

BEFORE THE HEARING BOARD
OF THE
BAY AREA AIR QUALITY MANAGEMENT DISTRICT
STATE OF CALIFORNIA

APPLICATION FOR VARIANCE

FILED
AUG 12 2024
HEARING BOARD
BAY AREA AIR QUALITY
MANAGEMENT DISTRICT

In the Matter of the Application of)
Ameresco Keller Canyon RNG LLC)

(Applicant: Insert business or organization)
name above))

For a Variance from Regulation(s):)
Permit Conditions 27707.12 and 27708.12 (Source Testing))

(Applicant: Insert Regulations in form:)
Regulation⁸____, Rule³⁴____, Section⁴¹²____)

DOCKET NO. 3753
(Assigned by Clerk)

TYPE OF VARIANCE REQUESTED (see Page 3 for further information)

SHORT INTERIM REGULAR GROUP PRODUCT

VARIANCE PERIOD REQUESTED (see Page 10, No. 20):

From: 8/22/2024 To 11/20/2024

TOTAL NUMBER OF (CALENDAR) DAYS IN VARIANCE PERIOD: 90

(Note: Variance relief will not be granted for any period preceding the date of filing of the Application for Variance.)

[ALL DOCUMENTS FILED WITH THE CLERK'S OFFICE BECOME PUBLIC RECORD]

SUMMARY PAGE

NAME OF APPLICANT: Ameresco Keller Canyon RNG LLC

FACILITY ADDRESS: 901 Bailey Rd

City, State, Zip: Pittsburg, CA 94565

PLANT # or G #: 24772

SOURCE

#(S): A-1 and A-2

CONTACT: Name, title, company (if different than Applicant), address, and phone number of persons authorized to receive notices regarding this Applicant (no more than two authorized persons).

Andrew McClelland
Environmental Compliance Manager
111 Speen St, Ste 410
Framingham, MA Zip 01701
☎ 508-661-2242 Ext.
Fax ()
E-mail amcclelland@ameresco.com
California Bar #

Richard Peary
Director - Compliance
111 Speen St, Ste 410
Framingham, MA Zip 01701
☎ 508-598-3076 Ext.
Fax ()
E-mail rpeary@ameresco.com
California Bar #

BRIEFLY SUMMARIZE EQUIPMENT/ACTIVITY SUBJECT TO THIS VARIANCE REQUEST:

Thermal Oxidizer (A-1) and Enclosed Flare (A-2) are used to control waste gases from a process that creates renewable natural gas (RNG) from landfill gas (LFG).

LIST DISTRICT REGULATIONS, RULES AND PERMIT CONDITIONS SUBJECT TO THIS VARIANCE REQUEST:

<u>Permit Condition 27707.12</u>	<u>Regulation 2-1-307</u>
<u>Permit Condition 27708.12</u>	
<u>Regulation 8-34-412</u>	

SUMMARY OF TOTAL EXCESS EMISSIONS:

<u>Pollutants</u>	<u>Net Emissions After Mitigation (lbs/day or Opacity %)</u>
<u>No Excess Emissions Anticipated</u>	

TYPE OF VARIANCE REQUESTED:

NOTE: The date of filing of the Application for Variance is the earliest allowed starting date for a variance. State law [California Health and Safety Code (H&SC)] imposes requirements on the amount of time to be allowed for notification of the public and air quality regulatory agencies before a hearing on a variance request can be held by the Hearing Board. Review the following descriptions of the types of variances, and select that which is most appropriate for your situation:

SHORT: If compliance with the District Rule(s) can be achieved in 90 (calendar) days or less, request a short-term variance. [*10-day notice required to Bay Area Air Quality Management District's Air Pollution Control Officer (APCO), Applicant, California State Air Resources Board (ARB), Federal Environmental Protection Agency (EPA).*]

INTERIM: If Applicant requires immediate relief for the period between the date of filing of variance application and the date of the decision on the matter by the Hearing Board, request an interim variance. An interim variance is recommended if significant excess emissions will occur between the date of filing and the date of the fully noticed hearing by the Hearing Board. If an interim variance is required, a hearing will be scheduled as soon as possible. The period of an interim variance shall not exceed 90 days. If an interim variance is requested, Applicant must also request a short or a regular variance on the same application.

REGULAR (OR LONG-TERM): If compliance with District Rule(s) will take more than 90 (calendar) days, request a regular variance. [*30-day published notice required. 30 days notice to APCO, Applicant, ARB.*]

GROUP: If non-compliance with District Rule(s) by each individual Applicant comprising a group is based on issues of law and fact common to each Applicant, request a group variance. [*Noticing requirements as for Short or Regular variances depending on period of the Group variance.*]

PRODUCT: Any person who manufactures a product may petition the Hearing Board for a product variance from a District Rule or Regulation. A product variance shall be granted only when a variance is necessary for the sale, supply, distribution, or use of the product. [*Noticing requirements as for Short or Regular variances depending on period of the product variance.*]

BAAQMD Regulation 1-402: **“Status of Violation Notices During Variance Proceedings:** Where a person has applied for a variance, no notices shall be issued during the period between the date of filing for the variance application and the date of decision by the Hearing Board for violations covered by the variance application. However, during the period between the date of the filing for a variance and the date of decision by the Hearing Board, evidence of additional violations shall be collected and duly recorded. Where the variance is denied, evidence of violations collected between the filing date and decision date shall be reviewed and a notice of violation issued for violations occurring during that period shall be served upon said person. Where the variance is granted, no notice of violation shall be issued for violations occurring during that period except in extraordinary circumstances as determined by the APCO.”

NOTE: The Environmental Protection Agency (EPA), a federal agency, does not recognize California's variance process, which is established by state law. The EPA considers facilities operating under a variance to be operating in violation of District regulations. Facilities that are in violation and then obtain a variance are advised that the EPA can independently pursue legal action based on federal law against the facility for continuing to be in violation.

1. Briefly describe the type of business and processes at your facility (Attach a map showing location)

Ameresco Keller Canyon LLC operates at RNG facility located at 901 Bailey Rd in Pittsburg, CA 94565. The facility processes LFG from the Keller Canyon Landfill into pipeline quality natural gas (process S-1). Waste gas produced by this process is controlled by one Air Clear Thermal Oxidizer (A-1) rated at 25.3 MMBtu/hr and one John Zink Enclosed Flare (A-2) rated at 35.8 MMBtu/hr.

See Small Business Considerations on Page 12, No. 21 before answering the following question:

Is Applicant a "Small Business" as defined by Health & Safety Code Section 42352.5(b)(1)?
Yes No

Is Applicant a "Major Source" as defined by the applicable provisions of the Federal Clean Air Act, 42 U.S.C. Sec. 7661(2)?
Yes No

Is Applicant a "public agency" as defined in Health & Safety Code Section 42352(b)?
Yes No

2. Describe the equipment/activity for which a Variance is being sought (type of equipment/activity, source numbers, purpose, why is it essential to your business). Attach a copy of the BAAQMD Permit to Operate or Authority to construct for the subject equipment and/or facility so long as such Permit is less than 50 pages. If the Permit is greater than 50 pages, all portions relevant to the Application shall be provided.

There are three main systems used to create RNG from LFG: a temperature swing adsorption system, a CO₂ membrane system, and an N₂ pressure swing adsorption system. Waste gases from the systems contain carbon dioxide, methane, oxygen, nitrogen, siloxanes, and hydrocarbons. These waste gases are sent to either the TOX (A-1) or the enclosed flare (A-2) for destruction.

The TOX is the primary control device. The enclosed flare is used to control waste gases during transient or upset scenarios. The control devices use preprocessed RNG (minimally processed LFG with hydrogen sulfide removed) and natural gas as supplemental fuels to startup and/or maintain combustion temperature.

Is there a regular maintenance and/or inspection schedule for this equipment? Yes No

If Yes, how often? As recommended by the manufacturer

N/A; facility is new
construction

What was the date of the last maintenance and/or inspection? _____

Are maintenance records available? Yes No

Was there any indication of problems? Yes No

APPLICANT'S PETITION FOR REQUIRED FINDINGS

California Health and Safety Code (H&S Code) 42352 requires the Hearing Board to make six findings for a variance to be granted. In this Section, Applicant must provide sufficient information to enable the Hearing Board to make a decision on each of the six findings:

Finding # 1: That the Applicant for a variance is, or will be, in violation of Health and Safety Code Section 41701 or of any rule, regulation or order of the District.

3. List all District Regulations, Rules, and/or Permit Conditions from which Applicant is seeking variance relief. Briefly explain how Applicant is or will be in violation of each rule or condition. If Applicant is requesting relief from Regulation 6, and the excess opacity during the variance period will reach or exceed 40% (Ringelmann 2), Applicant should also request relief from California Health and Safety Code Section 41701.

Regulation, Rules, Permit Conditions	Explanation
Permit Condition 27707.12	The initial source test for A-1 will be conducted more than 1,920 hours and/or 120 days from initial operation.
Permit Condition 27708.12	The initial source test for A-2 will be conducted more than 1,920 operating hours and/or 120 days from initial operation.
Regulation 8-34-412	The initial compliance demonstration test will be conducted more than 120 days after initial startup of the control devices.
Regulation 2-1-307	Failure to meet permit conditions requiring the initial source test.

4. Has the District issued any Notice(s) of Violation (NOVs) to the Applicant concerning the subject of this variance request? Yes No **If "Yes", please attach copies of the NOVs.**
5. Has the equipment in question or any other equipment at this facility been under variance protection during the last year? Yes No

Docket #	Variance Period	Nature of Emission	Regulation/Rule/Section

6. List all NOV(s) issued to equipment at the **entire** facility during the previous 12 months:

Date of Notice	NOV #	Nature of Emission	Regulation/Rule/Section
6/20/2024	A60769	Missed PPRNG H2S measurement	2-1-307

Finding # 2: That, due to conditions beyond the reasonable control of the Applicant, requiring compliance would result in either (A) an arbitrary or unreasonable taking of property, or (B) the practical closing and elimination of a lawful business.

7. Describe, in detail, the event leading to the need for a variance:

Prior to injecting product RNG into the commercial pipeline, Ameresco must satisfy specific Pacific Gas & Electric (PG&E) pre-injection testing requirements. Ameresco began sampling for the PG&E gas testing program on June 19, 2024. Ameresco currently estimates that the PG&E gas test program will be completed by September 1, 2024. Following the start of injection into the commercial pipeline, Ameresco will require several weeks to tune the plant so that it can effectively process higher flows of landfill gas.

During the testing and tuning phase, Ameresco is destroying RNG product gas in the TOX and enclosed flare. If Ameresco is required to conduct source testing prior to injecting product gas into the pipeline, the source test will not be representative of normal operations. The waste gas will contain a large volume of pipeline quality RNG which will create a different and likely cleaner emissions profile when combusted.

8. Has the Applicant received any complaints from the public regarding the operation of the subject equipment or activity within the last year? Yes No

Date of Complaint	Number of Complaints	Nature of Complaint

9. Explain why it is beyond Applicant's reasonable control to comply with the Regulation(s) and/or Permit Condition(s):

PG&E pre-injection test requirements are primarily dictated by PG&E Rule 29 as well as PG&E Rule 21. Ameresco must comply with these requirements prior to injecting RNG into the commercial pipeline. Until commercial injection is possible, the RNG will be destroyed in the TOX and enclosed flare at rates lower than the maximum operating rate, creating an emissions profile that is likely cleaner than would otherwise occur during normal operations.

