulation 8, Rule 5
Rim seal system consisting of two seals, covering the annular space between the floating roof and the tank wall in a continuous fashion. Liquid mounted primary seals for both welded and riveted tanks. Secondary seals shall be rim-mounted. Rim seal system to cover the annular space between the floating roof and the wall in a continuous fashion. Primary Seal Gaps between the tank shell and the primary seal shall not exceed 1.3 cm (1/2 in.) for a cumulative length of 30% of the tank circumference and 0.32 cm (1/8 in.) for 60% of the tank circumference. No gap b/w the tank shell and the primary seal shall exceed 3.8 cm (1-1/2 in.). No continuous gap b/w the tank shell and the primary seal shall exceed 10% of the tank circumference. Mechanical shoe primary seals shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 61 cm (24 in.) above the stored organic liquid. Secondary Seal Gaps between the tank shell and the secondary seal shall not exceed 0.32 cm (1/8 in.) for a cumulative length of 95% of the tank circumference. No gap between the tank shell and the secondary seal shall exceed 1.3 cm (1/2 in.). The secondary seal shall be installed in a way that permits the insertion of probes up to 3.8 cm (1-1/2 in.) in width to measure gaps in the primary seal.	Two seals, one above the other. Metallic shoe-type primary seals installed on or after August 1, 1977 shall be installed so that one end of the shoe extends into the stored organic liquid and the other end extends a minimum vertical distance of 61 centimeters (24 inches) above the stored organic liquid surface. No specification for other types of primary seals. **(Gap requirements for primary and secondary seals same as Proposed Rule 1178).** Secondary seals shall not be attached to the primary seal. Both seals may be removed for preventive maintenance upon notification of the E.O. for a period of up to 72 hours. There shall be no holes, tears or openings in the secondary seal or in the primary seal envelope surrounding the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal.	**Subpart K** No seal specs. given **Subpart Ka** The closure device has to consist of 2 seals, one above the other. The floating roof has to be floating on the liquid at all times, except during emptying or refilling. The primary seal can either be a metallic shoe seal, a liquid-mounted or a vapor mounted seal. For tanks with metallic shoe, one end of the metallic shoe is to extend into the stored liquid and the other end is to extend a minimum vertical distance of 61 cm (24 in) above the stored liquid surface. There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope The secondary seal type is not specified. **Subpart Kb** The closure device consists of 2-seals, one above the other. The floating roof has to float on the liquid at all times, except during emptying or refilling. Primary seals may be metallic shoe or liquid mounted. Secondary seals must cover the annular space between the rim and the tank wall in a continuous fashion. Primary and secondary seals need to meet certain gap criteria. There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope.	An external floating roof tank shall be equipped with a primary and secondary seal. Primary Seal The primary seal fabric shall have no holes, tears or other openings, which would allow the emission of organic vapors. The primary seal may be liquid-mounted or may be of the metallic shoe type. Metallic shoe type seals shall be installed so that one end of the shoe extends a minimum vertical distance of 61 cm (24 in.). For welded tanks, no gap between the tank shell and the primary seal shall exceed 3.8 cm (1-1/2 in.); No continuous gap greater than 0.32 cm (1/8 in.) shall exceed 10% of the circumference of the tank. The cumulative length of all primary seal gaps exceeding 1.3 cm (1/2 in.) shall not be more than 10% of the circumference. The cumulative length of all primary seal gaps exceeding 0.32 cm (1/8 in.) shall not be more than 40% of the circumference. For riveted tanks, no gap between the tank shell and the primary seal shall exceed 6.4 cm (2-1/2 in). The cumulative length of all primary seal gaps exceeding 3.8 cm (1-1/2 in.) shall not be more than 10% of the circumference. Secondary Seals The secondary seal shall allow easy insertion of probes up to 3.8 cm (1-1/2 in.) in width in order to measure gaps in the primary seal.

