



DEC 02 2019

Kristopher Rickards
Chevron USA, Inc.
PO Box 1392
Bakersfield, CA 93302

Re: Notice of Preliminary Decision – Emission Reduction Credits
Facility Number: S-49
Project Number: S-1183979

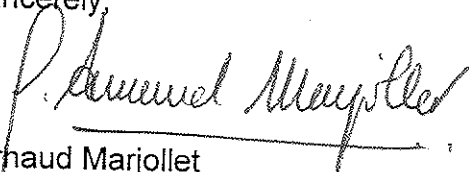
Dear Mr. Rickards:

Enclosed for your review and comment is the District's analysis of Chevron USA, Inc.'s application for Emission Reduction Credits (ERCs) resulting from the shutdown of a process heater, at their 17Z Gas Plant in McKittrick, CA. The quantity of ERCs proposed for banking is 1,103 lb-NOx/yr, 997 lb-PM10/yr, and 722 lb-VOC/yr.

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 comment period, the District intends to issue the ERCs. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Stephen Leonard of Permit Services at (661) 392-5605.

Sincerely,



Arnaud Marjollet
Director of Permit Services

AM:sl

Enclosures

cc: Courtney Graham, CARB (w/ enclosure) via email
cc: Gerardo C. Rios, EPA (w/ enclosure) via email

Samir Sheikh
Executive Director/Air Pollution Control Officer

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4800 Enterprise Way
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Bakersfield, CA 93308-9725
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San Joaquin Valley Air Pollution Control District
ERC Application Review
Shutdown of Gas Plant Heater

Facility Name: Chevron USA, Inc.
Mailing Address: PO Box 1392
Bakersfield, CA 93302

Date: November 27, 2019
Engineer: Steve Leonard
Lead Engineer: Leonard Scandura
Date:

Contact Person: Kris Rickards
Telephone: 661-654-7796
Project #: S-1183979

Deemed Complete: December 12, 2018

I. Summary:

Chevron USA, Inc. (CUSA) has applied for Emission Reduction Credits (ERCs) to bank VOC, NO_x, and PM₁₀ reductions from the shutdown of a 30 MMBtu/hr natural gas fired heater that was part of Chevron's 17Z Gas Plant permit S-49-1-10 and an unpermitted 1.94 MMBtu/hr natural gas-fired glycol reboiler. The application to bank ERC was received on October 30, 2018. The Permit to Operate (PTO) for the gas plant has been modified to remove the heater F-1 and other pieces of process equipment as a condition of this banking action.

The 17Z Gas Plant still receives the produced gases recovered from Chevron USA wells that have historically been routed to the 17Z plant. However, the facility will no longer operate as a traditional gas plant as it will no longer separate natural gas liquids from the produced gas. The change has allowed them to shut down the process heater F-1 and the glycol reboiler.

Some of the gas will be utilized by Chevron for use in gas-fired oilfield equipment while the rest is sold to California Resources Production Corp for their use as fuel.

The produced gas is not being diverted from the 17Z plant to other gas plants as a result of this change.

Regarding the unpermitted 1.94 MMBtu/hr glycol reboiler, Rule 2301, Section 4.2.4 describes where non-permitted sources achieving emission reductions through modification or enhanced control technology must obtain District Permit to Operate in order to make the reductions enforceable. However, this case involves the permanent shutdown of the non-permitted source of emissions, and a permit will not be issued for the equipment. Furthermore, the unpermitted glycol reboiler is not subject to the requirements of Rule 2201 (New and Modified Stationary Source Review Rule). If an identical unit was to be brought back into operation, it would not require an ATC and, therefore, would not be subject to Rule 2201 New Source Review requirements. As

such, the related emission reduction is not enforceable and it will not be considered further in this analysis.

The District accepts that the date of actual emission reductions is the date the heater F-1 was permanently shut down, June 9, 2018.

Based on the historical operating data prior to the shutdown, and considering any discounts for the emission limit requirements of current or pending District Rules, the amounts of bankable Actual Emission Reductions (AER) for NO_x, VOC, and PM₁₀ emissions are as shown in the table below. These values are calculated in Section V of this document:

Project Bankable Emission Reduction Credits (lbs/Qtr)				
Pollutant	1 st Qtr	2 nd Qtr	3 rd Qtr	4 th Qtr
VOC	169	171	203	179
NO _x	258	261	310	274
PM ₁₀	233	236	281	247

II. Applicable Rules:

- Rule 2201 New and Modified Stationary Source Review Rule (2/18/16)
- Rule 2301 Emission Reduction Credit Banking (1/19/12)

III. Location of Reduction:

The facility location is the 17Z Gas Plant, S-49, located in the McKittrick Oil Field; Section 17, Township 30 South, Range 22 East.

