



May 24, 2021

Mr. Juan Campos
California Resources Elk Hills, LLC
900 Old River Road
Bakersfield, CA 93311

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
Facility Number: S-2234
Project Number: S-1203245

Dear Mr. Campos:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. You requested that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The project authorizes modification to flares.

The notice of preliminary decision for this project has been posted on the District's website (www.valleyair.org). After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authorities to Construct with Certificates of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,



Brian Clements
Director of Permit Services

Enclosures

cc: Courtney Graham, CARB (w/enclosure) via email
cc: Laura Yannayon, EPA (w/enclosure) via EPS

Samir Sheikh
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

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34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: (661) 392-5500 FAX: (661) 392-5585

**NOTICE OF PRELIMINARY DECISION
FOR THE ISSUANCE OF AUTHORITY TO CONSTRUCT AND
THE PROPOSED SIGNIFICANT MODIFICATION OF FEDERALLY
MANDATED OPERATING PERMIT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed significant modification of California Resources Elk Hills, LLC in western Kern County, California. The project authorizes modification to flares.

The District's analysis of the legal and factual basis for this proposed action, project # S-1203245, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and at any District office. **There are no emission increases associated with this proposed action.** This will be the public's only opportunity to comment on the specific conditions of the modification. If requested, the District will hold a public hearing regarding issuance of this modification. For additional information, please contact the District at (661) 392-5500. Written comments on this project must be sent or postmarked by <DATE> to publicnotices@valleyair.org or **BRIAN CLEMENTS, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

**AVISO DE UNA DECISIÓN PRELIMINAR
PARA LA EMISIÓN DE UNA AUTORIDAD PARA CONSTRUIR Y
LA PROPUESTA MODIFICACIÓN SIGNIFICATIVA DE UN PERMISO
MANDATORIO FEDERAL PARA OPERAR**

POR EL PRESENTE SE NOTIFICA que el Distrito Unificado para el Control de la Contaminación del Aire del Valle de San Joaquín está solicitando comentarios públicos en la propuesta modificación significativa de California Resources Elk Hills, LLC en el oeste del Condado de Kern County, California. El proyecto autoriza modificación a las llamaradas.

El análisis de los fundamentos jurídicos y fácticos de esta acción propuesta, Número del Proyecto # S-1203245, está disponible para la inspección del público en http://www.valleyair.org/notices/public_notices_idx.htm y en cualquiera de las oficinas del Distrito. **No habrá un aumento en emisiones asociadas con esta acción propuesta.** Esta será la única oportunidad para que el público haga comentarios en las condiciones especificadas de esta modificación. Si se solicita, el Distrito llevará a cabo una audiencia pública acerca de la emisión de esta modificación. Para más información en Español, por favor comuníquese con el Distrito al (661) 392-5500. Comentarios por escrito acerca de este proyecto deben ser sometidos o con matasellos antes del <DATE> a publicnotices@valleyair.org o a **BRIAN CLEMENTS, DIRECTOR DEL DEPARTAMENTO DE PERMISOS, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

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II. Applicable Rules

Rule 2020	Exemptions (08/18/11)
Rule 2201	New and Modified Stationary Source Review Rule (08/15/19)
Rule 2410	Prevention of Significant Deterioration (06/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (04/14/99)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4311	Flares (06/15/06), Amendments
Rule 4801	Sulfur Compounds (12/17/92)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA) California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000 -15387: CEQA Guidelines	

III. Project Location

The flares are located in Sections 34 and 35 Township 30S Range 23E in the Elk Hills Oil Field. Specific locations for each are provided in the table below.

flare	S	T	R
S-2234-8	35	30S	23E
S-2234-14	35	30S	23E
S-2234-204	35	30S	23E
S-2234-205	34	30S	23E
S-2234-235	NW 35	30S	23E
S-2234-250	35	30S	23E

The site is not located within 1,000 feet of the outer boundary of any K-12 school. Therefore, pursuant to CH&SC 42301.6, California Health and Safety Code (School Notice), public notification is not required. The project does not propose the relocation or modification of any physical equipment.

A project location map is included in **Attachment II**.

IV. Process Description

The flares receive vapors from the 35R Gas Plant processing complex listed in the respective PTOs. Currently flare S-2234-250 is designed as a dual-facility flare servicing the HPI facility (facility S-382) and the 35R Gas Plant (facility S-2234). The primary purpose of the flare is to serve as a gas processing flare under the Gas Plant Processing Facility S-2234.

As flaring events at the facility do not always include each of the six flares and often only involve only one flare, use of an SLC allows for emergency and non-emergency flaring needs at the facility.

As indicated in the above table, there are no increases in daily or annual combined fuel use (MMBtu) for the flares.

V. Equipment Listing

Pre-Project Equipment Description

S-2234-8-4: 104.6 MMBTU/HR LOW PRESSURE FLARE SERVING LTS #2 PLANT

S-2234-14-2: 105.6 MMBTU/HR LOW PRESSURE FLARE SERVING LTS #1 PLANT

S-2234-204-3: 7,300 MMBTU/HR HIGH PRESSURE FLARE SERVING LTS #1 PLANT

S-2234-205-3: 7,300 MMBTU/HR HIGH PRESSURE FLARE SERVING LTS #2 PLANT

S-2234-235-2: 250 MMSCF/DAY EMERGENCY USE SMOKELESS FLARE WITH FLARE HEADER AND FLARE KNOCKOUT DRUM

Proposed Modification:

S-2234-8-6: MODIFICATION OF 104.6 MMBTU/HR LOW PRESSURE FLARE SERVING LTS #2 PLANT: INCREASE DAILY AND ANNUAL VENT GAS AND PILOT GAS SLC LIMITS AND ADD S-382-74 TO SLC

S-2234-14-3: MODIFICATION OF 05.6 MMBTU/HR LOW PRESSURE FLARE SERVING LTS #1 PLANT: INCREASE DAILY AND ANNUAL VENT GAS AND PILOT GAS SLC LIMITS AND ADD S-382-74 TO SLC

S-2234-204-4: MODIFICATION OF 7,300 MMBTU/HR HIGH PRESSURE FLARE SERVING LTS #1 PLANT: INCREASE DAILY AND ANNUAL VENT GAS AND PILOT GAS SLC LIMITS AND ADD S-382-74 TO SLC

S-2234-205-4: MODIFICATION OF 7,300 MMBTU/HR HIGH PRESSURE FLARE SERVING LTS #2 PLANT: INCREASE DAILY AND ANNUAL VENT GAS AND PILOT GAS SLC LIMITS AND ADD S-382-74 TO SLC

S-2234-235-3: MODIFICATION OF 250 MMSCF/DAY EMERGENCY USE SMOKELESS FLARE WITH FLARE HEADER AND FLARE KNOCKOUT DRUM: INCREASE DAILY AND ANNUAL VENT GAS AND PILOT GAS SLC LIMITS AND ADD S-382-74 TO SLC

Post-Project Equipment Description

S-2234-8-6: 104.6 MMBTU/HR LOW PRESSURE FLARE SERVING LTS #2 PLANT

S-2234-14-3: 105.6 MMBTU/HR LOW PRESSURE FLARE SERVING LTS #1 PLANT

S-2234-204-4: 7,300 MMBTU/HR HIGH PRESSURE FLARE SERVING LTS #1 PLANT

S-2234-205-4: 7,300 MMBTU/HR HIGH PRESSURE FLARE SERVING LTS #2 PLANT

S-2234-235-3: 250 MMSCF/DAY SMOKELESS FLARE WITH FLARE HEADER AND FLARE KNOCKOUT DRUM

S-2234-250-0: 535.5 MMBTU/HR AIR ASSISTED FLARE INCLUDING KNOCKOUT DRUM CAPABLE OF RECEIVING VENT GAS FROM HPI AND 35R GAS PLANT, SARASOTA AUTOMATION MODEL FM771 CONTINUOUS RECORDING FLOW METER, INLET GAS NOZZLE, FLARE STACK RISER, AND FLARE TIP (FLARE ALSO PERMITTED AS S-382-74)

VI. Emission Control Technology Evaluation

The flares listed in PTOs S-2234-8, -14, and -250 are equipped with air-assist technology. The air-assist flare is designed to incinerate produced/vapor control system gas in a safe manner and without creating a nuisance. Engineered flares are designed to achieve a greater than 98% destruction efficiency of VOC and H₂S and to operate without visible emissions. Air-assist promotes complete combustion of gases.

The flares listed in PTOs S-2234-204, -205 and -235 are sonic flares equipped with variable area or variable jet technology. These flares are designed to incinerate produced/vapor control system gas in a safe manner and without creating a nuisance. Engineered flares are designed to achieve a greater than 98% destruction efficiency of VOC and H₂S and to operate without visible emissions. This technology promotes complete combustion of gases.

VII. General Calculations

A. Assumptions

- The facility operates 24 hours per day, 7 days per week, and 52 weeks per year
- Pre- and post-project SLC limits of daily and annual heat input are listed in the tables below.

Pre-Project

Unit	Daily Pilot (MMBtu)	Annual Plot (MMBtu)	Daily Vent (MMBtu)	Annual Vent (MMBtu)
S-2234-8	110 (SLC)	40,000 (SLC)	30,938 (SLC)	185,625 (SLC)
S-2234-14				
S-2234-204				
S-2234-205				
S-2234-235				
S-382-74	50	18,000	10,300	185,400
Total	160	58,000	41,238	371,025

Post-Project

Unit	Daily Pilot (MMBtu)	Annual Plot (MMBtu)	Daily Vent (MMBtu)	Annual Vent (MMBtu)
S-2234-8	150 (SLC)	58,000 (SLC)	41,238 (SLC)	371,025 (SLC)
S-2234-14				
S-2234-204				
S-2234-205				
S-2234-235				
S-2234-250				
Total	150	58,000	41,238	371,025

For SB 288 and Federal Major Modification (FMM) calculations Baseline Actual Emissions (BAE) data are included in **Attachment V**.

Please note that there was insufficient information to establish the Unused Baseline Capacity (UBC) and Projected Actual Emissions (PAE) for the Federal Major Modification (FMM) calculation. Therefore, PE2 (rather than PAE) was used to calculate the emissions increase for the FMM calculation.

B. Emission Factors

S-2234-8, '-14, '-204, '-205, '-235, and S-382-74 (S-2234-250)

Flare Vent Gas Emission Factors		
	EF	Source
NO _x	0.068 lb/MMBtu	Current PTO
SO _x	0.00285 lb/MMBtu	Current PTO
PM ₁₀	0.008 lb/MMBtu	Current PTO
CO	0.37 lb/MMBtu	Current PTO
VOC	0.063 lb/MMBtu	Current PTO


Flare Pilot Emission Factors		
	EF	Source
NO _x	0.094 lb/MMBtu	Current PTO
SO _x	0.0028 lb/MMBtu	Current PTO
PM ₁₀	0.0076 lb/MMBtu *	Current PTO
CO	0.04 lb/MMBtu	Current PTO
VOC	0.0055 lb/MMBtu	Current PTO


* PTOs have error list 0.076

C. Calculations

1. Pre Project Potential to Emit (PE1)

(to be permitted as S-2234-250)

 SOUTHNT1 PAS - [View Permit Emissions: S-382-74-5]

 File Window

Permit #: S 382 -74 -5	Implemented: 06/02/17	Last Updated: 06/07/16 TORID	
Facility: CALIFORNIA RESOURCES ELK HILLS LLC		Equipment Prebaselined: <input type="checkbox"/> Yes <input type="checkbox"/> No	

PM2.5/PM10 %
PM2.5 (lb/Yr)

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	<input type="text" value="14299"/>	<input type="text" value="579"/>	<input type="text" value="1620"/>	<input type="text" value="69318"/>	<input type="text" value="11779"/>
Daily Emis. Limit (lb/Day):	<input type="text" value="705.1"/>	<input type="text" value="29.5"/>	<input type="text" value="82.8"/>	<input type="text" value="3813.0"/>	<input type="text" value="649.2"/>
SLC ID (PTE):	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
SLC ID (DEL):	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Above total emissions except SO_x (S-382 SSPE < OT) were fully offset in project S-382, 1150872 (final 2/4/16).

S-2234 SLC Vent Gas Daily Emissions

NO_x: 0.068 lb/MMBtu x 30,938 MMBtu/day = 2103.8 lb/NO_x/day
 SO_x: 0.00285 lb/MMBtu x 30,938 MMBtu/day = 88.1 lb SO_x/day
 PM₁₀: 0.008 lb/MMBtu x 30,938 MMBtu/day = 247.5 lb PM₁₀/day
 CO: 0.37 lb/MMBtu x 30,938 MMBtu/day = 11,447.1 lb CO/day

VOC: $0.063 \text{ lb/MMBtu} \times 30,938 \text{ MMBtu/day} = 1,949.1 \text{ lb VOC/day}$
S-2234 SLC Pilot Gas Daily Emissions

NOx: $0.094 \text{ lb/MMBtu} \times 110 \text{ MMBtu/day} = 10.3 \text{ lb/NOx/day}$
 SOx: $0.00285 \text{ lb/MMBtu} \times 110 \text{ MMBtu/day} = 0.3 \text{ lb SOx/day}$
 PM10: $0.0076 \text{ lb/MMBtu} \times 110 \text{ MMBtu/day} = 0.8 \text{ lb PM10/day}$
 CO: $0.04 \text{ lb/MMBtu} \times 110 \text{ MMBtu/day} = 4.4 \text{ lb CO/day}$
 VOC: $0.0055 \text{ lb/MMBtu} \times 110 \text{ MMBtu/day} = 0.6 \text{ lb VOC/day}$

S-2234 SLC Vent Gas Annual Emissions

NOx: $0.068 \text{ lb/MMBtu} \times 185,625 \text{ MMBtu/day} = 12,623 \text{ lb/NOx/yr}$
 SOx: $0.00285 \text{ lb/MMBtu} \times 185,625 \text{ MMBtu/day} = 529 \text{ lb SOx/yr}$
 PM10: $0.008 \text{ lb/MMBtu} \times 185,625 \text{ MMBtu/day} = 1,485 \text{ lb PM10/yr}$
 CO: $0.37 \text{ lb/MMBtu} \times 185,625 \text{ MMBtu/day} = 68,681 \text{ lb CO/yr}$
 VOC: $0.063 \text{ lb/MMBtu} \times 185,625 \text{ MMBtu/day} = 11,694 \text{ lb VOC/yr}$

S-2234 SLC Pilot Gas Annual Emissions

NOx: $0.094 \text{ lb/MMBtu} \times 40,000 \text{ MMBtu/day} = 3,760 \text{ lb/NOx/yr}$
 SOx: $0.00285 \text{ lb/MMBtu} \times 40,000 \text{ MMBtu/day} = 114 \text{ lb SOx/yr}$
 PM10: $0.0076 \text{ lb/MMBtu} \times 40,000 \text{ MMBtu/day} = 304 \text{ lb PM10/yr}$
 CO: $0.04 \text{ lb/MMBtu} \times 40,000 \text{ MMBtu/day} = 1,600 \text{ lb CO/yr}$
 VOC: $0.0055 \text{ lb/MMBtu} \times 40,000 \text{ MMBtu/day} = 220 \text{ lb VOC/day}$

S-2234-8, '-14, '-204, '-205, and '-235 Total Pilot + Vent SLC Emissions		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	2,114.1	16,383
SO _x	88.4	643
PM ₁₀	248.3	1,789
CO	11,451.5	70,281
VOC	1,949.7	11,914

Above annual emissions of NOx, SOx, PM10, and VOC were fully offset in project S-2234, 1150871 (4/11/16).

PE1 (SLC Emissions included on '-8)

	NOx	SOx	PM10	CO	VOC
'-8 daily	2,114.1	88.4	248.3	11,451.5	1,949.7
'-8 annual	16,383	643	1,789	70,281	11,914
'-14	0	0	0	0	0
'-204	0	0	0	0	0
'-205	0	0	0	0	0
'-235	0	0	0	0	0

2. Post Project Potential to Emit (PE2)

The potential to emit for the operation is calculated as follows, and summarized in the table below:

S-2234 SLC Vent Gas Daily Emissions

NOx: $0.068 \text{ lb/MMBtu} \times 41,238 \text{ MMBtu/day} = 2804.2 \text{ lb/NOx/day}$
 SOx: $0.00285 \text{ lb/MMBtu} \times 41,238 \text{ MMBtu/day} = 117.5 \text{ lb SOx/day}$
 PM10: $0.008 \text{ lb/MMBtu} \times 41,238 \text{ MMBtu/day} = 329.9 \text{ lb PM10/day}$
 CO: $0.37 \text{ lb/MMBtu} \times 41,238 \text{ MMBtu/day} = 15,258.1 \text{ lb CO/day}$
 VOC: $0.063 \text{ lb/MMBtu} \times 41,938 \text{ MMBtu/day} = 2,642.1 \text{ lb VOC/day}$

S-2234 SLC Pilot Gas Daily Emissions

NOx: $0.094 \text{ lb/MMBtu} \times 150 \text{ MMBtu/day} = 14.1 \text{ lb/NOx/day}$
 SOx: $0.00285 \text{ lb/MMBtu} \times 150 \text{ MMBtu/day} = 0.4 \text{ lb SOx/day}$
 PM10: $0.0076 \text{ lb/MMBtu} \times 150 \text{ MMBtu/day} = 1.1 \text{ lb PM10/day}$
 CO: $0.04 \text{ lb/MMBtu} \times 150 \text{ MMBtu/day} = 6.0 \text{ lb CO/day}$
 VOC: $0.0055 \text{ lb/MMBtu} \times 150 \text{ MMBtu/day} = 0.8 \text{ lb VOC/day}$

S-2234 SLC Vent Gas Annual Emissions

NOx: $0.068 \text{ lb/MMBtu} \times 371,025 \text{ MMBtu/yr} = 25,231 \text{ lb/NOx/yr}$
 SOx: $0.00285 \text{ lb/MMBtu} \times 371,025 \text{ MMBtu/yr} = 1057 \text{ lb SOx/yr}$
 PM10: $0.008 \text{ lb/MMBtu} \times 371,025 \text{ MMBtu/yr} = 2,968 \text{ lb PM10/yr}$
 CO: $0.37 \text{ lb/MMBtu} \times 371,025 \text{ MMBtu/yr} = 137,279 \text{ lb CO/yr}$
 VOC: $0.063 \text{ lb/MMBtu} \times 371,025 \text{ MMBtu/yr} = 23,375 \text{ lb VOC/yr}$

S-2234 SLC Pilot Gas Annual Emissions

NOx: $0.094 \text{ lb/MMBtu} \times 58,000 \text{ MMBtu/yr} = 5,452 \text{ lb/NOx/yr}$
 SOx: $0.00285 \text{ lb/MMBtu} \times 58,000 \text{ MMBtu/yr} = 165 \text{ lb SOx/yr}$
 PM10: $0.0076 \text{ lb/MMBtu} \times 58,000 \text{ MMBtu/yr} = 441 \text{ lb PM10/yr}$

CO: 0.04 lb/MMBtu x 58,000 MMBtu/yr = 2,320 lb CO/yr
VOC: 0.0055 lb/MMBtu x 58,000 MMBtu/yr = 319 lb VOC/day

S-2234-8, '-14, '-204, '-205, '-235, and '-250 Total Pilot + Vent SLC Emissions		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	2,814.2	30,683
SO _x	117.9	1,222
PM ₁₀	331.0	3,409
CO	15,264.1	139,599
VOC	2,642.9	23,694

PE2 (SLC Emissions included on '-8)

	NO _x	SO _x	PM ₁₀	CO	VOC
'-8 daily	2,814.2	117.9	331.0	15,264.1	2,642.9
'-8 annual	30,683	1,222	3,409	139,599	23,694
'-14	0	0	0	0	0
'-204	0	0	0	0	0
'-205	0	0	0	0	0
'-235	0	0	0	0	0
'-250	0	0	0	0	0

Emissions profiles are included in **Attachment III**.

