Kern River Gas Transmission's
Operating Policy on
Biomethane Receipts
10/19/2018

GENERAL

Pursuant to Section 4 of the General Terms and Conditions of Kern River Gas Transmission Company's ("Kern River") Federal Energy Regulatory Commission Gas Tariff ("Tariff"), all gas to be received into the Kern River pipeline system shall conform to the quality specifications set forth therein, including biomethane gas receipts ("Receipt Gas"). Section 4.1(a) of the Tariff states that the gas "will be merchantable Natural Gas commercially free from objectionable odors, solid matter, dust, gums, and gum forming constituents, or any other substance which interferes with its intended purpose, or causes interference with the proper and safe operation of the lines, meters, regulators, or other appliances through which it may flow." Accordingly, the following operating policy on biomethane receipts provides requirements for the acceptance of biomethane gas into Kern River's system and the actions required when Receipt Gas exceed certain levels of constituents, listed in Appendix A that would render the gas unmerchantable. The constituents in Appendix A are dependent upon the source of the biomethane production. The three sources of biomethane production are (1) landfills, (2) sewage treatment plants, and (3) dairies or feedlots.

Requirements

The operator of the receipt point shall demonstrate, before gas flow starts or resumes into Kern River's pipeline system, that the Receipt Gas is merchantable and meets the gas quality specifications required by Kern River's Tariff and the applicable constituent levels shown in Appendix A by providing test results ("Acceptable Test") from a third-party analytical laboratory approved by Kern River ("Approved Laboratory"). The receipt point operator shall be responsible for costs associated with such testing as set forth herein.

The receipt point operator shall install equipment, approved by Kern River, upstream of Kern River's receipt meter station to collect a composite gas sample for testing. The composite gas sampling equipment will extract a gas sample from the Receipt Gas stream at consistent intervals during the required testing period. The sample extraction interval shall be at least once per day for any day in which Kern River receives gas from the receipt point. The specific Receipt Gas sample extraction interval for each test period will be determined by the receipt point operator and Kern River. An example of composite sample extraction intervals is shown in Appendix B. The resulting composite gas sample will be sent to an Approved Laboratory for testing per the required frequency set forth herein.

Periodic spot gas sampling may be used in lieu of composite gas sampling when requested by Kern River or with Kern River's written approval. Kern River will have five business days to approve or deny any spot gas sampling request. The receipt point operator will provide Kern River with at least 48 hours' notice and allow Kern River the option of witnessing any Receipt Gas spot sample collection.

All test results will be shared with Kern River within five calendar days of the test results being received by the receipt point operator. Retesting shall be allowed to verify and validate the results. The cost of retesting will be borne by the receipt point operator.

Kern River will install gas monitoring equipment at the receipt meter station to continuously monitor the gas quality of the Receipt Gas. If the monitoring equipment indicates that the Receipt Gas is not merchantable, Kern River may require the receipt point operator, at the receipt point operator's sole cost and expense, to perform additional testing of the Receipt Gas. The additional testing will count toward the required periodic testing requirements described herein if a required periodic test has not yet been performed.

No blending of biomethane constituents shown on Exhibit A will be allowed.

The receipt point operator will immediately notify Kern River prior to changing the Receipt Gas source or the type of equipment used to make the Receipt Gas merchantable. At Kern River's sole discretion, a change in biomethane gas source or type of equipment could result in the testing protocol restarting for that type of biomethane gas.

Biomethane from Landfills Containing Hazardous Waste

Kern River prohibits biomethane from a landfill containing hazardous waste, as defined in Title 40 of the Code of Federal Regulation (CFR) Section 261.3, from being injected into its pipeline system. The operator of a receipt point shall not knowingly supply or cause to supply biomethane from a landfill containing hazardous waste. It is the responsibility of the operator of a landfill receipt point to disclose whether the landfill is a site of hazardous waste, has ever been a site of hazardous waste, contains hazardous waste, or ever accepted hazardous waste. Hazardous waste landfills include all continuous land and structures, and other appurtenances and improvements, on the land used for the treatment, transfer, storage, resource recovery, and disposal or recycling of hazardous waste. The operator of the landfill receipt point shall demonstrate verification from an Approved Laboratory that biomethane does not originate from hazardous waste before gas flows into Kern River's pipeline system. The operator of a receipt point with any source of merchantable biomethane from a landfill will be required to provide documentation in the form of an environmental due diligence assessment prior to the execution of an interconnect agreement. The cost of the assessment is to be paid by the receipt point operator

Allowable concentration limits for each of the biomethane gas constituents to be tested are shown in Appendix A.

Testing Protocol for Landfill and Sewage Plant Biomethane

1. Verification Phase

Prior to the initial delivery of Receipt Gas into Kern River's pipeline, the operator of the receipt point must provide Kern River with Acceptable Test results from a sample of the Receipt Gas once a week for four weeks from an Approved Laboratory ("Verification Phase"). The sample results must be verified by Kern River and must demonstrate an acceptable level for each of the constituents listed in Appendix A before Receipt Gas will be allowed into Kern River's system.