10. When and how did Applicant first become aware that it was not in compliance with the Rule(s) and/or permit condition(s)?

The facility is not yet out of compliance as the source test deadline is August 22, 2024. Ameresco is proactively taking steps to obtain a short variance until source testing can be completed.

11. What actions has Applicant taken since that time to achieve compliance with the Regulation(s) or permit condition(s)?

Ameresco is working as expeditiously as possible to complete the pre-injection test requirements and tuning to achieve normal operations. Source testing is currently scheduled for the week of September 23, 2024. This is currently the earliest that Ameresco believes the facility will be operating with a suitable volume of RNG injection into the pipeline to test at or near the maximum operating rate.

12. What would be the harm to Applicant's business if the variance were not granted?

Economic losses: \$ 100,000

Number of Employees laid off (if any): _____

Provide detailed information regarding economic losses, if any, (anticipated business closure, breach of contracts, hardship on customers, layoffs and/or similar impacts).

If Ameresco were required to comply with the current source test deadline, it would expend over \$100,000 to conduct a test that would essentially be meaningless in terms of air pollutant emissions measurements. A second test would need to be conducted after the plant begins commercial operation, doubling the source testing cost.

Finding # 3: That the closing or taking would be without a corresponding benefit in reducing air contaminants.

13. List the estimated or measured excess emissions or excess opacity, if any, on a daily basis, or over a more appropriate period of time (For example: duration of requested variance period, hourly basis). Also list emissions reductions proposed by Applicant as mitigation. If no excess emissions or opacity are expected during the variance period, go to No. 16.

Pollutant	(A)	(B)	(C)**
	Estimated Excess Emissions (lbs/day)	Reduction Due to Mitigation (lbs/day)	Net Emissions After Mitigation (lbs/day)
No Excess Emissions Expected			

**Column A minus Column B = Column C

14. Show the calculations used to determine the excess emissions listed in No. 13. Are the values in No. 13 based on measurements _____ or estimates _____?

Ameresco does not anticipate excess emissions during the variance period. The facility will be combusting pipeline-quality RNG in addition to the waste gases at lower than the maximum operating rate, likely resulting in a cleaner emissions profile.

15. Do the additional emissions during the variance period contain any Toxic Air Contaminants (TACs) [pursuant to Health and Safety Code Section 39655] or odorous substances? Yes No

If Yes, list the TACs or odorous substances and approximate amounts:

N/A

16. List measured or estimated annual emissions from entire facility for each pollutant which is the subject of this variance application:

Pollutant	Total Emissions from Entire Facility (tons/year)
N/A	

Briefly explain the basis for these facility emission values:

Ameresco does not anticipate emissions in excess of the current permitted limits due to this variance.

Finding # 4: That the Applicant for the variance has given consideration to curtailing operations of the source in lieu of obtaining a variance.

17. Explain why the Applicant cannot curtail or terminate operations in lieu of obtaining a variance:

The source testing deadline is 1,920 operating hours or 120 days from the date of initial operation, whichever comes first. By curtailing or terminating operations, Ameresco would only worsen the compliance deviation by delaying the completion of pre-injection testing and commercial operation. Further, it would not be possible to conduct source testing if the facility curtailed or terminated operations.

Finding # 5: During the period that the variance is in effect, the Applicant will reduce excess emissions to the maximum extent feasible.

18. Explain how Applicant plans to reduce (mitigate) excess emissions during the variance period to the maximum extent feasible, or why reductions are not feasible (mitigation may include reductions at other sources):

No excess emissions are anticipated.

Finding # 6: During the period the variance is in effect, the Applicant will monitor or otherwise quantify emission levels from the source, if requested to do so by the District, and report these emissions levels to the District pursuant to a schedule established by the District.

19. Has the District requested that the Applicant monitor or otherwise quantify emissions during the variance period? Yes No

If Yes, please describe how Applicant will do so:

Emissions will be quantified in accordance with the procedures in the current permit.

APPLICANT'S PLAN FOR ACHIEVING COMPLIANCE:

20. How does the Applicant intend to achieve compliance with the Rule(s) and/or permit condition(s)? Include a detailed description of any equipment to be installed and/or modifications or process changes to be made, a list of the dates by which the actions will be completed, and an estimate of total costs:

Detailed Description:

Ameresco plans to successfully complete pre-injection testing on or about September 1, 2024. Following additional tuning to increase the RNG production rate, Ameresco plans to complete source testing the week of September 23, 2024.

Schedule Of Increments Of Progress:

Increment Description	Completion Date
Pre-injection testing successfully completed	9/1/2024
Source testing of A-1 and A-2	9/27/2024

Applicant may propose operating conditions for the variance period which may be considered by the Hearing Board in its evaluation of the variance application.

PROPOSED OPERATING CONDITIONS:

No alternative operation scenarios are proposed for the variance period.

Variance Period Requested: From: 8/22/2024 To: 11/20/2024

Total Number of (Calendar) Days in Variance Period: 90

(Note: Variance relief will not be granted for any period preceding the date of filing of the Application for Variance.)

Date of Application: 8/12/2024

Completed By: Andrew McClelland Title: Environmental Compliance Manager
(Print Name)

The following verification must be signed by the owner, manager, director or other responsible party of the plant, business, factory, or agency requesting the Variance.

VERIFICATION

I, the undersigned, hereby declare under the penalty of perjury, under the laws of the State of California, that I have read the foregoing document, including attachments and the items therein set forth, and that I know its contents, are true.

Dated at 111 Speen St, Ste 410, on 8/12/2024

Signature  _____

Print Name Robert Meharg

Title Vice President - Operations






Keller Source Test - Short Variance Petition

Final Audit Report

2024-08-12

Created:	2024-08-12
By:	Andrew McClelland (amcclelland@ameresco.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAA_99dSjJEiYp_ShH7j1DPIKS9VPmrgub5

"Keller Source Test - Short Variance Petition" History

-  Document created by Andrew McClelland (amcclelland@ameresco.com)
2024-08-12 - 5:12:20 PM GMT- IP address: 151.203.67.162
-  Document emailed to Robert Meharg (rmeharg@ameresco.com) for signature
2024-08-12 - 5:13:09 PM GMT
-  Email viewed by Robert Meharg (rmeharg@ameresco.com)
2024-08-12 - 5:15:51 PM GMT- IP address: 104.47.74.126
-  Document e-signed by Robert Meharg (rmeharg@ameresco.com)
Signature Date: 2024-08-12 - 5:17:25 PM GMT - Time Source: server- IP address: 72.74.216.171
-  Agreement completed.
2024-08-12 - 5:17:25 PM GMT



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

June 29, 2022

Ameresco Keller Canyon RNG LLC
901 Bailey Road
Pittsburg, CA 94565

Attention: Alan Siegwarth

Authority to Construct for Permit Application No. 30557, Plant No. 24772

**Required
Action**

Your Authority to Construct is enclosed. This Authority to Construct is not a Permit to Operate. **To receive your Permit to Operate you must:**

1. Complete the Start-up Notification portion of the Authority to Construct.
2. Send the Start-up Notification to the assigned Permit Engineer via e-mail, fax or mail **at least seven days** prior to operating your equipment.

Note: Operation of equipment without sending the Start-up Notification to the District may result in enforcement action.

**Authorization
of Limited Use**

The Authority to Construct authorizes operation during the start-up period from the date of initial operation indicated in your Start-up Notification until the Permit to Operate is issued, up to a maximum of 90 days. All conditions (specific or implied) included in this Authority to Construct will be in effect during the start-up period.

**Contact
Information**

If you have any questions, please contact your assigned Permit Engineer:

Nimrat Sandhu, Senior Air Quality Engineer

Tel: (415) 749-8604 **Fax:** (415) 749-5030 **Email:** nsandhu@baaqmd.gov



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Authority to Construct

(This is not a Permit to Operate)

Plant No. 24772
Application No. 30557

Ameresco Keller Canyon RNG LLC

901 Bailey Road, Pittsburg, CA 94565

is hereby granted an *Authority to Construct* for the following equipment:

S-1 Processing LFG into RNG, 4,700 cfm LFG into 2,041 cfm RNG

abated by

A-3 Scrubber

Hydrogen Sulfide Scrubber, H2S Scrubber: 2-vessel fixed bed adsorbers in series; Max Cap 4.7 mcfm

Equipment above is subject to attached condition no. 27705.

Issue date: June 28, 2022
Expiration date: July 1, 2024

APPROVED BY GREG SOLOMON (SIGNED)

for

PAMELA J. LEONG
DIRECTOR OF ENGINEERING

Start-up Notification

Instructions: At least **seven days** before the scheduled initial operation contact your assigned Permit Engineer via email or complete and send this Start-up Notification to the District via fax or mail.

Engineer: Nimrat Sandhu, Senior Air Quality Engineer
Tel: (415) 749-8604 **Fax:** (415) 749-5030
Email: nsandhu@baaqmd.gov

Plant No. 24772
Source No. S-1
Application No. 30557

The initial operation of this equipment is scheduled for _____ (month/day/year)

Print your first and last name _____

Telephone No. _____

Equipment Serial No. _____



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Authority to Construct

(This is not a Permit to Operate)

Plant No. 24772
Application No. 30557

Ameresco Keller Canyon RNG LLC

901 Bailey Road, Pittsburg, CA 94565

is hereby granted an *Authority to Construct* for the following equipment:

- A-1 Thermal Oxidizer, Air Clear, Maximum Capacity on pilot fuel: 8 MM BTU/hr, Maximum Capacity with process gas: 17.3 MM BTU/hr**

Equipment above is subject to attached condition no. 27707.

Issue date: June 28, 2022
Expiration date: July 1, 2024

APPROVED BY GREG SOLOMON (SIGNED)

for

PAMELA J. LEONG
DIRECTOR OF ENGINEERING

Start-up Notification

Instructions: At least **seven days** before the scheduled initial operation contact your assigned Permit Engineer via email or complete and send this Start-up Notification to the District via fax or mail.

Engineer: Nimrat Sandhu, Senior Air Quality Engineer

Tel: (415) 749-8604 **Fax:** (415) 749-5030

Email: nsandhu@baaqmd.gov

Plant No. 24772

Source No. A-1

Application No. 30557

The initial operation of this equipment is scheduled for _____ (month/day/year)

Print your first and last name _____

Telephone No. _____

Equipment Serial No. _____



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Authority to Construct

(This is not a Permit to Operate)

Plant No. 24772
Application No. 30557

Ameresco Keller Canyon RNG LLC

901 Bailey Road, Pittsburg, CA 94565

is hereby granted an *Authority to Construct* for the following equipment:

A-2 Process Enclosed Flare, John Zink Zule Ultra Low Emissions Flare, Maximum Capacity: 35.8 MMBTU/hr

Equipment above is subject to attached condition no. 27708.

Issue date: June 28, 2022
Expiration date: July 1, 2024

APPROVED BY GREG SOLOMON (SIGNED)

for

PAMELA J. LEONG
DIRECTOR OF ENGINEERING

Start-up Notification

Instructions: At least **seven days** before the scheduled initial operation contact your assigned Permit Engineer via email or complete and send this Start-up Notification to the District via fax or mail.

