

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Draft Staff Report

Proposed Amended Rule 1118 – Control of Emissions from Refinery Flares

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Deputy Executive Officer

Planning, Rule Development, and Implementation
Sarah L. Rees, Ph.D.

Assistant Deputy Executive Officer

Planning, Rule Development, and Implementation
Michael Krause

Planning and Rules Manager

Planning, Rule Development, and Implementation
Heather Farr

Author:	Sarady Ka	–	Program Supervisor
	Zoya Banan, Ph.D.	–	Air Quality Specialist
Contributors:	Barbara Radlein	–	Program Supervisor
	Farzaneh Khalaj, Ph.D.	–	Assistant Air Quality Specialist
	Brian Vlasich	–	Air Quality Specialist
Reviewed By:	Daphne Hsu	–	Principal Deputy District Counsel

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WAYNE NASTRI

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EXECUTIVE SUMMARY

Air districts, such as the South Coast Air Quality Management District (South Coast AQMD), which exceed the National Ambient Air Quality Standards (NAAQS) established by the United States Environmental Protection Agency (U.S. EPA) are required to develop and submit a State Implementation Plan (SIP) for U.S. EPA approval. SIPs consist of rules and documents that a state or local air district implements, maintains, and enforces to fulfill the requirements of the Clean Air Act (CAA) and are used to demonstrate how the region will meet the NAAQS. If U.S. EPA issues a SIP disapproval or partial disapproval of a rule, South Coast AQMD will face the possibility of sanctions by the federal government and other consequences under CAA unless the identified rule deficiencies are not corrected and approved by U.S. EPA. Offset sanctions would be triggered 18 months after the effective date of a final disapproval and highway funding sanctions would be triggered six months after the offset sanctions are imposed. CAA would also require U.S. EPA to promulgate a Federal Implementation Plan within 24 months of the disapproval effective date. Sanctions will not be imposed if U.S. EPA determines that a subsequent SIP submission corrects the deficiencies before the applicable deadline.

On September 21, 2022, U.S. EPA issued a final limited SIP disapproval of Rule 1118 – Control of Emissions from Refinery Flares (Rule 1118) effective on October 24, 2022. According to CAA Section 110, documents submitted for inclusion into the SIP should not include unbounded director’s discretion that allows the State to approve alternatives to the applicable SIP without following the SIP revision process as described in this section. Rule 1118 paragraph (j)(1) and Attachment A paragraphs (4)(n) and (5)(n) give the South Coast AQMD’s Executive Officer sole authority to approve ASTM test methods not included in the rule; therefore, the requirements of the CAA Section 110 are not satisfied. Proposed Amended Rule 1118 (PAR 1118) will address the U.S. EPA’s limited disapproval of Rule 1118 by requiring California Air Resources Board (CARB) and U.S. EPA approval for ASTM test methods not included in the rule.

BACKGROUND

Rule 1118 was adopted on February 13, 1998, with the purpose of monitoring, recording, and reporting data on refinery and related flaring operations. The rule has been amended twice, most recently on July 7, 2017, which was the first phase of a 2-phase amendment to minimize flaring and flare-related emissions. The amendments harmonized Rule 1118 with the key updates from the U.S. EPA Refinery Sector Rule, required each of the facilities subject to Rule 1118 to prepare a Scoping Document to evaluate the feasibility of minimizing or avoiding planned and unplanned flaring events, removed the \$4 million annual cap on mitigation fees that facilities may pay for flaring, updated emission factors based on the U.S. EPA’s updated AP-42 guidance, and updated and clarified reporting requirements for facilities.

The second phase of the rule development to further reduce refinery flaring began in July 2022 and is expected to rely in part on the findings reported in the Scoping Documents submitted to the South Coast AQMD by the facilities as well as staff’s research. In the second phase amendments, staff will consider the applicability of optical remote sensing technologies that could assist in flare emission reductions or better characterization of flare emissions. The proposed rule amendment to

seek further emission reductions is ongoing, and staff is proposing this minor rule amendment to address the U.S. EPA's limited SIP disapproval.

PUBLIC PROCESS

PAR 1118 was developed through a public process. Staff had a discussion with U.S. EPA and presented PAR 1118 during a Working Group Meeting held on October 26, 2022. Proposed rule language, which was released on October 21, 2022, was included in the presentation for the Working Group Meeting, and the Initial Draft PAR 1118 was released on November 8, 2022.