IV. Method of Generating Reductions:

Actual Emission Reductions (AER) are being generated with the permanent shutdown of the following equipment, as documented with Authority to Construct (ATC) S-49-1-11, issued May 15, 2019:

- S-49-1-11: GAS PLANT WITH 30.0 MMBTU/HR HEATER (F-1) WITH FIVE JLCC INC LOW NOX BURNERS, ABSORBER (C-1), ETHANE STRIPPER (C-2), STILL (C-3), DEPROPANIZER (C-4), INLET SCRUBBERS (V-1 AND V-1A), COLD FEED SEPARATOR (V-2), PRESATURATOR (V-3), STRIPPER FEED SEPARATOR (V-4), DISCHARGE SCRUBBER (V-18), THREE ELECTRICALLY-DRIVEN GAS COMPRESSORS, LUBE OIL KNOCK OUT VESSEL AND VAPOR PIPING FROM THE COMPRESSORS TO THE VAPOR CONTROL SYSTEM ON S-49-12: **REMOVE FROM SERVICE; 30.0 MMBTU/HR HEATER (F-1), ABSORBER (C-1), ETHANE STRIPPER (C-2), STILL (C-3), DEPROPANIZER (C-4), COLD FEED SEPARATOR (V-2), PRESATURATOR (V-3), AND STRIPPER FEED SEPARATOR (V-4)**

The 30 MMBtu/hr heater F-1 and other listed equipment has been shut down and removed from the gas plant permit. There are some vessels and process equipment remaining on the revised PTO. A copy of the new PTO is included in Appendix A.

As required by Rules 2201 and 2301, creditable emission reductions are to be based upon the historical actual emissions (HAE) over the appropriate baseline period, and the use of acceptable emission factors.

V. Calculations:

A. Assumptions and Emission Factors

Assumptions:

The F-1 heater was last source tested for NO_x and CO emissions on June 6, 2018, which is at the end, but within, the baseline period. At that time, testing showed a NO_x emission level of 0.0084 lb/MMBtu or 6.89 ppmv @ 3% O₂. CO emissions were measured at 52.0 ppmv @ 3% O₂, equivalent to 0.1656 lb/MMBtu. Each measurement was below the permit limits of 9 ppmv NO_x and 130 ppmv CO, each corrected to 3% O₂. See Appendix B for a copy of the 2018 source test.

Emission factors or data used in calculating HAE are listed in the table below. Rule 4320 also imposes particulate matter controls by requiring a limit on the sulfur content of fuel gases by one of the methods described in section 5.4. CUSA satisfies this requirement with the exclusive use of natural gas fuel.

The higher heating value of the natural gas used at the 17Z plant in the combustion devices shut down was measured frequently and had an average hhv of 1,019 Btu/scf

Emission Factors:

Heater F-1 Emission Factors			
Unit	Pollutant	Emission Factor	Source
S-49-1-10	VOC	0.0055 lb-VOC/MMBtu	Permit
	NO _x	6.89 ppmv @ 3% O ₂ (0.0084 lb-NO _x /MMBtu)	Source Test
	PM ₁₀	0.0076 lb/MMBtu	Permit

B. Baseline Period Determination and Data

Pursuant to District Rule 2201, Section 3.8, the baseline period for determining actual historical emissions for banking purposes shall be a period of time equal to either:

- 3.8.1 the two consecutive years of operation immediately prior to the submission date of the Complete Application; or

- 3.8.2 at least two consecutive years within the five years immediately prior to the submission date of the Complete Application if determined by the APCO as more representative of normal source operation; or
- 3.8.3 a shorter period of at least one year if the emissions unit has not been in operation for two years and this represents the full operational history of the emissions unit, including any replacement units; or
- 3.8.4 zero years if an emissions unit has been in operation for less than one year (only for use when calculating AER).

CUSA provided natural gas fuel use data in Mscf (10³ ft³) for both units during the two years immediately prior to the permanent shutdown of the heater, June 2016 through May 2018. As this two-year period is immediately prior to the shutdown of the heater, there is no need to determine an alternate baseline period. The daily fuel use data was used to calculate the monthly fuel use data which was then used to calculate the averaged quarterly fuel use and resulting emissions during the baseline period.

1. Fuel use and heat input for the F-1 Heater

Month	Mscf	HHV (Btu/scf)	MMBtu
June 2016 (6/9 – 6/30)	10,204	1,019	10,398
July 2016	13,867	1,019	14,130
August 2016	14,207	1,019	14,477
September 2016	13,082	1,019	13,331
October 2016	9,331	1,019	9,508
November 2016	12,040	1,019	12,269
December 2016	12,079	1,019	12,309
January 2017	12,017	1,019	12,245
February 2017	11,683	1,019	11,905
March 2017	13,069	1,019	13,317
April 2017	13,129	1,019	13,378
May 2017	7,558	1,019	7,702
June 2017	11,936	1,019	12,163
July 2017	13,361	1,019	13,615
August 2017	13,702	1,019	13,962
September 2017	12,463	1,019	12,700
October 2017	13,117	1,019	13,366
November 2017	12,384	1,019	12,619
December 2017	12,058	1,019	12,287
January 2018	11,623	1,019	11,844
February 2018	9,217	1,019	9,392
March 2018	9,380	1,019	9,558
April 2018	10,993	1,019	11,202
May 2018	11,090	1,019	11,301
June 2018 (6/01 – 6/08)	2,755	1,019	2,807

In order to produce an ERC banking certificate with quarterly emission values, it is necessary to average the monthly fuel use for the two-year baseline period, then create quarterly values by combining the three averaged monthly values for each calendar quarter.