Engineer: Nimrat Sandhu, Senior Air Quality Engineer
Tel: (415) 749-8604 **Fax:** (415) 749-5030
Email: nsandhu@baaqmd.gov

Plant No. 24772
Source No. A-2
Application No. 30557

The initial operation of this equipment is scheduled for _____ (month/day/year)

Print your first and last name _____

Telephone No. _____

Equipment Serial No. _____



Plant Name: Ameresco Keller Canyon RNG LLC

S-1 Processing LFG into RNG, 4,700 cfm LFG into 2,041 cfm RNG

Condition No. 27705

Plant No. 24772

Application No. 30557

The following permit conditions apply to the S-1 RNG Facility:

1. The owner/operator of S-1 shall not exceed the following landfill gas feed rates to S-1:
 - a. A heat input rate of 3,360 MM BTU (HHV) during any 24-hour period.
 - b. A heat input rate of 1,226,400 MM BTU (HHV) during any consecutive 12-month period.

The owner/operator of S-1 shall demonstrate compliance with this limit by maintaining records of the equivalent heat input to S-1 for each day, for each calendar month, and for each consecutive 12-month period. Heat input shall be calculated by multiplying the measured landfill gas flow rate (standard cubic feet per 24-hour period) by the high heating value of methane at 70 F and 1 atmosphere, 993.9 BTU/dscf, and multiplied by the percentage of methane as measured continuously. The calculated heat input rates shall be recorded in a data acquisition system or electronic spreadsheet. The landfill gas flow rate to S-1 shall be continuously monitored and recorded in accordance with Regulation 8-34-508. The landfill gas methane content supplied to S-1 shall be continuously monitored and recorded using a gas chromatograph or other District approved device. The flow meters and methane sensor shall be installed and properly calibrated prior to operation and shall be maintained in good working condition.

[Basis: Regulations 8-34-501.10 and 8-34-508, Cumulative Increase]

2. The owner/operator of S-1 shall ensure that all waste gas streams from S-1 which are generated during normal operations, during start-up/shut down procedures, during maintenance events, and other malfunctions shall either be vented to the properly maintained and properly operated per manufacturer's specifications, A-1 Thermal Oxidizer and/or to the A-2 Enclosed Flare for further control. Each waste gas stream to A-1 and A-2 shall be burned with a sufficient amount of partially processed renewable natural gas (PPRNG) to maintain compliance with all applicable requirements.

[Basis: Cumulative Increase and Regulations 8-34-301.3, 8-34-301.4]

3. The owner/operator of S-1 shall ensure that no amount of landfill gas is sent to the A-1 Thermal Oxidizer and/or the A-2 Enclosed Flare without first being treated in the A-3 Hydrogen Sulfide (H₂S) Scrubber. The landfill gas passing through this step, known as PPRNG, shall not



Plant Name: Ameresco Keller Canyon RNG LLC

S-1 Processing LFG into RNG, 4,700 cfm LFG into 2,041 cfm RNG

Condition No. 27705

Plant No. 24772

Application No. 30557

exceed a concentration limit of 10 ppmv of total reduced sulfur compounds, expressed as H₂S.
[Basis: Cumulative Increase]

4. In order to demonstrate compliance with Part 3, the owner/operator of S-1 shall measure and record the sulfur content of the PPRNG on a monthly basis and during the annual performance test. This fuel sulfur data shall also be used as a surrogate for demonstrating compliance with the sulfur dioxide emission limits in Regulation 9-1-302.
[Basis: BACT, Regulation 9-1-302]
5. The owner/operator of S-1 shall collect quarterly samples from the two condensate tanks for a period of at least one year from the startup of the facility and a sample at least once every 6 months thereafter. The samples shall be tested for volatile organic compounds (VOC) % by weight. Upon completion of a year, the test results shall be submitted to the Engineering Division to determine if the tanks will be exempt as per Regulation 2-1-123.2 or will be subject to permitting. If any of the test results are equal to or greater than 1% by weight organic compounds, the owner/operator shall submit an application to the Air District within 30 days of the test results.
[Basis: Cumulative Increase, Regulation 2-1-123.2]
6. In order to demonstrate compliance with Parts 1 through 5, the owner or operator of the S-1 RNG Facility shall comply with all of the following monitoring and record keeping requirements. All records shall be kept on site or shall be made available to the District staff upon request. All records shall be retained for at least 5 years from the date of entry.
 - a. The S-1 RNG Facility shall be equipped with a continuous gas flow meter and recorder, which shall measure the inlet landfill gas flow rate to S-1 and shall meet the requirements of Regulation 8-34-508.
 - b. The owner or operator of S-1 shall measure and record the methane concentration in the landfill gas delivered to S-1 on a monthly basis.
 - c. On a monthly basis, the owner or operator of S-1 shall use the data collected pursuant to Parts 6(a) and 6(b) to calculate and record the maximum daily and total monthly heat input rate to the S-1 RNG Facility.
 - d. The owner or operator of S-1 shall summarize the Part 6(c) monthly heat input records for each



Plant Name: Ameresco Keller Canyon RNG LLC

S-1 Processing LFG into RNG, 4,700 cfm LFG into 2,041 cfm RNG

Condition No. 27705

Plant No. 24772

Application No. 30557

consecutive rolling 12-month period.

- e. The owner/operator of S-1 shall measure and record the sulfur concentrations in the PPRNG after being processed through the A-3 H₂S scrubber on a monthly basis.
- f. The owner/operator of S-1 shall measure and record the VOC sampling data from the two condensate tanks on a quarterly basis.

[Basis: Recordkeeping]

- 7. The owner/operator of S-1 shall ensure that the emissions from all fugitive components combined shall not exceed 1.096 tons of precursor organic compounds (POC) in any consecutive 12-month period. For the purposes of these conditions, POC is assumed to be equivalent to non-methane organic compounds (NMOC).
[Basis: Cumulative Increase]
- 8. The owner/operator of S-1 shall ensure that the emissions from all fugitive components combined shall not exceed 7.067 tons of non-precursor compounds (NPOC) (including methane) in any consecutive 12-month period.
[Basis: Cumulative Increase]
- 9. The owner/operator of S-1 shall demonstrate compliance with the above emission rate limit in Part 7 and Part 8 by using the following procedures:
 - a. The owner/operator of S-1 shall not exceed the following fugitive component/equivalent counts and/or leak rates except as provided in Part 9(c) at the facility:

Component	Total Facility Count	Maximum Emission Limit (ppmv)
Valves	1510	100
Pump Seals	2	100
Compressors	17	100
Other Openings	0	100
Connectors	595	100
Flanges	1720	100
Open-ended lines	0	100

- b. The owner/operator of S-1 shall ensure that the concentration of organic compounds at every valve, connector, flange, other fitting, compressor, and/or pump shall be inspected every calendar quarter. The first inspection and every inspection thereafter shall be conducted as prescribed by EPA Reference



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Method 21 (40 CFR 60, Appendix A). Any instrument used for the measurement of organic compounds shall be a combustible gas detector or any other type of instrument approved by the Air Pollution Control Officer (APCO) that meets the specifications and performance criteria of, and is calibrated in accordance with, EPA Reference Method 21.

[Basis: Cumulative Increase, 8-18-401.2, 8-18-501]

- c. The owner/operator of S-1 shall ensure that any valve, flange, connector, compressor, other fitting, and/or pump that leaks total organic compounds in excess of the concentration limits in Part 9(a) as C1 shall be minimized within 24 hours and repaired within 7 days.
[Basis: Regulation 8-18-302.1, Cumulative Increase]
- d. The owner/operator of S-1 shall not exceed emission limits of Parts 7, 8 and/or Part 9(a). These emission limits include fugitive component emissions from default zero components, non-pegged components, and from pegged leaking components. Pegged leaking components (pegged leakers) are defined as components leaking at or greater than 10,000 ppmv measured as C1. The owner/operator shall calculate the POC and/or NPOC fugitive emissions combined on a quarterly basis using the California Air Pollution Control Officers Association (CAPCOA) Correlation Equations with the actual screening levels including default zeros and using the 10,000 ppmv pegged emissions factor or other District approved method. The midpoint method shall be used to determine the length of time that a component is assumed to be leaking for the purposes of compliance with these conditions.
[Basis: Regulation 8-18, Cumulative Increase]
- e. The owner/operator of S-1 shall repair all pegged leakers as soon as possible. Under no circumstances shall the owner/operator have any individual pegged leaking component leak for more than 90 days in any consecutive 12-month period. The period of 90 days shall be determined using the midpoint method as stated in Part 9(d) above.
[Basis: Cumulative Increase]
- f. The owner/operator of S-1 shall assign a unique identification code to each valve, flange, connector, compressor, pump seal, and miscellaneous (other fitting) component. The facility shall keep the following records: The fitting identification code, the date of each inspection, and the



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corresponding leak concentration measured. Records shall be maintained for at least 5 years from the date of entry and shall be made available for inspection by District staff upon request.
[Basis: Regulations 8-18-402, 8-18-502, Cumulative Increase, Recordkeeping]

- g. To determine compliance with the above parts, the owner/operator of S-1 shall maintain a monthly log of the following records and provide all of the data necessary to evaluate compliance with the above parts, including the following information:
- i. Unique identification code of each component.
 - ii. Date of each inspection, and the corresponding leak concentration measured.
 - iii. Number of days that each individual component leaks at or greater than 10,000 ppmv (measured as C1), type of component, identification number of components.
 - iv. The total number of days identified in Part 9(g)(iii).
 - v. Quarterly emissions calculations required in Part 9(d).
 - vi. Each monitor reading or analysis result for the day of operation that the monitoring reading or analysis result is taken.

All records shall be retained on-site for five years, from the date of entry, and made available for inspection by District staff upon request. These recordkeeping requirements shall not replace the recordkeeping requirements contained in any applicable District Regulations.
[Basis: Recordkeeping]

10. The owner/operator of S-1 shall calculate the fugitive component POC and/or NPOC emissions from the facility using the following procedure:
- a. The NMOC and total hydrocarbon (THC) mass fractions shall be tested during each annual source test required as per Part 13 below.
 - b. The NMOC/THC mass fraction ratio shall be calculated and shall not exceed 0.112.
 - c. If the test results indicate that the NMOC/THC ratio is above 0.112, the facility will be considered in compliance as long as the facility can demonstrate that both the fugitive POC and/or fugitive NPOC emissions do not exceed the limits in Parts 7 and/or 8 respectively, of this condition.

[Basis: Cumulative Increase]



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11. The owner/operator of S-1 shall calculate the fugitive component emissions of toxic air contaminants (TACs) from the facility using an Air District approved method and ensure that these shall not exceed any acute and/or chronic trigger levels per Regulation 2-5. The concentration of each TAC shall be taken from the source test results described in Part 13 below and a ratio of each TAC to the NMOC in the PPRNG shall be determined. This ratio shall then be multiplied by the NMOC mass emissions determined in Part 9(d) in order to determine the individual TAC mass emissions.
[Basis: Regulation 2-5 and Cumulative Increase]

12. Within 30 days of the completion of the installation of all fugitive components, the owner/operator of S-1 shall submit a final component count and POC emissions estimate to the District. If any of the fugitive component counts exceed a count stated in Part 9(a), the plant's cumulative increase emissions shall be adjusted as needed, subject to APCO approval, to reflect only the difference between emissions based on predicted component counts versus actual component counts. The owner/operator of S-1 shall provide to the District all additional required offsets at an offset ratio of 1.15:1 no later than 21 days after the submittal of the final POC fugitive equipment count and corresponding final fugitive component POC emissions estimate. If any of the fugitive component counts are less than a count stated in Part 9(a), the total cumulative increase emissions may be adjusted accordingly, and emission offsets applied by the owner/operator in excess of the permitted levels may be requested by the owner/operator through the submittal of a banking application.
[Basis: Cumulative Increase, Offsets, Regulation 2-5]

13. The owner/operator of S-1 shall conduct an annual PPRNG characterization test. The PPRNG sample shall be drawn from the main landfill gas header after it has gone through the A-3 H₂S scrubber. The PPRNG shall be analyzed for the organic compounds listed below. All concentrations shall be reported on a dry basis. The test report shall be submitted to the Compliance and Enforcement Division and the Source Test Section within 60 days of the test date.