External Floating Roof Tank Requirements (Seals/Gaps continued)			
PAR 1178	Rule 463	40CFR60	BAAQMD Regulation, Rule 5
There shall be no holes, tears or openings in the secondary seal or in the primary seal envelope surrounding the annular vapor space enclosed by the roof edge, seal fabric and the secondary seal.			For welded tanks, no gap between the tank shell and the secondary seal shall exceed 1/3 cm (1/2 in.). The cumulative length of all secondary seal gaps exceeding 0.32 cm (1/2 in.) shall not be more than 5% of the circumference of the tank. For welded external floating roof tanks with seals installed after 9/4/85, no gap between the tank shell and the secondary seal shall exceed 1.5 mm (0.06 in.). The cumulative length of all secondary seal gaps exceeding 0.5 mm (0.02 in.) shall be no more than 5% of the circumference of the tank, excluding gaps less than 5 cm (1.79 in.) from vertical weld seams. For riveted tanks, the secondary seal shall consist of at least two sealing surfaces, such that the sealing surfaces prevent the emission of organic compounds around the rivets. Serrated surfaces are allowed if the length of the serration does not exceed 15.2 cm (6 in.). No gap between the tank shell and the secondary seal shall exceed 1.3 cm (1/2 in.). The cumulative length of all secondary seal gaps exceeding 0.32 cm (1/8 in.) shall be not more than 5% of the circumference.

External Floating Roof Tank Requirements (Fittings)			
PAR 1178	Rule 463	40CFR60	BAAQMD Regulation 8, Rule 5
Access hatches, gauge float. Wells shall be equipped with covers that are gasketed and bolted, with no visible gaps. Gauge hatch/sample wells shall be equipped with covers that are gasketed and bolted, with no visible gaps. Adjustable roof legs wells shall be equipped with gaskets or the legs shall be covered with VOC impervious socks whenever the roof is floating. Floating roof rim vents and vacuum breakers shall be gasketed and closed at all times except when the tank roof is floated off or landed on its leg supports. Unslotted guidepoles shall be equipped with gasketed covers at the end of the poles. The covers shall be closed at all times, with no visible gaps, except when sampling. Unslotted guidepole wells shall be equipped with gasketed sliding covers and flexible fabric sleeves or wipers. Slotted guidepoles shall be equipped with: - A gasketed cover, a pole wiper, and a pole float with a wiper or seal; or - A gasketed cover, a pole wiper and a pole sleeve that extends into the liquid; or - A gasketed cover, a pole wiper, a pole sleeve and a flexible enclosure system	All openings in the roof except pressure-vacuum (PV) valves, shall provide a projection below the liquid surface to prevent belching, escape, or entrainment of organic liquid, and shall be equipped with a cover, seal or lid. The cover, seal, or lid shall at all times be in a closed position, with no visible gaps, except when the device or appurtenance is in use. PV valves shall be set to within 10 percent of the maximum allowable working pressure of the roof		Except for the pressure vacuum valves, all openings shall meet the following conditions: The opening shall provide a projection below the liquid surface to prevent belching of liquid and reduce escaping of organic vapors. The view ports and other openings, except floating roof legs, shall be equipped with a gasketed cover, seal or lid, which shall remain in a closed position at all times, except when the opening is in use. Effective 6/1/93, view ports and other openings, except floating roof legs shall be equipped with a gasketed cover, seal or lid. For inaccessible openings on internal floating roof tanks, there shall be no visible gaps as viewed from the fixed roof manway, except when the opening is in use. Pressure-vacuum valves shall be set to within 10% of the maximum allowable working pressure of the roof or at least 25 mm Hg (0.5 psig) and shall be properly installed, maintained, and in good operating order and shall remain in a gas tight condition (10,000 ppm, as methane), above background, except when the operating pressure exceeds the valve set pressure. Solid sampling and gauge wells shall be equipped with a cover, seal or lid, which shall be in a closed position with no gap exceeding 0.32 cm (1/8 in.) except when in use.