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

SSPE1 (lb/year)*					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE1	1,350,881	82,969	213,201	7,160,144	3,341,773

*SSPE calculator 2/22/21

4. Post Project Stationary Source Potential to Emit (SSPE2)

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

SSPE2 (lb/year)					
Permit Unit	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	1,350,881	82,969	213,201	7,160,144	3,341,773

Please note that flare S-2234-250 (also permitted as S-382-74) was authorized as part of the S-2234 stationary source. As such there is no increase in SSPE2.

5. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- Any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

Rule 2201 Major Source Determination (lb/year)						
	NO _x	SO _x	PM ₁₀	PM _{2.5}	CO	VOC
SSPE1	1,350,881	82,969	213,201	213,201	7,160,144	3,341,773
SSPE2	1,350,881	82,969	213,201	213,201	7,160,144	3,341,773
Major Source Threshold	20,000	140,000	140,000	200,000	200,000	20,000
Major Source?	Yes	NO	Yes	Yes	Yes	Yes

Note: PM_{2.5} assumed to be equal to PM₁₀

This source is an existing Major Source for all pollutants, except SO_x and will remain a Major Source for all pollutants.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Estimated Facility PE before Project Increase	675.4	1,670	41.5	3,580	106.6	106.6
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	Y	Y	N	Y	N	N

As shown above, the facility is an existing PSD major source for at least one pollutant.

6. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed pollutant-by-pollutant for each unit within the project to calculate the QNEC, and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

NOx, SOx, PM10, and VOC

The emissions units S-2234-8, '-14, '-204, '-205, '-235, were fully offset during the conversion from emergency flares to non-emergency flares in District project S-2234, 1150871. Therefore, S-2234-8, '-14, '-204, '-205, '-235 are fully offset emissions units.

Flare S-2234-250 was fully offset for NOx, PM10, and VOC in District project S-382, 1150872. S-2234-250 is a Clean Emissions Unit for SOx at it is restricted to combust gas containing no more than 1 gr S/100 scf by permit condition.

Therefore, BE = PE1 for NO_x, SO_x, PM₁₀, and VOC for S-2234-8, '-14, '-204, '-205, '-235, and '-250.

CO

Calculation of BE for assessment of offsets is not required as projects S-382, 1150872 and S-2234, 1150871 showed that the Ambient Air Quality Standard for CO would not be violated for the SLC change proposed in this project.

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

Since this facility is a major source for all pollutants, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)*	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO _x	30,683	50,000	No
SO _x	1,222	80,000	No
PM ₁₀	3,409	30,000	No
VOC	23,694	50,000	No

*Vent gas and pilot gas emissions from S-2234-14, '-204, '-205, '-235, and '-250.

Since none of the SB 288 Major Modification Thresholds are surpassed with this project, this project does not constitute an SB 288 Major Modification.

8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination.

Step 1

Since the project proponent has not provided information required to calculate PAE, the District will use the PE2 to calculate the emissions increase:

$$\text{Project Emissions Increase (EI)} = \sum(\text{PE2} - \text{BAE})$$

Baseline Actual Emissions (BAE)

For emission units (other than electric utility steam generating units), according to according to 40 CFR 51.165(a)(1)(xxxv)(B), the BAE are calculated as the average, in tons/year, at which the emissions unit actually emitted during any 24-month period selected by the operator within the previous 10-year period.

Applicant has provided actual emissions from the years 2018 and 2019 from flares S-2234-8, '-14, '-204, '-205, and '-235 and flare S-2234-250) The NOx emissions data and a sample calculation of NOx project increase are shown below. The complete baseline actual emissions are in **Attachment IV**.

SLC BAE (flares S-2234-8, 14, 204, 205, 235, and 250)

$$\begin{aligned} \text{BAE} &= 898 + 501 + 158 + 2,966 + 3,301 + 12,202 \text{ (flare vent gas)} \\ &+ 80 + 79 + 79 + 80 + 16 + 135 \text{ (pilot)} \\ &= 20,495 \text{ lb NOx/yr} \end{aligned}$$

Project Emissions Increase

	SLC PE2	BAE	EI
Pollutant	lb/yr		
NOx	30,683	20,495	10,188
SOx	1,222	981	241
PM10	3,409	2,736	673
CO	139,599	110,961	28,638
VOC	23,694	18,827	4,867

Federal Major Modification Thresholds for Emission Increases			
Pollutant	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO _x *	10,188	0	Yes
VOC*	4,867	0	Yes
PM ₁₀	673	30,000	No
PM _{2.5}	673	20,000	No
SO _x	241	80,000	No

*If there is any emission increases in NO_x or VOC, this project is a Federal Major Modification and no further analysis is required.

Since there is an increase in NO_x and VOC emissions, this project constitutes a Federal Major Modification. Consequently, as discussed below in the offset section of this

evaluation, pursuant to Section 7.4.2.1 of District Rule 2201, NOx and VOC Emission Reduction Credits (ERCs) used to satisfy the offset quantity required under District Rule 2201 must be surplus at the time of use (ATC issuance).

Separately, Federal Offset Quantity is calculated below.

Federal Offset Quantities:

Federal Offset Quantities (FOQs)

As NOx and VOC emissions from the flares are included in an existing NOx and VOC SLCs, the FOQ will be calculated as shown below.

The following equation is used, as the NOx SLC is Federally Enforceable

$$FOQ = [(SLC - \sum AE_{\text{All new and modified units under the SLC}})] \times \text{Federal offset ratio}$$

NOx and VOC Flare and Pilot Emissions

PERMIT UNIT	NOx Actual Emissions Lb/yr	VOC Actual Emissions Lb/yr
S-2234-8	978	879
'-14	580	510
'-204	237	192
'-205	3046	2795
'-235	3317	3067
'-250	12,337	11,384
TOTAL	20,495	18,827

Therefore,

NOx

$$\begin{aligned}
 FOQ &= [(SLC - \sum AE_{\text{All new and modified units under the SLC}})] \times \text{Federal offset ratio} \\
 &= (30,683 - 20,495) \times 1.5 \\
 &= 15,282 \text{ lb NOx/yr}
 \end{aligned}$$

VOC

$$\begin{aligned}
 FOQ &= [(SLC - \sum AE_{\text{All new and modified units under the SLC}})] \times \text{Federal offset ratio} \\
 &= (23,694 - 18,827) \times 1.5 \\
 &= 7,300 \text{ lb VOC/yr}
 \end{aligned}$$

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- NO2 (as a primary pollutant)
- SO2 (as a primary pollutant)
- CO
- PM
- PM10

I. Project Location Relative to Class 1 Area

As demonstrated in the “PSD Major Source Determination” Section above, the facility was determined to be a existing PSD Major Source. Because the project is not located within 10 km (6.2 miles) of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Project Emission Increase – Significance Determination

a. Evaluation of Calculated Post-project Potential to Emit for New or Modified Emissions Units vs PSD Significant Emission Increase Thresholds

Because the post-project total potentials to emit from all new and modified emission units are below the PSD significant emission increase thresholds, this project is not subject to the requirements of Rule 2410 and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

The project is not proposing an emissions increase, therefore, a QNEC = 0 for NOx, SOx, PM10, CO, and VOC. The increase in SLC is allocated to permit S-2234-8 for convenience.

S-2234-8				
	PE2	PE1	PE2 – PE1	QNEC (lb/qtr)
NOx	30,683	16,383	14,300	3,575
SOx	1,222	643	579	144.75
PM10	3,409	1,789	1620	405
CO	139,599	70,281	69,318	17,329.5
VOC	23,694	11,914	11,780	2,945

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units – PE > 2 lb/day

As discussed in Section I above, there are no new emissions units associated with this project. Therefore BACT for new units with PE > 2 lb/day purposes is not triggered.

b. Relocation of emissions units – PE > 2 lb/day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

c. Modification of emissions units – AIPE > 2 lb/day

The increase to the daily and annual SLC for all of the subject flares will result in an increase of greater than 2 lb increase in any one day for each flare and for each pollutant.

d. SB 288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does constitute a Federal Major Modification for NO_x and VOC emissions. Therefore, BACT is triggered.

2. BACT Guideline

All current BACT Guidelines for flares have been rescinded. Therefore, a project specific BACT analysis will be done for this project.

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (see **Attachment V**), BACT has been satisfied with the following:

NO_x, PM₁₀, CO, VOC:

The flare operates smokelessly limited to visible emissions less than 5% opacity except for a period or periods aggregating three minutes or less in any one hour. The ATC includes a condition to ensure that it operates as proposed, i.e. non-steady flow conditions:

SO_x:

Combustion of gas containing no more than 1 gr S/100 scf.

B. Offsets

Pursuant to District Rule 2201, Section 4.5, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
SSPE2	> 20,000	>20,000	>20,000	>20,000	>20,000
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets Triggered?	Yes	Yes	Yes	Yes	Yes

2. Quantity of District Offsets Required

Pollutant	PE2 (SLC S-2234-8, '-14, 204, '-205, '-235, and '-250)	BE (SLC S-2234-8, '-14, 204, '-205, '-235, and '-250)	Offsets
NOx	30,682	30,682	0
SOx	1,222	1,222	0
PM10	3,409	3,409	0
VOC	23,694	23,694	0

Offsets are not required for NOx, SOx, PM10, and VOC.

CO

Pursuant to section 4.6.1 for Rule 2201 increases in carbon monoxide in attainment areas are exempt from offsetting if the applicant demonstrates to the satisfaction of the APCO, that the Ambient Air Quality Standards are not violated in the areas to be affected, and such emissions will be consistent with Reasonable Further Progress, and will not cause or contribute to a violation of Ambient Air Quality Standards. This was shown in projects S-382, 1150872 and S-2234, 1150871; therefore, offsets are not required for CO.

As discussed above, District offsets are triggered but not required for VOC under NSR. However, as demonstrated above, this project does trigger Federal Major Modification requirements for VOC emissions and FOQs are required for this project for VOC. Pursuant to Section 7.4.2.1 of District Rule 2201, emission reduction credits used to satisfy federal offset quantities for VOC must be creditable and surplus at the time of use (ATC issuance).

Surplus at the Time Of Use Emission Reduction Credits

The applicant has stated that the facility plans to use ERC certificates S-4747-1 and S-5003-1 to satisfy the FOQs for VOC required for this project (7,300 lb VOC/yr). Pursuant to the ERC surplus analysis in **Attachment VI**, the District has verified that the credits from the ERC certificate(s) provided by the applicant are sufficient to satisfy the federal offset quantities for VOC required for this project.

Required District and Federal Offset Quantities Summary

Therefore the appropriate quarterly emissions to be offset are as follows:

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
1,825	1,825	1,825	1,825	7,300

The applicant has stated that the facility plans to use ERCs S-4747-1 and S-5003-1 which have the following surplus quantities:

ERC Certificate S-4747-1 – Criteria Pollutant VOC					
		1 st Qtr. (lb/qtr)	2 nd Qtr. (lb/qtr)	3 rd Qtr. (lb/qtr)	4 th Qtr. (lb/qtr)
(A)	Current ERC Quantity	0	2,050	6,327	0
(B)	Percent Discount	39.6%	39.6%	39.6%	39.6%
(C) = (A) x [1 – (B)]	Surplus Value	0	1,238	3,822	0

ERC Certificate S-5003-1 – Criteria Pollutant VOC					
		1 st Qtr. (lb/qtr)	2 nd Qtr. (lb/qtr)	3 rd Qtr. (lb/qtr)	4 th Qtr. (lb/qtr)
(A)	Current ERC Quantity	1,499	1,907	2,634	1,500
(B)	Percent Discount	39.6%	39.6%	39.6%	39.6%
(C) = (A) x [1 – (B)]	Surplus Value	905	1,152	1,591	906

					Total
S-4747-1	0	1,238	3,822	0	5060
S-5003-1	905	1,152	1,591	906	4554
Total	905	2,390	5,413	906	9,614

As seen above, the facility has sufficient credits to fully offset the quarterly VOC emissions increases (7,300 lb/yr) associated with this project.

The face value of these ERC required to be withdrawn is as follows (surplus VOC offset quantity / (1-discount %)):

<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Total Annual</u>
3,022	3,022	3,022	3,022	12,088

Note that by District Rule 2201 Section 4.13.8 AER for NOx and VOC that occurred from April through November may be used to offset increases in NOx and VOC during any period of the year. Therefore, the quantities listed for the above 2 ERCs may be used in all 4 quarters.

ATC S-2234-8-6

Proposed Rule 2201 (offset) Conditions:

- {GC# 4447 - edited} Prior to operating equipment under this Authority to Construct, permittee shall surrender surplus VOC emission reduction credits for the following quantity of emissions: 1st quarter – 1,825 lb, 2nd quarter – 1,825 lb, 3rd quarter – 1,825 lb, and 4th quarter – 1,825 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]

- *ERC Certificate Number S-4747-1 and S-5003-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]*

3. ERC Withdrawal Calculations

The applicant must identify the ERC Certificate(s) to be used to offset the increase of 7,300 lb/yr emissions for the project. As indicated in previous section, the applicant is proposing to use ERC certificates S-4747-1 and S-5003-1 to mitigate the increases of VOC emissions associated with this project. See **Attachment VII** for detailed ERC Withdrawal Calculations.

C. Public Notification

1. Applicability

Public notification is required for:

- a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed, and/or
- d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.
- e. Any project which results in a Title V significant permit modification

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

As demonstrated in Sections VII.C.7 and VII.C.8, this project does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project. Therefore public noticing is not required for this project for PE > 100 lb/day.

c. Offset Threshold

Public notification is required if the pre-project Stationary Source Potential to Emit (SSPE1) is increased to a level exceeding the offset threshold levels. The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	1,350,881	1,365,180	20,000 lb/year	No
SO _x	82,969	83,548	54,750 lb/year	No
PM ₁₀	213,201	214,821	29,200 lb/year	No
CO	7,160,144	7,229,462	200,000 lb/year	No
VOC	3,339,583	3,351,362	20,000 lb/year	No

As demonstrated above, there were no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	1,365,180	1,350,881	14,299	20,000 lb/year	No
SO _x	83,548	82,969	579	20,000 lb/year	No
PM ₁₀	214,821	213,201	1,620	20,000 lb/year	No
CO	7,229,462	7,160,144	69,318	20,000 lb/year	Yes
VOC	3,351,362	3,339,583	11,779	20,000 lb/year	No

As demonstrated above, the SSIPE for CO was greater than 20,000 lb/year; therefore, public notification for SSIPE purposes is required.

e. Title V Significant Permit Modification

As shown in the Discussion of Rule 2520 below, this project does not constitute a Title V significant modification. Therefore, public noticing for Title V significant modifications is not required for this project.

2. Public Notice Action

As discussed above, public notification is required for this project for SSIPE exceeding 20,000 lb/yr CO. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

For each flare, the DELs are stated in the form of emission factors (lb/MMBtu), the combined maximum daily and annual heat input to the flares covered by the SLC, and the combined maximum daily and annual emissions from the flares covered by the SLC.