NMOC/THC ratio

1,1 Dichloroethane (Ethylidene dichloride)

1,1 Dichloroethene (Vinylidene chloride)

1,1,1-Trichloroethane (Methyl chloroform)

1,1,2-Trichloroethane (Vinyl trichloride)

1,1,2,2-Tetrachloroethane

1,3-Butadiene

1,4-Dichlorobenzene



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1,4-Dioxane (1,4-Diethylene dioxide)
2-Propanol (Isopropyl alcohol, IPA)
Acetaldehyde
Acrolein
Acrylonitrile
Allyl Chloride (3-Chloropropene)
Benzene
Benzyl Chloride
Carbon Disulfide
Carbon Tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform
Dioxins
Ethylbenzene
Ethylene Dibromide (1,2-dibromoethane)
Ethylene Dichloride (1,2-dichloroethane)
Formaldehyde
Hexane
Hydrochloric Acid
Hydrofluoric Acid
Hydrogen Sulfide (H₂S)
Mercury
Methanol (Methyl alcohol)
Methyl Bromide (Bromomethane)
Methyl Ethyl Ketone (2-butanone)
Methyl tert-Butyl Ether
Methylene Chloride (dichloromethane)
Naphthalene
Polycyclic aromatic hydrocarbons (PAHs (as B(a)-
P equivalent))
Perchloroethylene (tetrachloroethylene)
Propene (Propylene)
Styrene
Toluene
Trichloroethylene
Vinyl Acetate
Vinyl Chloride
Xylenes
[Basis: Regulation 2-5, Cumulative Increase, and
Regulation 8-34-412]

End of Conditions



Plant Name: Ameresco Keller Canyon RNG LLC

A-1 Thermal Oxidizer, Air Clear, 17.3 MM BTU/hr

Condition No. 27707

Plant No. 24772

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The following permit conditions apply to the A-1 Thermal Oxidizer:

1. The owner/operator of the A-1 Thermal Oxidizer shall not exceed the following heat input limits:
 - a. 639 MM BTU during any 24-hour period. This heat input limit shall consist of heat input from the waste gas, the PPRNG, and natural gas usage and shall not exceed the following:
 - i. 415 MM BTU for the waste gas flow,
 - ii. 96 MM BTU for PPRNG, and
 - iii. 128 MMBTU for natural gas.
 - b. 186,500 MM BTU during any consecutive 12-month period. This heat input limit shall consist of heat input from the waste gas, PPRNG, and natural gas usage and shall not exceed the following:
 - i. 151,460 MM BTU for the waste gas flow,
 - ii. 17,520 MM BTU for PPRNG, and
 - iii. 17,520 MMBTU for natural gas.[Basis: Cumulative Increase]
2. The owner/operator of the A-1 Thermal Oxidizer shall equip A-1 with both local and remote alarms, automatic combustion air control, automatic gas shut-off valves and automatic start/restart system. The local and the remote alarms shall be activated if A-1 shuts down unexpectedly or if the combustion zone temperature is less than the minimum temperature required by Part 5 below.
[Basis: Regulation 8-34-501]
3. The owner/operator of the A-1 Thermal Oxidizer shall properly install and properly operate, as per manufacturer's recommendations, a continuous flow meter and recorder to measure and record the gas flow into the A-1 Thermal Oxidizer.
[Basis: Cumulative Increase, Regulation 8-34-508 and 40 CFR 60.756(b)]
4. The owner/operator of the A-1 Thermal Oxidizer shall properly install and properly maintain a continuous temperature monitor with readout display and continuous recorder on or for A-1 per manufacturer's recommendations. One or more thermocouples shall be placed in the primary combustion zone of A-1 and shall accurately indicate flue gas temperature at all times. Temperature charts shall be retained for at least five years from the date of entry and made readily available to District Staff upon request.
[Basis: Regulations 8-34-501.3 and 2-6-501 and 40 CFR 60.756(b)]



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A-1 Thermal Oxidizer, Air Clear, 17.3 MM BTU/hr

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5. The owner/operator of the A-1 Thermal Oxidizer shall maintain the combustion zone temperature of A-1 at a minimum temperature of 1600 degrees F, averaged over any 3-hour period when combusting waste gas and/or PPRNG, excluding startup periods. If a source test demonstrates compliance with all applicable requirements at a different temperature, the APCO may revise these minimum temperature requirements in accordance with the procedures identified in Regulation 2-6-414 or 2-6-415 and the following criteria. The minimum combustion zone temperature for the A-1 Thermal Oxidizer when burning waste gas and/or PPRNG shall be equal to or above the average combustion zone temperature determined during the most recent complying source test minus 50 degrees F on a rolling 3-hour average, provided that the minimum combustion zone temperature is not less than 1400 degrees F at all times of operation, excluding startup periods. During the startup period, the owner/operator of A-1 Thermal Oxidizer shall not combust any waste gas and/or PPRNG and shall only use natural gas exclusively. During the startup period, the owner/operator of A-1 Thermal Oxidizer shall not exceed any of the following Heat input rates:
 - a. 16 MM BTU/hour for any individual startup,
 - b. 128 MMBTU in any consecutive 24-hour period, and/or
 - c. 17,520 MMBTU in any consecutive 12-month period.[Basis: Regulations 2-5-301 and 8-34-501.3, RACT, and Cumulative Increase]
6. The owner/operator of the A-1 Thermal Oxidizer shall not exceed any of the following limits:
 - a. 0.05 pounds of nitrogen oxide (NO_x), expressed as NO₂, per million BTU of heat input. Compliance with this emission limit may be demonstrated by not exceeding the following exhaust gas concentration limit: 12 ppmv of NO_x, expressed as NO₂ at 15% oxygen on a dry basis.
 - b. 0.08 pounds of carbon monoxide (CO) per million BTU of heat input. Compliance with this emission limit may be demonstrated by not exceeding the following exhaust gas concentration limit: 32 ppmv of CO at 15% oxygen on a dry basis.[Basis: RACT]
7. The owner/operator of A-1 Thermal Oxidizer shall achieve either a minimum destruction efficiency of 98.5% by weight or not exceed an outlet NMOC concentration of 120 ppmv at 3% O₂.
[Basis: Cumulative Increase, Regulation 8-34-301.4]



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A-1 Thermal Oxidizer, Air Clear, 17.3 MM BTU/hr

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8. The owner/operator of A-1 Thermal Oxidizer shall not exceed 1.41 pounds per hour of NMOC emissions.
[Basis: Cumulative Increase, Regulation 8-34-301.4]
9. The owner/operator of the A-1 Thermal Oxidizer shall not exceed any of the following limits:
 - a. The total SO₂ emissions from A-1 shall not exceed any of the following limits:
 - i. 7.23 pounds per day of SO₂ during any 24-hour period
 - ii. 1.291 tons of SO₂ during any consecutive 12-month period.
 - b. The owner/operator shall demonstrate compliance with the emission limits in Part 9(a) by complying with the heat input limits of A-1 and monitoring procedures in Part 9(d).
 - c. The owner/operator of S-1 shall demonstrate that the PPRNG contains no more than 10 ppmv of total reduced sulfur (TRS) compounds (dry basis), expressed as H₂S.
 - d. To demonstrate compliance with Part 9(c), the owner/operator shall conduct monthly measurements of PPRNG. The owner/operator shall use either a District approved portable hydrogen sulfide monitor or a District approved Laboratory analysis method to determine the concentration of TRS, measured as H₂S and corrected to 50% methane in the PPRNG. Methane concentrations measured pursuant to Part 1 of Condition # 27705 shall be used to correct the calculated TRS concentrations to a landfill gas methane concentration of 50% by volume (corrected TRS = measured TRS/measured % CH₄ * 50). The sampling dates and results shall be recorded in a District approved log.
 - i. If the portable H₂S analysis method is used, the TRS concentration shall be calculated by multiplying the measured H₂S concentration by 1.2
$$(TRS = 1.2 * H_2S).$$
 - ii. If a laboratory analysis method is used, the TRS concentration shall be calculated as the sum of the measured concentrations for the individual sulfur compounds, expressed as H₂S.
 - iii. If the corrected TRS concentration determined pursuant to Part 9(d) is 10 ppmv of TRS or less for each monthly measurement during a rolling 12-month period, no additional calculations are required to verify compliance with the SO₂ emission limits identified above in Part 9(a).



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If any corrected TRS concentration measurement is greater than 10 ppmv of TRS during a rolling 12-month period, the Permit Holder shall use the calculation procedures in Part 9(d) to demonstrate compliance with the daily and annual SO₂ emission limits above.

[Basis: Cumulative Increase]

10. The owner/operator of A-1 Thermal Oxidizer shall not exceed 0.012 grains/dscf of PM₁₀.

[Basis: Cumulative Increase, Regulation 6-1]

11. The owner/operator of A-1 Thermal Oxidizer shall submit a permit application for a change of permit conditions, if any site-specific PPRNG characterization test indicates that the PPRNG at this site contains any of the following compounds at a level greater than the concentration listed below. The permit application shall be submitted to the Engineering Division, within 30 days of receipt of test results indicating a concentration above the levels listed below.

