FACILITY PERMIT TO OPERATE
AIR LIQUIDE LARGE INDUSTRIES U.S., LP

SECTION I: PLANS AND SCHEDULE

This section lists all plans approved by AQMD for the purpose of meeting the requirements of applicable AQMD rules specified below. The operator shall comply with all conditions specified in the approval of these plans, with the following exceptions:

a. The operator does not have to comply with NOx and SOx emission limits from rules identified in Table 1 or Table 2 of Rule 2001(j) which became effective after December 31, 1993.

b. The operator does not have to comply with NOx or SOx emission limits from rules identified in Table 1 or Table 2 of Rule 2001(j) after the facility has received final certification of all monitoring and reporting requirements specified in Section F and Section G.

Documents pertaining to the plan applications listed below are available for public review at AQMD Headquarters. Any changes to plan applications will require permit modification in accordance with Title V permit revision procedures.

List of approved plans:

Application	Rule
459313	1118

NOTE: This section does not list compliance schedules pursuant to the requirements of Regulation XXX - Title V Permits; Rule 3004(a)(10)(C). For equipment subject to a variance, order for abatement, or alternative operating condition granted pursuant to Rule 518.2, equipment specific conditions are added to the equipment in Section D or H of the permit.

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

May 18, 2010

Mr. Mukesh Bhatt
Environmental Engineer
Air Liquide Large Industries US, LP
324 West El Segundo Blvd.
El Segundo, CA 90245

Re: Rule 1118 Flare Monitoring and Recording Plan
Application Number: 459313
Plan Owner/Operator: Air Liquide Large Industries US, LP
Facility ID: 148236
Facility Address: 324 West El Segundo Blvd, El Segundo, CA 90245

Dear Mr. Bhatt:

The South Coast Air Quality Management District (AQMD) has reviewed the revised Flare Monitoring and Recording Plan submitted on July 31, 2006 by Air Liquide to comply with District Rule 1118(f)(1)(A). Based on the information submitted, along with the supplemental information submitted to District Engineer Thomas Lee in response to additional information requests made by the District, the compliance plan is approved subject to the following conditions:

1. The owner/operator shall perform monitoring and recording of the operating parameters for the flare in accordance with this approved compliance plan and other applicable requirements of Rule 1118(g). Monitoring and recording of the below flare pursuant to this approved plan shall be performed at all times, except when out of service for reasons described in Rule 1118(g)(5)(A).

Flare Device ID	Type of Service
C4007	Clean

2. A flare event occurs when any one of the following conditions is met:

   a. Flow control valve PV-2233 is open greater than one percent
   b. Flow control valve PV-2242 is open greater than one percent
   c. Vessel pressure (NG surge drum) monitored by PI-1511 is greater than 200 psig
   d. Vessel pressure (PSA offgas drum) monitored by PI-2242 is greater than 60 psig

   A flare event ends when all of the following conditions are met:

a. Flow control valve PV-2233 is fully closed
b. Flow control valve PV-2242 is fully closed
c. Vessel pressure monitored by PI-1511 is less than or equal to 200 psig
d. Vessel pressure monitored by PI-2242 is less than or equal to 60 psig

3. A flare event lasting 24 hours or less shall be considered a single flare event even when the event occurs in two consecutive days. When a flare event continues for more than 24 hours, each calendar day shall be separate flare event.

4. The owner/operator shall use the staging valve, XV-104, as the on/off flow indicator to determine flare gas flow rate. When XV-104 is open, a maximum flare gas flow rate of 5.9 MMSCFH shall be used for determining emissions. When XV-104 is closed, a flare gas flow rate of 1.2 MMSCFH shall be used. The owner/operator shall continuously record the volumetric flare gas flow rate based on the on/off status of XV-104. Volumetric flow rates of vent gases shall be corrected to standard conditions of 14.7 psia and 68°F.

5. The on/off status of XV-104, movements of flow control valves PV-2233 and PV-2243 and vessel pressures monitored by PI-1511 and PI-2242 shall be monitored and recorded continuously.

6. If vessel pressure monitored by PI-1511 is greater than 200 psig when a flare event occurs, vent gas combusted by the flare shall be assumed to be natural gas. If vessel pressure monitored by PI-1511 is equal or less than 200 psig when a flare event occurs, vent gas combusted by the flare shall be assumed to be either PSA offgas or Syngas.

7. The owner/operator shall use the flow rate of vent gas determined in accordance to Condition Nos. 4, 5 and 6 and the below emission factors in determining emissions from the flare. Emissions from the flare pilots shall be calculated using a flow rate of 110 SCFH and emission factors for natural gas. Emissions from purge gas shall equal to zero.