External Floating Roof Tank Requirements (Fittings continued)			
PAR 1178	Rule 463	40CFR60	BAAQMD, Regulation 8, Rule 5
Roof drains shall be equipped with a slotted membrane fabric that covers 90 percent of the roof drain opening or other device with an equivalent control efficiency	Roof drains shall be equipped with a slotted membrane fabric that covers at least 90% of the roof drain area opening	**Subpart Ka** Roof drains to be equipped with slotted fabric membranes covering at least 90% of the opening. **Subpart Kb** Roof drains to be equipped with slotted fabric membranes covering at least 90% of the roof drain opening.	As of 6/1/2000, the well on an EFRT shall be equipped with the following: a sliding cover, well gasket, pole sleeve, pole wiper and an internal float and float wiper designed to minimize the gap between the float and the well, provided that the gap shall in no case exceed 1/2 in. or shall be equipped with a well gasket, a zero gap pole wiper seal and a pole sleeve that projects below the liquid surface. Any emergency roof drain shall be provided with a slotted membrane fabric cover, or equivalent, that covers at least 90% of the area of the opening.

Domed External Floating Roof Tanks (Seals and Fittings)			
PAR 1178	Rule 463	40CFR60	BAAQMD, Regulation 8, Rule 5
Rim seal system must consist of a primary and a secondary seal. Rim seal specifications must be the same as those for External Floating Roof Tanks Slotted guidepoles shall be equipped with: - A gasketed cover, a pole wiper, and a pole float with a wiper or seal; or - A gasketed cover, a pole wiper and a pole sleeve that extends into the liquid; or - A gasketed cover, a pole wiper and a flexible enclosure system	Rule has no requirements for Domed External Floating Roof Tanks	Rule has no requirements for Domed External Floating Roof Tanks	Rule has no requirements for Domed External Floating Roof Tanks

Internal Floating Roof Tanks (Fittings)			
PAR 1178	Rule 463	40CFR60	BAAQMD, Regulation 8, Rule 5
As of 7/1/2004: Same requirements for roof fittings as external floating roof tanks. - Support columns and wells shall be equipped with sliding covers that are gasketed or with flexible fabric sleeves. As of 7/1/2003, tank roof openings shall be in a vapor tight condition (500 ppm per Method 21). Slotted guidepoles shall be equipped with: - A gasketed cover, a pole wiper, and a pole float with a wiper or seal; or - A gasketed cover, a pole wiper and a pole sleeve that extends into the liquid; or - A gasketed cover, a pole wiper and a flexible enclosure system	After 6/1/84: May have a single liquid-mounted primary seal or primary/secondary seals. (Organic) vapor space above the roof must be: 1. < 50% of LEL for tanks installed prior to 6/1/84 2. < 30% of LEL for tanks installed after 6/1/84 All fittings and openings shall be gasketed and controlled.	**Subpart Ka** Each opening in the cover except for automatic bleeder vents, rim space vents, stub drains and leg sleeves is to be equipped with a cover, seal, or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Each opening in the cover except for automatic bleeder vents and the rim space vents is to provide a projection below the liquid surface. **Subpart Kb** May have single foam or liquid filled liquid mounted seal, a mechanical shoe seal or double seal of which the primary may be vapor mounted. Each opening in the cover except for automatic bleeder vents, rim space vents, stub drains and leg sleeves is to be equipped with a cover, seal, or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. Each opening in the cover except for automatic bleeder vents and the rim space vents is to provide a projection below the liquid surface	The internal floating roof shall be either : (a) A liquid mounted primary seal, mounted in full contact with the liquid in the annular space b/w the tank shell and the floating roof or (b) A vapor mounted primary and secondary seal. Metallic shoe-type seals shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface. For welded external floating roof tanks installed after 2/1/93, no gap b/w the tank shell and secondary seal shall exceed 1.5 mm (0.06 in.).