Compound	Concentration (ppbv)
1,3-Butadiene	386
1,4-Dichlorobenzene	2,590
Acrylonitrile	938
Benzene	8,850
Ethylbenzene	28,600
Ethylene dibromide	235
Ethylene dichloride	4,505
Hydrochloric Acid	70,910
Hydrofluoric Acid	18,885
Hydrogen Sulfide	570,000
Vinyl Chloride	680

The following TACs should not exceed the following emission factors:

Compound	Emission Factor (lb/MM scf)
Acetaldehyde	2.58E-01
Acrolein	8.44E-02
Dioxins	1.09E-09
Formaldehyde	1.80E-01
Naphthalene	3.56E-02
PAHs (as B(a)P-equivalent)	2.52E-06

[Basis: Regulation 2-5-302]

12. In order to demonstrate compliance with Parts 1 through 11 above, Regulations 8-34-301.4 and 8-34-412, 40 CFR 60.8, and 40 CFR 60.752(b)(2)(iii)(B), the owner/operator of A-1 Thermal Oxidizer shall conduct a source test at A-1 at least once annually. The source tests shall be conducted no sooner than 9 months and no later than 12 months after the previous source test. The



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first source test for A-1 shall be conducted within 1,440 operating hours, not to exceed 90 days from the date of initial operation of A-1. The annual source test shall be conducted when the A-1 Thermal Oxidizer is operating at or near its maximum operating rate. The source test shall be conducted in accordance using only District approved source test procedures and/or methods. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement, Engineering Divisions and the Source Test Section within 60 days of the test date. Each annual source test shall determine the following:

- a. Gas flow rate to A-1 (dry basis);
- b. Concentrations (dry basis) of carbon dioxide (CO₂), nitrogen (N₂), oxygen (O₂), methane (CH₄), total NMOC, H₂S, TRS in the gas;
- c. Stack gas flow rate from A-1 (dry basis);
- d. Concentrations (dry basis) of NO_x, CO, NMOC, PM₁₀, PM_{2.5} (including both filterable and condensable fractions) and O₂ in the stack gas of A-1;
- e. NMOC/THC ratio;
- f. NMOC destruction efficiency of A-1;
- g. Hourly mass emission rate of NMOC in pounds per hour;
- h. NMOC concentrations in the exhaust of A-1 in lb/hr;
- i. NO_x and CO emission rates from A-1 in units of pounds per MM BTU;
- j. Average combustion zone temperature in A-1 during the test period;
- k. High heating value of the PPRNG (BTU/scf);
- l. PM₁₀ emission rates in units of grains per dscf from A-1;
- m. PPRNG characterization results as per Condition #27705, Part 13.
[Basis: Regulation 8-34-301.4, RACT, 40 CFR 60.752(b)(2)(iii)]

13. In order to demonstrate compliance with the above parts,



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the owner/operator of A-1 shall maintain the following records in a District-approved logbook. All records shall be maintained on-site and shall be made readily available to the District staff upon request for a period of 5 years from the date of entry. These recordkeeping requirements do not replace the recordkeeping requirements contained in any applicable rules or regulations.

- a. Record the date and time of each startup, shutdown and/or malfunction of A-1 and the reason for each shutdown.
- b. Summarize the operating hours of A-1 on a daily basis.
- c. Calculate and record, on a monthly basis, the maximum daily and the total monthly heat input rate to A-1 based on the operating hours for A-1, the waste gas, PPRNG and natural gas flow rate recorded pursuant to Part 3, the average methane concentration in the waste gas and PPRNG as determined by the most recent source test, and a high heating value for methane of 993.9 BTU/scf of landfill gas at 70 degrees F and 1 atmosphere.
- d. Maintain records of all test dates and tests results performed to maintain compliance with Parts 11, 12 or with any applicable part, rule, and/or regulation.
- e. All temperature monitoring data.
- f. All TRS data and SO₂ calculations.
[Basis: Cumulative Increase, Regulation 2-6-501, 8-34-301, 8-34-501]

End of Conditions



Plant Name: Ameresco Keller Canyon RNG LLC

A-2 Process Enclosed Flare, John Zink Zule Ultra Low Emissions Flare, 35.8 MMBTU/hr

Condition No. 27708

Plant No. 24772

Application No. 30557

The following permit conditions apply to the A-2 Enclosed Flare:

1. The owner/operator of the A-2 Enclosed Flare shall not exceed the following heat input limits:
 - a. 933 million BTU during any 24-hour period. This heat input limit should consist of heat input from the propane, waste gas flow from upsets, PPRNG, and natural gas usage and shall not exceed any of the following:
 - i. 1 MM BTU for propane,
 - ii. 842 MM BTU for waste gas flow,
 - iii. 18 MM BTU for PPRNG, and
 - iv. 72 MM BTU for natural gas.
 - b. 95,865 million BTU during any consecutive 12-month period. This heat input limit should consist of heat input from the propane, waste gas flow from upsets, PPRNG, and natural gas usage and shall not exceed the following:
 - i. 17 MM BTU for propane,
 - ii. 63,144 MM BTU for waste gas flow,
 - iii. 6,570 MM BTU for PPRNG, and
 - iv. 26,134 MM BTU for natural gas.[Basis: Cumulative Increase]
2. The owner/operator of the A-2 Enclosed Flare shall equip A-2 with both local and remote alarms, automatic combustion air control, and automatic start/restart system. The local and the remote alarms shall be activated if A-2 shuts down unexpectedly or if the combustion zone temperature is less than the minimum temperature required by Part 5 below.
[Basis: Regulation 8-34-501]
3. The owner/operator of the A-2 Enclosed Flare shall properly install and properly operate, as per manufacturer's recommendations, a continuous flow meter and recorder to measure and record the gas flow into the A-2 Flare.
[Basis: Cumulative Increase, Regulation 8-34-508 and 40 CFR 60.756(b)]
4. The owner/operator of the A-2 Enclosed Flare shall properly install and properly maintain a continuous temperature monitor with readout display and continuous recorder on A-2 per manufacturer's recommendations. One or more thermocouples shall be placed in the primary combustion zone of A-2 and shall accurately indicate flue gas temperature at all times. Temperature charts shall be retained for at least five years from the date of entry and made readily available to District Staff



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upon request.

[Basis: Regulations 8-34-501.3 and 2-6-501.3 and 40 CFR 60.756(b)]

5. The owner/operator of the A-2 Enclosed Flare shall maintain the combustion zone temperature of A-2 at a minimum temperature of 1600 degrees F, averaged over any 3-hour period when combusting waste gas and/or PPRNG, excluding startup periods. If a source test demonstrates compliance with all applicable requirements at a different temperature, the APCO may revise these minimum temperature requirements in accordance with the procedures identified in Regulation 2-6-414 or 2-6-415 and the following criteria. The minimum combustion zone temperature for the A-2 Enclosed Flare when burning waste gas and/or PPRNG shall be equal to or above the average combustion zone temperature determined during the most recent complying source test minus 50 degrees F on a rolling 3-hour average, provided that the minimum combustion zone temperature is not less than 1400 degrees F at all times of operation, excluding startup periods. During the startup period, the owner/operator of A-2 Enclosed Flare shall not combust any waste gas and/or PPRNG and shall only use natural gas exclusively. During the startup period, the owner/operator of A-2 Enclosed Flare shall not exceed any of the following heat input rates:
 - a. 72 MMBTU per hour for any individual startup,
 - b. 72 MMBTU in any consecutive 24-hour period, and
 - c. 26,134 MMBTU in any consecutive 12-month period.[Basis: Regulations 2-5-301 and 8-34-501.3, RACT, and Cumulative Increase]
6. The owner/operator of the A-2 Enclosed Flare shall not exceed any of the following limits:
 - a. 0.025 pounds of nitrogen oxide (NOx), expressed as NO₂, per million BTU of heat input. Compliance with this emission limit may be demonstrated by not exceeding the following exhaust gas concentration limit: 6 ppmv of NOx, expressed as NO₂ at 15% oxygen on a dry basis.
 - b. 0.06 pounds of carbon monoxide (CO) per million BTU of heat input. Compliance with this emission limit may be demonstrated by not exceeding the following exhaust gas concentration limit: 24 ppmv of CO at 15% oxygen on a dry basis.[Basis: RACT]
7. The owner/operator of A-2 Enclosed Flare shall achieve either a minimum destruction efficiency of 98% by weight



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or not exceed an outlet NMOC concentration of 30 ppmv at 3% O₂.

[Basis: Cumulative Increase, Regulation 8-34-301.3]

8. The owner/operator of A-2 Enclosed Flare shall not exceed 0.90 pounds per hour of NMOC emissions.
[Basis: Cumulative Increase, Regulation 8-34-301.3]
9. The owner/operator of the A-2 Enclosed Flare shall not exceed any of the following limits:
 - a. The total SO₂ emissions from A-2 shall not exceed any of the following limits:
 - i. 6.40 pounds per day of SO₂ during any 24-hour period
 - ii. 0.248 tons of SO₂ during any consecutive 12-month period.
 - b. The owner/operator shall demonstrate compliance with the emission limits in Part 9(a) by complying with the heat input limits of A-2 and monitoring procedures in Part 9(d).
 - c. The owner/operator of S-1 shall demonstrate that the PPRNG contains no more than 10 ppmv of TRS compounds (dry basis), expressed as H₂S.
 - d. To demonstrate compliance with Part 9(c), the owner/operator shall conduct monthly measurements of PPRNG. The owner/operator shall use either a District approved portable hydrogen sulfide monitor or a District approved Laboratory analysis method to determine the concentration of TRS, measured as H₂S and corrected to 50% methane in the PPRNG. Methane concentrations measured pursuant to Part 1 of Condition # 27705 shall be used to correct the calculated TRS concentrations to a landfill gas methane concentration of 50% by volume (corrected TRS = measured TRS/measured % CH₄ * 50). The sampling dates and results shall be recorded in a District approved log.
 - i. If the portable H₂S analysis method is used, the TRS concentration shall be calculated by multiplying the measured H₂S concentration by 1.2
(TRS = 1.2 * H₂S).
 - ii. If a laboratory analysis method is used, the TRS concentration shall be calculated as the sum of the measured concentrations for the individual sulfur compounds, expressed as H₂S.
 - iii. If the corrected TRS concentration determined pursuant to Part 9(d) is 10 ppmv of TRS or less for each monthly measurement during a



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rolling 12-month period, no additional calculations are required to verify compliance with the SO₂ emission limits identified above in Part 9(a). If any corrected TRS concentration measurement is greater than 10 ppmv of TRS during a rolling 12-month period, the Permit Holder shall use the calculation procedures in Part 9(d) to demonstrate compliance with the daily and annual SO₂ emission limits above.

[Basis: Cumulative Increase]

10. The owner/operator of the A-2 Enclosed Flare shall not exceed 0.012 grains/dscf PM₁₀.

[Basis: Cumulative Increase, Regulation 6-1]

11. The owner/operator of A-2 Enclosed Flare shall submit a permit application for a change of permit conditions, if any of the annual site-specific PPRNG characterization test indicates that the PPRNG at this site contains any of the following compounds at a level greater than the concentration listed below. The permit application shall be submitted to the Engineering Division, within 30 days of receipt of test results indicating a concentration above the levels listed below.

Compound	Concentration (ppbv)
1,3-Butadiene	77
1,4-Dichlorobenzene	518
Acrylonitrile	188
Benzene	1770
Ethylbenzene	5720
Ethylene dibromide	47
Ethylene dichloride	901
Hydrochloric Acid	14182
Hydrofluoric Acid	3777
Hydrogen Sulfide	114000
Vinyl Chloride	136

The following TACs should not exceed the following emission factors:

Compound	Emission Factor (lb/MM scf)
Acetaldehyde	2.58E-01
Acrolein	8.44E-02
Dioxins	1.09E-09
Formaldehyde	1.80E-01
Naphthalene	3.56E-02
PAHs (as B(a)P-equivalent)	2.52E-06

[Basis: Regulation 2-5-302]

12. In order to demonstrate compliance with Parts 1 through 11 above, Regulations 8-34-301.3 and 8-34-412, 40 CFR 60.8, and/or 40 CFR 60.752(b)(2)(iii)(B), the



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owner/operator of A-2 Enclosed Flare shall conduct a source test at A-2 at least once annually. The source tests shall be conducted no sooner than 9 months and no later than 12 months after the previous source test. The first source test for A-2 shall be conducted within 1,440 operating hours, not to exceed 90 days from the date of the initial operation of A-2. The annual source test shall be conducted when the A-2 Enclosed Flare is operating at or near its maximum operating rate. The source test shall be conducted in accordance using only District approved source test procedures and/or methods. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement, Engineering Divisions and the Source Test Section within 60 days of the test date. Each annual source test shall determine the following:

- a. Gas flow rate to A-2 (dry basis);
- b. Concentrations (dry basis) of carbon dioxide (CO₂), nitrogen (N₂), oxygen (O₂), methane (CH₄), total NMOC, H₂S, TRS in the gas;
- c. Stack gas flow rate from A-2 (dry basis);
- d. Concentrations (dry basis) of NO_x, CO, NMOC, PM₁₀, PM_{2.5} (including both filterable and condensable fractions) and O₂ in the stack gas of A-2;
- e. NMOC/THC ratio;
- f. NMOC destruction efficiency of A-2;
- g. Hourly mass emission rate of NMOC in pounds per hour;
- h. NMOC concentrations in the exhaust of A-2 in lb/hr;
- i. NO_x and CO emission rates from A-2 in units of pounds per MM BTU;
- j. Average combustion zone temperature in A-2 during the test period;
- k. High heating value of the PPRNG (BTU/scf);
- l. PM₁₀ emission rates in units of grains/dscf from A-2;
- m. PPRNG characterization results as per Condition #27705, Part 13.



