

## **Kern River Gas Transmission's Operating Policy on Biomethane Receipts**

### **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 ("**Policy**") provides requirements for the acceptance of biomethane gas into Kern River's system and the actions required when Receipt Gas exceeds 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 two distinct sources are (1) landfills and wastewater treatment sludge, and (2) live animal manure ("**LAM**") and industrial-grade food waste. Gas produced from consumer-separated "Green Bin" waste, including LAM + Green Bin projects, will be considered on a case-by-case basis.

### **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 (Concentration Standards for Biomethane Gas Constituents) 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 will provide Kern River with at least forty-eight (48) hours' notice and allow Kern River the option of witnessing any Receipt Gas sample collection.

All test results will be shared with Kern River within five (5) 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. Events or conditions that trigger additional laboratory analysis include: (1) a significant reading of off-spec renewable natural gas ("**RNG**") as indicated

by the continuous analyzer(s); (2) an expansion of the RNG generation process; (3) an indication of a significant change in the RNG composition; or (4) addition of a new biomass source.

Sampling methods and analytical test methods may be modified or changed over time, based upon updates in test methods and instrumentation. Proposed alternative test methods, especially for trace constituents, must be approved by Kern River. Kern River reserves the right to modify the program based upon results of sampling.

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

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 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

### **Biomethane Testing Protocol for Landfill and Wastewater Treatment Sludge**

#### *1. Verification Phase*

Prior to the initial delivery of Receipt Gas into Kern River's pipeline the receipt point operator shall conduct four (4) tests over a four (4)-week period. 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. The receipt point operator must provide four (4) consecutive acceptable test results to proceed to the next testing phase.

#### *2. Monitoring Period One*

After successfully completing the Verification Phase, the receipt point operator will enter into Monitoring Period One (defined below). 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 twelve (12) months ("**Monitoring Period One**"). The initial Monitoring Period One test shall occur within the first week of entering the Monitoring Period One phase. Individual Acceptable Tests during the Monitoring Period One phase cannot be older than forty-five (45) days from the preceding Acceptable Test.

### *3. Monitoring Period Two*

After successfully completing the Verification Phase and Monitoring Period One, the receipt point operator will enter into Monitoring Period Two (defined below). 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 bimonthly Acceptable Test results from an Approved Laboratory of an analysis of the Receipt Gas for the constituents listed in Appendix A for the next twelve (12)-month period ("**Monitoring Period Two**"). Individual Acceptable Tests during the Monitoring Period Two phase cannot be older than seventy-five (75) days from the preceding Acceptable Test.

### *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 (defined below). 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 Acceptable Test results every four (4) months 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 one hundred fifty (150) days from the preceding Acceptable Test. To the extent there are no out-of-tolerance laboratory results or other violations of this Policy, 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 sixty (60) 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 (1) Acceptable Test, the testing protocol may resume as normal. If the flow is idled or stopped for more than one (1) year, the testing protocol will be required to start over at the Verification Phase set forth in Section 1 above. Acceptable flow interruption test results shall count toward the regular testing protocol.

If the receipt point flow is idled or stopped due to receipt point operator's equipment, processing, or gas quality issues, 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.

### *6. Out-of-Tolerance Laboratory Results*

If, at any time after the Verification Phase, an Approved Laboratory test result indicates the Receipt Gas quality does not meet one or more constituent tolerance level as indicated in Appendix A, the

applicable constituent(s) will be considered out of tolerance. Although gas flow to the pipeline may continue, the testing for the out-of-tolerance constituent(s) will start over at the beginning of the Verification Phase. If three consecutive lab results are out of tolerance for any constituent, the meter station will be shut-in until the Verification Phase can successfully be completed for the out-of-tolerance constituent(s).

Appendix B (Landfill or POTW Test Schedule) shows the constituents, test method, and test frequency for each monitoring period.

## **Biomethane Testing for LAM and Industrial-Grade Food Waste**

### *1. Verification Phase*

Prior to the initial delivery of Receipt Gas into Kern River's pipeline the receipt point operator shall conduct four (4) tests over a four (4)-week period. 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. The receipt point operator must provide two consecutive acceptable test results to proceed to the next testing phase.

### *2. Monitoring Period One*

After successfully completing the Verification Phase, the receipt point operator will enter into Monitoring Period One (defined below). 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 the next six (6)-month period ("**Monitoring Period One**"). The initial Monitoring Period One test shall occur within the first week of entering the Monitoring Period One phase. Individual Acceptable Tests during the Monitoring Period One phase cannot be older than forty-five (45) days from the preceding Acceptable Test. The receipt point operator must provide six (6) consecutive monthly 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 (defined below). 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 semiannual 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 two hundred (200) days from the preceding Acceptable Test. To the extent there are no out-of-tolerance laboratory results or other violations of this Policy, 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 sixty (60) consecutive days, the receipt point operator will be required to perform one Acceptable Test after the first (7) seven days of resuming flow. Upon Kern River receiving the results for one Acceptable Test, the testing protocol may resume as normal. If the flow is idled or stopped for more than one (1) year, the testing protocol will be required to start over at the Verification Phase set forth in Section 1 above. Acceptable flow interruption test results shall count toward the regular testing protocol.

If the receipt point flow is idled or stopped due to receipt point operator's equipment, processing, or gas quality issues, 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.