2. Averaged Monthly Heat Input for the F-1 Heater

Month	Averaged Heat Input (MMBtu)
January	12,045
February	10,649
March	11,438
April	12,290
May	9,502
June	12,684
July	13,873
August	14,220
September	13,016
October	11,437
November	12,444
December	12,298

Calendar Quarter	Quarterly Averaged Heat Input (MMBtu)
First (Jan-Mar)	34,132
Second (Apr-June)	34,476
Third (July-Sept)	41,109
Fourth (Oct-Dec)	36,179

C. Historical Actual Emissions (HAE)

(Quarterly Average Heat Input [MMBtu/Qtr])*(Emission Factor [lb-Pollutant/MMBtu]) = Quarterly Emissions [lb-Pollutant/Qtr]
 Example - Q1: (34,132 MMBtu)(0.0084 lb-NOx/MMBtu) = 287 lbs-NOx/qtr

HAE F-1 Heater (lbs/Qtr)				
Pollutant	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
VOC	188	190	226	199
NO _x	287	290	345	304
PM ₁₀	259	262	312	275

D. Adjustments to HAE

Pursuant to Section 3.23 of Rule 2201, Historical Actual Emissions must be discounted for any emissions reduction which is:

- 3.23.1 Any emissions reductions required or encumbered by any laws, rules, regulations, agreements, orders, or permits; and
- 3.23.2 Any emissions reductions attributed to a control measure noticed for workshop, or proposed or contained in a State Implementation Plan, and
- 3.23.3 Any emissions reductions proposed in the District air quality plan for attaining the annual reductions required by the California Clean Air Act, and
- 3.23.4 Any Actual Emissions in excess of those required or encumbered by any laws, rules, regulations, orders, or permits. For units covered by a Specific Limiting Condition (SLC), the total overall HAE for all units covered by SLC must be discounted for any emissions in excess of that allowed by the SLC.

The emission factors above were used to calculate HAE. As the subject unit was found to be in compliance with all applicable prohibitory rules, no further adjustments to the HAE were required.

E. Actual Emissions Reductions (AER)

Per Rule 2201, Section 4.12, the Actual Emissions Reductions due to shutdown of emissions units shall be calculated, on a pollutant-by-pollutant basis, as follows:

$AER = HAE - PE2$

Where:

HAE = Historic Actual Emissions

PE2 = Post-project Potential to Emit

Because the heater is permanently shut down, PE2 = 0. Therefore, $AER = HAE - 0$, or $AER = HAE$

AER F-1 Heater (lbs/Qtr)				
Pollutant	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
VOC	188	190	226	199
NOx	287	290	345	304
PM10	259	262	312	275

F. Air Quality Improvement Deduction

The Air Quality Improvement Deduction (AQID) is 10% of the AER per Rule 2201, Sections 3.6 and 4.12.1, and is summarized as follows:

AQID F-1 Heater (lbs/Qtr)				
Pollutant	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
VOC	19	19	23	20
NOx	29	29	35	30
PM10	26	26	31	28

G. Increases in Permitted Emissions (IPE)

The emissions reductions were generated by the permanent shutdown of one 30.0 MMBtu/hr natural gas fired heater. There is no additional equipment being added and no increases in permitted emissions for the remaining gas plant permit.

H. Bankable Emissions Reduction Credits

The bankable emissions reduction credits, presented in following table, are determined by subtraction of the Air Quality Improvement Deduction (discussed in Section V.F) from the AER.

Project Bankable Emission Reduction Credits (lbs/Qtr)				
Pollutant	1 st Qtr	2 nd Qtr	3 rd Qtr	4 th Qtr
VOC	169	171	203	179
NO _x	258	261	310	274
PM ₁₀	233	236	281	247

VI. Compliance:

Rule 2201 - New and Modified Stationary Source Review Rule:

To comply with the definition of Actual Emissions Reductions (Rule 2201, Section 3.2), the reductions must be real, enforceable, quantifiable, permanent, and surplus.

A. Real

The emission reductions were generated by the permanent shutdown of one 30 MMBtu/hr natural gas fired heater that was part of Chevron's 17Z Gas Plant permit S-49-1-10.

The produced gas is not being diverted from the 17Z plant to other gas plants as a result of this change.

The permanent cessation of emissions the heater is June 9, 2018. The application to bank ERCs was received on October 30, 2018. The District has issued an ATC and revised PTO S-49-1 to remove the heater F-1 and miscellaneous other equipment pieces. Therefore, the emission reductions are real.

B. Enforceable

The PTO for the gas plant has been modified to remove the 30.0 MMBtu/hr heater. The heater cannot be operated without having, or being part of, a valid PTO. Therefore, the emission reductions are enforceable.

C. Quantifiable

Reduction amounts were calculated from historic process data, and accepted emission factors which consider any discounting requirements for banking emissions from the heater. Therefore, the emission reductions are quantifiable.

D. Permanent

The heater has been rendered inoperable and expected to be removed from the site in the near future, if not already. Field gas is not being diverted from the 17Z plant to other gas plants because of the equipment removal. Some of the gas received is utilized by Chevron for use in gas-fired oilfield equipment while the rest is sold to California Resources Production Corp for this use. The change has allowed them to shut down the process heater F-1. The Permit to Operate for the gas plant (S-49-1) has been modified to exclude the heater. Therefore, the emission reductions are permanent.