AFFECTED FACILITIES

The types of refinery operations subject to this rule are petroleum refineries, sulfur recovery plants that recover sulfur compounds from sour water generated by petroleum refineries and hydrogen production plants that produce hydrogen from refinery gas and supply hydrogen for petroleum refinery operations. The gas flares are used for the combustion and disposal of combustible gases due to emergency relief, overpressure, process upsets, startups, shutdowns, and other operational and safety reasons. Presently, there are eight operating petroleum refineries, one sulfur recovery plant and three hydrogen production plants with a total of 31 existing flares affected by this proposed amended rule.

Table 1: Facilities Subject to Rule 1118

Facility Name	Facility Location	Number of Flares
Air Liquide	El Segundo, CA	1
Air Products Carson	Carson, CA	1
Air Products Wilmington	Wilmington, CA	1
AltAir Paramount Petroleum	Paramount, CA	1
Chevron Products Company	El Segundo, CA	6
Phillips 66 Carson	Carson, CA	2
Phillips 66 Wilmington	Wilmington, CA	4
Marathon Petroleum (Tesoro) Carson	Carson, CA	5
Marathon Petroleum (Tesoro) Sulfur Recovery Plant	Carson, CA	1
Marathon Petroleum (Tesoro) Wilmington	Wilmington, CA	2
Torrance Refining Company	Torrance, CA	3
Ultramar/Valero	Wilmington, CA	4
Total 12 Facilities		Total 31 Flares

CONTROL TECHNOLOGY

The proposed amendments do not include any requirements for control technologies.

EXPECTED EMISSIONS REDUCTIONS

The proposed amendments are not expected to reduce emissions.

SUMMARY OF PROPOSAL

PAR 1118 will include a requirement that CARB and U.S. EPA must approve ASTM test methods not included in the rule. This proposed amendment is meant to address the U.S. EPA's limited disapproval of the SIP due to a current provision that grants the South Coast AQMD's Executive Officer sole authority to approve ASTM test methods not explicitly included in the rule.

PROPOSED AMENDMENT TO RULE 1118

Subdivision (j) – Testing and Monitoring Methods

Staff is proposing to amend paragraph (j)(1) to include CARB and U.S. EPA approval, in addition to the South Coast AQMD Executive Officer's approval, for any ASTM test method other than the ones listed in the rule to determine the higher (gross) heating value of vent gases per clause (j)(1)(A)(i) and the total sulfur concentration per clause (j)(1)(B)(i).

Figure 1: PAR 1118 – Paragraph (j)(1)

- (j) Testing and Monitoring Methods
- (1) For the purpose of this rule, the test methods listed below shall be used:
- (A) The higher (gross) heating value of vent gases shall be determined by:
- (i) ASTM Method D4809-13, ASTM Method D 3588-98(2011), ASTM Method D4891-13, or other ASTM standard as approved by the Executive Officer, [California Air Resources Board and U.S. Environmental Protection Agency, as applicable](#); and
- (ii) With a higher heating value analyzer that meets or exceeds the specifications in Attachment A.
- (B) The total sulfur concentration, expressed as sulfur dioxide, shall be determined by:
- (i) District Method 307-91 or ASTM Method D 5504-12, or other ASTM standard as approved by the Executive Officer, [California Air Resources Board and U.S. Environmental Protection Agency, as applicable](#); and
- (ii) With a total sulfur analyzer that meets or exceeds the specifications in Attachment A.
- (C) The vent gas flow shall be determined by a flow measuring device that meets or exceeds the specifications described in Attachment A, as applicable. The accuracy of all flow meters shall be verified every twelve months according to the manufacturers' procedures and the results shall be submitted to the Executive Officer within 30 days after the reports are issued.

Attachment A – Flare Monitoring System Requirements

Staff is proposing to amend Attachment A paragraph (4)(n) to include CARB and U.S. EPA approval, in addition to the South Coast AQMD Executive Officer's approval, for any ASTM test method other than the ones listed in the rule to be used in data collection from continuous and semi-continuous gaseous stream higher heating value flare monitoring systems.

Figure 2: PAR 1118 – Attachment A Paragraph (4)(n)

- n. Perform at monitoring system start-up and on an annual basis a relative accuracy test audit (RATA) which is the ratio of the sum of the absolute mean difference between the monitoring system generated data and the value determined using ASTM D1945-03 and ASTM D3588-91, ASTM D 4891-89, or other ASTM standard as approved by the Executive Officer, [California Air Resources Board and U.S. Environmental Protection Agency, as applicable](#). See rule 218.1 (a)(23) for calculations.