Inspection and Maintenance Requirements			
PAR 1178	Rule 463	40CFR60	BAAQMD, Regulation 8, Rule 5
Semiannual inspections of primary and secondary seals and each time the tank is emptied and degassed done by certified person. All piping, valves, pressure-vacuum valves and other openings shall be inspected on an annual basis and each time the tank is emptied and degassed. All defects shall be repaired within 72 hours after an inspection determines that equipment is not operating in compliance or prior to putting a tank that has been emptied and degassed back in service. Slotted guidepoles with a flexible enclosure system (FES) to be visually inspected for holes, tears, slots, rips or gaps to ensure FES is properly secured to the top of the guidepole and to the tanks cover at the bottom	Semiannual inspections of primary and secondary seals and each time the tank is emptied and degassed done by certified person All defects shall be repaired within 72 hours or prior to putting the tank back in service	**Subpart K** Records of products stored, period of storage and maximum vapor pressure of the liquid stored. **Subpart Ka** Records of products stored, period of storage and maximum vapor pressure of the liquid stored. **Subpart Kb** 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 VOL and at least once every 5 years thereafter. Measurements of gaps between the tank wall and the secondary seal shall be performed within 60 days of the initial fill with VOL and at least once per year thereafter.	**Primary Seal Inspection** For welded EFRTs with seals installed after 9/4/85 and welded IFRTs with seals installed after 2/1/93, the seal shall be inspected for compliance by the operator once every 10 years. After 12/1/93, once every 10 years, for IFRTs. Once every 5 years for all other tanks. **Secondary Seal Inspection** For welded EFRTs with seals installed after 9/4/85 and welded IFRTs with seals installed after 2/1/93, the seal shall be inspected for compliance by the operator once every 10 years. After 12/1/93, once every 10 years, for IFRTs. Annually for all other tanks. The primary and secondary seals of all IFRTs shall be visually inspected for holes, tears, or other openings in the seal fabric which allow the emission of organic vapors.

Recordkeeping and Reporting			
PAR 1178	Rule 463	40CFR60	BAAQMD Regulation 8, Rule 5
Inspection reports filled out on District approved forms and mailed to the District within 5 working days of completion of inspections and on January 31 and July 31, respectively, upon completion of 2 consecutive quarterly inspections. Records to be kept for 5 years	Inspection reports filled out on District approved forms and mailed to the District within 5 working days or 120 hours if violations are found. All compliance inspection reports to be submitted electronically or by hard copy within 5 working days. Inspection and repair records to be maintained for 3 years. Emission data records to be maintained for most recent 2-year period. Written violation reports to be submitted within 120 hours of the violation determination.	**Subpart Kb** Inspection reports of floating roof tanks submitted within 30 days. For fixed roof tanks vented to vapor recovery a report an operating plan shall be kept, indicating the parameter monitored. For fixed roofs vented to a flare or incinerator a report shall be submitted indicating any period of pilot flame out within 6 months of initial start-up and on a semi-annual basis thereafter Records to be kept for a minimum of 2 years.	An accurate record of liquids stored and their true vapor pressure ranges of such liquids shall be maintained. For primary seals, certification of actual gap measurements shall be submitted upon installation of such primary seal, replacement of such seal or prior to installation of secondary seals, and at least every 5 years following such installation or replacement, unless the secondary seal is for: An Internal Floating Roof Tank (IFRT) or a welded floating roof tank installed after 9/4/85 (for External Floating Roof Tanks - EFRTs) and after 2/1/93 (for IFRTs), respectively. Then it shall be done every 10 years. For secondary seals, **EFRT** - Annual certification of gap measurement. Time interval between certification not to exceed 15 months. **IFRT** - At least once every 10 years.

Test Methods			
PAR 1178	Rule 463	40CFR60	BAAQMD Regulation 8, Rule 5
For VOC leaks EPA Method 21 Efficiency of a vapor recovery system shall be determined according to EPA Methods 25 or 25A; District Method 25.1 or 25.3. Vapor pressure determination of liquids stored determined by flash point (ASTM Method D-93) and 10% evaporation (ASTM Method D86).	For VOC leaks EPA Method 21. Efficiency of a vapor recovery system shall be determined according to SCAQMD Test Method 501.1 for the determination of total organic compound emissions. EPA Methods 25 or 25A may be used, as applicable, in place of SCAQMD Test Method 25.1 specified in Method 501.1. The Reid vapor pressure specified in paragraph (b)(3) and the Reid vapor pressure used in determining the true vapor pressure limit specified in paragraph (d)(5) shall be determined according to ASTM D-323-82 or California Code of Regulations, Title 13, Section 2297	**Subpart Ka** The true vapor pressure of materials stored is determined using available data on typical Reid Vapor Pressure from API Bulletin 2517 and maximum expected storage temperature **Subpart Kb** Vapor Pressure of crude and distillates is determined from monographs in API Bulletin 2517 or ASTM Method D2879-83 or is calculated or measured by an equivalent method.	For VOC leaks: EPA Method 21. RVP: Manual of Procedures; Vol. III, Lab. Method 13 Analysis of Samples, Total Vapor Pressure: Vol. IV, Lab. Method 28 Determination of Emissions: Manual of Procedures, Vol. IV, ST-4 Vol. IV, ST-7