Plant Name: Ameresco Keller Canyon RNG LLC

A-2 Process Enclosed Flare, John Zink Zule Ultra Low Emissions Flare, 35.8 MMBTU/hr

Condition No. 27708

Plant No. 24772

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[Basis: Regulation 8-34-301.3, RACT, 40 CFR
60.752(b)(2)(iii)]

13. In order to demonstrate compliance with the above parts, the owner/operator of A-2 shall maintain the following records in a District-approved logbook. All records shall be maintained on-site and shall be made readily available to the District staff upon request for a period of 5 years from the date of entry. These recordkeeping requirements do not replace the recordkeeping requirements contained in any applicable rules or regulations.
- a. Record the date and time of each startup, shutdown and/or malfunction of A-2 and the reason for each shutdown.
 - b. Summarize the operating hours of A-2 on a daily basis.
 - c. Calculate and record, on a monthly basis, the maximum daily and the total monthly heat input rate to A-2 based on the operating hours for A-2, the propane, waste gas, PPRNG, and natural gas flow rate recorded pursuant to Part 3, the average methane concentration in the waste gas and PPRNG as determined by the most recent source test, and a high heating value for methane of 993.9 BTU/scf of landfill gas at 70 degrees F and 1 atmosphere.
 - d. Record the total amount of propane used in a consecutive 12-month period.
 - e. Maintain records of all test dates and tests results performed to maintain compliance with Parts 11 and 12 or with any applicable part, rule, and/or regulation.
 - f. All temperature monitoring data.
 - g. TRS data and SO₂ calculations.
- [Basis: Cumulative Increase, Regulation 2-6-501, 8-34-301, 8-34-501]

End of Conditions



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

April, 11 2024

Ameresco Keller Canyon Renewable Natural Gas, LLC

Attention: Richard Peary
111, Speen St., Suite 410
Framingham, MA 01701

Application Number: 30557
Plant Number: 24772
Equipment Location:
901 Bailey Road,
Pittsburg, CA, 94565

Dear Applicant:

SUBJECT: CHANGE OF PERMIT CONDITIONS

This letter is to advise you that your request for changes in permit conditions as requested in your letter to the District on April 9, 2024 for the following equipment at this facility have been approved:

S-1 Processing and Cleaning of Landfill gas (LFG) to high BTU energy renewable natural gas (RNG) Operation, 4,700 cfm of LFG processed into 2,041 cfm of RNG

abated by

A-1 Thermal Oxidizer, Air Clear, 25.3 MMBTU/hr

A-2 Process Enclosed Flare, John Zink, 35.8 MMBTU/hr

A-3 Hydrogen Sulfide scrubber, 2-vessel fixed bed adsorbers, Maximum 4700 scfm

The equipment (A-1 and A-2) described above is subject to condition no. 27707 and 27708.

The requested condition change was to extend the deadline for the source test for A-1 and A-2.

If you have any questions regarding this matter, please contact **Mark Kiffe, Air Quality Engineer** at mkiffe@baaqmd.gov.

Very truly yours,

Pamela J. Leong
Director of Engineering

by *Sanjeew Kamboj*
Air Quality Engineering Manager

BFC: MK~

Attachment: Permit Condition no. 27707 and 27708

Plant No. 24772, Ameresco Keller Canyon RNG

Source No. A-1, Thermal Oxidizer

Condition No. 27707

Application No. 30557

The following permit conditions apply to the A-1 Thermal Oxidizer:

1. The owner/operator of the A-1 Thermal Oxidizer shall not exceed the following heat input limits:
 - a. 639 MM BTU during any 24-hour period. This heat input limit shall consist of heat input from the waste gas, the PPRNG, and natural gas usage and shall not exceed the following:
 - i. 415 MM BTU for the waste gas flow,
 - ii. 96 MM BTU for PPRNG, and
 - iii. 128 MMBTU for natural gas.
 - b. 186,500 MM BTU during any consecutive 12-month period. This heat input limit shall consist of heat input from the waste gas, PPRNG, and natural gas usage and shall not exceed the following:
 - i. 151,460 MM BTU for the waste gas flow,
 - ii. 17,520 MM BTU for PPRNG, and
 - iii. 17,520 MMBTU for natural gas.[Basis: Cumulative Increase]
2. The owner/operator of the A-1 Thermal Oxidizer shall equip A-1 with both local and remote alarms, automatic combustion air control, automatic gas shut-off valves and automatic start/restart system. The local and the remote alarms shall be activated if A-1 shuts down unexpectedly or if the combustion zone temperature is less than the minimum temperature required by Part 5 below.
[Basis: Regulation 8-34-501]
3. The owner/operator of the A-1 Thermal Oxidizer shall properly install and properly operate, as per manufacturer's recommendations, a continuous flow meter and recorder to measure and record the gas flow into the A-1 Thermal Oxidizer.
[Basis: Cumulative Increase, Regulation 8-34-508 and 40 CFR 60.756(b)]
4. The owner/operator of the A-1 Thermal Oxidizer shall properly install and properly maintain a continuous temperature monitor with readout display and continuous recorder on or for A-1 per manufacturer's recommendations. One or more thermocouples shall be placed in the primary combustion zone of A-1 and shall accurately indicate flue gas temperature at all times. Temperature charts shall be retained for at least five years from the date of entry and made readily available

Plant No. 24772, Ameresco Keller Canyon RNG

Source No. A-1, Thermal Oxidizer

Condition No. 27707

Application No. 30557

to District Staff upon request.

[Basis: Regulations 8-34-501.3 and 2-6-501 and 40 CFR 60.756(b)]

5. The owner/operator of the A-1 Thermal Oxidizer shall maintain the combustion zone temperature of A-1 at a minimum temperature of 1600 degrees F, averaged over any 3-hour period when combusting waste gas and/or PPRNG, excluding startup periods. If a source test demonstrates compliance with all applicable requirements at a different temperature, the APCO may revise these minimum temperature requirements in accordance with the procedures identified in Regulation 2-6-414 or 2-6-415 and the following criteria. The minimum combustion zone temperature for the A-1 Thermal Oxidizer when burning waste gas and/or PPRNG shall be equal to or above the average combustion zone temperature determined during the most recent complying source test minus 50 degrees F on a rolling 3-hour average, provided that the minimum combustion zone temperature is not less than 1400 degrees F at all times of operation, excluding startup periods. During the startup period, the owner/operator of A-1 Thermal Oxidizer shall not combust any waste gas and/or PPRNG and shall only use natural gas exclusively. During the startup period, the owner/operator of A-1 Thermal Oxidizer shall not exceed any of the following Heat input rates:
 - a. 16 MM BTU/hour for any individual startup,
 - b. 128 MMBTU in any consecutive 24-hour period, and/or
 - c. 17,520 MMBTU in any consecutive 12-month period.[Basis: Regulations 2-5-301 and 8-34-501.3, RACT, and Cumulative Increase]
6. The owner/operator of the A-1 Thermal Oxidizer shall not exceed any of the following limits:
 - a. 0.05 pounds of nitrogen oxide (NO_x), expressed as NO₂, per million BTU of heat input. Compliance with this emission limit may be demonstrated by not exceeding the following exhaust gas concentration limit: 12 ppmv of NO_x, expressed as NO₂ at 15% oxygen on a dry basis.
 - b. 0.08 pounds of carbon monoxide (CO) per million BTU of heat input. Compliance with this emission limit may be demonstrated by not exceeding the following exhaust gas concentration limit: 32 ppmv of CO at 15% oxygen on a dry basis.[Basis: RACT]
7. The owner/operator of A-1 Thermal Oxidizer shall achieve either a minimum destruction efficiency of 98.5% by weight or not exceed an outlet NMOC concentration of 120

Plant No. 24772, Ameresco Keller Canyon RNG

Source No. A-1, Thermal Oxidizer

Condition No. 27707

Application No. 30557

ppmv at 3% O₂.

[Basis: Cumulative Increase, Regulation 8-34-301.4]

8. The owner/operator of A-1 Thermal Oxidizer shall not exceed 1.41 pounds per hour of NMOC emissions.
[Basis: Cumulative Increase, Regulation 8-34-301.4]
9. The owner/operator of the A-1 Thermal Oxidizer shall not exceed any of the following limits:
 - a. The total SO₂ emissions from A-1 shall not exceed any of the following limits:
 - i. 7.23 pounds per day of SO₂ during any 24-hour period
 - ii. 1.291 tons of SO₂ during any consecutive 12-month period.
 - b. The owner/operator shall demonstrate compliance with the emission limits in Part 9(a) by complying with the heat input limits of A-1 and monitoring procedures in Part 9(d).
 - c. The owner/operator of S-1 shall demonstrate that the PPRNG contains no more than 10 ppmv of total reduced sulfur (TRS) compounds (dry basis), expressed as H₂S.
 - d. To demonstrate compliance with Part 9(c), the owner/operator shall conduct monthly measurements of PPRNG. The owner/operator shall use either a District approved portable hydrogen sulfide monitor or a District approved Laboratory analysis method to determine the concentration of TRS, measured as H₂S and corrected to 50% methane in the PPRNG. Methane concentrations measured pursuant to Part 1 of Condition # 27705 shall be used to correct the calculated TRS concentrations to a landfill gas methane concentration of 50% by volume (corrected TRS = measured TRS/measured % CH₄ * 50). The sampling dates and results shall be recorded in a District approved log.
 - i. If the portable H₂S analysis method is used, the TRS concentration shall be calculated by multiplying the measured H₂S concentration by 1.2
(TRS = 1.2 * H₂S).
 - ii. If a laboratory analysis method is used, the TRS concentration shall be calculated as the sum of the measured concentrations for the individual sulfur compounds, expressed as H₂S.
 - iii. If the corrected TRS concentration determined pursuant to Part 9(d) is 10 ppmv of TRS or less for each monthly measurement during a rolling 12

Plant No. 24772, Ameresco Keller Canyon RNG

Source No. A-1, Thermal Oxidizer

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-month period, no additional calculations are required to verify compliance with the SO₂ emission limits identified above in Part 9(a). If any corrected TRS concentration measurement is greater than 10 ppmv of TRS during a rolling 12-month period, the Permit Holder shall use the calculation procedures in Part 9(d) to demonstrate compliance with the daily and annual SO₂ emission limits above.