Receipt point operator must provide four consecutive acceptable test results to proceed to the next testing phase.

2. Monitoring Period One

After successfully completing the Verification Phase, the operator will enter into Monitoring Period One. In addition to Kern River monitoring gas quality as stated in Section 4 of Kern River's Tariff, the receipt point operator will provide Kern River with monthly Acceptable Test results from an Approved Laboratory of an analysis of the Receipt Gas for the constituents listed in Appendix A for each of the next 18 months ("Monitoring Period One"). Individual Acceptable Tests during the Monitoring Period One phase cannot be older than 45 days from the preceding Acceptable Test. If, at any time, the Approved Laboratory test results indicate the Receipt Gas quality does not meet any of the constituent tolerance levels indicated in Appendix A, the receipt meter will be shut-in and the receipt point operator will be required to repeat the Verification Phase and Monitoring Period One. Receipt point operator must provide 18 consecutive monthly Acceptable Test results to proceed to the Monitoring Period Two testing phase.

3. Monitoring Period Two

After successfully completing the Verification Phase and Monitoring Period One, the receipt point operator will enter into Monitoring Period Two. In addition to Kern River monitoring gas quality as stated in Section 4 of Kern River's Tariff, the receipt point operator will provide Kern River with bi-monthly Acceptable Test results from an Approved Laboratory of an analysis of the Receipt Gas for the constituents listed in Appendix A for the next 18-month period ("Monitoring Period Two"). Individual Acceptable Tests during the Monitoring Period Two phase cannot be older than 80 days from the preceding Acceptable Test. If, at any time, the Approved Laboratory test results indicate the Receipt Gas quality does not meet any of the constituent tolerance levels as indicated in Appendix A, the receipt meter will be shut-in and the receipt point operator will be required to perform one Verification Phase Acceptable Test and repeat Monitoring Period One and Monitoring Period Two.

4. Monitoring Period Three

After successfully completing the Verification Phase, Monitoring Period One, and Monitoring Period Two, the receipt point operator will enter into Monitoring Period Three. In addition to Kern River monitoring gas quality as stated in Section 4 of Kern River's Tariff, the receipt point operator will provide Kern River with quarterly Acceptable Test results from an Approved Laboratory of an analysis of the Receipt Gas for the constituents listed in Appendix A ("Monitoring Period Three"). Individual Acceptable Tests during the Monitoring Period Three phase cannot be older than 105 days from the preceding Acceptable Test. If, at any time, the Approved Laboratory test results indicate the Receipt Gas quality does not meet any of the constituent tolerance levels as indicated in Appendix A, the receipt meter will be shut-in and the receipt point operator will be required to perform one Verification Phase Acceptable Test and repeat Monitoring Period One, Monitoring Period Two and Monitoring Period Three. Monitoring Period Three will continue for the life of the project.

5. Flow Interruption Testing

If the receipt point flow is idled or stopped for more than 30 consecutive days, the receipt point operator will be required to perform one verification phase test prior to Kern River accepting flow. Upon Kern River receiving the results for one Acceptable Test, the testing protocol may resume as normal. The composite sample extraction interval for the return-to-service sample will be a minimum of once every 15 minutes. If the flow is idled or stopped for more than one year, the testing protocol will be required to start over.

Testing for Dairy and Feedlot Biomethane

1. Verification Phase

Prior to the initial delivery of Receipt Gas into Kern River's pipeline, the operator of the receipt point must provide Kern River with Acceptable Test results from a sample of the Receipt Gas once a week for four weeks from an Approved Laboratory ("Verification Phase"). The sample results must be verified by Kern River and must demonstrate an acceptable level for each of the constituents listed in Appendix A before Receipt Gas will be allowed into Kern River's system. Receipt point operator must provide four consecutive acceptable test results to proceed to the next testing phase.

2. Monitoring Period One

After successfully completing the Verification Phase, the operator will enter into Monitoring Period One. In addition to Kern River monitoring gas quality as stated in Section 4 of Kern River's Tariff, the receipt point operator will provide Kern River with quarterly Acceptable Test results from an Approved Laboratory of an analysis of the Receipt Gas for the constituents listed in Appendix A for the next 12 month period. ("Monitoring Period One"). Individual Acceptable Tests during the Monitoring Period One phase cannot be older than 105 days from the preceding Acceptable Test. If, at any time, the Approved Laboratory test results indicate the Receipt Gas quality does not meet any of the constituent tolerance levels indicated in Appendix A, the receipt meter will be shut-in and the receipt point operator will be required to repeat the Verification Phase and Monitoring Period One. Receipt point operator must provide 4 consecutive quarterly Acceptable Test results to proceed to Monitoring Period Two.