Proposed Rule 2201 (DEL) Conditions:

Vent gas emission rates from this unit shall not exceed any of the following limits: NOx - 0.068 lb/MMBtu; VOC - 0.063 lb/MMBtu; CO - 0.37 lb/MMBtu; PM10 - 0.008 lb/MMBtu; or SOx - 0.00285 lb/MMBtu. [District Rule 2201] Y

Pilot emission rates from this unit shall not exceed any of the following limits: NOx - 0.094 lb/MMBtu; VOC - 0.0055 lb/MMBtu; CO - 0.04 lb/MMBtu; PM10 - 0.0076 lb/MMBtu; or SOx - 0.00285 lb/MMBtu. [District Rule 2201] Y

Combined daily vent gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 41,238 MMBtu. [District Rule 2201] Y

Combined annual vent gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 371,025 MMBtu. [District Rule 2201] Y

Combined daily vent gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 2,802.2 lb-NOx; 117.5 lb-SOx; 329.9 lb-PM10; 15,258.1 lb-CO; 2,642.1 lb-VOC. [District Rule 2201] Y

Combined annual vent gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 25,231 lb-NOx; 1,057 lb-SOx; 2,968 lb-PM10; 137,279 lb-CO; 23,375 lb-VOC. [District Rule 2201] Y

Combined daily pilot gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 150 MMBtu. [District Rule 2201] Y

Combined annual pilot gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 58,000 MMBtu. [District Rule 2201] Y

Combined daily pilot gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 14.1 lb-NOx; 0.4 lb-SOx; 1.1 lb-PM10; 6.0 lb-CO; 0.8 lb-VOC. [District Rule 2201] Y

Combined annual pilot gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 5,452 lb-NOx; 165 lb-SOx; 441 lb-PM10; 2,320 lb-CO; 319 lb-VOC. [District Rule 2201] Y

E. Compliance Assurance

1. Source Testing

Source testing is not required to demonstrate compliance with Rule 2201.

2. Monitoring

No monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following condition(s) are listed on the permit to operate:

- *Records of daily and annual gas consumption shall be maintained, retained on-site for a period of at least five years and made available for District inspection upon request. [District Rule 4305]*

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

E. Ambient Air Quality Analysis (AAQA)

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard.

The proposed location is in an attainment area for NO_x, CO, and SO_x. The proposed location is in a non-attainment area for the state's PM₁₀ as well as federal and state PM_{2.5} thresholds.

CO

Pursuant to section 4.6.1 for Rule 2201 increases in carbon monoxide in attainment areas are exempt from offsetting if the applicant demonstrates to the satisfaction of the APCO, that the Ambient Air Quality Standards are not violated in the areas to be affected, and such emissions will be consistent with Reasonable Further Progress, and will not cause or contribute to a violation of Ambient Air Quality Standards. This was shown in projects S-382, 1150872 and S-2234, 1150871; therefore, offsets are not required for CO.

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII. C. 9. above, this project does not result in a PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. A significant permit modification is defined as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

Minor permit modifications are not Title I modifications as defined in this rule. This project triggers a Federal Major Modification, as a result, the proposed project constitutes a Significant Modification to the Title V Permit.

The Title V Compliance Certification letter is included in **Attachment VIII**.

Rule 4001 New Source Performance Standards (NSPS)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60. 40 CFR 60.18 refers to control devices such as the flares in this project.

This section contains requirements for control devices used to comply with applicable subparts of parts 60 and 61. The requirements only apply to facilities covered by subparts referring to this section. None of the equipment in this project is covered by subparts which require external control devices and refer to this subpart. Therefore, the flares are not subject to NSPS.

Rule 4101 Visible Emissions

Rule 4101 states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity.

The flares are smokeless design and are expected to operate in a smokeless manner. As long as the equipment is properly maintained and operated, compliance with visible emissions limits is expected under normal operating conditions.

Rule 4102 Nuisance

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations provided the equipment is well maintained. Therefore, compliance with this rule is expected.

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification of an existing source shall not result in an increase in cancer risk greater than the District's significance level (20 in a million) and shall not result in acute and/or chronic risk indices greater than 1.

According to the Technical Services Memo for this project, the total facility prioritization score including this project was greater than one. Therefore, an HRA was required to determine the short-term acute and long-term chronic exposure from this project.

The resulting prioritization score, acute hazard index, chronic hazard index, and cancer risk for this project are shown below.

Summary

RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
250	0.18	0.00	0.00	0.00E+00	No	Yes
Project Totals	0.18	0.01	0.00	3.61E-08		
Facility Totals	>1	0.26	0.02	3.05E-06		

Notes:

- S2234 and S9168 are considered the same stationary source. Risk scores from the two facilities have been combined

Discussion of T-BACT

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy is expected. In accordance with District policy APR 1905, no further analysis is required, and compliance with District Rule 4102 requirements is expected.

The following special conditions are required:

Unit # 8-6, 14-6, 204-5, 235-5, and 250-0

- Combined daily vent gas heat input from permit units S-2234-8, -14, -204, -205, -235, and -250 shall not exceed 41,238 MMBtu.*
- Combined annual vent gas heat input from permit units S-2234-8, -14, -204, -205, -235, and -250 shall not exceed 371,025 MMBtu.*

See **Attachment IX**: Health Risk Assessment Summary

Rule 4311 Flares Amendments

The purpose of this rule is to limit the emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) from the operation of flares.

The ATCs include conditions satisfying the following requirements:

The flame shall be present at all times when combustible gases are vented through the flare.

The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares.

Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an alternative equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated.

Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging.

Section 5.2 Flares that are operated 200 hours or less per calendar year as specified in the Permit to Operate, or with an annual throughput limit equivalent to 200 hours per year at flare rating (MMBtu/hr) as specified in the Permit to Operate, are exempt from the requirements of Sections 5.9 and 5.10.

Section 5.9 Except for flares that meet the emission limits specified in Table 3, operators of flares located at operations specified in Table 2 shall complete one of the following options:

Submit an ATC application to limit flaring annual throughput through an enforceable Permit to Operate limit, to levels not to exceed those specified in Table 2 for two consecutive calendar years, per the compliance schedule in Section 7.2; or

Replace or modify the flare to meet the emissions limits in Table 3 per the compliance schedule in Section 7.3.

Applicant has stated that Table 2 and or Table 3 the requirements will be met by the compliance schedule date.

<u>Table 2 – Flare Annual Throughput Thresholds (MMBtu/calendar year)</u>	
<u>Flare Category</u>	<u>MMBtu/yr</u>
<u>A. Flares used at Oil and Gas Operations, and Chemical Operations</u>	<u>25,000</u>
<u>B. Flares used at Landfill Operations</u>	<u>90,000</u>
<u>C. Flares used at Digester Operations</u>	<u>100,000</u>
<u>D. Flares used at Organic Liquid Loading Operations</u>	<u>25,000</u>

<u>Table 3 – VOC and NOx Emissions Requirements for Flares</u>		
<u>Flare Category</u>	<u>VOC (lb/MMBtu)</u>	<u>NOx (lb/MMBtu)</u>
<u>A. Flares at Oil and Gas Operations or Chemical Operations</u>	<u>0.008</u>	<u>0.018</u>
<u>B. Flares at Landfill Operations</u>	<u>0.038</u>	<u>0.025</u>
<u>C. Flares at Digester Operations (Located at a Major Source)</u>	<u>0.038</u>	<u>0.025</u>
<u>D. Flares at Digester Operations (Not located at a Major Source)</u>	<u>N/A</u>	<u>0.060</u>
<u>E. Flares at Organic Liquid Loading Operations</u>	<u>Pounds/1,000 gallons loaded</u>	
	<u>N/A</u>	<u>0.034</u>

Section 5.10 For operators of flares that opt to comply with Section 5.9.1, any operator with a flare that exceeds the annual throughput thresholds specified in Table 2 for two consecutive calendar years shall notify the APCO in writing of the exceedance within 30 days following the end of the second calendar year and shall replace or modify the flare to meet Table 3 emission limits per the compliance schedule in Section 7.4.

5.11

Compliance with the requirements of this rule is expected.

Rule 4801 Sulfur Compounds

The rule limits sulfur compound emission (as SOx) concentrations to no more than 2,000 ppmv, measured at the point of discharge. The flares are currently operating in compliance with the rule. Continued compliance with the rule is expected.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;

- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Greenhouse Gas (GHG) Significance Determination

Oil and gas operations in Kern County must comply with the Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local Permitting. In 2015, Kern County revised the Kern County Zoning Ordinance Focused on Oil and Gas Activities (Kern Oil and Gas Zoning Ordinance) in regards to future oil and gas exploration, and drilling and production of hydrocarbon resource projects occurring within Kern County.

Kern County served as lead agency for the revision to their ordinance under the California Environmental Quality Act (CEQA), and prepared an Environmental Impact Report (EIR) that was certified on November 9, 2015. The EIR evaluated and disclosed to the public the environmental impacts associated with the growth of oil and gas exploration in Kern County, and determined that such growth will result in significant GHG impacts in the San Joaquin Valley. As such, the EIR included mitigation measures for GHG.

The District is a Responsible Agency for the project because of its discretionary approval power over the project via its Permits Rule (Rule 2010) and New Source Review Rule (Rule 2201), (CEQA Guidelines §15381). As a Responsible Agency, the District is limited to mitigating or avoiding impacts for which it has statutory authority. The District does not have statutory authority for regulating GHGs. The District has determined that the applicant is responsible for implementing GHG mitigation measures imposed in the EIR by the Kern County for the Kern County Zoning Ordinance.

District CEQA Findings

The proposed project is located in Kern County. It was approved by Kern County under its permitting process prior to March 25, 2020 and is thus subject to the Kern County Zoning Ordinance – 2015 (C) Focused on Oil and Gas Local Permitting. The Kern County Zoning Ordinance was developed by the Kern County Planning Agency as a comprehensive set of goals, objectives, policies, and standards to guide development, expansion, and operation of oil and gas exploration within Kern County.

In 2015, Kern County revised their Kern County Zoning Ordinance in regards to exploration, drilling and production of hydrocarbon resources projects. Kern County, as the lead agency, is the agency that will enforce the mitigation measures identified in the EIR, including the mitigation requirements of the Oil and Gas ERA. As a responsible agency the District complies with CEQA by considering the EIR prepared by the Lead Agency, and by reaching its own conclusion on whether and how to approve the project involved (CCR §15096). The District has reviewed the EIR prepared by Kern County, the Lead Agency for the project, and finds it to be adequate. The District also prepared a full findings document. The full findings document, California Environmental Quality Act

(CEQA) Statement of Findings for the Kern County Zoning Ordinance EIR contains the details of the District's findings regarding the Project. The District's implementation of the Kern Zoning Ordinance and its EIR applies to ATC applications received for any new/modified equipment used in oil/gas production in Kern County, including new wells, between November 5, 2015 and March 25, 2020. The full findings applies to the Project and the Project's related activity equipment(s) is covered under the Kern Zoning Ordinance. To reduce project related impacts on air quality, the District evaluates emission controls for the project such as Best Available Control Technology (BACT) under District Rule 2201 (New and Modified Stationary Source Review). In addition, the District is requiring the applicant to surrender emission reduction credits (ERC) for stationary source emissions above the offset threshold.

Thus, the District concludes that through a combination of project design elements, permit conditions, and the Oil and Gas ERA, the project will be fully mitigated to result in no net increase in emissions. Pursuant to CCR §15096, prior to project approval and issuance of ATCs the District prepared findings.

Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit is based on a case-by-case analysis of a particular project's potential for litigation risk, which in turn may be based on a project's potential to generate public concern, its potential for significant impacts, and the project proponent's ability to pay for the costs of litigation without a letter of credit, among other factors.

The revision to the Kern County Zoning Ordinance went through an extensive public process that included a Notice of Preparation, a preparation of an EIR, scoping meetings, and public hearings. The process led to the certification of the final EIR and approval of the revised Kern County Zoning Ordinance in November 2015 by the Kern County Board of Supervisors. As mentioned above, the proposed project will be fully mitigated and will result in no net increase in emissions. In addition, the proposed project is not located at a facility of concern; therefore, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue ATC S-2234-8-6, '-14-6, '-204-5, '-205-5, '-235-5, and 250-0 subject to the permit conditions on the draft ATCs in **Attachment X**.

Attachments


- I. Current PTOs
- II. Location Map
- III. Emissions Profile
- IV. BAE Information
- V. BACT Analysis
- VI. ERC Surplus Analyses
- VII. ERC Withdrawal Calculation
- VIII: Statewide Compliance Statement and Title V Compliance Certification Form
- IX: HRA
- X: Draft ATC

ATTACHMENT I
Current PTOs


ATTACHMENT II Location Map



ATTACHMENT III Emissions Profiles

 SOUTHNT1 PAS - [View Application Emissions: S-2234-8-6]

— [

 File Actions Window

Permit #: S 2234-8 -6 Issued: / /
Implemented: / /
Facility: CALIFORNIA RESOURCES ELK HILLS LLC


Last Updated
05/05/21 EDGEHILR


Use PTO emissions Equipment Prebaselined: Yes No

PM2.5/PM10 %		NOX	SOX	PM10	CO	VOC
PM2.5 (lb/Yr)						
Potential to Emit (lb/Yr):		30683	1222	3409	139599	23694
Daily Emis. Limit (lb/Day):		14.1	0.4	1.1	6.0	0.8
Quarterly Net Emissions Change (lb/Qtr)	1:	3575	144	405	17329	2945
	2:	3575	145	405	17329	2945
	3:	3575	145	405	17330	2945
	4:	3575	145	405	17330	2945
Check if offsets are triggered but exemption applies		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Offset Ratio:						1.50
Quarterly Offset Amounts (lb/Qtr)	1:					3022
	2:					3022
	3:					3022
	4:					3022
SLC ID (PTE):						
SLC ID (DEL):						

Facility SLC **Exit**

S-2234-14, '-204, '-205, '-235, and '-250

 SOUTHNT1 PAS - [View Application Emissions: S-2234-14-6]

 File Actions Window

Permit #: S 2234-14 -6	Issued: //	Last Updated: 08/24/20			
	Implemented: //	EDGEHILR			
Facility: CALIFORNIA RESOURCES ELK HILLS LLC		<input type="checkbox"/> Use PTO emissions		Equipment Prebaselined: <input type="checkbox"/> Yes <input type="checkbox"/> No	
PM2.5/PM10 %					
PM2.5 (lb/Yr)					
	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0	0	0	0	0
Daily Emis. Limit (lb/Day):	0.0	0.0	0.0	0.0	0.0
Quarterly Net Emissions Change (lb/Qtr)					
1:	0	0	0	0	0
2:	0	0	0	0	0
3:	0	0	0	0	0
4:	0	0	0	0	0
Check if offsets are triggered but exemption applies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Offset Ratio:					
Quarterly Offset Amounts (lb/Qtr)					
1:					
2:					
3:					
4:					
SLC ID (PTE):					
SLC ID (DEL):					

Facility SLC

Exit

ATTACHMENT IV BAE Information

Historical Emissions

Average 2018, 2019

BAE		S-2234-8	-14	-204	-205	-235	S-382-74
		Flare Lb/year BAE					
NOx		898	501	158	2966	3301	12202
SOx		38	21	7	124	138	511
PM10		106	59	19	349	388	1436
CO		4884	2727	860	16137	17960	66393
VOC		832	464	146	2748	3058	11305
		Pilot Lb/year BAE					
NOx		80	79	79	80	16	135
SOx		24	24	24	24	5	41
PM10		65	64	64	65	13	109
CO		341	337	337	341	68	576
VOC		47	46	46	47	9	79

BAE:

The BAE is calculated based on historical emissions and operating records for any 24 month period, selected by the operator, within the previous 10 year period

2019 Flare							
		S-2234-8	-14	-204	-205	-235	S-382-74
-8 LTS2 LP							
-14 LTS1 LP	MMScf	11.15	8.21	2.69	38.67	55.20	175.55
-204 LTS1 HP	HHV	1050	1050	1340	1340	1020	1000
-205 LTS2 HP	MMBtu	11711	8625	3609	51820	56301	175550
-235 CGP	lb/MMBtu	Lb					
-74 HPI							
NOx	0.068	796	586	245	3524	3828	11937
SOx	0.00285	33	25	10	148	160	500
PM10	0.008	94	69	29	415	450	1404
CO	0.37	4333	3191	1335	19173	20831	64954
VOC	0.063	738	543	227	3265	3547	11060

2019 Pilot							
		9090	8853	8853	9090	1701	14606
	MMBtu						
	lb/MMBtu	Lb					
NOx	0.0094	85	83	83	85	16	137
SOx	0.00285	26	25	25	26	5	42
PM10	0.0076	69	67	67	69	13	111
CO	0.04	364	354	354	364	68	584
VOC	0.0055	50	49	49	50	9	80

2018 Flare							
		S-2234-8	-14	-204	-205	-235	S-382-74
	MMScf	13.99	5.82	0.77	26.42	39.98	183.33
	HHV	1050	1050	1340	1340	1020	1000
	MMBtu	14690	6115	1037	35409	40782	183330
	lb/MMBtu	Lb					
NOx	0.06800	999	416	70	2408	2773	12466
SOx	0.00285	42	17	3	101	116	522
PM10	0.00800	118	49	8	283	326	1467
CO	0.37000	5435	2263	384	13101	15089	67832
VOC	0.06300	925	385	65	2231	2569	11550

2018 Pilot							
		7967	7996	7996	7967	1705	14207
	MMBtu						
	lb/MMBtu	Lb					
NOx	0.00940	75	75	75	75	16	134
SOx	0.00285	23	23	23	23	5	40
PM10	0.0076	61	61	61	61	13	108
CO	0.04000	319	320	320	319	68	568
VOC	0.00550	44	44	44	44	9	78

BAE		S-2234-8	-14	-204	-205	-235	S-382-74
		Flare Lb/year BAE					
NOx		898	501	158	2966	3301	12202
SOx		38	21	7	124	138	511
PM10		106	59	19	349	388	1436
CO		4884	2727	860	16137	17960	66393
VOC		832	464	146	2748	3058	11305
		Pilot Lb/year BAE					
NOx		80	79	79	80	16	135
SOx		24	24	24	24	5	41
PM10		65	64	64	65	13	109
CO		341	337	337	341	68	576
VOC		47	46	46	47	9	79

SLC BAE		S-2234 Flare SLC					S-382-74
		Flare Lb/year BAE					
NOx		7823					12202
SOx		328					511
PM10		920					1436
CO		42568					66393
VOC		7248					11305
		Pilot Lb/year BAE					
NOx		335					135
SOx		101					41
PM10		271					109
CO		1424					576
VOC		196					79

ATTACHMENT V BACT Analysis

Top Down BACT Analysis for NO_x, CO and VOC emissions:

Low NO_x flare or vapor destruction device capable of combusting steady state flows of gas with NO_x emissions of 15-25 ppmv @ 3% O₂ and an acceptable VOC destruction efficiency (99%+).