E. Surplus

To be considered a surplus actual emission reduction (pursuant to Rule 2201 section 3.2.2), the emission reduction must be in excess of any emissions reduction which is:

- 1) required or encumbered by any laws, rules, regulations, agreements, orders,
- 2) attributed to a control measure noticed for workshop, or proposed or contained in a State implementation Plan, or
- 3) proposed in the APCO's adopted air quality plan pursuant to the California Clean Air Act

The discussion below evaluates if the emission reductions resulting from the shutdown of the heater meets the criteria above:

The heater was subject to the emission limits in the following District rules:

- Rule 4201 Particulate Matter Concentration (PM emissions of 0.1 gr/dscf)
- Rule 4305 Boilers, Steam Generators, and Process Heaters - Phase 2
- Rule 4306 Boilers, Steam Generators, and Process Heaters - Phase 3
- Rule 4320 Advanced Emission Reduction Options For Boilers, Steam Generators, And Process Heaters Greater Than 5.0 MMBtu/Hr

The following emission limits (from the PTO) reflect compliance with the above rules:

Heater Emissions Limits (lb/MMBtu)

Pollutant	PTO S-49-1-10
NO _x	0.011
PM ₁₀	0.0076
VOC	0.0055

Please note that the heater achieved compliance with Rule 4320 by paying the annual (NO_x) emissions fee, pursuant to Rule 4320, Section 5.1.2, rather than meeting the NO_x

emission limit of Table 1. It should also be noted that HAE for the heater were based on an emission factor of 6.89 ppmv-NO_x @ 3% O₂, which is below the 7 ppmv-NO_x limit that would otherwise be applicable to this sized heater from Rule 4320, Table 1, Category B.

NO_x Emission Reductions:

The CUSA heater was last source tested for NO_x emissions on June 6, 2018, which is within the baseline period. At that time, testing showed a NO_x emission level of 0.0084 lb/MMBtu or 6.89 ppmv @ 3% O₂. Each measurement was below the permit limit of 9 ppmv NO_x corrected to 3% O₂. The heater has shown compliance with the permit conditions.

As discussed above, District Rule 4320 would require this heater to achieve a NO_x emission level of 7 ppmv @ 3% O₂, equivalent to 0.0085 lb-NO_x/MMBtu if it were not paying the annual emission fee. Source testing shows that the heater is capable of achieving this 7 ppmv limit. Pursuant to the definition of "Actual Emissions Reduction", in Rule 2201, Section 3.2, "To be considered surplus, AER shall be in excess, at the time the application for an Emission Reduction Credit or an Authority to Construct authorizing such reductions is deemed complete, of any emissions reduction which is required or encumbered by any laws, rules, regulations, agreements, orders....."

Therefore, only AER that is calculated at 7 ppmv NO_x @ 3% O₂ or 0.0085 lb-NO_x/MMBtu or lower is eligible for banking. At 6.89 ppmv-NO_x, the emission reduction calculated is surplus of the emissions allowed in its Permit to Operate and from Rule 4320.

PM₁₀ Emission Reductions:

No source test information was available for PM₁₀ during the chosen baseline period as it is not required by Rule 4306 or 4320. The emissions factor for PM₁₀ used to calculate the AER, 0.0076 lb-PM₁₀/MMBtu, is from the unit's Permit to Operate and is the value typically used from AP-42 to limit PM₁₀ from natural gas combustion and is what would typically be required by District Rule 2201 for new or modified gas-fired units. Therefore, the emission reduction is surplus of the emissions allowable by District, or any other, applicable rules and regulations, or source test data.

VOC Emissions Reductions:

No source test information was available for VOC during the baseline period as it is not required by Rule 4306 or 4320. The emission factor for VOC used to calculate the AER, 0.0055 lb-VOC/MMBtu, is from the unit's Permit to Operate and is the value typically used from AP-42 to limit VOC from natural gas combustion and is what would typically be required by District Rule 2201 for new or modified gas-fired units. As such, the emission reduction is surplus of the emissions allowable in its permit to operate, or any applicable rules or regulations.

The emission reduction is in excess of any emission reduction attributed to a control measure noticed for workshop, or proposed or contained in a State implementation Plan

The heater was subject to Rules 4305, 4306, and 4320 before the shutdown, but not subject to the emission limits of Rule 4320 because it utilizes the NO_x fee option. The District has not noticed for workshop any amendments to Rule 4320.

Further, a review of the most recent EPA approved attainment plan (the 2012 PM_{2.5} attainment plan that is part of the SIP) revealed that this attainment plan did not include a commitment to amend Rule 4320 to require further emission reductions from the heater. As such, the emission reduction is surplus of any control measure contained in a State Implementation Plan.

The emission reduction is in excess of any emission reduction which is proposed in the APCO's adopted air quality plan pursuant to the California Clean Air Act.

A review of the 2016 ozone and 2018 PM_{2.5} attainment plans (not yet approved by EPA as part of the SIP) revealed that the 2018 PM_{2.5} plan includes a commitment to investigate further NO_x reductions from Rule 4320 for process heaters greater than 20 MMBtu/hr input. It should be noted that the 17Z Gas Plant heater is not subject to the emission limits set forth in Rule 4320 to fulfill compliance with the rule and there is no discussion of how the NO_x fee option of Rule 4320 may be impacted. As such, the emission reduction is surplus of any control measure contained in an adopted air quality attainment plan.

As discussed above, the emission reduction meets the criterial for a surplus actual emission reduction.

F. Not used for the Approval of an Authority to Construct

The emission reductions generated by the shutdown of the boiler were not previously used for the approval of any Authority to Construct(s).

Rule 2301 – Emission Reduction Banking:

Section 5.5 states that ERC certificate applications for reductions shall be submitted within 180 days after the emission reduction occurs. CUSA permanently ceased operation of the heater on June 9, 2018. The ERC application was received on October 30, 2018, within the 180 day timeframe allowed. Therefore, the application was submitted in a timely fashion.