Staff is also proposing to amend Attachment A paragraph (5)(n) to include CARB and U.S. EPA approval, in addition to the South Coast AQMD Executive Officer's approval, for any ASTM test method other than the ones listed in the rule to be used in data collection from continuous and semi-continuous gaseous stream total sulfur monitoring systems.

Figure 3: PAR 1118 – Attachment A Paragraph (5)(n)

- n. Perform at monitoring system start-up and on an annual basis a relative accuracy test audit (RATA) which is the ratio of the sum of the absolute mean difference between the monitoring system generated data and the value determined using SCAQMD Laboratory Method 307-91, ASTM D5504-01 or other ASTM standard as approved by the Executive Officer, [California Air Resources Board and U.S. Environmental Protection Agency, as applicable](#). See rule 218.1(a)(23) for calculations.
- Note: Facilities are reminded that there are many critical issues for the collection of representative and monitoring system comparable gas samples destined for Method 307-91 or ASTM D5504-01 analysis.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15002(k) and 15061, the proposed project (PAR 1118) is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3). A Notice of Exemption will be prepared pursuant to CEQA Guidelines Section 15062 and if PAR 1118 is approved, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino counties, and with the State Clearinghouse of the Governor's Office of Planning and Research.

SOCIOECONOMIC IMPACT ASSESSMENT

The proposed amendments to Rule 1118 are administrative in nature and have no adverse socioeconomic impacts.

DRAFT FINDINGS UNDER HEALTH AND SAFETY CODE SECTION 40727

Before adopting, amending, or repealing a rule, the Health and Safety Code requires South Coast AQMD to adopt written findings of necessity, authority, clarity, consistency, non-duplication, and reference, as defined in Health and Safety Code Section 40727. The draft findings are as follows:

Necessity – PAR 1118 is necessary to: 1) satisfy the requirements of CAA, and 2) address the U.S. EPA SIP disapproval in a timely manner to avoid possible sanctions by the federal government and other consequences under CAA.

Authority – 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, 40441, 40702, 40725 through 40728, 41508, and 41700.

Clarity – The South Coast AQMD Governing Board has determined that PAR 1118 is written and displayed so that the meaning can be easily understood by persons directly affected by them.

Consistency – The South Coast AQMD Governing Board has determined that PAR 1118 is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, federal or state regulations.

Non-Duplication – The South Coast AQMD Governing Board has determined that PAR 1118 does not impose the same requirement as any existing state or federal regulation, and the proposed amendments are necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD.

Reference – In adopting this regulation, the South Coast AQMD Governing Board references the following statutes, which the South Coast AQMD hereby implements, interprets, enforces, or makes specific: Health and Safety Code Sections 40440 and 40441, and CAA Section 110.

COMPARATIVE ANALYSIS

Health and Safety Code Section 40727.2(g) is not applicable because the proposed amended rule does not impose a new emission limit or standard, make an existing emission limit or standard more stringent, or impose new or more stringent monitoring, reporting, or recordkeeping requirements and therefore, a comparative analysis is not required.

COST-EFFECTIVENESS ANALYSIS

Health and Safety Code Section 40920.6 requires a cost-effectiveness analysis when establishing BARCT requirements. PAR 1118 is not establishing or imposing any BARCT requirements; therefore, a cost effectiveness analysis was not conducted. The amendment to Rule 1118 is administrative in nature and it is not expected to have any associated costs.

INCREMENTAL COST-EFFECTIVENESS ANALYSIS

Health and Safety Code Section 40920.6(a)(3) states that an incremental cost-effectiveness assessment should be performed on identified potential control options that meet air quality objectives. PAR 1118 is not establishing or imposing any BARCT requirements that require control options; therefore, an incremental cost effectiveness analysis was not conducted.

APPENDIX A – PUBLIC COMMENTS

South Coast AQMD discussed the amendments to Rule 1118 during the Working Group Meeting held on October 26, 2022. During the Working Group Meeting, a stakeholder asked staff to confirm that the rule development to reduce flaring will continue and not be impacted by the minor amendment to address the SIP disapproval, which staff confirmed. No further comments or comment letters have been submitted.