Smokeless combustion with visible emissions less than 5% opacity, except for a period or periods aggregating three minutes or less in any one hour.

Step 2 - Eliminate Technologically Infeasible Options

According to the District memorandum "Rule 4311 Flare Minimization and FMP Findings," which reviewed the operational characteristics of several flares in the SJVAPCD and technologies for NO_x reduction, low NO_x flares have been demonstrated in practice to be feasible if the flow rate to the flare is constant. The proposed flares will combust gas with a non-constant, erratic flow rate. Therefore, a low NO_x flare is not technologically feasible.

c. Step 3 - Rank remaining options by control effectiveness

Smokeless combustion with visible emissions less than 5% opacity, except for a period or periods aggregating three minutes or less in any one hour.

d. Step 4 - Cost effectiveness analysis

Because the applicant is proposing the one listed control technology listed Step 3 above, a cost effectiveness analysis is not required.

e. Step 5 - Select BACT

The flares operate smokelessly limited to visible emissions less than 5% opacity except for a period or periods aggregating three minutes or less in any one hour.

Top Down BACT Analysis for SO_x Emissions

Step 1 - Identify all control technologies

Combustion of gas containing no more than 1 gr S/100 scf.

Step 2 - Eliminate Technologically Infeasible Options

None of the above listed technologies are technologically infeasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

Combustion of gas containing no more than 1 gr S/100 scf.

Step 4 - Cost Effectiveness Analysis

The applicant has proposed to the only alternative listed above; therefore a cost effective analysis is not required.

ATTACHMENT VI Surplus ERC Analysis

S-4747-1

Facility Name: California Resources Elk Hills LLC	Date: April 28, 2021
Mailing Address: 900 Old River Rd Bakersfield, CA 93311	Engineer: Richard Edgehill
	Lead Engineer: Leonard Scandura
Contact Person: Juan Campos	
Telephone: (661) 529-4370	
ERC Certificate(s) #: S-4747-1	
Project #: S-382, 1211860	

I. Proposal

California Resources Elk Hills LLC has requested the District perform an analysis of the current surplus value of the following Emission Reduction Credit (ERC) certificate(s)

Proposed ERC Certificate(s)	
Certificate #	Criteria Pollutant
S-4747-1	VOC

This analysis establishes the surplus value of the ERC certificate(s) as of the date of this analysis. The current face value and surplus value of the ERC certificate(s) evaluated in this analysis is summarized in the following table(s):

Criteria Pollutant: VOC

ERC Certificate S-4747-1				
Pollutant	1 st Qtr. (lb/qtr)	2 nd Qtr. (lb/qtr)	3 rd Qtr. (lb/qtr)	4 th Qtr. (lb/qtr)
Current Value	0	2,050	6,327	0
Surplus Value	0	1,238	3,822	0

II. Individual ERC Certificate Analysis

ERC Certificate S-4747-1

A. ERC Background

Criteria Pollutant: VOC

ERC Certificate S-4747-1 is a certificate that was split out from parent ERC Certificate S-219-1. Original ERC Certificate S-219-1 was issued to California Resources Elk Hills LLC on March 25, 1982 under project S-920066. The ERCs were generated from adding vapor recovery to forty seven 500 barrel crude oil storage tanks, twelve 1,000 barrel crude oil storage tanks, and five 2,000 barrel surge tanks. The following table summarizes the values of the original parent certificate and the current value of the subject certificate proposed to be utilized as a part of the current District analysis:

ERC Certificate S-4747-1				
Pollutant	1 st Qtr. (lb/qtr)	2 nd Qtr. (lb/qtr)	3 rd Qtr. (lb/qtr)	4 th Qtr. (lb/qtr)
Original Value of Parent Certificate S-219-1	41,361	97,399	115,895	49,704
Current Value of ERC Certificate S-4747-1	0	2,050	6,327	0

B. Applicable Rules and Regulations at Time of Original Banking Project

Based on the application review for the original ERC banking project, the following rules and regulations were evaluated to determine the surplus value of actual emission reductions of VOCs generated by the reduction project.

1. District Rules

Rule 2301 - Emission Reduction Credit Banking (12/17/92)

The application review for the original ERC banking project demonstrated that the ERC credit complied with District Rule 2301 requirements at the time it was issued.

Rule 411 Organic Liquid Storage (Kern County APCD)

The application review for the original ERC banking project demonstrated that the crude oil storage tanks were in compliance with the Rules listed above at the time of the application. Therefore, the original VOC emission reductions were surplus of all applicable District Rule requirements.

2. Federal Rules and Regulations

There were no applicable federal rules or regulations identified that applied at the time of this original ERC banking action; therefore, no further discussion is required.

C. New or Modified Rule and Regulations Applicable to the Original Banking Project

All District and federal rules and regulations that have been adopted or amended since the date the original banking project was finalized will be evaluated below:

1. District Rules:

Rule 4623 Storage of Organic Liquids (5/19/05)

The requirements of Rule 4623 would have been applicable to the tanks modified with vapor control in the original ERC banking project. Rule 4623 was last amended by the District on May 19, 2005 and added to the District's SIP on September 13, 2005.

The ERC banking project calculated emissions for the tanks in two parts corresponding to Rule 411 Exempt and Nonexempt Tanks. The HAE and AER calculations for project 920066 are shown below.

From 920066 ERC Banking Project

D. Actual Emissions Reductions:

Actual emissions reductions due to installation of a control device are calculated as:

$$AER = HAE \times CE$$

where $CE^1 = 0.99 - 0.75 = 0.24$ (Rule 411 exempt tanks)

where $CE^2 = 0.99 - 0.95 = 0.04$ (Rule 411 non-exempt tanks)

	<u>Rule 411 Exempt Tanks</u>				<u>Rule 411 Non-Exempt Tanks</u>			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
	(lb/q)				(lbs/q)			
HAE	552317	755906	824319	589517	610151	821695	905690	659758
x CE^1	132556	181417	197837	141484	*	*	*	*
x CE^2	*	*	*	*	24406	32868	36228	26390

Part 1: Twelve 1,000 barrel and five 2,000 barrel old Rule 411 non-exempt tanks were taken from 95% control to 99% control of 9.3 psia TVP oil. The historical actual emissions (uncontrolled emissions reductions contributing to ERCs) from these tanks, as calculated below, were 2,997,294 lb/yr.

<p>Rule 411 nonexempt tanks, HAE discounted by 95 to 99% VC eff</p> <p>$610,151 + 821,695 + 905,690 + 659,758 = \underline{2,997,294}$ (HAE)</p> <p>$24,406 + 32,868 + 36,228 + 26,390 = 119,892$ (AER, $0.04 \times 2,997,294$)</p>

Rule 4623 Table 1 requires tanks of this size and TVP to at least implement

a floating roof tank (control of 95%). Therefore, no further discounting is necessary.

Part 2: Forty seven 500 barrel old Rule 411 exempt fixed roof tanks were taken from 75% vapor control to 99% vapor control of 9.3 psia TVP oil. The historical actual emissions were 2,722,059 lb/yr (uncontrolled).

Table 1 requires tanks of this size and TVP to at least implement a floating roof tank (control of 95%). Therefore, discounting is necessary. The additional discounting for Rule 4623 is calculated in Section D of this analysis.

Part 2 (Rule 411 exempt tanks, HAE discounted by 0.24, 75% to 99% VC eff $552,317 + 755,906 + 824,319 + 589,517 = \underline{2,722,059}$ (HAE) $132,556 + 181,417 + 197,837 + 141,484 = 653,294$ (AER, $0.24 \times 2,722,059$))

2. Federal Rules and Regulations:

40 CFR Part 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After July 23, 1984

Rule 4623 has broader applicability and in certain aspects establishes more effective standards than the NSPS contained in 40 CFR 60 Subparts Kb, for petroleum liquid storage vessels. Therefore, the emission reductions continue to be surplus of this subpart.

40 CFR Part 63 Subpart HH National Emission Standards for Hazardous Air Pollutants: Oil and Natural Gas Production Facilities

This subpart applies to Oil and Natural Gas Production equipment located at a major source of Hazardous Air Pollutants (HAP) emissions. Rule 4623 establishes VOC capture and control efficiency requirements in harmony with MACT standards established pursuant to 40 CFR Part 63 Subpart HH for oil and gas storage tanks.

Therefore, the emission reductions continue to be surplus of this subpart.

D. Surplus at Time of Use Adjustments to ERC Quantities

As demonstrated in the section above, rules and regulations applicable to permit unit(s) in the original banking project have been adopted or amended since the date the original banking project was finalized. The emissions limits from these new/modified rules and regulations will be compared to the pre and post-project emission limits of each permit unit included in the original banking project to determine any discounting of the original surplus value of emission reductions due to the new/modified rule or regulation.

The amount of ERCs issued from each permit unit in the original banking project, the

percentage of that amount which was discounted due to a new/modified rule or regulation, and the current surplus value of the amount of ERCs from each permit unit is calculated in the table(s) below:

Note that because control efficiency is what is required by the rules, discounting is based on emission factors. Therefore, $EF = (1-CE)$

Surplus Value Calculations for Permit Unit S-4747-1 Tanks		
(A) Emission Reductions Contributing to ERC	2722059	lb/year
Pre-Project (EF1)	0.25	% Emitted
Post-Project (EF2)	0.01	% Emitted
Most Stringent Applicable Rule (EF _{Rule}): Rule 4320, Section 5.2, Category B (7 ppm @ 3% O2)	0.05	% Emitted
(B) Percent Discount*	83.3%	--
Surplus Reductions Contributing to ERC (A) x [1- (B)]	454584	lb/year

*If $EF_{Rule} \leq EF2$, Percent Discount = 100%, or
If $EF_{Rule} > EF1$, Percent Discount = 0%, otherwise,
 $(EF1 - EF_{Rule}) \times 100 \div (EF1 - EF2)$

$$= [(0.25 - 0.05)/(0.25 - 0.01)] \times 100$$

$$= 83.3\%$$

$$2,722,059 (1 - 0.833) = \underline{454,584 \text{ lb/yr}}$$

Total Discount Percentage for ERC Certificate

The total percentage ERC S-4747-1 is discounted by due to new and modified rules and regulations is summarized in the following table:

Total Percent Discount Summary for ERC Certificate S-4747-1			
Permit(s)	Amount of ERCs Issued (lb/year)	Percent Discount	Surplus Value (lb/year)
Part 1	2997294	0%	2,997,294
Part 2	2722059	83.3%	454584
Total	5719353	--	3,451,878
Total Percent Discount*		39.6%	

* Total Percent Discount = $[(\text{Total Amount of ERCs Issued} - \text{Total Surplus Value}) \div \text{Total Amount of ERCs Issued}] \times 100$

E. Surplus Value of ERC Certificate

The emissions continue to be Surplus of all District and Federal Rules and Regulations; therefore, no adjustments to the ERC values are necessary.

ERC Certificate S-4747-1 – Criteria Pollutant VOC					
		1 st Qtr. (lb/qtr)	2 nd Qtr. (lb/qtr)	3 rd Qtr. (lb/qtr)	4 th Qtr. (lb/qtr)
(A)	Current ERC Quantity	0	2,050	6,327	0
(B)	Percent Discount	39.6%	39.6%	39.6%	39.6%
(C) = (A) x [1 – (B)]	Surplus Value	0	1,238	3,822	0

San Joaquin Valley Air Pollution Control District Surplus ERC Analysis

S-5003-1

Facility Name: California Resources Elk Hills LLC **Date:** April 28, 2021
Mailing Address: 900 Old River Rd **Engineer:** Richard Edgehill
Bakersfield, CA 93311 **Lead Engineer:** Leonard Scandura
Contact Person: Juan Campos
Telephone: (661) 529-4370
ERC Certificate(s) #: S-5003-1
Project #: S-382, 1211861

III. Proposal

California Resources Elk Hills LLC has requested the District perform an analysis of the current surplus value of the following Emission Reduction Credit (ERC) certificate(s)

Proposed ERC Certificate(s)	
Certificate #	Criteria Pollutant
S-5003-1	VOC

This analysis establishes the surplus value of the ERC certificate(s) as of the date of this analysis. The current face value and surplus value of the ERC certificate(s) evaluated in this analysis is summarized in the following table(s):

Criteria Pollutant: VOC

IV. Individual ERC Certificate Analysis

ERC Certificate [S-5003-1](#)

F. ERC Background

Criteria Pollutant: VOC

ERC Certificate [S-5003-1](#) is a certificate that was split out from parent ERC Certificate [S-219-1](#). Original ERC Certificate [S-219-1](#) was issued to California Resources Elk Hills LLC on March 25, 1982 under project [S-920066](#). The ERCs were generated from adding vapor recovery to forty seven 500 barrel crude oil storage tanks, twelve 1,000 barrel crude oil storage tanks, and five 2,000 barrel surge tanks. The following table summarizes the values of the original parent certificate and the current value of the subject certificate proposed to be utilized as a part of the current District analysis:

ERC Certificate S-5003-1				
Pollutant	1 st Qtr. (lb/qtr)	2 nd Qtr. (lb/qtr)	3 rd Qtr. (lb/qtr)	4 th Qtr. (lb/qtr)
Original Value of Parent Certificate S-219-1	41,361	97,399	115,895	49,704
Current Value of ERC Certificate S-5003-1	1,499	1,907	2,634	1,500

G. Applicable Rules and Regulations at Time of Original Banking Project

Based on the application review for the original ERC banking project, the following rules and regulations were evaluated to determine the surplus value of actual emission reductions of VOCs generated by the reduction project.

3. District Rules

Rule 2301 - Emission Reduction Credit Banking (12/17/92)

The application review for the original ERC banking project demonstrated that the ERC credit complied with District Rule 2301 requirements at the time it was issued.

Rule 411 Organic Liquid Storage (Kern County APCD)

The application review for the original ERC banking project demonstrated that the crude oil storage tanks were in compliance with the Rules listed above at the time of the application. Therefore, the original VOC emission reductions were surplus of all applicable District Rule requirements.

4. Federal Rules and Regulations

There were no applicable federal rules or regulations identified that applied at the time of this original ERC banking action; therefore, no further discussion is required.

H. New or Modified Rule and Regulations Applicable to the Original Banking Project

All District and federal rules and regulations that have been adopted or amended since the date the original banking project was finalized will be evaluated below:

3. District Rules:

Rule 4623 Storage of Organic Liquids (5/19/05)

The requirements of Rule 4623 would have been applicable to the tanks modified with vapor control in the original ERC banking project. Rule 4623 was last amended by the District on May 19, 2005 and added to the District's SIP on September 13, 2005.

The ERC banking project calculated emissions for the tanks in two parts

corresponding to Rule 411 Exempt and Nonexempt Tanks. The HAE and AER calculations for project 920066 are shown below.

From 920066 ERC Banking Project

D. Actual Emissions Reductions:

Actual emissions reductions due to installation of a control device are calculated as:

$$\text{AER} = \text{HAE} \times \text{CE}$$

where $\text{CE}^1 = 0.99 - 0.75 = 0.24$ (Rule 411 exempt tanks)

where $\text{CE}^2 = 0.99 - 0.95 = 0.04$ (Rule 411 non-exempt tanks)

	<u>Rule 411 Exempt Tanks</u>				<u>Rule 411 Non-Exempt Tanks</u>			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
	(lb/q)				(lbs/q)			
HAE	552317	755906	824319	589517	610151	821695	905690	659758
x CE^1	132556	181417	197837	141484	*	*	*	*
x CE^2	*	*	*	*	24406	32868	36228	26390

Part 1: Twelve 1,000 barrel and five 2,000 barrel old Rule 411 non-exempt tanks were taken from 95% control to 99% control of 9.3 psia TVP oil. The historical actual emissions (uncontrolled emissions reductions contributing to ERCs) from these tanks, as calculated below, were 2,997,294 lb/yr.

Rule 411 nonexempt tanks, HAE discounted by 95 to 99% VC eff
$610,151 + 821,695 + 905,690 + 659,758 = \underline{2,997,294}$ (HAE)
$24,406 + 32,868 + 36,228 + 26,390 = 119,892$ (AER, $0.04 \times 2,997,294$)

Rule 4623 Table 1 requires tanks of this size and TVP to at least implement a floating roof tank (control of 95%). Therefore, no further discounting is necessary.

Part 2: Forty seven 500 barrel old Rule 411 exempt fixed roof tanks were taken from 75% vapor control to 99% vapor control of 9.3 psia TVP oil. The historical actual emissions were 2,722,059 lb/yr (uncontrolled).

Table 1 requires tanks of this size and TVP to at least implement a floating roof tank (control of 95%). Therefore, discounting is necessary. The additional discounting for Rule 4623 is calculated in Section D of this analysis.

Part 2 (Rule 411 exempt tanks, HAE discounted by 0.24, 75% to 99% VC eff

$552,317 + 755,906 + 824,319 + 589,517 = \underline{2,722,059}$ (HAE)

$132,556 + 181,417 + 197,837 + 141,484 = 653,294$ (AER, $0.24 \times 2,722,059$)

4. Federal Rules and Regulations:

40 CFR Part 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage³ Vessels) for which Construction, Reconstruction, or Modification Commenced After July 23, 1984

Rule 4623 has broader applicability and in certain aspects establishes more effective standards than the NSPS contained in 40 CFR 60 Subparts Kb, for petroleum liquid storage vessels. Therefore, the emission reductions continue to be surplus of this subpart.