3. Monitoring Period Two

After successfully completing the Verification Phase and Monitoring Period One, the receipt point operator will enter into Monitoring Period Two. In addition to Kern River monitoring gas quality as stated in Section 4 of Kern River's Tariff, the receipt point operator will provide Kern River with semi-annual Acceptable Test results from an Approved Laboratory of an analysis of the Receipt Gas for the constituents listed in Appendix A ("Monitoring Period Two"). Individual Acceptable Tests during the Monitoring Period Two phase cannot be older than 200 days from the preceding Acceptable Test. If, at any time, the Approved Laboratory test results indicate the Receipt Gas quality does not meet any of the constituent tolerance levels as indicated in Appendix A, the receipt meter will be shut-in and the receipt point operator will be required to

perform one Verification Phase Acceptable Test and repeat Monitoring Period One and Monitoring Period Two. Monitoring Period Two will continue for the life of the project.

4. Flow Interruption Testing

If the receipt point flow is idled or stopped for more than 30 consecutive days, the receipt point operator will be required to perform one Acceptable Test after the first seven days of resuming flow. Upon Kern River receiving the results for one Acceptable Test, the testing protocol may resume as normal. The composite sample extraction interval for the resumption-of-flow sample will be a minimum of once every 15 minutes. If the flow is idled or stopped for more than one year, the testing protocol will be required to start over.

Miscellaneous

1. Kern River shall have the right to share all test results of the Receipt Gas.

2. This policy will be included by reference in any interconnect and/or operating agreement with receipt point operators delivering biomethane gas into Kern River's system.

3. This policy may be revised from time-to-time at Kern River's sole discretion.

Appendix A. Concentration Standards for Biomethane Gas Constituents

Constituent	Allowable Limit, mg/m^3 (ppm_v)	Biogas Source			Instrument/Analytical Method[3]
		Landfill	Dairies	POTW[1]	
Arsenic	0.19 (0.06)	X	--	--	ASTM D5673 ICP MS or equivalent
p-Dichlorobenzenes	57 (9.5)	X	--	X	EPA 524.2 GC MS or equivalent
Ethylbenzene	260 (60)	X	X	X	EPA 524.2 GC MS or equivalent
n-Nitroso-di-npropylamine	0.33 (0.06)	X	--	--	EPA 524.2 GC MS or equivalent
Vinyl Chloride	8.4 (3.3)	X	--	X	EPA 524.2 GC MS or equivalent
Anitmony	6.0 (1.2)	X	--	--	ASTM D5673 ICP MS or equivalent
Copper	0.6 (0.23)	X	--	--	ASTM D5673 ICP MS or equivalent
Lead	0.75 (0.09)	X	--	--	ASTM D5673 ICP MS or equivalent
Methacrolein	11 (3.7)	X	--	--	EPA 524.2 GC MS or equivalent
Toluene	9000 (2400)	X	X	X	EPA 524.2 GC MS or equivalent
Ammonia	10 ppm_v	X	X	X	EPA 350.1 or equivalent
Hydrogen	1000 ppm_v	X	X	X	ASTM D1945/D1946 or equivalent
Mercury	0.08 mg/m^3	X	--	X	ASTM D5673 ICP MS or equivalent
Siloxanes	1.15 mg Si/m3 (1 ppm)	X	--	X	EPA 524.2 GC MS or equivalent
Biologicals	4×10^4/scf (qPCR per APB, SRB, IOB[2] group) and commercially free of bacteria of >0.2 micron	X	X	X	In-line filtration

1. POTW means "Publicly Owned Treatment Works" or sewage treatment plant, or wastewater plant and includes all biogas sources other than landfill and dairy manure.

2. Acid-producing Bacteria (APB), Sulfate-reducing Bacteria (SRB) and Iron-oxidizing Bacteria (IOB).

3. Analytical testing methods for trace constituents may be updated over time. Alternative methods must be approved by Kern River.

Appendix B. Composite Sample Extraction Interval Example

Assumptions:

- Sample gas collection volume = 500 cc
- Individual sample size = 0.25 cc
- Available collection volume per vendor = 80% of 500 cc, or 400 cc
- Total quantity of individual samples = 400 / 0.25 = 1,600 samples

Sampling frequency examples:

- Weekly = every 10 minutes
    - 7 days x 144 samples/day = 1,008 samples/week
- Monthly = every 60 minutes
    - 30 days x 24 samples/day = 720 samples/month
- Bi-monthly = every 90 minutes
    - 60 days x 16 samples/day = 960 samples/2 months
- Quarterly = every 120 minutes
    - 90 days x 12 samples/day = 1,080 samples/quarter
- Semi-annual = every 240 minutes
    - 182 days x 6 samples/day = 1,092 samples/6 months

The composite sample extraction interval will be determined based on the sampling equipment selected.