Rule Exemptions			
PAR 1178	Rule 463	40CFR60	BAAQMD Regulation 8, Rule 5
1. Pressurized storage tanks designed to operate in excess of 15 psig without any emissions to the atmosphere under emergency conditions. 2. Domed external floating roof tanks installed prior to 1/1/02 shall be exempt from rim seal system and other doming requirements outlined in this rule. 3. Facilities with an emissions cap equal to or less than 40,000 pounds (20 tons) per year of VOC shall be exempt from the requirements of the rule. 4. External floating roof tanks with permit conditions limiting the true vapor pressure of the stored organic liquids in the tanks to 3 psia or lower shall be exempt from the doming requirements of the rule. 5. Portable Baker tanks storing liquids with true vapor pressure of between 0.1 and 0.5 psia and equipped with carbon canisters meeting the 500 ppmv outlet concentration shall be exempt from performance testing, provided the operator conducts periodic EPA Method 21 measurement to ensure the 500 ppmv system standard is maintained.	Oil production tanks with a capacity of between 19,815 gallons and 42,008 gallons, which have a properly maintained vapor-tight roof and are equipped with a pressure-vacuum valve, which is set to within 10% of the maximum allowable working pressure of the tank, are exempt from the control requirements of the rule when: 1. The liquid contents do not comply with paragraph (c) only when heated for shipment, and such heating occurs for no more than 48 hours and not more than once in any 20-day period or the tank has a monthly average throughput of no more than 30 barrels of oil per day and was constructed prior to 6/1/84. 2. Tanks being brought into compliance within the 72-hr period from the determination of non-compliance.	**Subpart K** Storage vessels for petroleum or condensate stored, processed, and/or treated at a drilling and production facility prior to custody transfer. **Subpart Ka** Petroleum liquid storage vessels with a capacity of less than 420,000 gallons used for petroleum or condensate stored, processed, or treated prior to custody transfer is exempt from the requirements of this subpart. **Subpart Kb** 1. Vessels at coke oven by-product plants 2. Pressure vessels designed to operate in excess of 204.9 kPa and without emissions to the atmosphere. 3. Vessels permanently attached to mobile vehicles such as trucks, railcars, barges or ships. 4. Vessels with a design capacity less than or equal to 1589.874 cubic meters (420,045 gallons) used for petroleum or condensate stored, processed, or treated prior to custody transfer. 5. Vessels located at bulk gasoline plants. 6. Storage vessels located at gasoline service stations. 7. Vessels used to store beverage alcohol	1. Underground gasoline storage tanks at gasoline dispensing facilities are exempt from this rule. 2. The rule does not apply to tanks storing organic liquids with a true vapor pressure of less than or equal to 0.5 psia as determined by the test methods outlined in the rule.

REFERENCES

Ferry, R. 2000. *Slotted Guidepole Agreement*. Prepared by R. Ferry, the TGB Partnership

U.S. Environmental Protection Agency, Slotted Guidepoles at Certain Petroleum and Organic Liquid Storage Vessels, Federal Register 65 FR 19891, April 13, 2000

SCAQMD, Staff Report - Proposed Amended Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II, May 2017,

APPENDIX A: COMMENTS AND RESPONSES

Definitions

Comment 1-1:

The definition of Flexible Enclosure System (FES) includes the material being resistant to ultraviolet radiation. Since the FES that is installed on internal floating and a domed external floating roof tanks will not be exposed to sunlight/ultraviolet (UV) radiation since they will be installed below the fixed roof portion of the tank, the material of the FES in these circumstances should not be required to be UV resistant. Only the FES for the external floating roof tank should be required to be manufactured from UV resistant material.