40 CFR Part 63 Subpart HH National Emission Standards for Hazardous Air Pollutants: Oil and Natural Gas Production Facilities

This subpart applies to Oil and Natural Gas Production equipment located at a major source of Hazardous Air Pollutants (HAP) emissions. Rule 4623 establishes VOC capture and control efficiency requirements in harmony with MACT standards established pursuant to 40 CFR Part 63 Subpart HH for oil and gas storage tanks.

Therefore, the emission reductions continue to be surplus of this subpart.

I. Surplus at Time of Use Adjustments to ERC Quantities

As demonstrated in the section above, rules and regulations applicable to permit unit(s) in the original banking project have been adopted or amended since the date the original banking project was finalized. The emissions limits from these new/modified rules and regulations will be compared to the pre and post-project emission limits of each permit unit included in the original banking project to determine any discounting of the original surplus value of emission reductions due to the new/modified rule or regulation.

The amount of ERCs issued from each permit unit in the original banking project, the percentage of that amount which was discounted due to a new/modified rule or regulation, and the current surplus value of the amount of ERCs from each permit unit is calculated in the table(s) below:

Note that because control efficiency is what is required by the rules, discounting is based on emission factors. Therefore, $EF = (1-CE)$

Surplus Value Calculations for Permit Unit S-5003-1 Tanks		
(A) Emission Reductions Contributing to ERC	2722059	lb/year
Pre-Project (EF1)	0.25	% Emitted
Post-Project (EF2)	0.01	% Emitted
Most Stringent Applicable Rule (EF _{Rule}): Rule 4320, Section 5.2, Category B (7 ppm @ 3% O2)	0.05	% Emitted
(B) Percent Discount*	83.3%	--
Surplus Reductions Contributing to ERC (A) x [1- (B)]	454584	lb/year

*If $EF_{Rule} \leq EF2$, Percent Discount = 100%, or
If $EF_{Rule} > EF1$, Percent Discount = 0%, otherwise,
 $(EF1 - EF_{Rule}) \times 100 \div (EF1 - EF2)$

$$= [(0.25 - 0.05) / (0.25 - 0.01)] \times 100$$

$$= 83.3\%$$

$$2,722,059 (1 - 0.833) = \underline{454,584 \text{ lb/yr}}$$

Total Discount Percentage for ERC Certificate

The total percentage ERC S-5003-1 is discounted by due to new and modified rules and regulations is summarized in the following table:

Total Percent Discount Summary for ERC Certificate S-5003-1			
Permit(s)	Amount of ERCs Issued (lb/year)	Percent Discount	Surplus Value (lb/year)
Part 1	2997294	0%	2,997,294
Part 2	2722059	83.3%	454584
Total	5719353	--	3,451,878
Total Percent Discount*		39.6%	

* Total Percent Discount = $[(\text{Total Amount of ERCs Issued} - \text{Total Surplus Value}) \div \text{Total Amount of ERCs Issued}] \times 100$

J. Surplus Value of ERC Certificate

The emissions continue to be Surplus of all District and Federal Rules and Regulations; therefore, no adjustments to the ERC values are necessary.

ERC Certificate S-5003-1 – Criteria Pollutant VOC					
		1 st Qtr. (lb/qtr)	2 nd Qtr. (lb/qtr)	3 rd Qtr. (lb/qtr)	4 th Qtr. (lb/qtr)
(A)	Current ERC Quantity	1,499	1,907	2,634	1,500
(B)	Percent Discount	39.6%	39.6%	39.6%	39.6%
(C) = (A) x [1 – (B)]	Surplus Value	905	1,152	1,591	906

Attachment VII ERC Withdrawal Calculations

ERC S-4747-1 discount %	39.6%				
ERC S-5003-1 discount %	39.6%				
	Q1	Q2	Q3	Q4	annual
ERC S-4747-1	-	2,050	6,327	-	8,377
ERC S-5003-1	1,499	1,907	2,634	1,500	7,540
Total	1,499	3,957	8,961	1,500	15,917
surplus offsets quantity required	1,825	1,825	1,825	1,825	7,300
face value offsets quantity required	3,022	3,022	3,022	3,022	12,086
ERC S-4747-1 move portion of Q3 (3022 lb) to Q1 and move portion of Q3 (283 lb) to Q2	3,022	2,333	3,022	-	8,377
ERC S-4747-1 to be entirely withdrawn	-	2,050	6,327	-	8,377
remaining offsets required	(0)	689	(0)	3,022	3,709
ERC S-5003-1 move portion of Q3 (1522 lb) to Q4	1,499	1,907	1,112	3,022	7,540
Portion of ERC S-5003-1 to be withdrawn	(0)	689	1,522	1,500	3,710
Portion of ERC S-5003-1 remaining to be reissued as ERC S-YYYY-1	1,499	1,218	1,112	-	3,830

*District Rule 2201 Section 4.13.8 AER for NOx and VOC that occurred from April through November may be used to offset increases in NOx and VOC during any period of the year.

Attachment VIII Certification of Compliance



July 16, 2020

San Joaquin Valley Air Pollution Control District
Attn: Leonard Scandura
Permit Services Manager
34969 Flyover Ct
Bakersfield, CA 93308

Subject: California Resources Corporation - Certification of Compliance

Dear Mr. Scandura:

Rule 2201 section 4.15.2 requires that an owner or operator proposing a federal major modification certify that all major stationary sources owned or operated by such person (or by any entity controlling, controlled by, or under common control with such person) in California are either in compliance or on a schedule for compliance with all applicable emission limitations and standards. This letter certifies compliance for California Resources Corporation (CRC) and its affiliates.

CRC has Notices of Violation outstanding issued by your office. However, all issues associated with the Notices of Violation have been addressed. Affiliated companies of CRC own interests in or own and/or operate other major stationary sources in California. These major stationary sources are currently in compliance with applicable compliance schedules (if any) and substantially comply with all applicable laws and regulations.

This certification is made on information and belief and is based upon a review of CRC and affiliated company major stationary sources in the State of California by employees of CRC and its affiliates who have responsibility for compliance with environmental requirements.

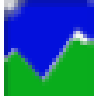
This certification is as of the date of its execution.

Sincerely,

A handwritten signature in black ink, appearing to read "Urban Paul".

Urban Paul
VP, HSE & Sustainability

cc: Raymond Rodriguez, Environmental Director



San Joaquin Valley
Unified Air Pollution Control District



TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION
- MINOR PERMIT MODIFICATION
- ADMINISTRATIVE AMENDMENT

COMPANY NAME: California Resources Corporation		FACILITY ID: S-2234
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility		
2. Owner's Name: California Resources Corporation		
3. Agent to the Owner:		

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial applicable circles for confirmation):

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true, accurate, and complete.
- For minor modifications, this application meets the criteria for use of minor permit modification procedures pursuant to District Rule 2520.

I declare, under penalty of perjury under the laws of the state of California, that the foregoing is correct and true:

Raymond Rodriguez
Signature of Responsible Official

7/14/20
Date

Raymond Rodriguez

Name of Responsible Official (please print)

Director, Environmental

Title of Responsible Official (please print)

Re: 3SR OP-FLARE

ATTACHMENT IX
HRA

San Joaquin Valley Air Pollution Control District Risk Management Review and Ambient Air Quality Analysis

To: Richard U Edgehill – Permit Services
 From: Kyle J Melching – Technical Services
 Date: March 09, 2021
 Facility Name: CALIFORNIA RESOURCES ELK HILLS LLC
 Location: GAS PLANT, SECTION SE-35, T-30S, R-23E, TUPMAN
 Application #(s): S-2234-8-6, -14-6, -204-5, -205-5, -235-5, -250-0
 Project #: S-1203245

1. Summary

1.1 RMR

Units	Prioritization Score	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk	T-BACT Required	Special Permit Requirements
250	0.18	0.00	0.00	0.00E+00	No	Yes
Project Totals	0.18	0.01	0.00	3.61E-08		
Facility Totals	>1	0.28	0.02	3.05E-08		

Notes:

- S2234 and S9168 are considered the same stationary source. Risk scores from the two facilities have been combined

To ensure that human health risks will not exceed District allowable levels; the following shall be included as requirements for:

Unit # 8-6, 14-6, 204-5, 235-5, and 250-0

- Combined daily vent gas heat input from permit units S-2234-8, -14, -204, -205, -235, and -250 shall not exceed 41,238 MMBtu.
- Combined annual vent gas heat input from permit units S-2234-8, -14, -204, -205, -235, and -250 shall not exceed 371,025 MMBtu.

2. Project Description

Technical Services received a request on March 08, 2021 to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the following:

- Unit -8-6: MODIFICATION OF 104.6 MMBTU/HR LOW PRESSURE FLARE SERVING LTS #2 PLANT: INCREASE DAILY AND ANNUAL VENT GAS AND PILOT GAS SLC LIMITS AND ADD S-382-74 TO SLC
- Unit -14-6: MODIFICATION OF 05.6 MMBTU/HR LOW PRESSURE FLARE SERVING LTS #1 PLANT: INCREASE DAILY AND ANNUAL VENT GAS AND PILOT GAS SLC LIMITS AND ADD S-382-74 TO SLC

- Unit -204-5: MODIFICATION OF 7,300 MMBTU/HR HIGH PRESSURE FLARE SERVING LTS #1 PLANT: INCREASE DAILY AND ANNUAL VENT GAS AND PILOT GAS SLC LIMITS AND ADD S-382-74 TO SLC
- Unit -205-5: MODIFICATION OF 7,300 MMBTU/HR HIGH PRESSURE FLARE SERVING LTS #2 PLANT: INCREASE DAILY AND ANNUAL VENT GAS AND PILOT GAS SLC LIMITS AND ADD S-382-74 TO SLC
- Unit -235-5: MODIFICATION OF 250 MMSCF/DAY EMERGENCY USE SMOKELESS FLARE WITH FLARE HEADER AND FLARE KNOCKOUT DRUM: INCREASE DAILY AND ANNUAL VENT GAS AND PILOT GAS SLC LIMITS AND ADD S-382-74 TO SLC
- Unit -250-0: 535.5 MMBTU/HR AIR ASSISTED FLARE INCLUDING KNOCKOUT DRUM CAPABLE OF RECEIVING VENT GAS FROM HPI AND 35R GAS PLANT, SARASOTA AUTOMATION MODEL FM771 CONTINUOUS RECORDING FLOW METER, INLET GAS NOZZLE, FLARE STACK RISER, AND FLARE TIP (FLARE ALSO PERMITTED AS S-382-74)

3. RMR Report

3.1 Analysis

The District performed an analysis pursuant to the District's Risk Management Policy for Permitting New and Modified Sources (APR 1905, May 28, 2015) to determine the possible cancer and non-cancer health impact to the nearest resident or worksite. This policy requires that an assessment be performed on a unit by unit basis, project basis, and on a facility-wide basis. If a preliminary prioritization analysis demonstrates that:

- A unit's prioritization score is less than the District's significance threshold and;
- The project's prioritization score is less than the District's significance threshold and;
- The facility's total prioritization score is less than the District's significance threshold

Then, generally no further analysis is required.

The District's significant prioritization score threshold is defined as being equal to or greater than 1.0. If a preliminary analysis demonstrates that either the unit(s) or the project's or the facility's total prioritization score is greater than the District threshold, a screening or a refined assessment is required

If a refined assessment is greater than one in a million but less than 20 in one million for carcinogenic impacts (Cancer Risk) and less than 1.0 for the Acute and Chronic hazard indices (Non-Carcinogenic) on a unit by unit basis, project basis and on a facility-wide basis the proposed application is considered less than significant. For unit's that exceed a cancer risk of 1 in one million, Toxic Best Available Control Technology (TBACT) must be implemented.

Toxic emissions for this project were calculated using the following methods:

- Toxic emissions for this proposed unit were calculated using 2001 Ventura County's Air Pollution Control District's emission factors for Natural Gas Fired external combustion and from a refinery gas composition analysis from the 2005 report FINAL REPORT Test of TDA's Direct Oxidation Process for Sulfur Recovery

These emissions were input into the San Joaquin Valley APCD's Hazard Assessment and Reporting Program (SHARP). In accordance with the District's Risk Management Policy, risks from the proposed unit's toxic emissions were prioritized using the procedure in the 2016 CAPCOA Facility Prioritization Guidelines. The prioritization score for this proposed facility was greater than 1.0 (see RMR Summary Table). Therefore, a refined health risk assessment was required.

The AERMOD model was used, with the parameters outlined below and meteorological data for 2004-2008 from Fellows (rural dispersion coefficient selected) to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the SHARP Program, which then used the Air Dispersion Modeling and Risk Tool (ADMRT) of the Hot Spots Analysis and Reporting Program Version 2 (HARP 2) to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Source Process Rates					
Unit ID	Process ID	Process Material	Process Units	Hourly Process Rate	Annual Process Rate
250	1	NG/Waste Gas	MMscf	0.43	203.4

Point Source Parameters						
Unit ID	Unit Description	Release Height (m)	Temp. (°K)	Exit Velocity (m/sec)	Stack Diameter (m)	Vertical/Horizontal/Capped
250	Flare	61.50	644	5.13	4.21	Vertical

4. AAQA Report

The project triggered an Ambient Air Quality Analysis; however, the flare S-2234-250 was previously evaluated under projects S-382, 1150872 and S-2244, 1150871. This RMR/AAQA request simply allows the flare S-2234-250/S-382-74 to receive vent gas from either facility. Since there are no changes in actual emission for any unit, nor changes in stack parameters; no additional analysis is required.

5. Conclusion

5.1 RMR

The cumulative acute and chronic indices for this facility, including this project, are below 1.0; and the cumulative cancer risk for this facility, including this project, is less than 20 in a million. In addition, the cancer risk for each unit in this project is less than 1.0 in a million. In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).

To ensure that human health risks will not exceed District allowable levels; the permit requirements listed on page 1 of this report must be included for this proposed unit.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

5.2 AAQA

The emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS.

6. Attachments

- A. Modeling request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Prioritization score w/ toxic emissions summary
- D. Facility Summary
- E. AAQA results

ATTACHMENT X
Draft ATCs

*San Joaquin Valley
Air Pollution Control District*

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-2234-8-6

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES ELK HILLS LLC
MAILING ADDRESS: 900 OLD RIVER RD
BAKERSFIELD, CA 93311

LOCATION: GAS PLANT
SECTION SE-35, T-30S, R-23E
TUPMAN, CA

SECTION: 35 **TOWNSHIP:** 30S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 104.6 MMBTU/HR LOW PRESSURE FLARE SERVING LTS #2 PLANT: INCREASE DAILY AND ANNUAL VENT GAS AND PILOT GAS SLC LIMITS AND ADD S-2234-250 TO SLC

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Prior to operating equipment under this Authority to Construct, permittee shall surrender surplus VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,825 lb, 2nd quarter - 1,825 lb, 3rd quarter - 1,825 lb, and 4th quarter - 1,825 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 8/15/19) for the ERC specified below. [District Rule 2201]
4. ERC Certificate Number S-4747-1 and S-5003-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

S-2234-8-6 : May 24 2021 4:36PM -- SCANDURL : Joint Inspection NOT Required

5. ATCs S-2234-8-6, '-14-6, '-204-5, '-205-5, and '-235-5 and 250-0 shall be implemented concurrently [District Rule 2201] Federally Enforceable Through Title V Permit
6. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of vent gas combusted in the flare shall be installed, utilized and maintained [District Rule 2201] Federally Enforceable Through Title V Permit
7. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of pilot gas combusted shall be installed, utilized and maintained [District Rule 2201] Federally Enforceable Through Title V Permit
8. This flare shall be inspected every two weeks while in operation for visible emissions. If visible emissions are observed, corrective action shall be taken. If visible emissions continue, an EPA Method 9 test shall be conducted within 72 hours. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
9. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
10. A flame shall be present at all times in the flare whenever combustible gases are vented through the flare. [District Rule 4311, 5.2] Federally Enforceable Through Title V Permit
11. The flare outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311, 5.3] Federally Enforceable Through Title V Permit
12. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present, shall be installed and operated. [District Rule 4311, 5.4] Federally Enforceable Through Title V Permit
13. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, 5.5] Federally Enforceable Through Title V Permit
14. Vent gas emission rates from this unit shall not exceed any of the following limits: NO_x - 0.068 lb/MMBtu; VOC - 0.063 lb/MMBtu; CO - 0.37 lb/MMBtu; PM₁₀ - 0.008 lb/MMBtu; or SO_x - 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Pilot emission rates from this unit shall not exceed any of the following limits: NO_x - 0.094 lb/MMBtu; VOC - 0.0055 lb/MMBtu; CO - 0.04 lb/MMBtu; PM₁₀ - 0.0076 lb/MMBtu; or SO_x - 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Combined daily vent gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 41,238 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Combined annual vent gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 371,025 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Combined daily vent gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 2,802.2 lb-NO_x; 117.5 lb-SO_x; 329.9 lb-PM₁₀; 15,258.1 lb-CO; 2,642.1 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Combined annual vent gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 25,231 lb-NO_x; 1,057 lb-SO_x; 2,968 lb-PM₁₀; 137,279 lb-CO; 23,375 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Combined daily pilot gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 150 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Combined annual pilot gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 58,000 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Combined daily pilot gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 14.1 lb-NO_x; 0.4 lb-SO_x; 1.1 lb-PM₁₀; 6.0 lb-CO; 0.8 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit

23. Combined annual pilot gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 5,452 lb-NO_x; 165 lb-SO_x; 441 lb-PM₁₀; 2,320 lb-CO; 319 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
24. The operator shall submit an annual report to the APCO within 30 days following the end of each 12 month period. The report shall include the following: 1) The total volumetric flow of vent gas in standard cubic feet for each day; 2) Hydrogen sulfide content, methane content, and hydrocarbon content of vent gas composition; 3) If vent gas composition is monitored by a continuous analyzer or analyzers, average total hydrocarbon content by volume, average methane content by volume, and depending upon the analytical method used, total reduced sulfur content by volume or hydrogen sulfide content by volume of vent gas flared for each hour of the month; 4) If the flow monitor used measures molecular weight, the average molecular weight for each hour of each month; 5) For any pilot and purge gas used, the type of gas used, the volumetric flow for each day and for each month, and the means used to determine the flow; 6) Flare monitoring system downtime periods, including dates and times; 7) For each day and for each month provide calculated sulfur dioxide emissions; and 8) A flow verification report. The flow verification report shall include flow verification testing using approved test methods. [District Rule 4311, 6.2.3] Federally Enforceable Through Title V Permit
25. Operators subject to vent gas composition monitoring requirements shall use the following test methods as appropriate, or by an alternative method approved by the APCO, ARB and EPA: Total hydrocarbon content and methane content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, EPA Method 18, or EPA Method 25A or 25B. Hydrogen sulfide content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, ASTM Method D 4084-94, or ASTM Method D 4810-88. [District Rule 4311, 6.3.4] Federally Enforceable Through Title V Permit
26. If vent gas composition is monitored with a continuous analyzer employing gas chromatography the minimum sampling frequency shall be one sample every 30 minutes. If vent gas composition is monitored using continuous analyzers not employing gas chromatography, the total reduced sulfur content of vent gas shall be determined by using EPA Method D4468-85. [District Rule 4311, 6.3.4] Federally Enforceable Through Title V Permit
27. Vent gas flow shall be determined using one or more of the following methods, or by any alternative method approved by the APCO, ARB, and EPA: 1) EPA Methods 1 and 2; 2) A verification method recommended by the manufacturer of the flow monitoring equipment installed; 3) Tracer gas dilution or velocity; or 4) Other flow monitors or process monitors that can provide comparison data on a vent stream that is being directed past the ultrasonic flow meter. [District Rule 4311, 6.3.5] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

28. The operator shall monitor vent gas composition using one of the following five methods as appropriate. If flares share a common header, a sample from the header will be deemed representative of vent gas composition for all flares served by the header. The operator shall provide the APCO with access to the monitoring system to collect vent gas samples to verify the analysis. 1) Sampling that meets the following requirements: (a) If the flow rate of vent gas flared in any consecutive 15-minute period continuously exceeds 330 standard cubic feet per minute (SCFM), a sample shall be taken within 15 minutes. The sampling frequency thereafter shall be one sample every three hours and shall continue until the flow rate of vent gas flared in any consecutive 15-minute period is continuously 330 SCFM or less. In no case shall a sample be required more frequently than once every 3 hours. (b) Samples shall be analyzed using approved test methods; or 2) Integrated sampling that meets the following requirements: (a) If the flow rate of vent gas flared in any consecutive 15 minute period continuously exceeds 330 SCFM, integrated sampling shall begin within 15 minutes and shall continue until the flow rate of vent gas flared in any consecutive 15 minute period is continuously 330 SCFM or less. (b) Integrated sampling shall consist of a minimum of one aliquot for each 15-minute period until the sample container is full. If sampling is still required pursuant to part (a), a new sample container shall be placed in service within one hour after the previous sample was filled. A sample container shall not be used for a sampling period that exceeds 24 hours. (c) Samples shall be analyzed using approved test methods; or 3) Continuous analyzers that meet the following requirements: (a) The analyzers shall continuously monitor for total hydrocarbon methane, and depending upon the analytical method used pursuant to Section 6.3.4, hydrogen sulfide or total reduced sulfur. (b) The hydrocarbon analyzer shall have a full-scale range of 100% total hydrocarbon. (c) Each analyzer shall be maintained to be accurate to within 20% when compared to any field accuracy tests or to within 5% of full scale; or 4). Continuous analyzers employing gas chromatography that meet the following requirements: (a) The gas chromatography system shall monitor for total hydrocarbon, methane, and hydrogen sulfide. (b) The gas chromatography system shall be maintained to be accurate within 5% of full scale; or 5) Monitor sulfur content using a colorimetric tube system on a daily basis, and monitor vent gas hydrocarbon on a weekly basis by collecting samples and having them tested using approved test methods. [District Rule 4311, 6.6] Federally Enforceable Through Title V Permit
29. Permittee shall monitor the volumetric flows of purge and pilot gases with flow measuring devices or other parameters as specified on the Permit to Operate so that volumetric flows of pilot and purge gas may be calculated based on pilot design and the parameters monitored. [District Rule 4311, 6.7] Federally Enforceable Through Title V Permit
30. The operator of a flare with a water seal shall monitor and record the water level and pressure of the water seal daily or as specified on the Permit to Operate. [District Rule 4311, 6.8] Federally Enforceable Through Title V Permit
31. Periods of flare monitoring system inoperation greater than 24 continuous hours shall be reported by the following working day, followed by notification of resumption of monitoring. Periods of inoperation of monitoring equipment shall not exceed 14 days per any 18-consecutive-month period. Periods of flare monitoring system inoperation do not include the periods when the system feeding the flare is not operating. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
32. During periods of inoperation of continuous analyzers or auto-samplers, operators responsible for monitoring shall take one sample within 30 minutes of the commencement of flaring, from the flare header or from an alternate location at which samples are representative of vent gas composition and have samples analyzed using approved test methods. During periods of inoperation of flow monitors, flow shall be calculated using good engineering practices. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
33. Permittee shall maintain and calibrate all required monitors and recording devices in accordance with the applicable manufacturer's specifications. In order to claim that a manufacturer's specification is not applicable, the person responsible for emissions must have, and follow, a written maintenance policy that was developed for the device in question. The written policy must explain and justify the difference between the written procedure and the manufacturer's procedure. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
34. All in-line continuous analyzer and flow monitoring data must be continuously recorded by an electronic data acquisition system capable of one-minute averages. Flow monitoring data shall be recorded as one-minute averages. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
35. Permittee shall keep accurate daily records of flare vent gas and pilot gas volumes and sulfur content of flared gas and such records shall be retained for a period of 5 years and be made readily available for District inspection upon request. [District Rule 2201]

36. Permittee shall maintain a copy of annual reports submitted to the APCO. [District Rule 4311, 6.1.6] Federally Enforceable Through Title V Permit
37. Records of flare maintenance, inspections, and repair shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken, and identification of the individual performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
38. Permittee shall maintain records of all monitoring data collected. [District Rule 4311, 6.1.7] Federally Enforceable Through Title V Permit
39. Compliance with the requirements for this permit unit shall be deemed compliance with District Rules 4201. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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*San Joaquin Valley
Air Pollution Control District*

AUTHORITY TO CONSTRUCT

DRAFT

ISSUANCE DATE: DRAFT

PERMIT NO: S-2234-14-6

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES ELK HILLS LLC

MAILING ADDRESS: 900 OLD RIVER RD
BAKERSFIELD, CA 93311

LOCATION: GAS PLANT
SECTION SE-35, T-30S, R-23E
TUPMAN, CA

SECTION: 35 **TOWNSHIP:** 30S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 05.6 MMBTU/HR LOW PRESSURE FLARE SERVING LTS #1 PLANT: INCREASE DAILY AND ANNUAL VENT GAS AND PILOT GAS SLC LIMITS AND ADD S-382-74 TO SLC

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. ATCs S-2234-8-6, '-14-6, '-204-5, '-205-5, and '-235-5 and 250-0 shall be implemented concurrently [District Rule 2201] Federally Enforceable Through Title V Permit
4. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of vent gas combusted in the flare shall be installed, utilized and maintained [District Rule 2201] Federally Enforceable Through Title V Permit
5. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of pilot gas combusted shall be installed, utilized and maintained [District Rule 2201] Federally Enforceable Through Title V Permit
6. This flare shall be inspected every two weeks while in operation for visible emissions. If visible emissions are observed, corrective action shall be taken. If visible emissions continue, an EPA Method 9 test shall be conducted within 72 hours. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

S-2234-14-6 : May 24 2021 4:36PM -- SCANDURL : Joint Inspection NOT Required

7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
8. A flame shall be present at all times in the flare whenever combustible gases are vented through the flare. [District Rule 4311, 5.2] Federally Enforceable Through Title V Permit
9. The flare outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311, 5.3] Federally Enforceable Through Title V Permit
10. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present, shall be installed and operated. [District Rule 4311, 5.4] Federally Enforceable Through Title V Permit
11. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, 5.5] Federally Enforceable Through Title V Permit
12. Vent gas emission rates from this unit shall not exceed any of the following limits: NO_x - 0.068 lb/MMBtu; VOC - 0.063 lb/MMBtu; CO - 0.37 lb/MMBtu; PM₁₀ - 0.008 lb/MMBtu; or SO_x - 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Pilot emission rates from this unit shall not exceed any of the following limits: NO_x - 0.094 lb/MMBtu; VOC - 0.0055 lb/MMBtu; CO - 0.04 lb/MMBtu; PM₁₀ - 0.0076 lb/MMBtu; or SO_x - 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Combined daily vent gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 41,238 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Combined annual vent gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 371,025 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Combined daily vent gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 2,802.2 lb-NO_x; 117.5 lb-SO_x; 329.9 lb-PM₁₀; 15,258.1 lb-CO; 2,642.1 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Combined annual vent gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 25,231 lb-NO_x; 1,057 lb-SO_x; 2,968 lb-PM₁₀; 137,279 lb-CO; 23,375 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Combined daily pilot gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 150 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Combined annual pilot gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 58,000 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Combined daily pilot gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 14.1 lb-NO_x; 0.4 lb-SO_x; 1.1 lb-PM₁₀; 6.0 lb-CO; 0.8 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Combined annual pilot gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 5,452 lb-NO_x; 165 lb-SO_x; 441 lb-PM₁₀; 2,320 lb-CO; 319 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. The operator shall submit an annual report to the APCO within 30 days following the end of each 12 month period. The report shall include the following: 1) The total volumetric flow of vent gas in standard cubic feet for each day; 2) Hydrogen sulfide content, methane content, and hydrocarbon content of vent gas composition; 3) If vent gas composition is monitored by a continuous analyzer or analyzers, average total hydrocarbon content by volume, average methane content by volume, and depending upon the analytical method used, total reduced sulfur content by volume or hydrogen sulfide content by volume of vent gas flared for each hour of the month; 4) If the flow monitor used measures molecular weight, the average molecular weight for each hour of each month; 5) For any pilot and purge gas used, the type of gas used, the volumetric flow for each day and for each month, and the means used to determine the flow; 6) Flare monitoring system downtime periods, including dates and times; 7) For each day and for each month provide calculated sulfur dioxide emissions; and 8) A flow verification report. The flow verification report shall include flow verification testing using approved test methods. [District Rule 4311, 6.2.3] Federally Enforceable Through Title V Permit
23. Operators subject to vent gas composition monitoring requirements shall use the following test methods as appropriate, or by an alternative method approved by the APCO, ARB and EPA: Total hydrocarbon content and methane content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, EPA Method 18, or EPA Method 25A or 25B. Hydrogen sulfide content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, ASTM Method D 4084-94, or ASTM Method D 4810-88. [District Rule 4311, 6.3.4] Federally Enforceable Through Title V Permit
24. If vent gas composition is monitored with a continuous analyzer employing gas chromatography the minimum sampling frequency shall be one sample every 30 minutes. If vent gas composition is monitored using continuous analyzers not employing gas chromatography, the total reduced sulfur content of vent gas shall be determined by using EPA Method D4468-85. [District Rule 4311, 6.3.4] Federally Enforceable Through Title V Permit
25. Vent gas flow shall be determined using one or more of the following methods, or by any alternative method approved by the APCO, ARB, and EPA: 1) EPA Methods 1 and 2; 2) A verification method recommended by the manufacturer of the flow monitoring equipment installed; 3) Tracer gas dilution or velocity; or 4) Other flow monitors or process monitors that can provide comparison data on a vent stream that is being directed past the ultrasonic flow meter. [District Rule 4311, 6.3.5] Federally Enforceable Through Title V Permit
26. The operator shall monitor vent gas composition using one of the following five methods as appropriate. If flares share a common header, a sample from the header will be deemed representative of vent gas composition for all flares served by the header. The operator shall provide the APCO with access to the monitoring system to collect vent gas samples to verify the analysis. 1) Sampling that meets the following requirements: (a) If the flow rate of vent gas flared in any consecutive 15-minute period continuously exceeds 330 standard cubic feet per minute (SCFM), a sample shall be taken within 15 minutes. The sampling frequency thereafter shall be one sample every three hours and shall continue until the flow rate of vent gas flared in any consecutive 15-minute period is continuously 330 SCFM or less. In no case shall a sample be required more frequently than once every 3 hours. (b) Samples shall be analyzed using approved test methods; or 2) Integrated sampling that meets the following requirements: (a) If the flow rate of vent gas flared in any consecutive 15 minute period continuously exceeds 330 SCFM, integrated sampling shall begin within 15 minutes and shall continue until the flow rate of vent gas flared in any consecutive 15 minute period is continuously 330 SCFM or less. (b) Integrated sampling shall consist of a minimum of one aliquot for each 15-minute period until the sample container is full. If sampling is still required pursuant to part (a), a new sample container shall be placed in service within one hour after the previous sample was filled. A sample container shall not be used for a sampling period that exceeds 24 hours. (c) Samples shall be analyzed using approved test methods; or 3) Continuous analyzers that meet the following requirements: (a) The analyzers shall continuously monitor for total hydrocarbon methane, and depending upon the analytical method used pursuant to Section 6.3.4, hydrogen sulfide or total reduced sulfur. (b) The hydrocarbon analyzer shall have a full-scale range of 100% total hydrocarbon. (c) Each analyzer shall be maintained to be accurate to within 20% when compared to any field accuracy tests or to within 5% of full scale; or 4). Continuous analyzers employing gas chromatography that meet the following requirements: (a) The gas chromatography system shall monitor for total hydrocarbon, methane, and hydrogen sulfide. (b) The gas chromatography system shall be maintained to be accurate within 5% of full scale; or 5) Monitor sulfur content using a colorimetric tube system on a daily basis, and monitor vent gas hydrocarbon on a weekly basis by collecting samples and having them tested using approved test methods. [District Rule 4311, 6.6] Federally Enforceable Through Title V Permit

27. Permittee shall monitor the volumetric flows of purge and pilot gases with flow measuring devices or other parameters as specified on the Permit to Operate so that volumetric flows of pilot and purge gas may be calculated based on pilot design and the parameters monitored. [District Rule 4311, 6.7] Federally Enforceable Through Title V Permit
28. The operator of a flare with a water seal shall monitor and record the water level and pressure of the water seal daily or as specified on the Permit to Operate. [District Rule 4311, 6.8] Federally Enforceable Through Title V Permit
29. Periods of flare monitoring system inoperation greater than 24 continuous hours shall be reported by the following working day, followed by notification of resumption of monitoring. Periods of inoperation of monitoring equipment shall not exceed 14 days per any 18-consecutive-month period. Periods of flare monitoring system inoperation do not include the periods when the system feeding the flare is not operating. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
30. During periods of inoperation of continuous analyzers or auto-samplers, operators responsible for monitoring shall take one sample within 30 minutes of the commencement of flaring, from the flare header or from an alternate location at which samples are representative of vent gas composition and have samples analyzed using approved test methods. During periods of inoperation of flow monitors, flow shall be calculated using good engineering practices. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
31. Permittee shall maintain and calibrate all required monitors and recording devices in accordance with the applicable manufacturer's specifications. In order to claim that a manufacturer's specification is not applicable, the person responsible for emissions must have, and follow, a written maintenance policy that was developed for the device in question. The written policy must explain and justify the difference between the written procedure and the manufacturer's procedure. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
32. All in-line continuous analyzer and flow monitoring data must be continuously recorded by an electronic data acquisition system capable of one-minute averages. Flow monitoring data shall be recorded as one-minute averages. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
33. Permittee shall keep accurate daily records of flare vent gas and pilot gas volumes and sulfur content of flared gas and such records shall be retained for a period of 5 years and be made readily available for District inspection upon request. [District Rule 2201]
34. Permittee shall maintain a copy of annual reports submitted to the APCO. [District Rule 4311, 6.1.6] Federally Enforceable Through Title V Permit
35. Records of flare maintenance, inspections, and repair shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken, and identification of the individual performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
36. Permittee shall maintain records of all monitoring data collected. [District Rule 4311, 6.1.7] Federally Enforceable Through Title V Permit
37. Compliance with the requirements for this permit unit shall be deemed compliance with District Rules 4201. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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*San Joaquin Valley
Air Pollution Control District*

AUTHORITY TO CONSTRUCT

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PERMIT NO: S-2234-204-5

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES ELK HILLS LLC
MAILING ADDRESS: 900 OLD RIVER RD
BAKERSFIELD, CA 93311

LOCATION: GAS PLANT
SECTION SE-35, T-30S, R-23E
TUPMAN, CA

SECTION: 35 **TOWNSHIP:** 30S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 7,300 MMBTU/HR HIGH PRESSURE FLARE SERVING LTS #1 PLANT: INCREASE DAILY AND ANNUAL VENT GAS AND PILOT GAS SLC LIMITS AND ADD S-382-74 TO SLC

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. ATCs S-2234-8-6, '-14-6, '-204-5, '-205-5, and '-235-5 and 250-0 shall be implemented concurrently [District Rule 2201] Federally Enforceable Through Title V Permit
4. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of vent gas combusted in the flare shall be installed, utilized and maintained [District Rule 2201] Federally Enforceable Through Title V Permit
5. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of pilot gas combusted shall be installed, utilized and maintained [District Rule 2201] Federally Enforceable Through Title V Permit
6. This flare shall be inspected every two weeks while in operation for visible emissions. If visible emissions are observed, corrective action shall be taken. If visible emissions continue, an EPA Method 9 test shall be conducted within 72 hours. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

