



TV Tracking #: 512

Air Liquide Large Industries, U.S. LP
Rodeo Hydrogen Plant
1391 San Pablo Avenue
Rodeo, CA 94572

1. ☐ RECEIVED IN
ENFORCEMENT: 08/02/2022

Certified Mail - Return Receipt Requested

Article Number: 7018 3090 0000 6472 4975

July 27, 2022

Mr. Kelly Wee
Director of Compliance and Enforcement
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
Attention: Title V Reports

**Subject: Air Liquide Large Industries US L.P.
Rodeo Hydrogen Plant - Facility B7419
Title V Semi-Annual Monitoring Report
January 1, 2022 to June 30, 2022**

Dear Mr. Wee:

Pursuant to Section I, Part F, of the Major Facility Review Permit ("Title V permit") for the Air Liquide Rodeo Hydrogen Plant, Air Liquide submits the enclosed Title V Semi-Annual Monitoring (SAM) report covering the 6-month time period from January 1, 2021 to June 30, 2022.

The enclosed SAM report lists each monitoring requirement from Section VII of the Title V permit and its compliance status during this semi-annual reporting period. This form is supplemented by Attachment A, which summarizes the content of the 10- and 30-day Title V deviation reports for all deviations that occurred during this semi-annual reporting period, including monitoring deviations.

Please note the new Title V permit dated September 27, 2016 contains the following inconsistencies which affect Air Liquide's compliance certification. The non-applicable portions of the inconsistent requirements are explained below and noted in the enclosed report. These inconsistencies appear to be the result of incomplete deletions or unclear additions made in the processing of the Title V permit renewal application (Application 26564). Air Liquide will work with BAAQMD to clarify these items during the next Title V permit application or permit renewal.

1. NSPS Subpart QQQ: NSPS Subpart QQQ regulates VOC emissions from refinery wastewater systems. Table IV-AA, which tabulates the requirements applicable to fugitive sources, continues to indicate non-applicability for Subpart QQQ. Table IV-AB, which tabulates the requirements applicable to specific components, lists Subpart QQQ as applicable but focuses on specific exemptions. Subpart QQQ was initially added to the draft Title V permit in both Tables IV-AA and IV-AB. Upon explanation, BAAQMD restored Subpart QQQ non-applicability in Table IV-AA as

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explained in the Title V permit renewal Statement of Basis (SOB) (Application 26564, page 21). The discussion on Subpart QQQ applicability in the Table IV-AB section of the SOB for the final Title V permit, however, is somewhat unclear (Application 26564, pages 20 and 21). After reviewing the materials in whole, Air Liquide regards the Subpart QQQ requirements listed in the permit as not applicable.

2. NSPS Subpart A, Section 60.18: 40 CFR 60.18 contains the NSPS general requirements for a flare that serves as a control device for a NSPS affected facility. 40 CFR 60.18 was removed from Table IV-C which tabulates the requirements that apply to Flare S3, but not from Table VII-C which tabulates the limits and monitoring requirements that apply to Flare S3. The Title V permit SOB explains that Flare S3 is not subject to 40 CFR 60.18 because it is not a NSPS control device. Therefore, the visible emission, pilot flame, velocity, and heat content requirements from 40 CFR 60.18 listed in Table VII-C do not apply.

If you have any questions regarding this report, please contact Thomas Turner at (510) 245-7285 x-2206 or thomas.turner@airliquide.com.

Sincerely,



Nidhi Jacob
Plant Manager

Attachments



**Title V
Semi-Annual Monitoring
Report Form**

January 1, 2022 to June 30, 2022

Air Liquide Rodeo Hydrogen Plant

Title V Semi-Annual Monitoring Report

Site ID: B7419
Address: 1391 San Pablo Avenue
Rodeo, CA 94572

Date of Title V Permit: 9/27/2016 and Ammended 4/10/2020
Reporting Period: 1/1/22 to 6/30/22

During the reporting period specified above, all required monitoring of the applicable limits as listed in Section VII of the Title V Major Facility Review Permit was conducted, except where indicated below. If a "No" is indicated in the column "Monitoring Compliance (Y or N)," see Attachment A for the deviation details.