Section 6.1.2 states that if the emission reductions were created as a result of the shutdown of a permitted emissions unit, the relevant Permit(s) to Operate has been surrendered and voided. An ATC application to modify Permit to Operate S-49-1-10, which included removing the 30 MMBtu/hr heater F-1, was submitted on January 11, 2019, An ATC was issued May 15, 2019, and the revised Permit to Operate was issued September 30, 2019.

VII. Recommendation:

Issue Emission Reduction Credit (ERC) Certificates S-5059-1 (VOC), S-5059-2 (NO_x), and S-5059-4 (PM₁₀) in the amounts shown below and on the draft ERC certificates contained in Appendix C.

Bankable Emission Reduction Credits (lbs/Qtr)				
Pollutant	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
VOC	169	171	203	179
NO _x	258	261	310	274
PM ₁₀	233	236	281	247

List of Appendices

- A. Revised Permit to Operate S-49-1-11
- B. 2018 Source Test Results for Unit S-49-1-10
- C. Draft ERC Certificates S-5059

APPENDIX A

Revised Permit to Operate S-49-1-11

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-49-1-11

EXPIRATION DATE: 08/31/2023

SECTION: 17 TOWNSHIP: 30S RANGE: 22E

EQUIPMENT DESCRIPTION:

INLET SCRUBBERS (V-1 AND V-1A), DISCHARGE SCRUBBER (V-18), THREE ELECTRICALLY-DRIVEN GAS COMPRESSORS, LUBE OIL KNOCK OUT VESSEL AND ASSOCIATED VAPOR PIPING

PERMIT UNIT REQUIREMENTS

1. 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. [District Rule 4101]
2. The requirements of Rule 4409 do not apply to the following components exempted in accordance with Section 4.2 of Rule 4409: pressure relief devices, pumps, and compressors equipped with a closed-vent system as defined in Rule 4409; components buried below ground; components exclusively handling liquid streams which have less than 10 percent by weight (<10 wt%) evaporation at 150 degrees C; components handling liquids with 90% by volume or greater (greater than or equal to 90 vol%) water concentration if the components are located after initial oil/water separation; components at oil production facilities and gas production facilities exclusively handling gas/vapor or liquid with a VOC content of ten percent by weight or less (less than or equal to 10 wt%); components exclusively in vacuum service; components handling commercial quality natural gas exclusively; and one-half inch nominal or less stainless tube fittings which have been demonstrated to be leak-free based on initial inspection. [District Rule 4409, 4.2]
3. The permittee shall not use any component that leaks in excess of the applicable leak standards as specified in this permit. Components that have been found to be leaking in excess of the applicable leak standards of this rule may be used provided such leaking components have been identified with a tag for repair, are repaired, or are awaiting re-inspection after being repaired, within the applicable time period specified in this permit. [District Rule 4409]
4. For valves, threaded connections, flanges, pipes, pumps, compressors, and other components subject to the requirements of Rule 4409, but not specified in this permit; a major gas leak is a detection of > 10,000 ppmv as methane; a minor gas leak is a detection of 1,000 to 10,000 ppmv as methane when the component is in liquid service; a minor gas leak is a detection of 2,000 to 10,000 ppmv as methane when the component is in gas/vapor service. [District Rule 4409, 5.1.1]
5. For pressure relief devices (PRDs); a major gas leak is a detection of > 10,000 ppmv as methane; a minor gas leak is a detection of 200 to 10,000 ppmv as methane when the component is in liquid service; a minor gas leak is a detection of 400 to 10,000 ppmv as methane when the component is in gas/vapor service. [District Rule 4409, 5.1.1]
6. Each hatch shall be closed at all times except during sampling or adding of process material through the hatch, or during attended repair, replacement, or maintenance operations, provided such activities are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4409, 5.1.2]
7. Leaks detected during quarterly operator inspections shall not be counted towards determination of compliance with the provisions of Rule 4409 provided the leaking components are repaired as soon as practicable but not later than the time frame specified in this permit. Leaks detected during quarterly operator inspections that are not repaired, replaced, or removed from operation as soon as practicable but not later than the time frame specified in this rule shall be counted toward determination of compliance with the provisions of Rule 4409. [District Rule 4409, 5.1.3.2.1 and 5.1.3.2.2]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