Response to Comment 1-1:

Based on manufacturer information Flexible Enclosure Systems are manufactured from a standard material that is resistant to ultraviolet radiation and there is no distinction of material based on the type of tank. In addition, having an FES that is made of ultraviolet resistant material may add useful life to the FES and as such may result in cost savings for the operator of internal floating and domed external floating roof tanks.

Slotted Guidepole Requirements

Comment 1-2:

When a Flexible Enclosure System (FES) is installed on a slotted guidepole, the use of a wiper and a pole sleeve will not provide additional emission reductions. In addition, during a visual inspection, there will be no way to confirm whether or not the slotted guidepole is actually equipped with either a wiper or a pole sleeve.

Response to Comment 1-2:

A slotted guidepole that has had its pole float removed will no longer have a float wiper associated with the guidepole and this requirement has not been proposed in the rule amendment. In the case of an internal floating and a domed external floating roof tank, PAR 1178 requires installation of a gasketed cover, a pole wiper and a FES on a slotted guidepole when the pole float is removed. However, based on Tank 4:09 VOC sample emission calculations, removal of a pole float from an external floating roof tank slotted guidepole would significantly increase emissions and therefore there would be a need for a pole sleeve to be installed in order to mitigate these emissions. The limitation that there is no confirmation during a visual inspection does not invalidate the need for the device.

Comment 1-3:

The rule provision that requires the Flexible Enclosure System (FES) be tightly double-clamped and secured at both the top and the bottom of the slotted guidepole should be amended to require the FES being double-clamped and secured at the top of the guidepole, while the bottom of the FES should be secured tightly by a single clamp to the top of the floating roof of the storage tank since the bottom of the guidepole will be submerged and under the floating roof.

Response to Comment 1-3:

Staff agrees with this comment and will incorporate these suggestions into PAR 1178.

Comment 1-4:

The provisions of the rule amendment limit the use of an FES only in conjunction with radar gauging. However, currently industry uses the FES/slotted guidepole configuration, not only for gauging, but also for other purposes such as sample collection. In some cases storage tanks are equipped with multiple slotted guidepoles which are not all equipped with radar gauges. Therefore, limiting the use of an FES to be only in conjunction with radar gauging could result in non-compliance.

Response to Comment 1-4:

Staff agrees with this comment and will incorporate these suggestions into PAR 1178.

Comment 1-5:

When an FES is used on a slotted guidepole, PAR 1178 requires that pole wipers be required for all categories of storage tanks and pole sleeves be required for external floating roof tanks. Logically, it would seem that since the FES provides a vapor barrier, there is no pathway to atmosphere and the addition of wipers and sleeves would not provide additional control and in addition, 65 FR 19891 establishes equivalent control when EPA states that the FES can reduce emissions to a level comparable to that achievable with a pole float system.

Response to Comment 1-5:

Although the U.S. EPA recognizes the FES as an emission control option, in the absence of data that shows the extent to which emissions would be reduced, staff is unable to quantify any emission reductions that may be achieved by the FES. As such, staff believes that PAR 1178 should maintain the existing rule requirements that call for pole wipers and pole sleeves in order to eliminate the chance of creating emission increases. Additionally, while the STERPP agreement announced acceptable options for slotted guidepoles NSPS Subpart Ka/Kb tanks, PAR 1178 is not intended to authorize inconsistencies with any potential applicable requirements in 40 CFR Part

61 and 63. For example, when a storage vessel may be subject to 40 CFR Part 63, Subpart WW, the pole wiper may be a required component.

Comment 1-6:

There is some concern that some facilities may have FES installed, but may have done so without a wiper or a pole sleeve to be consistent with the STERPP agreement, thereby creating a non-compliance issue. In addition, retrofitting a tank with the FES may also require that the tank be drained which may create additional emissions which may be required to be controlled per Rule 1149.