Item	Type of Limit	Emission Limit Citation	FE ¹ Y/N?	Emission Limits	Monitoring Requirements Citation	Monitoring Frequency ² (P/C/N)	Monitoring Type	Yes or No ³	If "No," Deviation Reference in Attachment A
Source: All Sources									
1	SO2	BAAQMD Reg 9-1-301	Y	Ground level SO2 concentrations (0.5 ppm for 3 min; 0.25 ppm for 60 min; 0.05 ppm for 24 hr)	BAAQMD Reg 9-1-501 requires compliance w/ Reg 1-510	C	SO2 GLM operated and maintained by Phillips 66 Refinery	Yes	
2	H2S	BAAQMD Reg 9-2-301	N	Ground level H2S concentrations (0.06 ppm for 3 min; 0.03 for 60 min)	BAAQMD Reg 9-2-501	C	H2S GLM operated and maintained by Phillips 66 Refinery	Yes	
3	NH3	Permit Condition 23181, part A.2	Y	Ammonia solution less than 20% by weight	Permit Condition 23181, part A.2	P/E	Records	Yes	
Source: S1 - Hydrogen Plant									
1	POC	BAAQMD Reg 8-10-301	Y	Abatement of emissions from process vessel depressurization is required until pressure is reduced to less than 1000 mm Hg	8-10-401.2 (SIP) & BAAQMD Reg 8-10-501 & 502 (non-SIP)	P/E	Records	Yes	
2	POC	Permit Condition 23178, part 4	Y	Deaerator vent POC emissions < 4.35 lb/day	Permit Condition 23178, part 9a	P/A	Source test	Yes	
3	POC	Permit Condition 23178, part 6	Y	Fugitive mass emissions < 3,000 lb/yr	Permit Condition 23178, part 18	P/Q	Inspection & calculations	Yes	
4	POC	Permit Condition 23181, part 2d	Y	13.9 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	Annual Source Tests, inspection data & calculations	Yes	
5	Organic compounds	BAAQMD Reg 8-2-301	Y	Emission streams w/ 15 lb/day AND 300 ppm total carbon on a dry basis prohibited	Permit Condition 23178, part 9a	P/A	Source test	Yes	
6	Throughput	Permit Condition 23178, part 1	Y	120 MMscf H2/day, annual average	Permit Condition 23178, part 1	P/D	Records	Yes	
7	NH3	BAAQMD Reg 7-303	N	5000 ppm	Permit Condition 23178, part 9b	P/A	Source test	Yes	
8	NH3	Permit Condition 23178, part 5	N	0.64 lb/hr	Permit Condition 23178, part 9b	P/A	Source test	Yes	
9	NH3	Permit Condition 23181, part B.2g	N	26.9 tons per year for S1, S2, and S3	Permit Condition 23181 part B.4	P/A	Source Tests & calculations	Yes	
10	Electrical production	Permit Condition 23178, part 2	Y	< 12 MW	Permit Condition 23178, part 2	C	Records	Yes	

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Item	Type of Limit	Emission Limit Citation	FE ¹ Y/N?	Emission Limits	Monitoring Requirements Citation	Monitoring Frequency ² (P/C/N)	Monitoring Type	Monitoring Compliance	
								Yes or No ³	If "No," Deviation Reference in Attachment A
11	Hydrogen production	Permit Condition 23178, part 1	Y	120 MMscf H ₂ /day, annual average	Permit Condition 23178, part 1	C	Hydrogen flow monitoring	Yes	
12	NO _x	Permit Condition 23181, part B.2a	Y	30.9 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	CEM data & calculations	Yes	
13	SO ₂	Permit Condition 23181, part B.2b	Y	5.0 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	CEM & calculations	Yes	
14	Opacity	BAAQMD Reg 6-1-301	N	Ringelmann 1 for no more than 3 minutes in any hour	None	N	None	Yes	
15	Opacity	SIP 6-301	Y	Ringelmann 1 for no more than 3 minutes in any hour	None	N	None	Yes	
16	FP	BAAQMD Reg 6-1-305	Y	Prohibition of nuisance	None	N	None	Yes	
17	FP	SIP 6-305	Y	Prohibition of nuisance	None	N	None	Yes	
18	FP	BAAQMD Reg 6-1-310	N	0.15 grain/dscf	None	N	None	Yes	
19	FP	SIP 6-310	Y	0.15 grain/dscf	None	N	None	Yes	
20	PM ₁₀	Permit Condition 23181, part B.2c	Y	13.8 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	Annual Source Test at S2 & calculations	Yes	
21	CO	Permit Condition 23181, part B.2e	Y	46.2 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	CO CEM, Source Tests & calculations	Yes	
22	Sulfuric acid mist	Permit Condition 23181, part B.2f	Y	0.43 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	Annual Source Tests & calculations	Yes	
Source: S2 - Hydrogen Plant Furnace									
1	Heat input	Permit Condition 23179, part 2	Y	9,636,000 MMbtu (HHV) in any 12 months	Permit Condition 23179, part 20	C	Fuel meters, fuel analyzers & records	Yes	
2	Heat input	Permit Condition 23179, part 3	Y	1,072 MMbtu (HHV) during any clock hour	Permit Condition 23179, part 20	C	Fuel meters, fuel analyzers & records	Yes	
3	Sulfur Content	Permit Condition 23179, part 4	N	Fuel mixture burned shall not exceed 35 ppmv total sulfur content	Permit Condition 23179, part 14	C	Fuel meters, fuel analyzers & records	Yes	
4	NO _x	BAAQMD Reg 9-3-303	Y	125 ppmv	Permit Condition 23179, part 13	C	CEM	Yes	