8. Leaking components at this facility detected during annual operator inspections, as required by Rule 4409 for a specific component type, that exceed the leak standards specified in this permit, shall constitute a violation of this rule. This violation is regardless of whether or not the leaking components are repaired, replaced, or removed from operation within the allowable repair time frame specified in this permit. [District Rule 4409, 5.1.3.2.3]
9. An open-ended line, or a valve located at the end of the line, that is not sealed with either a blind flange, a plug, a cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended line is a leak. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4409, 5.1.4.1]
10. A leak from a component is when there is a major liquid leak from the component. A major liquid leak from a component is when a visible mist or a continuous flow of liquid, that is not seal lubricant, leaks from the component. [District Rule 4409, 5.1.4.2]
11. A leak from a component is when gas emissions greater than 50,000 ppmv, as methane, leaks from the component. [District Rule 4409, 5.1.4.3]
12. A leak from a component is when there is a minor liquid leak; or a minor gas leak; or a gas leak greater than 10,000 ppmv up to 50,000 ppmv and numbering in excess of the maximum allowable number or percent specified in this permit. A minor liquid leak from a component is when more than three drops of liquid per minute, that is not seal lubricant and is not a major liquid leak, leaks from the component. [District Rule 4409, 5.1.4.4]
13. When 200 or fewer valves are inspected, a leak from a valve is when more than one valve has a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 valves are inspected, a leak from a valve is when more than 0.5 % (rounded up to the nearest whole number) of the valves have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. [District Rule 4409, 5.1.4.4]
14. When 200 or fewer threaded connections are inspected, a leak from a threaded connection is when more than one threaded connection has a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 threaded connections are inspected, a leak from a threaded connection is when more than 0.5 % (rounded up to the nearest whole number) of the threaded connections have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. [District Rule 4409, 5.1.4.4]
15. When 200 or fewer flanges are inspected, a leak from a flange is when more than one flange has a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. When greater than 200 flanges are inspected, a leak from a flange is when more than 0.5 % (rounded up to the nearest whole number) of the flanges have a minor liquid leak, a minor gas leak, or a gas leak > 10,000 ppmv and < or equal to 50,000 ppmv. [District Rule 4409, 5.1.4.4]
16. When 200 or fewer pumps are inspected, a leak from a pump is when more than two pumps have a minor liquid leak, a minor gas leak, or a gas leak greater than 10,000 ppmv and less than or equal to 50,000 ppmv. When greater than 200 pumps are inspected, a leak from a pump is when more than 1.0 % (rounded up to the nearest whole number) of the pumps have a minor liquid leak, a minor gas leak, or a gas leak greater than 10,000 ppmv and less than or equal to 50,000 ppmv. [District Rule 4409, 5.1.4.4]
17. When compressors, PRDs, or other components not specified in this permit are inspected, a leak from these components is when more than one component has a minor liquid leak, a minor gas leak, or a gas leak greater than 10,000 ppmv and less than or equal to 50,000 ppmv. [District Rule 4409, 5.1.4.4]
18. For manned facilities all accessible operating pumps, compressors, and PRDs, in service, shall be audio-visually inspected for leaks at least once every 24 hours except when operators do not report to the facility during a 24 hour period. [District Rule 4409, 5.2.1]
19. For unmanned facilities all accessible operating pumps, compressors, and PRDs, in service, shall be audio-visually inspected for leaks at least once per calendar week. [District Rule 4409, 5.2.2]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

20. All accessible operating pumps, compressors, and PRDs, in service, that are found to be leaking by audio-visual inspection shall be attempted to be repaired immediately. The leaking component shall then be tested within 24 hours and, if found leaking again, shall be repaired as soon as practicable but not later than the time frame specified in this permit. [District Rule 4409, 5.2.3]
21. Except for inaccessible components, unsafe-to-monitor components, or pipes, all components, in service, shall be tested for leaks at least once every calendar quarter. [District Rule 4409, 5.2.4]
22. All new, replaced, or repaired fittings, flanges, and threaded connections shall be tested for leaks immediately after being placed into service. [District Rule 4409, 5.2.5]
23. All inaccessible components shall be tested for leaks at least once every 12 months. [District Rule 4409, 5.2.6]
24. All unsafe-to-monitor components shall be tested for leaks during each turnaround. [District Rule 4409, 5.2.7]
25. All pipes shall be visually inspected for leaks at least once every 12 months. [District Rule 4409, 5.2.8]
26. All pipes, in service, that are found to be leaking by visual inspection shall be attempted to be repaired immediately. The leaking pipe shall then be tested within 24 hours and, if found leaking again, shall be repaired as soon as practicable but not later than the time frame specified in this permit. [District Rule 4409, 5.2.8.1]
27. The annual pipe inspection required by either the Department of Oil, Gas, and Geothermal Resources (DOGGR) pursuant to California Code of Regulation Title 14, Division 2, Subchapter 2, Section 1774 (Oilfield Facilities and Equipment Maintenance), or by the Spill Prevention Control and Countermeasure Plan (SPCC) pursuant to 40 Code of Federal Regulation Part 112 (Oil Prevention and Response: Non- Transportation-Related Onshore and Offshore Facilities) can be used as the annual pipe inspection required by District Rule 4409. [District Rule 4409, 5.2.8.2]
28. Except for pumps, compressors, and PRDs, the permittee may apply for written approval from the District to change the inspection frequency of accessible components from quarterly to annually for a specific component type provided the following two qualifying requirements are met. During the previous five consecutive quarterly inspections, for the specific component type, there shall be no more leaks than as allowed by this permit. The permittee also shall not have received a Notice of Violation (NOV) from the District during the previous 12 months for violating any provisions of District Rule 4409 for the specific component type. If these two qualifying requirements have not been met, then the inspection frequency shall revert back to quarterly. The written request shall include pertinent documentation to demonstrate that the operator has successfully met the two qualifying requirements. [District Rule 4409, 5.2.9 and 5.2.10]
29. The permittee shall notify the District in writing within five calendar days after changing the inspection frequency for a specific component type. The written notification shall include the reason(s) and date of change to a quarterly inspection frequency. [District Rule 4409, 5.2.11]
30. A PRD that releases to the atmosphere shall be inspected by the permittee for leaks as soon as practicable but not later than 24 hours after the time of the release. The permittee shall reinspect the PRD for leaks not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the date of the initial release. If the PRD is found by the permittee to be leaking during either inspection, the PRD leak shall be treated as if the leak was found during the required quarterly operator inspections. [District Rule 4409, 5.2.12]
31. Except for PRDs, a component shall be inspected for leaks not later than 15 calendar days after repairing the leak or replacing the component. Except for PRDs, a component shall be inspected for leaks not later than 15 calendar days after repairing the leak or replacing the component. [District Rule 4409, 5.2.13]
32. District inspections shall not be counted as an operator inspection required by District Rule 4409. Any attempt by an operator to count such District inspections as part of the operator's mandatory inspections is considered a willful circumvention of the rule and is a violation of this rule. [District Rule 4409, 5.2.14]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