[Basis: Cumulative Increase]

10. The owner/operator of A-1 Thermal Oxidizer shall not exceed 0.012 grains/dscf of PM₁₀.

[Basis: Cumulative Increase, Regulation 6-1]

11. The owner/operator of A-1 Thermal Oxidizer shall submit a permit application for a change of permit conditions, if any site-specific PPRNG characterization test indicates that the PPRNG at this site contains any of the following compounds at a level greater than the concentration listed below. The permit application shall be submitted to the Engineering Division, within 30 days of receipt of test results indicating a concentration above the levels listed below.

Compound	Concentration (ppbv)
1,3-Butadiene	386
1,4-Dichlorobenzene	2,590
Acrylonitrile	938
Benzene	8,850
Ethylbenzene	28,600
Ethylene dibromide	235
Ethylene dichloride	4,505
Hydrochloric Acid	70,910
Hydrofluoric Acid	18,885
Hydrogen Sulfide	570,000
Vinyl Chloride	680

The following TACs should not exceed the following emission factors:

Compound	Emission Factor (lb/MM scf)
Acetaldehyde	2.58E-01
Acrolein	8.44E-02
Dioxins	1.09E-09
Formaldehyde	1.80E-01
Naphthalene	3.56E-02
PAHs (as B(a)P-equivalent)	2.52E-06

[Basis: Regulation 2-5-302]

12. In order to demonstrate compliance with Parts 1 through 11 above, Regulations 8-34-301.4 and 8-34-412, 40 CFR 60.8, and 40 CFR 60.752(b)(2)(iii)(B), the owner/operator of A-1 Thermal Oxidizer shall conduct a

Plant No. 24772, Ameresco Keller Canyon RNG

Source No. A-1, Thermal Oxidizer

Condition No. 27707

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source test at A-1 at least once annually. The source tests shall be conducted no sooner than 9 months and no later than 12 months after the previous source test. The first source test for A-1 shall be conducted within ~~1,440~~ 1,920 operating hours, not to exceed ~~90~~ 120 days from the date of initial operation of A-1. The annual source test shall be conducted when the A-1 Thermal Oxidizer is operating at or near its maximum operating rate. The source test shall be conducted in accordance using only District approved source test procedures and/or methods. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement, Engineering Divisions and the Source Test Section within 60 days of the test date. Each annual source test shall determine the following:

- a. Gas flow rate to A-1 (dry basis);
 - b. Concentrations (dry basis) of carbon dioxide (CO₂), nitrogen (N₂), oxygen (O₂), methane (CH₄), total NMOC, H₂S, TRS in the gas;
 - c. Stack gas flow rate from A-1 (dry basis);
 - d. Concentrations (dry basis) of NO_x, CO, NMOC, PM₁₀, PM_{2.5} (including both filterable and condensable fractions) and O₂ in the stack gas of A-1;
 - e. NMOC/THC ratio;
 - f. NMOC destruction efficiency of A-1;
 - g. Hourly mass emission rate of NMOC in pounds per hour;
 - h. NMOC concentrations in the exhaust of A-1 in lb/hr;
 - i. NO_x and CO emission rates from A-1 in units of pounds per MM BTU;
 - j. Average combustion zone temperature in A-1 during the test period;
 - k. High heating value of the PPRNG (BTU/scf);
 - l. PM₁₀ emission rates in units of grains per dscf from A-1;
 - m. PPRNG characterization results as per Condition #27705, Part 13.
- [Basis: Regulation 8-34-301.4, RACT, 40 CFR

Plant No. 24772, Ameresco Keller Canyon RNG

Source No. A-1, Thermal Oxidizer

Condition No. 27707

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60.752(b)(2)(iii)]

13. In order to demonstrate compliance with the above parts, the owner/operator of A-1 shall maintain the following records in a District-approved logbook. All records shall be maintained on-site and shall be made readily available to the District staff upon request for a period of 5 years from the date of entry. These recordkeeping requirements do not replace the recordkeeping requirements contained in any applicable rules or regulations.

- a. Record the date and time of each startup, shutdown and/or malfunction of A-1 and the reason for each shutdown.
- b. Summarize the operating hours of A-1 on a daily basis.
- c. Calculate and record, on a monthly basis, the maximum daily and the total monthly heat input rate to A-1 based on the operating hours for A-1, the waste gas, PPRNG and natural gas flow rate recorded pursuant to Part 3, the average methane concentration in the waste gas and PPRNG as determined by the most recent source test, and a high heating value for methane of 993.9 BTU/scf of landfill gas at 70 degrees F and 1 atmosphere.
- d. Maintain records of all test dates and tests results performed to maintain compliance with Parts 11, 12 or with any applicable part, rule, and/or regulation.
- e. All temperature monitoring data.
- f. All TRS data and SO₂ calculations.
[Basis: Cumulative Increase, Regulation 2-6-501, 8-34-301, 8-34-501]

End of Conditions



Plant No. 24772, Ameresco Keller Canyon RNG
Source No. A-2, Enclosed Flare
Condition No. 27708 Application No. 30557

The following permit conditions apply to the A-2 Enclosed Flare:

1. The owner/operator of the A-2 Enclosed Flare shall not exceed the following heat input limits:
 - a. 933 million BTU during any 24-hour period. This heat input limit should consist of heat input from the propane, waste gas flow from upsets, PPRNG, and natural gas usage and shall not exceed any of the following:
 - i. 1 MM BTU for propane,
 - ii. 842 MM BTU for waste gas flow,
 - iii. 18 MM BTU for PPRNG, and
 - iv. 72 MM BTU for natural gas.
 - b. 95,865 million BTU during any consecutive 12-month period. This heat input limit should consist of heat input from the propane, waste gas flow from upsets, PPRNG, and natural gas usage and shall not exceed the following:
 - i. 17 MM BTU for propane,
 - ii. 63,144 MM BTU for waste gas flow,
 - iii. 6,570 MM BTU for PPRNG, and
 - iv. 26,134 MM BTU for natural gas.

[Basis: Cumulative Increase]
2. The owner/operator of the A-2 Enclosed Flare shall equip A-2 with both local and remote alarms, automatic combustion air control, and automatic start/restart system. The local and the remote alarms shall be activated if A-2 shuts down unexpectedly or if the combustion zone temperature is less than the minimum temperature required by Part 5 below.
[Basis: Regulation 8-34-501]
3. The owner/operator of the A-2 Enclosed Flare shall properly install and properly operate, as per manufacturer's recommendations, a continuous flow meter and recorder to measure and record the gas flow into the A-2 Flare.
[Basis: Cumulative Increase, Regulation 8-34-508 and 40 CFR 60.756(b)]
4. The owner/operator of the A-2 Enclosed Flare shall properly install and properly maintain a continuous temperature monitor with readout display and continuous recorder on A-2 per manufacturer's recommendations. One or more thermocouples shall be placed in the primary combustion zone of A-2 and shall accurately indicate flue gas temperature at all times. Temperature charts



Plant No. 24772, Ameresco Keller Canyon RNG
Source No. A-2, Enclosed Flare
Condition No. 27708 Application No. 30557

shall be retained for at least five years from the date of entry and made readily available to District Staff upon request.

[Basis: Regulations 8-34-501.3 and 2-6-501.3 and 40 CFR 60.756(b)]

5. The owner/operator of the A-2 Enclosed Flare shall maintain the combustion zone temperature of A-2 at a minimum temperature of 1600 degrees F, averaged over any 3-hour period when combusting waste gas and/or PPRNG, excluding startup periods. If a source test demonstrates compliance with all applicable requirements at a different temperature, the APCO may revise these minimum temperature requirements in accordance with the procedures identified in Regulation 2-6-414 or 2-6-415 and the following criteria. The minimum combustion zone temperature for the A-2 Enclosed Flare when burning waste gas and/or PPRNG shall be equal to or above the average combustion zone temperature determined during the most recent complying source test minus 50 degrees F on a rolling 3-hour average, provided that the minimum combustion zone temperature is not less than 1400 degrees F at all times of operation, excluding startup periods. During the startup period, the owner/operator of A-2 Enclosed Flare shall not combust any waste gas and/or PPRNG and shall only use natural gas exclusively. During the startup period, the owner/operator of A-2 Enclosed Flare shall not exceed any of the following heat input rates:

- a. 72 MMBTU per hour for any individual startup,
 - b. 72 MMBTU in any consecutive 24-hour period, and
 - c. 26,134 MMBTU in any consecutive 12-month period.
- [Basis: Regulations 2-5-301 and 8-34-501.3, RACT, and Cumulative Increase]

6. The owner/operator of the A-2 Enclosed Flare shall not exceed any of the following limits:

- a. 0.025 pounds of nitrogen oxide (NO_x), expressed as NO₂, per million BTU of heat input. Compliance with this emission limit may be demonstrated by not exceeding the following exhaust gas concentration limit: 6 ppmv of NO_x, expressed as NO₂ at 15% oxygen on a dry basis.
- b. 0.06 pounds of carbon monoxide (CO) per million BTU of heat input. Compliance with this emission limit may be demonstrated by not exceeding the following exhaust gas concentration limit: 24 ppmv of CO at 15% oxygen on a dry basis.

[Basis: RACT]

7. The owner/operator of A-2 Enclosed Flare shall achieve



Plant No. 24772, Ameresco Keller Canyon RNG
Source No. A-2, Enclosed Flare
Condition No. 27708 Application No. 30557

either a minimum destruction efficiency of 98% by weight or not exceed an outlet NMOC concentration of 30 ppmv at 3% O₂.

[Basis: Cumulative Increase, Regulation 8-34-301.3]

8. The owner/operator of A-2 Enclosed Flare shall not exceed 0.90 pounds per hour of NMOC emissions.
[Basis: Cumulative Increase, Regulation 8-34-301.3]
9. The owner/operator of the A-2 Enclosed Flare shall not exceed any of the following limits:
 - a. The total SO₂ emissions from A-2 shall not exceed any of the following limits:
 - i. 6.40 pounds per day of SO₂ during any 24-hour period
 - ii. 0.248 tons of SO₂ during any consecutive 12-month period.
 - b. The owner/operator shall demonstrate compliance with the emission limits in Part 9(a) by complying with the heat input limits of A-2 and monitoring procedures in Part 9(d).
 - c. The owner/operator of S-1 shall demonstrate that the PPRNG contains no more than 10 ppmv of TRS compounds (dry basis), expressed as H₂S.
 - d. To demonstrate compliance with Part 9(c), the owner/operator shall conduct monthly measurements of PPRNG. The owner/operator shall use either a District approved portable hydrogen sulfide monitor or a District approved Laboratory analysis method to determine the concentration of TRS, measured as H₂S and corrected to 50% methane in the PPRNG. Methane concentrations measured pursuant to Part 1 of Condition # 27705 shall be used to correct the calculated TRS concentrations to a landfill gas methane concentration of 50% by volume (corrected TRS = measured TRS/measured % CH₄ * 50). The sampling dates and results shall be recorded in a District approved log.
 - i. If the portable H₂S analysis method is used, the TRS concentration shall be calculated by multiplying the measured H₂S concentration by 1.2
(TRS = 1.2 * H₂S).
 - ii. If a laboratory analysis method is used, the TRS concentration shall be calculated as the sum of the measured concentrations for the individual sulfur compounds, expressed as H₂S.
 - iii. If the corrected TRS concentration determined pursuant to Part 9(d) is 10 ppmv of TRS or less for each monthly measurement during a



Plant No. 24772, Ameresco Keller Canyon RNG
Source No. A-2, Enclosed Flare
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rolling 12-month period, no additional calculations are required to verify compliance with the SO₂ emission limits identified above in Part 9(a). If any corrected TRS concentration measurement is greater than 10 ppmv of TRS during a rolling 12-month period, the Permit Holder shall use the calculation procedures in Part 9(d) to demonstrate compliance with the daily and annual SO₂ emission limits above.