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								Yes or No ³	If "No," Deviation Reference in Attachment A
5	Emission Limit	Permit Condition 23179, part 5	Y	The following emission concentration limits from S2 shall not be exceeded. These limits shall not apply during startup periods not exceeding 24 hours (120 hours when drying refractory or during the first startup following catalyst replacement) and shutdown periods not exceeding 24 hours. The District may approve other startup and shutdown durations.	Permit Condition 23179, part 13	C	CEM	Yes	
6	NOx	Permit Condition 23179, part 5a	Y	5 ppmv @ 3% O2 on a clock hour basis except during startup, shutdown, or drying of refractory	Permit Condition 23179, part 13	C	CEM	Yes	
7	NOx	Permit Condition 23179, part 7a.1	Y	7.5 lb/clock hour except during startup, shutdown, or drying of refractory	Permit Condition 23179, part 13	C	CEM	Yes	
8	NOx	Permit Condition 23179, part 7b.1	Y	50 lb per clock hour	Permit Condition 23179, part 13	C	CEM	Yes	
9	NOx	Permit Condition 23179, part 10a	Y	28.1 tons per any consecutive 12 months	Permit Condition 23179, part 13	C	CEM	Yes	
10	NOx	Permit Condition 23181, part B.2a	Y	30.9 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	CEM, annual source tests, and calculations	Yes	
11	NOx	40 CFR 60.102a(g)(2)(ii)	Y	60 ppmv, dry, @ 0% O2 on a 30-day rolling average basis	40 CFR 60.107a(c)	C	CEM	Yes	
12	CO	Permit Condition 23179, part 5b		10 ppmv @ 3% O2 on a clock hour basis except during startup, shutdown, or drying of refractory	Permit Condition 23179, part 19b	C	CEM	No	Deviation 1, Deviation 2, & Deviation 3
13	CO	Permit Condition 23179, part 7a.2	Y	9.1 lb/clock hour except during startup, shutdown, or drying of refractory	Permit Condition 23179, part 19b	C	CEM	No	Deviation 2 & Deviation 3
14	CO	Permit Condition 23179, part 10b	Y	34.2 tons per any consecutive 12 months	Permit Condition 23179, part 19b	C	CEM	Yes	
15	CO	Permit Condition 23181, part B.2e	Y	46.2 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	CO CEM, Annual Source Tests & calculations	Yes	
16	SO2	Permit Condition 23179, part 5e	Y	0.0012 lb/MMBtu on a clock hour basis except during startup, shutdown, or drying of refractory	Permit Condition 23179, part 17	P/A	Source test	Yes	

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								Yes or No ³	If "No," Deviation Reference in Attachment A
17	SO2	Permit Condition 23179, part 7a.5	Y	1.5 lb/clock hour except during startup, shutdown, or drying of refractory	Permit Condition 23179, part 17	P/A	Source test	Yes	
18	SO2	Permit Condition 23179, part 10e	E	5.0 tons per any consecutive 12 months	Permit Condition 23179, part 17	P/A	Source test	Yes	
19	SO2	Permit Condition 23181, part B.2b	Y	5.0 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	Sulfur monitoring or CEM & calculations	Yes	
20	H2S	40 CFR 60.102a (g)(1)(ii)	Y	162 ppmv on a rolling 3 clock hour basis; 60 ppmv on a rolling 365 calendar day basis	40 CFR 60.107a(a)(2)	C	H2S Sulfur monitoring	Yes	
21	Sulfuric acid mist	Permit Condition 23179, part 9	Y	0.098 lb/clock hour	Permit Condition 23179, part 17	P/A	Source test	Yes	
22	Sulfuric acid mist	Permit Condition 23179, part 12	Y	860 lb per any consecutive 12 months	Permit Condition 23179, part 17	P/A	Annual Source Tests & calculations	Yes	
23	Sulfuric acid mist	Permit Condition 23181, part B.2f	Y	0.43 tons per year for S1, S2 & S3	Permit Condition 23181, part 4	P/A	Annual Source Tests & calculations	Yes	
24	Sulfuric acid mist	Permit Condition 23181, part B.3	Y	2.35 lb/day for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	Annual Source Tests & calculations	Yes	
25	POC	Permit Condition 23179, part 5c	Y	0.0027 lb/MMbtu on a clock hour basis except during startup, shutdown, or drying of refractory	Permit Condition 23179, part 17	P/A	Source test	Yes	
26	POC	Permit Condition 23179, part 7a.3	Y	3.5 lb/clock hour except during startup, shutdown, or drying of refractory	Permit Condition 23179, part 17	P/A	Source test	Yes	
27	POC	Permit Condition 23179, part 10c	Y	11.5 tons per any consecutive 12 months	Permit Condition 23179, part 17 & 28181, part B.4.f	P/A	Source test	Yes	
28	POC	Permit Condition 23181, part B.2d	Y	13.9 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	Annual Source Tests, inspection data & calculations	Yes	
29	NH3	Permit Condition 23179, part 6 & 21	N	10 ppmv @ 3% O2, 1-hr average	Permit Condition 23179, part 17a	P/A	Source test	Yes	