33. The operator, upon detection of a leaking component, shall affix to that component a weatherproof, readily visible tag, bearing the date and time of leak detection and the date and time of the leak measurement. For gaseous leaks, the tag shall indicate the leak concentration in ppmv. For liquid leaks, the tag shall indicate whether it is a major liquid leak or a minor liquid leak. The tag shall indicate, when applicable, whether the component is an essential component, an unsafe-to-monitor component, or a critical component. The tag shall remain in place until the leaking component is repaired or replaced and reinspected and found to be in compliance with the requirements of this rule. [District Rule 4409, 5.3.1, 5.3.2, and 5.3.3]
34. The operator shall minimize all component leaks immediately, to the extent possible, but not later than one hour after detection of the leak in order to stop or reduce leakage to the atmosphere. If the leak has been minimized but the leak still exceeds the applicable leak standards specified in this permit, the operator shall do one of the following within the time frames specified within this permit: 1) repair or replace the leaking component; 2) vent the leaking component to a closed vent system; 3) or remove the leaking component from operation. A closed vent system is a District approved system that is not open to the atmosphere. It is composed of hard-piping, ductwork connections and, if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to a District approved control device that has a overall VOC collection and destruction or removal efficiency of at least 95%, or that transports gases or vapors back to a process system. [District Rule 4409, 5.3.4]
35. The operator shall repair minor gas leaks within seven days. The operator shall repair major gas leaks, which are > 10,000 ppmv but < or equal to 50,000 ppmv, within three days. The operator shall repair major gas leaks, which are > 50,000 ppmv, within two days. The operator shall repair minor liquid leaks within three days. The operator shall repair major liquid leaks within two days. The leak rate measured after leak minimization has been performed shall be the leak rate used to determine the applicable repair period. The start of the repair period shall be the time of the initial leak detection. [District Rule 4409, 5.3.4 and 5.3.5]
36. For each calendar quarter, the operator may extend the repair period for a total number of leaking components, not to exceed 0.05 % of the number of components inspected, by type, rounded upward to the nearest whole number. The repair period for minor gas leaks can be extended by seven additional days. The repair period for major gas leaks, which are > 10,000 ppmv but < or equal to 50,000 ppmv, can be extended by two additional days. [District Rule 4409, 5.3.5]
37. If a leaking component is an essential component or a critical component and which cannot be shut down immediately for repairs, the operator shall do the following: 1) minimize the leak within one hour after detection of the leak; 2) and if the leak has been minimized, but the leak still exceeds the applicable leak standards of Rule 4409 as specified in this permit, the essential component or critical component shall be repaired or replaced to eliminate the leak during the next process unit turnaround. The repair shall occur no later than one year from the date of the original leak detection. [District Rule 4409, 5.3.6]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

38. For any component that has incurred five repair actions for major gas leaks or major liquid leaks, or a combination of major gas leaks and major liquid leaks within a continuous 12-month period, the operator shall do one of the following four options. Options 1a through 1f require written notification to the District, option 2 requires written notification to the District and written District approval, options 3 and 4 do not require written notification to the District. Option 1: 1a) For compressors - replace the existing seal with either a dual mechanical seal, an oil film seal, a gas seal, or a face-type seal; 1b) for pumps - replace the pump with a seal-less pump or replace the seal with a dual mechanical seal; 1c) for PRDs - replace the PRD and install a rupture disc in the line which precedes the PRD such that the PRD is in series with and follows the rupture disc; 1d) for valves - replace the valve with a sealed bellows valve, or for seal rings install graphite or Teflon chevron seal rings in a live-loaded packing gland; 1e) for threaded connections - weld the connections or replace threaded connections with flanges; 1f) for sampling connections - replace the sampling connection with a closed-loop sampling system; Option 2) Replace the component with Achieved-in-Practice Best Available Control Technology (BACT) equipment; Option 3) Vent the component to a District approved closed-vent system; and Option 4) Remove the component from operation. For any component that is accessible, is not unsafe-to-monitor, is not an essential component, or is not a critical component, the operator shall comply with these requirements as soon as practicable but not later than twelve months after the date of detection of the fifth major leak within a continuous 12-month period. For any component that is inaccessible, is unsafe-to-monitor, is essential, or is a critical component, the operator shall comply with these requirements as soon as practicable but not later than the next turnaround or not later than two years after the date of detection of the fifth major leak within a continuous 12-month period, whichever comes first. [District Rule 4409, 5.3.7]
39. All major components and critical components shall be physically identified clearly and visibly for inspection, repair, and recordkeeping purposes. The physical identification shall consist of labels, tags, manufacturer's nameplate identifier, serial number, or model number, or other system approved by the District that enables an operator or the District to locate each individual component. The operator shall replace physical identifications that become missing or unreadable as soon as practicable but not later than 24 hours after discovery. [District Rule 4409, 5.4.1]
40. The operator shall maintain a copy of the latest APCO-approved Operator Management Plan (OMP) at the facility and make it available to the APCO, ARB, and US EPA upon request. [District Rule 4409, 6.1.2]
41. By January 30 of each year, the operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to the existing, approved OMP. [District Rule 4409, 6.14]
42. The operator shall maintain an inspection log that has been signed and dated by the facility operator responsible for the inspection, certifying the accuracy of the information recorded in the log. The inspection log shall contain, at a minimum, all of the following information: 1) The total number of components inspected, and the total number and percentage of leaking components found by component types; 2) The location, type, name or description of each leaking component and the description of any unit where the leaking component is found; 3) Date of the leak detection and method of the leak detection; 4) For gaseous leaks, record the leak concentration in ppmv, and for liquid leaks record whether the leak is a major liquid leak or a minor liquid leak; 5) The date of repair, replacement, or removal from operation of the leaking component(s); 6) The identification and location of essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes first; 7) The method(s) used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier; 8) The date of re-inspection and the leak concentration in ppmv after the component is repaired or is replaced; 9) The inspector's name, business mailing address, and business telephone number. [District Rule 4409, 6.2.1]
43. Records of leaks detected during quarterly or annual operator inspections, and each subsequent repair and re-inspection, shall be submitted to the District, ARB, and EPA upon request. [District Rule 4409, 6.2.2]
44. Records shall be maintained of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components. The records shall include a copy of the current calibration gas certification from the vendor of the calibration gas cylinder, the date of calibration, the concentration of calibration gas, the instrument reading of calibration gas before adjustment, the instrument reading of calibration gas after adjustment, the calibration gas expiration date, and the calibration gas cylinder pressure at the time of calibration. [District Rule 4409, 6.2.3]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