[Basis: Cumulative Increase]

10. The owner/operator of the A-2 Enclosed Flare shall not exceed 0.012 grains/dscf PM₁₀.

[Basis: Cumulative Increase, Regulation 6-1]

11. The owner/operator of A-2 Enclosed Flare shall submit a permit application for a change of permit conditions, if any of the annual site-specific PPRNG characterization test indicates that the PPRNG at this site contains any of the following compounds at a level greater than the concentration listed below. The permit application shall be submitted to the Engineering Division, within 30 days of receipt of test results indicating a concentration above the levels listed below.

Compound	Concentration (ppbv)
1,3-Butadiene	77
1,4-Dichlorobenzene	518
Acrylonitrile	188
Benzene	1770
Ethylbenzene	5720
Ethylene dibromide	47
Ethylene dichloride	901
Hydrochloric Acid	14182
Hydrofluoric Acid	3777
Hydrogen Sulfide	114000
Vinyl Chloride	136

The following TACs should not exceed the following emission factors:

Compound	Emission Factor (lb/MM scf)
Acetaldehyde	2.58E-01
Acrolein	8.44E-02
Dioxins	1.09E-09
Formaldehyde	1.80E-01
Naphthalene	3.56E-02
PAHs (as B(a)P-equivalent)	2.52E-06

[Basis: Regulation 2-5-302]

12. In order to demonstrate compliance with Parts 1 through 11 above, Regulations 8-34-301.3 and 8-34-412, 40 CFR 60.8, and/or 40 CFR 60.752(b)(2)(iii)(B), the owner/operator of A-2 Enclosed Flare shall conduct a



Plant No. 24772, Ameresco Keller Canyon RNG

Source No. A-2, Enclosed Flare

Condition No. 27708

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source test at A-2 at least once annually. The source tests shall be conducted no sooner than 9 months and no later than 12 months after the previous source test. The first source test for A-2 shall be conducted within 1,440-1,920 operating hours, not to exceed 90-120 days from the date of the initial operation of A-2. The annual source test shall be conducted when the A-2 Enclosed Flare is operating at or near its maximum operating rate. The source test shall be conducted in accordance using only District approved source test procedures and/or methods. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement, Engineering Divisions and the Source Test Section within 60 days of the test date. Each annual source test shall determine the following:

- a. Gas flow rate to A-2 (dry basis);
- b. Concentrations (dry basis) of carbon dioxide (CO₂), nitrogen (N₂), oxygen (O₂), methane (CH₄), total NMOC, H₂S, TRS in the gas;
- c. Stack gas flow rate from A-2 (dry basis);
- d. Concentrations (dry basis) of NO_x, CO, NMOC, PM₁₀, PM_{2.5} (including both filterable and condensable fractions) and O₂ in the stack gas of A-2;
- e. NMOC/THC ratio;
- f. NMOC destruction efficiency of A-2;
- g. Hourly mass emission rate of NMOC in pounds per hour;
- h. NMOC concentrations in the exhaust of A-2 in lb/hr;
- i. NO_x and CO emission rates from A-2 in units of pounds per MM BTU;
- j. Average combustion zone temperature in A-2 during the test period;
- k. High heating value of the PPRNG (BTU/scf);
- l. PM₁₀ emission rates in units of grains/dscf from A-2;
- m. PPRNG characterization results as per Condition #27705, Part 13.

[Basis: Regulation 8-34-301.3, RACT, 40 CFR 60.752(b)(2)(iii)]



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Source No. A-2, Enclosed Flare
Condition No. 27708 Application No. 30557

13. In order to demonstrate compliance with the above parts, the owner/operator of A-2 shall maintain the following records in a District-approved logbook. All records shall be maintained on-site and shall be made readily available to the District staff upon request for a period of 5 years from the date of entry. These recordkeeping requirements do not replace the recordkeeping requirements contained in any applicable rules or regulations.

- a. Record the date and time of each startup, shutdown and/or malfunction of A-2 and the reason for each shutdown.
- b. Summarize the operating hours of A-2 on a daily basis.
- c. Calculate and record, on a monthly basis, the maximum daily and the total monthly heat input rate to A-2 based on the operating hours for A-2, the propane, waste gas, PPRNG, and natural gas flow rate recorded pursuant to Part 3, the average methane concentration in the waste gas and PPRNG as determined by the most recent source test, and a high heating value for methane of 993.9 BTU/scf of landfill gas at 70 degrees F and 1 atmosphere.
- d. Record the total amount of propane used in a consecutive 12-month period.
- e. Maintain records of all test dates and tests results performed to maintain compliance with Parts 11 and 12 or with any applicable part, rule, and/or regulation.
- f. All temperature monitoring data.
- g. TRS data and SO₂ calculations.
[Basis: Cumulative Increase, Regulation 2-6-501, 8-34-301, 8-34-501]

End of Conditions

been paid. Such denial shall not be based solely on the type of construction or design of equipment.

(Amended March 17, 1982)

2-1-305 Conformance with Authority to Construct: A person shall not put in place, build, erect, install, modify, modernize, alter or replace any article, machine, equipment, or other contrivance for which an authority to construct has been issued except in a manner substantially in conformance with the authority to construct. If the APCO finds, prior to the issuance of a permit to operate, that the subject of the application was not built substantially in conformance with the authority to construct, the APCO shall deny the permit to operate.

(Amended December 21, 2004)

2-1-306 Mandated Reductions Not Applicable: Emission reductions resulting from requirements of federal, state or District laws, rules or regulations shall not be banked or allowed as emission offsets or emission reduction credits unless a complete application for such banking or emission reduction credits was filed with the District at least 90 days prior to the adoption date of such laws, rules or regulations. Only emission reduction credits exceeding the emission reductions required by measures described in the Air Quality Management Plan or required by permits or orders; and reductions achieved by measures not specified in the Air Quality Management Plan shall be banked or allowed as emission offsets or emission reduction credits.

(Amended 10/7/81; 7/17/91; 6/15/94)

2-1-307 Failure to Meet Permit Conditions: A person shall not operate any article, machine, equipment or other contrivance, for which an authority to construct or permit to operate has been issued, in violation of any permit condition imposed pursuant to Section 2-1-403.

(Adopted 3/17/82; Amended 7/17/91)

2-1-308 Fugitive Emissions: Fugitive emissions shall be included as emissions from a source or facility except as required under this Regulation.

(Adopted 10/19/83; Amended 7/17/91)

2-1-309 Canceled Application: The APCO may cancel an application for an authority to construct and a permit to operate if, within 90 days after the application was deemed incomplete, the applicant fails to furnish the requested information or pay all appropriate fees. The 90 day period may be extended for an additional 90 days upon receipt of a written request from the applicant and written approval thereof by the APCO. The APCO shall notify the applicant in writing of a cancellation, and the reasons therefore. A cancellation shall become effective 10 days after the applicant has been notified. The cancellation shall be without prejudice to any future applications.

(Adopted April 6, 1988)

2-1-310 Applicability of CEQA: Except for permit applications which will be reviewed as ministerial projects under Section 2-1-311 or which are exempt from CEQA pursuant to Section 2-1-312, all proposed new and modified sources for which an authority to construct must be obtained from the District shall be reviewed in accordance with the requirements of CEQA.

310.1 For those District permit applications which must be reviewed in accordance with the requirements of CEQA, the District will not normally be a Lead Agency under CEQA. Rather, pursuant to CEQA, the Lead Agency will normally be an agency with general governmental powers, such as a city or county, rather than a special purpose agency such as the District.

Reports containing the information required by Sections 8-34-501, 503, 505, 506, 507, 508, and 509. The initial Annual Report shall include the initial Performance Test Report required by Section 8-34-413 and is due no later than 180 days from the initial start-up of the gas collection system, but not earlier than January 1, 2003.

(Adopted October 6, 1999)

8-34-412 Compliance Demonstration Test: Except as provided in Sections 8-34-119 or 120, any operator of equipment that is subject to Sections 8-34-301.3 or 301.4, shall conduct a Compliance Demonstration Test in accordance with the requirements of 40 CFR 60.8 and 60.752(b)(2)(iii)(B) using the test methods identified in 40 CFR 60.754(d). The initial Compliance Demonstration Test shall be conducted within 120 days of initial start up of the gas collection system or by October 1, 2002, whichever is later. Any operator that is subject to this requirement and that is required to have a Major Facility Review Permit, shall conduct annual Compliance Demonstration Tests.

(Adopted October 6, 1999)

8-34-413 Performance Test Report: Any operator required to meet Section 8-34-412 shall submit a Performance Test Report to the APCO in accordance with the provisions of 40 CFR 60.8. The initial Performance Test Report shall contain the information specified in 40 CFR 60.757(g) and shall be included in the initial Annual Report required by Section 8-34-411. Any operator required to perform annual Compliance Demonstration Tests shall submit the annual Performance Test Report along with the Annual Report required by Section 8-34-411.

(Adopted October 6, 1999)

8-34-414 Repair Schedule for Wellhead Excesses: In accordance with the provisions of 40 CFR 60.755(a)(3 and 5), any operator subject to the requirements of Section 8-34-305 shall meet the following requirements, if any excess of a limit specified in Sections 8-34-305.1, 305.2, 305.3, or 305.4 is detected.

414.1 The operator shall record the date, the excess value and the well identification number.

414.2 The operator shall initiate action to correct the excess within 5 calendar days of discovering the problem.

414.3 If the excess cannot be corrected within 15 days of the date that the problem was first discovered, the gas collection system shall be expanded to correct the excess.

414.4 If a gas collection system expansion is required pursuant to Section 8-34-414.3, the expansion shall be completed and all new wells shall be operating within 120 days of the date that the problem was first discovered.

(Adopted October 6, 1999)

8-34-415 Repair Schedule for Landfill Surface Leak Excesses: In accordance with the provisions of 40 CFR 60.755(c)(4), any operator subject to the requirements of Section 8-34-303 shall meet the following requirements, if any excess of the limit specified in Section 8-34-303 is detected:

415.1 The operator shall mark the location and record the date, location and value of each monitored excess.

415.2 The operator shall initiate action, such as cover maintenance or well vacuum adjustments, to correct the excess within 5 calendar days of discovering the excess.

415.3 The location of the excess shall be re-monitored within 10 calendar days of the date that the excess was first discovered.

415.4 If the re-monitoring pursuant to Section 8-34-415.3 indicates no excess of the Section 8-34-303 limit, the location shall be re-monitored within 1 month of the date that the excess was first discovered.

415.5 If the re-monitoring pursuant to Section 8-34-415.4 indicates no excess of the Section 8-34-303 limit, no further monitoring is required until the next regularly scheduled quarterly monitoring date.

415.6 If monitoring pursuant to Sections 8-34-415.3 or 415.4 indicates a second excess of the Section 8-34-303 limit, additional corrective action shall be initiated within 5 calendar days of detecting the second excess.

415.7 Any location exhibiting a second excess within a quarterly period shall be re-monitored within 10 calendar days of detecting the second excess.