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								Yes or No ³	If "No," Deviation Reference in Attachment A
30	NH3	N/A	N	None	Permit Condition 23179, part 22	C	Monitoring of ammonia injection rates	Yes	
31	NH3	Permit Condition 23179, part 8	N	6.5 lb/clock hour	Permit Condition 23179, part 17a	P/A	Source test	Yes	
32	NH3	Permit Condition 23179, part 11	N	48,200 lb per any consecutive 12 months	Permit Condition 23179, part 23	P/A or 4 times per year	Annual or Quarterly Source tests & calculations	Yes	
33	NH3	Permit Condition 23181, part B.2g	N	26.9 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	Source tests and calculations	Yes	
34	O2		Y	No limit	BAAQMD Reg 1-520.1	C	O2 Monitor	Yes	
35	Opacity	BAAQMD Reg 6-1-301	N	Ringelmann 1 for no more than 3 minutes in any hour	None	N	None	Yes	
36	Opacity	SIP 6-301	Y	Ringelmann 1 for no more than 3 minutes in any hour	None	N	None	Yes	
37	FP	BAAQMD Reg 6-1-305	N	Prohibition of nuisance (Visible Particles)	None	N	None	Yes	
38	FP	SIP 6-305	Y	Prohibition of nuisance	None	N	None	Yes	
39	FP	BAAQMD Reg 6-1-310.3	N	0.15 grain/dscf @ 6% O2	None for gaseous fired sources	N	None	Yes	
40	FP	SIP 6-310.3	Y	0.15 grain/dscf @ 6% O2	None for gaseous fired sources	N	None	Yes	
41	PM10	Permit Condition 23179, part 5d		0.037 lb/MMbtu on a clock hour basis except during startup, shutdown, or drying of refractory	Permit Condition 23179, part 17	P/A	Source test	Yes	
42	PM10	Permit Condition 23179, part 7a.4	Y	4.8 lb/clock hour except during startup, shutdown, or drying of refractory	Permit Condition 23179, part 17	P/A	Source test	Yes	
43	PM10	Permit Condition 23179, part 10d	Y	13.8 tons per any consecutive 12 months	Permit Condition 23179, part 17 & part 23181, part B.4.f	P/A	Source test & calculations	Yes	
44	PM10	Permit Condition 23181, part B.2c	Y	13.8 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	Annual Source Test at S2 & calculations	Yes	
Source: S3 - Hydrogen Plant Flare									
1	Opacity	BAAQMD Reg 6-1-301	N	Ringelmann 1 for no more than 3 minutes in any hour	Permit Condition 23180, parts 8-10	P/E	Visible emissions monitoring	Yes	