Response to Comment 1-6:

Staff agrees that there is a possibility that this scenario may occur. However, in the event that this situation may arise, staff will work with facility operators on a case-by-case basis to address this issue to ensure compliance with PAR 1178.

Inspections

Comment 1-7:

Will the scope of the current visual inspection technique for internal floating roof and domed external floating roof tanks, which includes visual inspections of gaskets, seals and other fittings be expanded to include the inspection of the FES on these categories of storage tanks where they apply with no physical contact with the FES?

Response to Comment 1-7:

The scope of the current visual inspection will be expanded to include visual inspections for the FES where they exist on slotted guidepoles associated with internal floating roof and domed external floating roof tanks.

Rule 219 Exemptions

Western States Petroleum Association
Credible Solutions • Responsive Service • Since 1907

Bridget McCann
Manager, Southern California Region

February 12, 2018

David De Boer
Planning and Rules Manager
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178

Via e-mail at: ddeboer@aqmd.gov

Re: Proposed Amended Rule 1178, Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities

Dear Mr. DeBoer:

Western States Petroleum Association (WSPA) appreciates this opportunity to provide feedback on Proposed Amended Rule 1178, Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities. WSPA is a non-profit trade association representing companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in five western states including California.

On May 5, 2017, the South Coast Air Quality Management District (SCAQMD) Governing Board adopted the following resolution language on amendments to Rule 219, Equipment Not Requiring a Written Permit Pursuant to Regulation II:

> "BE IT FURTHER RESOLVED, that the Governing Board directs staff to work with the United States Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB) and interested stakeholders to introduce proposed amendments to Rule 1178 - Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities within the first quarter of 2018 to incorporate VOC emission control technologies for guidepoles in a floating roof tank, as recognized by U.S. EPA including the Storage Tank Emission Reduction Partnership Program (STERPP). The Governing Board also directs staff to explore various mechanisms to minimize permitting impacts when addressing VOC control technologies for guidepoles in a floating roof tank that are recognized in any amendment to Rule 1178, including a possible Rule 219 exemption;"[1]

In accordance with the May 2017 SCAQMD Governing Board resolution, and as recognized by the U.S. EPA STERPP, WSPA requests that the District minimize permitting impacts and allow facilities to utilize the various VOC control technologies for guidepoles currently permissible under Rule 1178, and that flexible enclosure systems (vapor socks) be allowed under a Rule 219 exemption. 2-1

[1] SCAQMD Board Hearing Agenda No. 27 Proposal: Amend Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II; and Amend Rule 222 – Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation II, http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2017/2017-may5-027.pdf?sfvrsn=12

970 W. 190th Street, Suite 304, Torrance, California 90502
(310) 808-2146 Fax: (310) 324-9063
bmccann@wspa.org www.wspa.org

Mr. De Boer, SCAQMD
February 12, 2018
Page 2

If you have any questions, please contact me at (310) 808-2146 or by email at bmccann@wspa.org.

Sincerely,

cc: Michael Morris, SCAQMD
Kennard Ellis, SCAQMD
Patty Senecal, WSPA

970 W. 190th Street, Suite 304, Torrance, California 90502
(310) 808-2146 Fax: (310) 324-9063
bmccann@wspa.org www.wspa.org

Rule 219 Exemptions

andeavor

2350 E. 223rd Street
Carson, CA 90810

310-847-3630
andeavor.com

February 6, 2018

Mr. Michael Morris
Program Supervisor
South Coast Air Quality Management District
21865 Copley Dr.
Diamond Bar, CA 91765

Via e-mail at: mmorris@aqmd.gov

Re: Proposed Amended Rule 1178, Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities

Andeavor appreciates the opportunity to submit comments on the draft proposed amendments to Rule 1178 as well as the Preliminary Draft Staff Report that were discussed at the January 10, 2018 Working Group meeting.

May 5, 2017 Board Resolution Language
As a preface to our comments, the following SCAQMD Board Resolution language, from the May 5, 2017, adoption hearing on amendments to Rule 219, provides context.