45. All measurements of gaseous leak concentrations shall be conducted according to EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in EPA Method 21 or the manufacturer's instructions not more than 30 days prior to its use. [District Rule 4409, 6.3.1]
46. The VOC content by weight percent shall be determined using ASTM D-1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 for liquids. [District Rule 4409, 6.3.2]
47. The percent by volume liquid evaporated at 302 deg F (150 deg C) shall be determined using ASTM D-86. [District Rule 4409, 6.3.3]
48. The TVP of any organic liquid shall be determined by measuring the Reid Vapor Pressure (RVP) using ASTM D-323, and converting the RVP to TVP at the maximum organic liquid storage temperature. The conversion of RVP to TVP shall be done in accordance with the procedures specified in Appendix A of District Rule 4409. [District Rule 4409, 6.3.4]
49. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM D-287 or ASTM 1298. Sampling for API gravity shall be performed in accordance with ASTM D-4057. [District Rule 4409, 6.3.5]
50. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rule 4409, 6.3.6]
51. Halogenated exempt compounds shall be analyzed by EPA Method 18 or ARB Method 422. [District Rule 4409, 6.3.7]
52. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4409]

These terms and conditions are part of the Facility-wide Permit to Operate.

APPENDIX B

2018 Source Test Results for Unit S-49-1-10

AEROS ENVIRONMENTAL, INC.

Summary Of Results

Chevron U.S.A., Inc.
Cymric
Furnace F-1, Retest

Project 104-1470
June 6, 2018
ATC No. S-49-1-10

Pollutant	ppm	ppm @ 3% O ₂	lb/hr	lb/MMBtu	Permit Limits
NO _x	5.42	6.50	0.14	0.0079	
	5.88	7.10	0.15	0.0087	
	5.93	7.07	0.16	0.0086	
Mean	5.74	6.89	0.15	0.0084	9 ppm @ 3% O ₂
CO	49.6	59.5	0.79	0.0443	
	50.8	61.4	0.81	0.0457	
	29.5	35.2	0.47	0.0262	
Mean	43.3	52.0	0.69	0.0387	130 ppm @ 3% O ₂
	ppm	gr/100 scf	lb/hr	lb/MMBtu	
Fuel Sulfur	As H ₂ S in Fuel Gas 2.64	As S in Fuel Gas 0.154	As SO ₂ in Stack Exhaust 0.0079	As SO ₂ in Stack Exhaust 0.00044	1.0 gr/100 scf
Comments: _____					

APPENDIX C

Draft ERC Certificates S-5059

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

DRAFT
S-5059-1

ISSUED TO: CHEVRON USA INC

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 17Z GAS PLANT
CA

For VOC Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
169 lbs	171 lbs	203 lbs	179 lbs

Method Of Reduction

- Shutdown of Entire Stationary Source
- Shutdown of Emissions Units
- Other

Shutdown of 30.0 MMBtu/hr heater F-1 from S-49-1

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Samir Sheikh, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

DRAFT
S-5059-2

ISSUED TO: CHEVRON USA INC

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 17Z GAS PLANT
CA

For NOx Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
258 lbs	261 lbs	310 lbs	274 lbs

Method Of Reduction

- Shutdown of Entire Stationary Source
- Shutdown of Emissions Units
- Other

Shutdown of 30.0 MMBtu/hr heater F-1 from S-49-1

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Samir Sheikh, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

DRAFT
S-5059-4

ISSUED TO: CHEVRON USA INC

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 17Z GAS PLANT
CA

For PM10 Reductions In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
233 lbs	236 lbs	281 lbs	247 lbs

Portion of above PM10 Reductions that is PM2.5:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
100.0%	100.0%	100.0%	100.0%
233 lbs	236 lbs	281 lbs	247 lbs

Method Of Reduction

- Shutdown of Entire Stationary Source
- Shutdown of Emissions Units
- Other

Shutdown of 30.0 MMBtu/hr heater F-1 from S-49-1

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Samir Sheikh, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services