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								Yes or No ³	If "No," Deviation Reference in Attachment A
2	Opacity	SIP 6-301	Y	Ringelmann 1 for no more than 3 minutes in any hour	Permit Condition 23180, parts 8-10	P/E	Visible emissions monitoring	Yes	
3	FP	BAAQMD Reg 6-1-305	N	Prohibition of nuisance (Visible Particles)	None	N	None	Yes	
4	FP	SIP 6-305	Y	Prohibition of nuisance	None	N	None	Yes	
5	FP	BAAQMD Reg 6-1-310.3	N	0.15 grain/dscf @ 6% O ₂	None for gaseous fired sources	N	None	Yes	
6	FP	SIP 6-310.3	Y	0.15 grain/dscf @ 6% O ₂	None for gaseous fired sources	N	None	Yes	
7	NOx	Permit Condition 23180, part 4a	Y	2.8 tons per any consecutive 12 months	Permit Condition 23180, part 5	P/M	Flow data & calculations	Yes	
8	NOx	Permit Condition 23180, part 4c	Y	129 lb per any consecutive 60 minutes	Permit Condition 23180, part 5	P/M	Flow data & calculations	Yes	
9	NOx	Permit Condition 23181, part B.2a	Y	30.9 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	CEM data & calculations	Yes	
10	POC	Permit Condition 23181, part B.2d	Y	13.9 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	Annual Source Tests, inspection data & calculations	Yes	
11	PM10	Permit Condition 23181, part B.2c	Y	13.8 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	Annual Source Test at S2 & calculations	Yes	
12	CO	Permit Condition 23180, part 4b	Y	12.1 tons per any consecutive 12 months	Permit Condition 23180, part 5	P/M	Flow data & calculations	Yes	
13	CO	Permit Condition 23181, part B.2e	Y	46.2 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	CO CEM, Annual Source Tests & calculations	Yes	
14	SO ₂	40 CFR 60.104(a)	Y	Burn in any fuel gas combustion device any fuel gas that contains hydrogen sulfide (H ₂ S) in excess of 230 mg/dscm (0.10 gr/dscf). The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this paragraph.	40 CFR 60.105(a)(4)(iv)	E	Records for fuel gas streams that are inherently low in sulfur as required by 60.107(e)	Yes	
15	SO ₂	Permit Condition 23181, part B.2b	Y	5.0 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	Sulfur monitoring or CEM & calculations	Yes	
16	Sulfuric acid mist	Permit Condition 23181, part B.2F	Y	0.43 tons per year for S1, S2 & S3	Permit Condition 23181, part B.4	P/A	Annual Source Tests & calculations	Yes	

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17	NH3	Permit Condition 23181, part B.2g	N	26.9 tons per year for S1, S2, and S3	Permit Condition 23181, part B.4	P/A	Source tests and calculations	Yes	
18	VE	40 CFR 60.18(c)(1)	Y	No visible emissions except for 5 min in any two hours	40 CFR 60.18(f)(1)	P/E	Method 22	N/A	
19	Presence of flame	40 CFR 60.18(c)(2) (Flare)	Y	Flame present at all times	40 CFR 60.18(f)(2)	C	Thermocouple or equivalent device	Yes	
20	Velocity & heat content requirement & (c)(4)(ii)	40 CFR 60.18(c)(3) (i) OR 40 CFR 60.18(c)(3) (ii) & (c)(4)(i) OR 40 CFR 60.18(c)(3) (ii) & (c)(4)(ii)		1) If flare is non-assisted & hydrogen content is ≥8% by volume, velocity must be < 122 ft/sec & less than Vmax. OR; 2) Steam/air assist flare must use gas w/ net HHV≥300 btu/scf; non-assist flare must use gas ≥200 btu/scf; all flare's velocity <60 ft/sec; OR 3) If net HHV of gas >1000 btu/scf velocity >60 ft/sec & <400 ft/sec.		C	Volume measurements gas analysis	N/A	
Source: S4 - Cooling Tower									
1	Opacity	BAAQMD Reg 6-1-301	N	Ringelmann No. 1 for no more than 3 minutes/hour	None	N	None	Yes	
2	Opacity	SIP 6-301	Y	Ringelmann 1 for no more than 3 minutes in any hour	None	N	None	Yes	
3	FP	BAAQMD Reg 6-1-310	N	0.15 grain/dscf	None	N	None	Yes	
4	FP	SIP 6-310	Y	0.15 grain/dscf	None	N	None	Yes	
5	FP	BAAQMD Reg 6-1-311	N	40 lb/hr	None	N	None	Yes	
6	FP	SIP 6-311	Y	4.10 x P ^{0.67} lb/hr, where P is process weight, ton/hr	None	N	None	Yes	
7	PM	Permit Condition 23414, part 2	Y	Dissolved solids < 3000 ppm	Permit Condition 23414, part 6	P/M	Analysis total dissolved solids	Yes	
8	Organic compounds	BAAQMD Reg 8-2-301	Y	300 ppm as carbon and 15 lb organic compounds/day	Permit Condition 23414, part 3	P/D	Visual inspection	Yes	