S-2234-204-5 : May 24 2021 4:36PM -- SCANDURL : Joint Inspection NOT Required

7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
8. A flame shall be present at all times in the flare whenever combustible gases are vented through the flare. [District Rule 4311, 5.2] Federally Enforceable Through Title V Permit
9. The flare outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311, 5.3] Federally Enforceable Through Title V Permit
10. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present, shall be installed and operated. [District Rule 4311, 5.4] Federally Enforceable Through Title V Permit
11. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, 5.5] Federally Enforceable Through Title V Permit
12. Vent gas emission rates from this unit shall not exceed any of the following limits: NO_x - 0.068 lb/MMBtu; VOC - 0.063 lb/MMBtu; CO - 0.37 lb/MMBtu; PM₁₀ - 0.008 lb/MMBtu; or SO_x - 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Pilot emission rates from this unit shall not exceed any of the following limits: NO_x - 0.094 lb/MMBtu; VOC - 0.0055 lb/MMBtu; CO - 0.04 lb/MMBtu; PM₁₀ - 0.0076 lb/MMBtu; or SO_x - 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Combined daily vent gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 41,238 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Combined annual vent gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 371,025 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Combined daily vent gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 2,802.2 lb-NO_x; 117.5 lb-SO_x; 329.9 lb-PM₁₀; 15,258.1 lb-CO; 2,642.1 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Combined annual vent gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 25,231 lb-NO_x; 1,057 lb-SO_x; 2,968 lb-PM₁₀; 137,279 lb-CO; 23,375 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Combined daily pilot gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 150 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Combined annual pilot gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 58,000 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Combined daily pilot gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 14.1 lb-NO_x; 0.4 lb-SO_x; 1.1 lb-PM₁₀; 6.0 lb-CO; 0.8 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Combined annual pilot gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 5,452 lb-NO_x; 165 lb-SO_x; 441 lb-PM₁₀; 2,320 lb-CO; 319 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. The operator shall submit an annual report to the APCO within 30 days following the end of each 12 month period. The report shall include the following: 1) The total volumetric flow of vent gas in standard cubic feet for each day; 2) Hydrogen sulfide content, methane content, and hydrocarbon content of vent gas composition; 3) If vent gas composition is monitored by a continuous analyzer or analyzers, average total hydrocarbon content by volume, average methane content by volume, and depending upon the analytical method used, total reduced sulfur content by volume or hydrogen sulfide content by volume of vent gas flared for each hour of the month; 4) If the flow monitor used measures molecular weight, the average molecular weight for each hour of each month; 5) For any pilot and purge gas used, the type of gas used, the volumetric flow for each day and for each month, and the means used to determine the flow; 6) Flare monitoring system downtime periods, including dates and times; 7) For each day and for each month provide calculated sulfur dioxide emissions; and 8) A flow verification report. The flow verification report shall include flow verification testing using approved test methods. [District Rule 4311, 6.2.3] Federally Enforceable Through Title V Permit
23. Operators subject to vent gas composition monitoring requirements shall use the following test methods as appropriate, or by an alternative method approved by the APCO, ARB and EPA: Total hydrocarbon content and methane content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, EPA Method 18, or EPA Method 25A or 25B. Hydrogen sulfide content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, ASTM Method D 4084-94, or ASTM Method D 4810-88. [District Rule 4311, 6.3.4] Federally Enforceable Through Title V Permit
24. If vent gas composition is monitored with a continuous analyzer employing gas chromatography the minimum sampling frequency shall be one sample every 30 minutes. If vent gas composition is monitored using continuous analyzers not employing gas chromatography, the total reduced sulfur content of vent gas shall be determined by using EPA Method D4468-85. [District Rule 4311, 6.3.4] Federally Enforceable Through Title V Permit
25. Vent gas flow shall be determined using one or more of the following methods, or by any alternative method approved by the APCO, ARB, and EPA: 1) EPA Methods 1 and 2; 2) A verification method recommended by the manufacturer of the flow monitoring equipment installed; 3) Tracer gas dilution or velocity; or 4) Other flow monitors or process monitors that can provide comparison data on a vent stream that is being directed past the ultrasonic flow meter. [District Rule 6.3.4] Federally Enforceable Through Title V Permit
26. The operator shall monitor vent gas composition using one of the following five methods as appropriate. If flares share a common header, a sample from the header will be deemed representative of vent gas composition for all flares served by the header. The operator shall provide the APCO with access to the monitoring system to collect vent gas samples to verify the analysis. 1) Sampling that meets the following requirements: (a) If the flow rate of vent gas flared in any consecutive 15-minute period continuously exceeds 330 standard cubic feet per minute (SCFM), a sample shall be taken within 15 minutes. The sampling frequency thereafter shall be one sample every three hours and shall continue until the flow rate of vent gas flared in any consecutive 15-minute period is continuously 330 SCFM or less. In no case shall a sample be required more frequently than once every 3 hours. (b) Samples shall be analyzed using approved test methods; or 2) Integrated sampling that meets the following requirements: (a) If the flow rate of vent gas flared in any consecutive 15 minute period continuously exceeds 330 SCFM, integrated sampling shall begin within 15 minutes and shall continue until the flow rate of vent gas flared in any consecutive 15 minute period is continuously 330 SCFM or less. (b) Integrated sampling shall consist of a minimum of one aliquot for each 15-minute period until the sample container is full. If sampling is still required pursuant to part (a), a new sample container shall be placed in service within one hour after the previous sample was filled. A sample container shall not be used for a sampling period that exceeds 24 hours. (c) Samples shall be analyzed using approved test methods; or 3) Continuous analyzers that meet the following requirements: (a) The analyzers shall continuously monitor for total hydrocarbon methane, and depending upon the analytical method used pursuant to Section 6.3.4, hydrogen sulfide or total reduced sulfur. (b) The hydrocarbon analyzer shall have a full-scale range of 100% total hydrocarbon. (c) Each analyzer shall be maintained to be accurate to within 20% when compared to any field accuracy tests or to within 5% of full scale; or 4). Continuous analyzers employing gas chromatography that meet the following requirements: (a) The gas chromatography system shall monitor for total hydrocarbon, methane, and hydrogen sulfide. (b) The gas chromatography system shall be maintained to be accurate within 5% of full scale; or 5) Monitor sulfur content using a colorimetric tube system on a daily basis, and monitor vent gas hydrocarbon on a weekly basis by collecting samples and having them tested using approved test methods. [District Rule 4311, 6.6] Federally Enforceable Through Title V Permit

27. Permittee shall monitor the volumetric flows of purge and pilot gases with flow measuring devices or other parameters as specified on the Permit to Operate so that volumetric flows of pilot and purge gas may be calculated based on pilot design and the parameters monitored. [District Rule 4311, 6.7] Federally Enforceable Through Title V Permit
28. The operator of a flare with a water seal shall monitor and record the water level and pressure of the water seal daily or as specified on the Permit to Operate. [District Rule 4311, 6.8] Federally Enforceable Through Title V Permit
29. Periods of flare monitoring system inoperation greater than 24 continuous hours shall be reported by the following working day, followed by notification of resumption of monitoring. Periods of inoperation of monitoring equipment shall not exceed 14 days per any 18-consecutive-month period. Periods of flare monitoring system inoperation do not include the periods when the system feeding the flare is not operating. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
30. During periods of inoperation of continuous analyzers or auto-samplers, operators responsible for monitoring shall take one sample within 30 minutes of the commencement of flaring, from the flare header or from an alternate location at which samples are representative of vent gas composition and have samples analyzed using approved test methods. During periods of inoperation of flow monitors, flow shall be calculated using good engineering practices. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
31. Permittee shall maintain and calibrate all required monitors and recording devices in accordance with the applicable manufacturer's specifications. In order to claim that a manufacturer's specification is not applicable, the person responsible for emissions must have, and follow, a written maintenance policy that was developed for the device in question. The written policy must explain and justify the difference between the written procedure and the manufacturer's procedure. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
32. All in-line continuous analyzer and flow monitoring data must be continuously recorded by an electronic data acquisition system capable of one-minute averages. Flow monitoring data shall be recorded as one-minute averages. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
33. Permittee shall keep accurate daily records of flare vent gas and pilot gas volumes and sulfur content of flared gas and such records shall be retained for a period of 5 years and be made readily available for District inspection upon request. [District Rule 2201]
34. The permittee shall maintain a copy of annual reports submitted to the APCO. [District Rule 4311, 6.1.6] Federally Enforceable Through Title V Permit
35. Permittee shall maintain records of all monitoring data collected. [District Rule 4311, 6.1.7] Federally Enforceable Through Title V Permit

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*San Joaquin Valley
Air Pollution Control District*

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-2234-205-5

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES ELK HILLS LLC
MAILING ADDRESS: 900 OLD RIVER RD
BAKERSFIELD, CA 93311

LOCATION: GAS PLANT
SECTION SE-35, T-30S, R-23E
TUPMAN, CA

SECTION: 34 **TOWNSHIP:** 30S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 7,300 MMBTU/HR HIGH PRESSURE FLARE SERVING LTS #2 PLANT: INCREASE DAILY AND ANNUAL VENT GAS AND PILOT GAS SLC LIMITS AND ADD S-382-74 TO SLC

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. ATCs S-2234-8-6, '-14-6, '-204-5, '-205-5, and '-235-5 and 250-0 shall be implemented concurrently [District Rule 2201] Federally Enforceable Through Title V Permit
4. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of vent gas combusted in the flare shall be installed, utilized and maintained [District Rule 2201] Federally Enforceable Through Title V Permit
5. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of pilot gas combusted shall be installed, utilized and maintained [District Rule 2201] Federally Enforceable Through Title V Permit
6. This flare shall be inspected every two weeks while in operation for visible emissions. If visible emissions are observed, corrective action shall be taken. If visible emissions continue, an EPA Method 9 test shall be conducted within 72 hours. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

S-2234-205-5 : May 24 2021 4:36PM -- SCANDURL : Joint Inspection NOT Required

7. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
8. A flame shall be present at all times in the flare whenever combustible gases are vented through the flare. [District Rule 4311, 5.2] Federally Enforceable Through Title V Permit
9. The flare outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311, 5.3] Federally Enforceable Through Title V Permit
10. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present, shall be installed and operated. [District Rule 4311, 5.4] Federally Enforceable Through Title V Permit
11. Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, 5.5] Federally Enforceable Through Title V Permit
12. Vent gas emission rates from this unit shall not exceed any of the following limits: NO_x - 0.068 lb/MMBtu; VOC - 0.063 lb/MMBtu; CO - 0.37 lb/MMBtu; PM₁₀ - 0.008 lb/MMBtu; or SO_x - 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Pilot emission rates from this unit shall not exceed any of the following limits: NO_x - 0.094 lb/MMBtu; VOC - 0.0055 lb/MMBtu; CO - 0.04 lb/MMBtu; PM₁₀ - 0.0076 lb/MMBtu; or SO_x - 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Combined daily vent gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 41,238 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Combined annual vent gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 371,025 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Combined daily vent gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 2,802.2 lb-NO_x; 117.5 lb-SO_x; 329.9 lb-PM₁₀; 15,258.1 lb-CO; 2,642.1 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Combined annual vent gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 25,231 lb-NO_x; 1,057 lb-SO_x; 2,968 lb-PM₁₀; 137,279 lb-CO; 23,375 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Combined daily pilot gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 150 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Combined annual pilot gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 58,000 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Combined daily pilot gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 14.1 lb-NO_x; 0.4 lb-SO_x; 1.1 lb-PM₁₀; 6.0 lb-CO; 0.8 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Combined annual pilot gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 5,452 lb-NO_x; 165 lb-SO_x; 441 lb-PM₁₀; 2,320 lb-CO; 319 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

22. The operator shall submit an annual report to the APCO within 30 days following the end of each 12 month period. The report shall include the following: 1) The total volumetric flow of vent gas in standard cubic feet for each day; 2) Hydrogen sulfide content, methane content, and hydrocarbon content of vent gas composition; 3) If vent gas composition is monitored by a continuous analyzer or analyzers, average total hydrocarbon content by volume, average methane content by volume, and depending upon the analytical method used, total reduced sulfur content by volume or hydrogen sulfide content by volume of vent gas flared for each hour of the month; 4) If the flow monitor used measures molecular weight, the average molecular weight for each hour of each month; 5) For any pilot and purge gas used, the type of gas used, the volumetric flow for each day and for each month, and the means used to determine the flow; 6) Flare monitoring system downtime periods, including dates and times; 7) For each day and for each month provide calculated sulfur dioxide emissions; and 8) A flow verification report. The flow verification report shall include flow verification testing using approved test methods. [District Rule 4311, 6.2.3] Federally Enforceable Through Title V Permit
23. Operators subject to vent gas composition monitoring requirements shall use the following test methods as appropriate, or by an alternative method approved by the APCO, ARB and EPA: Total hydrocarbon content and methane content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, EPA Method 18, or EPA Method 25A or 25B. Hydrogen sulfide content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, ASTM Method D 4084-94, or ASTM Method D 4810-88. [District Rule 4311, 6.3.4] Federally Enforceable Through Title V Permit
24. If vent gas composition is monitored with a continuous analyzer employing gas chromatography the minimum sampling frequency shall be one sample every 30 minutes. If vent gas composition is monitored using continuous analyzers not employing gas chromatography, the total reduced sulfur content of vent gas shall be determined by using EPA Method D4468-85. [District Rule 4311, 6.3.4] Federally Enforceable Through Title V Permit
25. Vent gas flow shall be determined using one or more of the following methods, or by any alternative method approved by the APCO, ARB, and EPA: 1) EPA Methods 1 and 2; 2) A verification method recommended by the manufacturer of the flow monitoring equipment installed; 3) Tracer gas dilution or velocity; or 4) Other flow monitors or process monitors that can provide comparison data on a vent stream that is being directed past the ultrasonic flow meter. [District Rule 6.3.4] Federally Enforceable Through Title V Permit
26. The operator shall monitor vent gas composition using one of the following five methods as appropriate. If flares share a common header, a sample from the header will be deemed representative of vent gas composition for all flares served by the header. The operator shall provide the APCO with access to the monitoring system to collect vent gas samples to verify the analysis. 1) Sampling that meets the following requirements: (a) If the flow rate of vent gas flared in any consecutive 15-minute period continuously exceeds 330 standard cubic feet per minute (SCFM), a sample shall be taken within 15 minutes. The sampling frequency thereafter shall be one sample every three hours and shall continue until the flow rate of vent gas flared in any consecutive 15-minute period is continuously 330 SCFM or less. In no case shall a sample be required more frequently than once every 3 hours. (b) Samples shall be analyzed using approved test methods; or 2) Integrated sampling that meets the following requirements: (a) If the flow rate of vent gas flared in any consecutive 15 minute period continuously exceeds 330 SCFM, integrated sampling shall begin within 15 minutes and shall continue until the flow rate of vent gas flared in any consecutive 15 minute period is continuously 330 SCFM or less. (b) Integrated sampling shall consist of a minimum of one aliquot for each 15-minute period until the sample container is full. If sampling is still required pursuant to part (a), a new sample container shall be placed in service within one hour after the previous sample was filled. A sample container shall not be used for a sampling period that exceeds 24 hours. (c) Samples shall be analyzed using approved test methods; or 3) Continuous analyzers that meet the following requirements: (a) The analyzers shall continuously monitor for total hydrocarbon methane, and depending upon the analytical method used pursuant to Section 6.3.4, hydrogen sulfide or total reduced sulfur. (b) The hydrocarbon analyzer shall have a full-scale range of 100% total hydrocarbon. (c) Each analyzer shall be maintained to be accurate to within 20% when compared to any field accuracy tests or to within 5% of full scale; or 4). Continuous analyzers employing gas chromatography that meet the following requirements: (a) The gas chromatography system shall monitor for total hydrocarbon, methane, and hydrogen sulfide. (b) The gas chromatography system shall be maintained to be accurate within 5% of full scale; or 5) Monitor sulfur content using a colorimetric tube system on a daily basis, and monitor vent gas hydrocarbon on a weekly basis by collecting samples and having them tested using approved test methods. [District Rule 4311, 6.6] Federally Enforceable Through Title V Permit

27. Permittee shall monitor the volumetric flows of purge and pilot gases with flow measuring devices or other parameters as specified on the Permit to Operate so that volumetric flows of pilot and purge gas may be calculated based on pilot design and the parameters monitored. [District Rule 4311, 6.7] Federally Enforceable Through Title V Permit
28. The operator of a flare with a water seal shall monitor and record the water level and pressure of the water seal daily or as specified on the Permit to Operate. [District Rule 4311, 6.8] Federally Enforceable Through Title V Permit
29. Periods of flare monitoring system inoperation greater than 24 continuous hours shall be reported by the following working day, followed by notification of resumption of monitoring. Periods of inoperation of monitoring equipment shall not exceed 14 days per any 18-consecutive-month period. Periods of flare monitoring system inoperation do not include the periods when the system feeding the flare is not operating. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
30. During periods of inoperation of continuous analyzers or auto-samplers, operators responsible for monitoring shall take one sample within 30 minutes of the commencement of flaring, from the flare header or from an alternate location at which samples are representative of vent gas composition and have samples analyzed using approved test methods. During periods of inoperation of flow monitors, flow shall be calculated using good engineering practices. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
31. Permittee shall maintain and calibrate all required monitors and recording devices in accordance with the applicable manufacturer's specifications. In order to claim that a manufacturer's specification is not applicable, the person responsible for emissions must have, and follow, a written maintenance policy that was developed for the device in question. The written policy must explain and justify the difference between the written procedure and the manufacturer's procedure. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
32. Permittee shall keep accurate daily records of flare vent gas and pilot gas volumes and sulfur content of flared gas and such records shall be retained for a period of 5 years and be made readily available for District inspection upon request. [District Rule 2201]
33. All in-line continuous analyzer and flow monitoring data must be continuously recorded by an electronic data acquisition system capable of one-minute averages. Flow monitoring data shall be recorded as one-minute averages. [District Rule 4311, 6.9] Federally Enforceable Through Title V Permit
34. Permittee shall maintain a copy of annual reports submitted to the APCO. [District Rule 4311, 6.1.6] Federally Enforceable Through Title V Permit
35. Permittee shall maintain records of all monitoring data collected. [District Rule 4311, 6.1.7] Federally Enforceable Through Title V Permit