> **BE IT FURTHER RESOLVED**, that the Governing Board directs staff to work with the United States Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB) and interested stakeholders to introduce proposed amendments to Rule 1178 - Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities within the first quarter of 2018 to incorporate VOC emission control technologies for guidepoles in a floating roof tank, as recognized by U.S. EPA including the Storage Tank Emission Reduction Partnership Program (STERPP). The Governing Board also directs staff to explore various mechanisms to minimize permitting impacts when addressing VOC control technologies for guidepoles in a floating roof tank that are recognized in any amendment to Rule 1178, including a possible Rule 219 exemption; and

The genesis of this resolution language was the Andeavor (at the time Tesoro) request to streamline any permitting requirements for the simple replacement of a pole float on a slotted guidepole of a floating roof tank with a "vapor sock" or flexible enclosure, an equivalent emissions control technology as recognized by USEPA.

219 Exemption
Andeavor believes that the best and most straightforward approach to addressing the substitution of vapor socks for pole floats is via a Rule 219 exemption. We do not believe that amendments to Rule 1178 are a necessary prerequisite to including such a provision in Rule 219. Rule 1178 already requires

any opening associated with slotted guidepoles to be covered. We suggest wording similar to the existing exemption in 219 regarding floating tank seal replacement.

> Replacement of floating roof tank seals, provided that the replacement seal is of a type and model which the Executive Officer has determined is capable of complying with the requirements of Rule 463.

Specifically, Andeavor recommends the following Rule 219 language:

> Substitution of pole floats with flexible enclosures if the flexible enclosure is of a type and model which the Executive Officer has determined is capable of complying with the requirements of Rule 1178.

Alternatively, Rule 1178 could be amended to specifically mention flexible enclosures can be substituted for pole floats on slotted guidepoles, but indicate that permit modifications are not necessary to allow this substitution.

2-2

Given that the Board directed staff to minimize permitting impacts associated with flexible enclosures, we strongly believe that requiring permit modifications would be contrary to Board direction.

Equivalent or better emission reductions
Andeavor has been pleased to host two separate site visits for SCAQMD personnel to view a tank that replaced its pole float with a vapor sock / flexible enclosure to enable use of radar gauging to test for fluid level in the tank. On both occasions, no VOCs were detected with a FLIR camera. Our experience is consistent with USEPA's STERRP agreement conclusions, that substituting a pole float with a vapor sock will result in equivalent emissions, if not even lower emissions.

SCAQMD Permit Streamlining Objective
Andeavor's recommendation for Rule 219 treatment for flexible enclosures is consistent with SCAQMD's objective to reduce the permitting backlog and streamline the permitting experience. Although emissions will be equivalent, and possibly even less, than the current technology of pole floats, Andeavor's experience has been that the process to permit flexible enclosures has been lengthy, taking almost two years to complete. Of course, in the give and take of permitting, Andeavor's responses to questions from SCAQMD has factored into the length of time necessary to obtain the permits. However, we submit that the replacement of flexible enclosures for pole floats is in keeping with permit streamlining objectives and should be eligible for Rule 219 Exemption treatment so that no lag time is necessary in making this replacement.

Conclusion
Andeavor appreciates staff's willingness to consider ways to minimize permitting impacts for flexible enclosures, as directed by the SCAQMD Board's resolution. We believe a Rule 219 exemption is the best approach to implement the Board's direction. We are committed to continuing to work with SCAQMD on this issue.

Please let me know if you have any questions.

Sincerely,

Susan R. Stark

Susan R. Stark
Senior Manager, Regulatory Affairs
682.465.1925

cc: David DeBoer, Planning and Rules Manager, SCAQMD
Robert Nguyen, Tesoro Los Angeles Refinery
Donna DiRocco, Tesoro Logistics
Ruthanne Walker, Tesoro Logistics

Responses to Comments 2-1 and 2-2:

Staff has amended Rule 219 to incorporate the exemption for Flexible Enclosure Systems as requested by stakeholders.