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								Yes or No ³	If "No," Deviation Reference in Attachment A
9	Organic compounds	BAAQMD Reg 8-2-301	Y	300 ppm as carbon and 15 lb organic compounds/day	Permit Condition 23414, part 4	P/3 times per week	Analysis of chlorine content	Yes	
10	Organic compounds	BAAQMD Reg 8-2-301	Y	300 ppm as carbon and 15 lb organic compounds/day	Permit Condition 23414, part 4	P/M	Analysis of VOC at inlet and return using EPA 8015	Yes	
11	Organic compounds	BAAQMD Reg 8-2-301	Y	300 ppm as carbon and 15 lb organic compounds/day	Permit Condition 23414, part 8	P/W, after indication of hydrocarbon leak	Estimate of daily VOC loss	Yes	
12	Chloroform	None		None	Permit Condition 23414, part 5	P/M	Records of NaOCl usage	Yes	
Source: Components									
1	POC	BAAQMD Reg 8-18-301	Y	General equipment leak < 100 ppm	BAAQMD Reg 8-18-401.2	P/Q	Inspection	Yes	
2	POC	BAAQMD Reg 8-18-302	Y	Valve leak < 100 ppm	BAAQMD Reg 8-18-401.2	P/Q	Inspection	Yes	
3	POC	BAAQMD Reg 8-18-303	Y	Pump & compressor leak < 500 ppm	BAAQMD Reg 8-18-401.2	P/Q	Inspection	Yes	
4	POC	BAAQMD Reg 8-18-304	Y	Connection leak < 100 ppm	BAAQMD Reg 8-18-401.2e & Permit Condition 23178, part 18	P/Q	Inspection	Yes	
5	POC	BAAQMD Reg 8-18-305	Y	Pressure relief valve leak < 500 ppm	BAAQMD Reg 8-18-401.2	P/Q	Inspection	Yes	
6	POC	BAAQMD Reg 8-18-306.1	Y	Any essential equipment leak must be less than 10,000 ppm and mass emissions must be determined within 30 days of placing on the non-repairable list.	BAAQMD Reg 8-18-401.5, 8-18-401.9, 8-18-401.10	P/within 24 hours P/Q	Inspection, Records per 8-18-502.4	Yes	
7	POC	BAAQMD Reg 8-18-306.2	Y	Awaiting repair does not exceed the following: Valves: < 0.15% PRD < 0.5% Pump/Compressor < 0.5%	BAAQMD Reg 8-18-401.5	P/within 24 hours	Inspection	Yes	

Air Liquide Rodeo Hydrogen Plant

Title V Semi-Annual Monitoring Report

Site ID: B7419
Address: 1391 San Pablo Avenue
Rodeo, CA 94572

Date of Title V Permit: 9/27/2016 and Ammended 4/10/2020
Reporting Period: 1/1/22 to 6/30/22

During the reporting period specified above, all required monitoring of the applicable limits as listed in Section VII of the Title V Major Facility Review Permit was conducted, except where indicated below. If a "No" is indicated in the column "Monitoring Compliance (Y or N)," see Attachment A for the deviation details.

Item	Type of Limit	Emission Limit Citation	FE ¹ Y/N?	Emission Limits	Monitoring Requirements Citation	Monitoring Frequency ² (P/C/N)	Monitoring Type	Monitoring Compliance	
								Yes or No ³	If "No," Deviation Reference in Attachment A
8	POC	BAAQMD Reg 8-28-303	Y	Vent Pressure Relief Devices to an Abatement Device with at least 95% by weight control efficiency or Meet Prevention Measures Procedures	BAAQMD Reg 8-28-405	P/turn-around	None	Yes	
9	POC	BAAQMD Reg 8-28-304	Y	PHA within 90 days & meet Prevention Measures Procedures. After 2nd release Vent Pressure Relief Devices to an Abatement Device with at least 95% by weight control efficiency.	BAAQMD Reg 8-28-405	P/release per 5 calendar year	None	Yes	
10	POC	40 CFR 60 Subpart VVa - 60.482-2a (b)(1)	Y	Pump leak less than 2,000 ppm	40 CFR 60.482-2a (a)(1)	P/M	Measure for leaks	Yes	
11	POC	40 CFR 60 Subpart VVa - 60.482-2a (b)(2)	Y	Pump leak Indicated by dripping liquid	40 CFR 60.482-2a (a)(2)	P/W	Visual Inspection	Yes	
12	POC	40 CFR 60 Subpart VVa - 60.482-2a (e)	Y	Designated "No detectable emissions" less than 500 ppm (Pumps)	40 CFR 60.482-2(e)(3)	P/A	Measure for leaks	Yes	
13	POC	40 CFR 60 Subpart VVa - 60.482-3a (f)	Y	Leak is failure of seal or barrier system (Compressor)	40 CFR 60.482-3a(d)-(f)	C	Sensor for detection of seal or barrier system failure	Yes	
14	POC	40 CFR 60 Subpart VVa - 60.482-7a (b)	Y	Valve leak < 500 ppm	40 CFR 60.482-7a (a)(1)	P/M unless 2 successive months w/o leak	Measure for leaks	Yes	
15	POC	40 CFR 60 Subpart VVa - 60.482-7a	Y	Valve leak < 500 ppm; 2 successive months w/o leaking	40 CFR 60.482-7(c)	P/Q unless leak found, then monthly monitoring		Yes	
16	POC	40 CFR 60 Subpart VVa - 60.482-7a (f)	Y	Designated "No detectable emissions" < 500 ppm	40 CFR 60.482-7 (f)(3)	P/A	Measure for leaks	Yes	
17	POC	40 CFR 60 Subpart VVa - 60.482- 8a(a)	Y	Pumps & valves in heavy liquid service, Pressure Relief devices (light or heavy liquid), Flanges, Connectors leak shall be measured for leak in 5 days if detected by inspection	40 CFR 60.482-8a(a)	P/E	Visible, Audible, or olfactory Inspection	Yes	