Emission Factor	PSA Offgas or Syngas (lb/MMscf)	Natural Gas (lb/MMscf)
ROG	1.26	7
NOx	20.54	130
CO	47.16	35
PM10	1.35	7.5
SOx	0.0	0.83

8. The owner/operator shall purge the flare with nitrogen gas only.

9. Whenever the devices monitoring and recording the on/off status of XV-104, movements of flow control valves PV-2233 and PV-2242 and vessel pressures monitored by PI-1511 and PI-2242 are down due to breakdown or maintenance, the owner/operator shall use the

data substitution method referenced in Attachment B of Rule 1118 to calculate and report flare emissions.

10. The owner/operator shall sample and analyze Syngas and PSA Offgas vented to the flare once a year. The analysis shall include the gas composition, high heating values, total sulfur contents of the gases and follow the methods listed in Rule 1118(j). Samples shall be taken within 30 minutes, but no sooner than 15 minutes, of the start of a flare event for the Syngas and PSA offgas vent stream. Based on the test results, the Executive Officer may require the owner/operator to submit an application to modify the emission factors for Syngas and PSA offgas shown in Condition No. 7. Test results shall be included in the quarterly report (see Condition 15) submitted to the AQMD.

11. The owner/operator shall monitor the flares at all times for presence of a pilot flame using a thermocouple that will alarm the owner or operator in the event of a flame out. The owner or operator shall re-ignite the pilot immediately after a pilot flame out occurs.

12. The owner/operator shall notify the Executive Officer within one hour of any unplanned flare event with emissions exceeding either 100 pounds of VOC or 500 pounds of sulfur dioxide, or exceeding 500,000 standard cubic feet of flared vent gas. The owner/operator shall also notify the Executive Officer by telephone at least 24 hours prior to the start of a planned flare event with emissions exceeding either 100 pounds of VOC or 500 pounds of sulfur dioxide, or 500,000 standard cubic feet of combusted vent gas.

13. The owner/operator shall conduct a Specific Cause Analysis for any flare event, excluding planned shutdown, planned startup and turnaround, resulting in any of the followings: (a) 100 pounds of VOC emissions. (b) 500 pounds of sulfur dioxide emissions. (c) 500,000 standard cubic feet of vent gas combusted. The analysis shall identify the cause and duration of the flare event and describe any mitigation and corrective action taken to prevent recurrence of a similar flare event in the future. Unless an extension is granted, the owner/operator shall submit Specific Cause Analysis to the Executive Officer within 30 days of the event.

14. The owner/operator shall conduct an analysis and determine the relative cause for a flare event that results in combustion of more than 5,000 standard cubic feet of vent gas. A Specific Cause Analysis may be submitted to satisfy this condition.

15. The operator shall maintain records of all the information required to be monitored and make such records available to District personnel upon request.

    a. Flare event data collected pursuant to paragraphs (g)(3), (g)(4), (g)(5), (g)(6) and (g)(8)(C) of Rule 1118 as applicable.
    b. Total daily and quarterly emissions of criteria pollutant from flare C4007 and each flare event along with all information specified by Rule 1118(i)(5)(B).
    c. Monitoring records of closures of control valves and vessel pressures pursuant to Condition Nos. 2 and 4.
    d. Pilot flame failure report.

e. Sample results for gas composition, HHV and TSC pursuant to Condition No. 10.
f. Specific Cause Analysis completed pursuant to Condition No. 13.
g. Relative Cause Analysis completed pursuant to Condition No. 14.
h. Annual acoustical pressure relief device leak survey
i. Video records pursuant to Rule 1118(g)(7)

Within 30 days after the end of each calendar quarter, the owner/operator shall submit a quarterly report to the AQMD Refinery Enforcement Team at the below address. Item (a) through (g) shall be submitted quarterly in electronic format. Hard copy of item (h) shall be submitted with the quarterly report for the quarter which the survey was conducted. Item (i) shall be made available to the Executive Officer upon request.

All records required by this condition shall be certified for accuracy in writing by the responsible facility official and maintained for at least five years.

SOUTH COAST AIR QUALITY MGMT DISTRICT
REFINERY COMPLIANCE
1500 WEST CARSON STREET, SUITE 115
LONG BEACH, CA 90810

16. The owner/operator shall comply with all provisions of this approved Flare Monitoring and Recording Plan unless the plan is suspended, revoked, modified, reissued, or denied. Violation of any of the terms of the plan is a violation of Rule 1118.

Please review the plan carefully and contact Mr. Thomas Lee at (909) 396-3138 or tlee1@aqmd.gov if you have any questions.

Sincerely yours,

Jay Chen, P.E.
Senior AQ Engineering Manager
Refinery and Waste Management Permitting
Engineering and Compliance

cc: Ed Pupka, Compliance
A/N 459313 file