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*San Joaquin Valley
Air Pollution Control District*

AUTHORITY TO CONSTRUCT

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PERMIT NO: S-2234-235-5

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES ELK HILLS LLC
MAILING ADDRESS: 900 OLD RIVER RD
BAKERSFIELD, CA 93311

LOCATION: GAS PLANT
SECTION SE-35, T-30S, R-23E
TUPMAN, CA

SECTION: NW35 **TOWNSHIP:** 30S **RANGE:** 23E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 250 MMSCF/DAY SMOKELESS FLARE WITH FLARE HEADER AND FLARE KNOCKOUT DRUM:
INCREASE DAILY AND ANNUAL VENT GAS AND PILOT GAS SLC LIMITS AND ADD S-382-74 TO SLC

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. ATCs S-2234-8-6, '-14-6, '-204-5, '-205-5, and '-235-5 and 250-0 shall be implemented concurrently [District Rule 2201] Federally Enforceable Through Title V Permit
4. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of vent gas combusted in the flare shall be installed, utilized and maintained [District Rule 2201] Federally Enforceable Through Title V Permit
5. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of pilot gas combusted shall be installed, utilized and maintained [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

S-2234-235-5 : May 24 2021 4:36PM -- SCANDURL : Joint Inspection NOT Required

6. Permittee shall maintain with the permit accurate fugitive component counts and resulting emissions calculated using screening value emissions factors of CARB/CAPCOA "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities" included in EPA, "Protocol for Estimating Leak Emissions" (EPA - 453/R-95-017, November 1995). Emissions shall be calculated after each quarterly inspection period as required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
7. This permit allows for a specified percentage of allowed leaking components as defined in this permit to be discovered within prescribed time frames under Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
8. A gas leak is defined as a reading in excess of 10,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated to methane in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as the dripping of organic liquid at a rate more than 3 drops per minute. [District Rule 2201] Federally Enforceable Through Title V Permit
9. BACT Requirement Any leak greater than 500 ppmv for pump seals and compressor seals and 100 ppmv for valves and connectors, when measured with a portable hydrocarbon detection instrument calibrated with methane in accordance with EPA Method 21 or leaking at a rate of greater than 3 drops of liquid per minute, shall be repaired in a manner consistent with the procedures specified in Rule 4409 (adopted April 20, 2005). This requirement shall not apply to inaccessible or unsafe-to-access components as identified in the revised Operator Management Plan required by Rule 4409. [District Rules 2201 and 4409] Federally Enforceable Through Title V Permit
10. VOC fugitive emissions from the components in gas service shall not exceed 1.3 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
11. VOC content of gas processed shall not exceed 16% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Operator shall test and maintain records of VOC content of gas processed no less than annually. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The VOC content by weight percent (wt. %) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases. [District Rule 1081] Federally Enforceable Through Title V Permit
14. Flare shall not operate with visible emissions darker than 5% opacity or 1/4 Ringelmann for a period or periods aggregating more than three minutes in any one hour. [District Rule 2201] Federally Enforceable Through Title V Permit
15. A flame shall be present at all times when combustible gases are vented through this flare. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Flare shall be equipped with continuous pilot light or automatic re-ignition provisions. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Sulfur compound concentration of gas combusted shall not exceed 1.0 gr S/100 scf (16.9 ppmv H₂S). [District Rule 2201] Federally Enforceable Through Title V Permit
18. Only natural gas with a sulfur content not exceeding 1.0 gr S/100scf shall be used as pilot fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Vent gas emission rates from this unit shall not exceed any of the following limits: NO_x - 0.068 lb/MMBtu; VOC - 0.063 lb/MMBtu; CO - 0.37 lb/MMBtu; PM₁₀ - 0.008 lb/MMBtu; or SO_x - 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Pilot emission rates from this unit shall not exceed any of the following limits: NO_x - 0.094 lb/MMBtu; VOC - 0.0055 lb/MMBtu; CO - 0.04 lb/MMBtu; PM₁₀ - 0.0076 lb/MMBtu; or SO_x - 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Combined daily vent gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 41,238 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Combined annual vent gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 371,025 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

23. Combined daily vent gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 2,802.2 lb-NO_x; 117.5 lb-SO_x; 329.9 lb-PM₁₀; 15,258.1 lb-CO; 2,642.1 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Combined annual vent gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 25,231 lb-NO_x; 1,057 lb-SO_x; 2,968 lb-PM₁₀; 137,279 lb-CO; 23,375 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Combined daily pilot gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 150 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Combined annual pilot gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 58,000 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Combined daily pilot gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 14.1 lb-NO_x; 0.4 lb-SO_x; 1.1 lb-PM₁₀; 6.0 lb- CO; 0.8 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Combined annual pilot gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 5,452 lb-NO_x; 165 lb-SO_x; 441 lb-PM₁₀; 2,320 lb-CO; 319 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
29. The operator shall submit an annual report to the APCO within 30 days following the end of each 12 month period. The report shall include the following: 1) The total volumetric flow of vent gas in standard cubic feet for each day; 2) Hydrogen sulfide content, methane content, and hydrocarbon content of vent gas composition; 3) If vent gas composition is monitored by a continuous analyzer or analyzers, average total hydrocarbon content by volume, average methane content by volume, and depending upon the analytical method used, total reduced sulfur content by volume or hydrogen sulfide content by volume of vent gas flared for each hour of the month; 4) If the flow monitor used measures molecular weight, the average molecular weight for each hour of each month; 5) For any pilot and purge gas used, the type of gas used, the volumetric flow for each day and for each month, and the means used to determine the flow; 6) Flare monitoring system downtime periods, including dates and times; 7) For each day and for each month provide calculated sulfur dioxide emissions; and 8) A flow verification report. The flow verification report shall include flow verification testing using approved test methods. [District Rule 4311, 6.2.3] Federally Enforceable Through Title V Permit
30. Permittee shall measure sulfur content of gas incinerated in flare within 60 days of startup and at least once every year thereafter. Such data shall be submitted to the District within 60 days of sample collection. [District Rules 2201 and 4801] Federally Enforceable Through Title V Permit
31. Permittee shall determine sulfur content of gas flared using ASTM method D3246 or double GC for H₂S and mercaptans. [District Rule 2201] Federally Enforceable Through Title V Permit
32. The higher heating value of the flared gas shall be monitored at least quarterly. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
33. Permittee shall keep accurate records of daily and annual quantity of gas combusted. [District Rule 2201] Federally Enforceable Through Title V Permit
34. Measured heating value and quantity of gas flared shall be used to determine compliance with heat input limits. [District Rule 2201] Federally Enforceable Through Title V Permit
35. When combustible gases are vented to the flare, flare shall be equipped with a heat sensing device to detect the presence of a propane or natural gas pilot flame which is burning at all times. [District Rule 4311]
36. Permittee shall comply with applicable monitoring, inspection, maintenance, and recordkeeping, and reporting requirements of 40 CFR Part 60 Subpart KKK and Rule 4409. [40 CFR Part 60 Subpart KKK and District Rule 4409] Federally Enforceable Through Title V Permit
37. Permittee shall keep accurate daily records of flare vent gas and pilot gas volumes and sulfur content of flared gas and such records shall be retained for a period of 5 years and be made readily available for District inspection upon request. [District Rule 2201]

38. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

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*San Joaquin Valley
Air Pollution Control District*

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
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PERMIT NO: S-2234-250-0

LEGAL OWNER OR OPERATOR: CALIFORNIA RESOURCES ELK HILLS LLC

MAILING ADDRESS: 900 OLD RIVER RD
BAKERSFIELD, CA 93311

LOCATION: GAS PLANT
SECTION SE-35, T-30S, R-23E
TUPMAN, CA

EQUIPMENT DESCRIPTION:

535.5 MMBTU/HR AIR ASSISTED FLARE INCLUDING KNOCKOUT DRUM CAPABLE OF RECEIVING VENT GAS FROM HPI AND 35R GAS PLANT, SARASOTA AUTOMATION MODEL FM771 CONTINUOUS RECORDING FLOW METER, INLET GAS NOZZLE, FLARE STACK RISER, AND FLARE TIP (FLARE ALSO PERMITTED AS S-382-74)

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. ATCs S-2234-8-6, '-14-6, '-204-5, '-205-5, and '-235-5 and 250-0 shall be implemented concurrently [District Rule 2201] Federally Enforceable Through Title V Permit
4. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of vent gas combusted in the flare shall be installed, utilized and maintained [District Rules 2201 and 4311] Federally Enforceable Through Title V Permit
5. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of pilot gas combusted shall be installed, utilized and maintained [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Samir Sheikh, Executive Director / APCO

Brian Clements, Director of Permit Services

S-2234-250-0 : May 24 2021 4:36PM -- SCANDURL : Joint Inspection NOT Required

6. Operation shall include gas riser, flare pilot, 20 hp (minimum) primary combustion air blower, 112 hp (minimum) secondary combustion air blower, and main air inlet nozzle and air duct. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Primary combustion air fan shall be capable of delivering at least 20,000 cfm @ 5 inches static pressure. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Secondary combustion air fan shall be capable of delivering at least 100,000 cfm @ 4.5 inches static pressure. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Flare shall incinerate gases from HPI and 35R gas plant facility only. [District Rule 2201] Federally Enforceable Through Title V Permit
10. This flare shall be inspected every two weeks while in operation for visible emissions. If visible emissions are observed, corrective action shall be taken. If visible emissions continue, an EPA Method 9 test shall be conducted within 72 hours. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
11. Vent gas emission rates from this unit shall not exceed any of the following limits: NO_x - 0.068 lb/MMBtu; VOC - 0.063 lb/MMBtu; CO - 0.37 lb/MMBtu; PM₁₀ - 0.008 lb/MMBtu; or SO_x - 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Pilot emission rates from this unit shall not exceed any of the following limits: NO_x - 0.094 lb/MMBtu; VOC - 0.0055 lb/MMBtu; CO - 0.04 lb/MMBtu; PM₁₀ - 0.0076 lb/MMBtu; or SO_x - 0.00285 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
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18. Combined annual pilot gas heat input from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed 58,000 MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Combined daily pilot gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 14.1 lb-NO_x; 0.4 lb-SO_x; 1.1 lb-PM₁₀; 6.0 lb-CO; 0.8 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Combined annual pilot gas emissions from permit units S-2234-8, -14, -204, -205, - 235, and '-250 shall not exceed any of the following: 5,452 lb-NO_x; 165 lb-SO_x; 441 lb-PM₁₀; 2,320 lb-CO; 319 lb-VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
21. The flame shall be present at all times when combustible gases are vented through the flare. [District Rule 4311, 5.2] Federally Enforceable Through Title V Permit
22. The outlet shall be equipped with an automatic ignition system, or, shall operate with a pilot flame present at all times when combustible gases are vented through the flare, except during purge periods for automatic-ignition equipped flares. [District Rule 4311, 5.3] Federally Enforceable Through Title V Permit
23. Except for flares equipped with a flow-sensing ignition system, a heat sensing device such as a thermocouple, ultraviolet beam sensor, infrared sensor, or an equivalent device, capable of continuously detecting at least one pilot flame or the flare flame is present shall be installed and operated. [District Rule 4311, 5.4] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

24. {2332} Flares that use flow-sensing automatic ignition systems and which do not use a continuous flame pilot shall use purge gas for purging. [District Rule 4311, 5.5] Federally Enforceable Through Title V Permit
25. Open flares in which the flare gas pressure is less than 5 psig shall be operated in such a manner that meets the provisions of 40 CFR 60.18. [District Rule 4311]
26. Flaring is prohibited unless it is consistent with an approved flare minimization plan (FMP), and all commitments listed in that plan have been met. This standard shall not apply if the APCO determines that the flaring is caused by an emergency and is necessary to prevent an accident, hazard or release of vent gas directly to the atmosphere. [District Rule 4311, 5.8] Federally Enforceable Through Title V Permit
27. Operators subject to vent gas composition monitoring requirements shall use the following test methods as appropriate, or by an alternative method approved by the APCO, ARB and EPA: Total hydrocarbon content and methane content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, EPA Method 18, or EPA Method 25A or 25B. Hydrogen sulfide content of vent gas shall be determined using ASTM Method D 1945-96, ASTM Method UOP 539-97, ASTM Method D 4084-94, or ASTM Method D 4810-88. [District Rule 4311] Federally Enforceable Through Title V Permit
28. If vent gas composition is monitored with a continuous analyzer employing gas chromatography the minimum sampling frequency shall be one sample every 30 minutes. If vent gas composition is monitored using continuous analyzers not employing gas chromatography, the total reduced sulfur content of vent gas shall be determined by using EPA Method D4468-85. [District Rule]
29. Vent gas flow shall be determined using one or more of the following methods, or by any alternative method approved by the APCO, ARB, and EPA: 1) EPA Methods 1 and 2; 2) A verification method recommended by the manufacturer of the flow monitoring equipment installed; 3) Tracer gas dilution or velocity; or 4) Other flow monitors or process monitors that can provide comparison data on a vent stream that is being directed past the ultrasonic flow meter. [District Rule]
30. The operator shall monitor vent gas composition using one of the following five methods as appropriate. If flares share a common header, a sample from the header will be deemed representative of vent gas composition for all flares served by the header. The operator shall provide the APCO with access to the monitoring system to collect vent gas samples to verify the analysis. 1) Sampling that meets the following requirements: (a) If the flow rate of vent gas flared in any consecutive 15-minute period continuously exceeds 330 standard cubic feet per minute (SCFM), a sample shall be taken within 15 minutes. The sampling frequency thereafter shall be one sample every three hours and shall continue until the flow rate of vent gas flared in any consecutive 15-minute period is continuously 330 SCFM or less. In no case shall a sample be required more frequently than once every 3 hours. (b) Samples shall be analyzed using approved test methods; or 2) Integrated sampling that meets the following requirements: (a) If the flow rate of vent gas flared in any consecutive 15 minute period continuously exceeds 330 SCFM, integrated sampling shall begin within 15 minutes and shall continue until the flow rate of vent gas flared in any consecutive 15 minute period is continuously 330 SCFM or less. (b) Integrated sampling shall consist of a minimum of one aliquot for each 15-minute period until the sample container is full. If sampling is still required pursuant to part (a), a new sample container shall be placed in service within one hour after the previous sample was filled. A sample container shall not be used for a sampling period that exceeds 24 hours. (c) Samples shall be analyzed using approved test methods; or 3) Continuous analyzers that meet the following requirements: (a) The analyzers shall continuously monitor for total hydrocarbon methane, and depending upon the analytical method used pursuant to Section 6.3.4, hydrogen sulfide or total reduced sulfur. (b) The hydrocarbon analyzer shall have a full-scale range of 100% total hydrocarbon. (c) Each analyzer shall be maintained to be accurate to within 20% when compared to any field accuracy tests or to within 5% of full scale; or 4). Continuous analyzers employing gas chromatography that meet the following requirements: (a) The gas chromatography system shall monitor for total hydrocarbon, methane, and hydrogen sulfide. (b) The gas chromatography system shall be maintained to be accurate within 5% of full scale; or 5) Monitor sulfur content using a colorimetric tube system on a daily basis, and monitor vent gas hydrocarbon on a weekly basis by collecting samples and having them tested using approved test methods. [District Rule 4311]
31. Permittee shall monitor the volumetric flows of purge and pilot gases with flow measuring devices or other parameters as specified on the Permit to Operate so that volumetric flows of pilot and purge gas may be calculated based on pilot design and the parameters monitored. [District Rule 4311]

32. The operator of a flare with a water seal shall monitor and record the water level and pressure of the water seal daily or as specified on the Permit to Operate. [District Rule 4311]
33. To show compliance with sulfur emission limits, the gas being flared shall be tested weekly for sulfur content and higher heating value. If compliance with the fuel sulfur content limit and sulfur emission limits has been demonstrated for 8 consecutive weeks for the flared gas, then the compliance testing frequency shall be semi-annually. If a semi-annual sulfur content test fails to show compliance, weekly testing shall resume. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. The sulfur content of the gas being flared shall be determined using ASTM D 1072-80, D 3031-81, D 4084-82, D 3246-81 or grab sample analysis by GC-FPD/TCD performed in the laboratory. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. The fuel higher heating value for the gases being flared shall be certified by third party fuel supplier or determined by ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
36. Permittee shall keep accurate daily records of flare vent gas and pilot gas volumes and sulfur content of flared gas and such records shall be retained for a period of 5 years and be made readily available for District inspection upon request. [District Rule 2201]
37. This flare shall not be used as a leak control device as described in Rule 4409, 5.3.5 (adopted April 20, 2005), nor as a control device for any permit unit subject to NSPS, without modification of permit requirements to address 40 CFR 60.18. [District Rule 2520, 9.4.3] Federally Enforceable Through Title V Permit
38. The permittee shall maintain records of the duration of flare operation, amount of gas flared, the nature of the emergency situation and any corrective action take to rectify the process upset or breakdown that necessitated the use of the flare. [District Rules 2520, 9.3.2 and 4311, 6.1] Federally Enforceable Through Title V Permit
39. The permittee shall maintain, and make available for District inspection, all records of required monitoring data and support information for the flare for inspection at any time for a period of five years. [District Rule 2520, 9.4.2 and District Rule 4311, 6.1] Federally Enforceable Through Title V Permit
40. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070]

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