Air Liquide Rodeo Hydrogen Plant

Title V Semi-Annual Monitoring Report

Site ID: B7419
Address: 1391 San Pablo Avenue
 Rodeo, CA 94572

Date of Title V Permit: 9/27/2016 and Ammended 4/10/2020
Reporting Period: 1/1/22 to 6/30/22

During the reporting period specified above, all required monitoring of the applicable limits as listed in Section VII of the Title V Major Facility Review Permit was conducted, except where indicated below. If a "No" is indicated in the column "Monitoring Compliance (Y or N)," see Attachment A for the deviation details.

Item	Type of Limit	Emission Limit Citation	FE ¹ Y/N?	Emission Limits	Monitoring Requirements Citation	Monitoring Frequency ² (P/C/N)	Monitoring Type	Monitoring Compliance	
								Yes or No ³	If "No," Deviation Reference in Attachment A
18	POC	40 CFR 60 Subpart VVa - 60.482- 8a(b)	Y	Pressure Relief devices (liquid), Flanges, Connectors leak < 10,000 ppm	40 CFR 60.482-8a(a)	P/E	Measure for leaks	Yes	
19	POC	Permit Condition 23178, part 6	Y	Fugitive emissions of POC from hydrogen plant components < 3,000 lb/yr	Permit Condition 23178, part 18	P/Q	Method 21 & calculations	Yes	
20	TOC	Permit Condition 23178, part 11b	Y	< 100 ppm of TOC (measured as C1) at new valves	Permit Condition 23178, part 17	P/Q	Method 21	Yes	
21	TOC	Permit Condition 23178, part 15	Y	< 100 ppm of TOC (measured as C1) at new pumps and/or compressors	Permit Condition 23178, part 17	P/Q	Method 21	Yes	

¹ FE = Federally enforceable

² Monitoring Frequency: P = Periodic; C = Continuous; N = None. Under Periodic, A = Annual; Q = Quarterly; W = Weekly; D = Daily; H = Hourly; E = Per Event

³ Monitoring Compliance: Y = All required monitoring of the applicable limit was conducted; N = Not all required monitoring of the applicable limit was conducted. See noted deviation in Attachment A for details.

I certify under penalty of law that based on the information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate and complete.


Signature of Responsible Official

Air Liquide Plant Manager
Title

7/29/2022
Date



Title V
Semi-Annual Monitoring Report
Attachment A
Summary of Deviation

January 1, 2022 to June 30, 2022

Attachment A

Title V Semi-Annual Monitoring Report Summary of Deviations

Facility: Air Liquide Rodeo Hydrogen Plant
Site ID: B7419

Date of Title V Permit: 9/27/2016 and Ammended 4/10/2020
Reporting Period: 1/1/22 to 6/30/22

Title V deviations for this SAM reporting period are summarized below:

Item	Source / Tag #	Incident Date/Time	Event Description	Probable Cause	Corrective Action or Preventative Steps Taken	Deviation
1	S2	Start = 2/23/22 Discovery = 2/24/22 End = 2/23/22 Duration = 2 hours Stopped? = Yes	On the evening of February 23rd at approximately 16:45, Rodeo SMR Operations was requested to reduce rates to minimum production, without ceasing Steam Turbine Generator operations, from the current production rate of 111MM SCFD of Hydrogen to approximately 77MM SCFD of hydrogen production. At 18:00 hours the DCS control was turned over to the night shift team while the dayshift team remained onsite to continue assisting with the requested rate reduction and the subsequent adjustments necessary to accomplish the customer's request. During this time, the FD fan VIV louver and became stuck while adjusting rates. This is a situation Air Liquide is aware of and has acted upon, to the best of our ability. See attachments 1-6 which shows the replacements parts and CEMS information for Air Liquide's path forward. The CEMS indicated an excess of CO for 2 clock hours. See attachments for supporting documentation.	The FD Fan VIV is sticking intermittently. This issue propagated into a CO excursion when the operator was unable to properly control air to the reformer (S2). During this time, the burner profile in some of the reformer went sub-stoichiometric; causing the CO excursion seen in stack from the CEMS.	The plant received the parts for the replacement of the FD Fan VIV on 3/17/22 after an extensive effort to source the parts during the most recent outage at the end of September. See additional attachments 8-10 for more details regarding the procurement of the spare VIV parts. The VIV will be completely changed out in the next planned outage in Q4 2023.	Conditions = 23179-5b Rules = N/A Other = N/A Previously Submitted = Yes Submitted = 10 & 30 day report RCA = 08F67 & 08F68 NOV = N/A Monitoring Deviation? = Yes
2	S2	Start = 4/1/22 Discovery = 4/1/22 End = 4/1/22 Duration = 0.5 hours Stopped? = Yes	During the morning of 4/1/22 at 6:32 AM, the PSA had a non-preferred switchover. During 6 minutes of this time, the heater went sub-stoichiometric on excess air to the S2. During this time, the CO 3% correction went high enough to break the 10 ppm limit for the hour average. After further investigation, oil was found in the instrument air line that caused the valved to improperly actuate. This issue caused the PSA to switchover from 12 to 10 bed mode in a non-preferred manner; causing the offgas inrush leading to the CO exceedance.	Oil in instrument air system supplied by P66 that caused positioner electronics to fail.	Short Term Corrective Actions: P66 changeout oil filters in their IA system. Air Liquide on backup air compressor until oil issues considered resolved. Long Term Corrective Actions: Review feasibility of installing VFD Air Compressor during next TAR (2023).	Conditions = 23179-5 & 7a Rules = N/A Other = N/A Previously Submitted = Yes Submitted = 10 & 30 day report RCA = 08G70, 08G71 NOV = N/A Monitoring Deviation? = Yes

Attachment A **Title V Semi-Annual Monitoring Report** **Summary of Deviations**

Facility: Air Liquide Rodeo Hydrogen Plant
Site ID: B7419

Date of Title V Permit: 9/27/2016 and Ammended 4/10/2020
Reporting Period: 1/1/22 to 6/30/22

Title V deviations for this SAM reporting period are summarized below:

Item	Source / Tag #	Incident Date/Time	Event Description	Probable Cause	Corrective Action or Preventative Steps Taken	Deviation
3	S2	Start = 6/1/22 Discovery = 6/1/22 End = 6/1/22 Duration = 1 hour Stopped? = Yes	During the afternoon of 6/1/22 at 4:00PM, the PSA had a valve malfunction in which PV-1312 had to be isolated via a manual switchover. During a few minutes of this time, the heater went sub-stoichiometric intermittently on excess air to the S2 as offgas was pushed into the fuelgas header. During this time, the CO 3% correction went high enough to break the 10 ppm limit for the hour average. The following week on 6/8/22, mechanical linkage on the roller guide of the positioner popped out of it's following day on 6/9/22, the PSA isolated the bedset off of the same valve. There was no sign of any further mechanical linkage failure; so the deviation cause amy be heavily inferred to be the butterfly valve itself. The vavle was pulled, inspected, adn replaced on 6/15/22. The report of inspection is still pending.	The likely cause is due to a malfunction in the valve. The valve is currently with a repair facility with the report to follow.	Valve was replaced and system placed back into normal operation.	Conditions = 23179-5 & 7a Rules = N/A Other = N/A Previously Submitted = Yes Submitted = 10 & 30 day report RCA = 08J07, 08J08 NOV = N/A Monitoring Deviation? = Yes
4	S2	Start = 4/2/22 Discovery = 7/12/22 End = 7/15/22 Duration = 101 days Stopped? = Yes	In the review of reporting records for the Title V SAM report, it was discovered that the Annual Project Emissions report due on April 1, 2022 was not yet submitted for the 2021 emissions year.	Administrative oversight	Air Liquide promptly prepared and submitted the missing report.	Conditions = 23181-B5 Rules = 2-1-403 Other = N/A Previously Submitted = No Monitoring Deviation? = No