#### *5. Out-of-Tolerance Laboratory Results*

If, at any time after the Verification Phase, an Approved Laboratory test result indicates the Receipt Gas quality does not meet one or more constituent tolerance level as indicated in Appendix A, the applicable constituent(s) will be considered out of tolerance. Although gas flow to the pipeline may continue, the testing for the out-of-tolerance constituent(s) will start over at the beginning of the Verification Phase. If three (3) consecutive lab results are out of tolerance for any constituent, the meter station will be shut-in until the Verification Phase can successfully be completed for the out-of-tolerance constituent(s).

Appendix C (LAM or Industrial-Grade Food Waste Test Schedule) shows the constituents, test method, and test frequency for each monitoring period.

#### **Miscellaneous**

1. Kern River shall have the right to share all test results of the Receipt Gas.
2. This Policy will be incorporated 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 at Kern River's sole discretion.

**Appendix A**  
**Concentration Standards for Biomethane Gas Constituents**

Constituent	Allowable Limit, mg/m <sup>3</sup> (ppm <sub>v</sub> )	Biogas Source		Instrument/Analytical Method <sup>2</sup>
		Landfill or POTW <sup>1</sup>	Dairies	
Arsenic	0.19 (0.06)	X	--	EPA Method 29 AAS/ICAP
Copper	0.6 (0.23)	X	--	EPA Method 29 AAS/ICAP
Chlorine Total	10 mg/m <sup>3</sup>	X	--	EPA TO-15 GC/MS
Fluorine Total	1 mg/m <sup>3</sup>	X	--	EPA TO-15 GC/MS
Ammonia	10 ppm <sub>v</sub>	X	X	OSHA ID-188 Ion Chromatography
Hydrogen	0.3%	X	X	ASTM D1945/D1946
Mercury	0.08 mg/m <sup>3</sup>	X	--	ASTM D5954 AAS
Siloxanes	0.5 mg Si/m <sup>3</sup>	X	--	ASTM D8230-19 GC/MS
Biologicals	Commercially free of...	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, live animal manure, and industrial-grade food waste.
2. Analytical testing methods for trace constituents may be updated over time. Alternative methods must be approved by Kern River.

## Appendix B Landfill or POTW Test Schedule

	TRACE CONTITUENT PARAMETER and TESTING BY THIRD PARTY LABORATORIES								
	HYDROGEN	AMMONIA	SILOXANES	CHLORINE: TOTAL	FLUORINE: TOTAL	PARTICULATES and BIOLOGICALS	MERCURY	ARSENIC	COPPER
Assigned Value	0.30%	0.001% (10 ppm)	0.5 mg Si/m <sup>3</sup>	10 mg/m <sup>3</sup>	1 mg/m <sup>3</sup>	Commercially Free of ...	0.08 mg/m <sup>3</sup>	0.19 mg/m <sup>3</sup> (0.06 ppmv)	0.60 mg/m <sup>3</sup> (0.23 ppmv)
Referenced Method*	ASTM D1945/D1946	OSHA ID-188	ASTM D8230-19	EPA TO-15	EPA TO-15		ASTM D 5954	EPA Method 29	EPA Method 29
Sampling Method*	GC/TCD	Ion Chromatography	GC/MS	GC/MS - Calc.	GC/MS - Calc.	Filter as per protocol	AAS	AAS/ICAP	AAS/ICAP
<b>RNG VERIFICATION PERIOD GAS NOT INJECTED TO PIPELINE</b>									
WEEK 1-4 Testing: (Sample ONCE A WEEK, same day of the week, over 4 weeks**) (4 Test Sets Consistently Meeting Specification)***	4	4	4	4	4	Check filter at completion	4	4	4
<b>MONITORING PERIOD 1, YEAR 1 (Month 1-12) GAS FLOWS TO PIPE</b>									
Monthly (Total Count for 12 Months) - Same week during each month (first, second, etc.)**	12	12	12	12	12	Check filter at completion	12	12	12
<b>MONITORING PERIOD 2, YEAR 2 (Month 13-24)</b>									
Bi-monthly (Every Other Month, for 12 months)****	6	6	6	6	6	Check filter at completion	6	6	6
<b>MONITORING PERIOD 3 (Month 25-Life of Project)</b>									
3x/Year (Every 4 months for life of project)****	3 per year	3 per year	3 per year	3 per year	3 per year	Check filter annually	3 per year	3 per year	3 per year
* Approved Kern River methodology only	NOTES: Events or conditions that trigger additional laboratory analysis include: a significant reading of off-spec RNG as indicated by the continuous analyzer(s), an expansion of the RNG generation process, an indication of a significant change in the RNG composition, addition of a new biomass source, etc. Sampling methods and analytical test methods may be modified or changed over time, based upon updates in test methods and instrumentation. Proposed alternative test methods, especially for trace constituents, must be approved by Kern River. Kern River reserves the right to modify this program, based on results of testing over time. Kern River reserves the right to update laboratory methodologies, as new er, more accurate, less expensive approved approaches become available.								
** Samples to be taken on MONDAY, TUESDAY, or WEDNESDAY for overnight shipment to the laboratory.									
*** Gas does not flow to the pipeline until all testing results have been returned and verified/approved by Kern River.									
**** Sample events shall be regular, separated equally through the test period.									

## Appendix C LAM or Industrial-Grade Food Waste Test Schedule

	TRACE CONSTITUENTS		
	PARAMETER and TESTING BY THIRD PARTY LABORATORIES		
	HYDROGEN	AMMONIA	PARTICULATES and BIOLOGICALS
Assigned Value	0.30%	0.001% (10 ppm)	Commercially Free of ...
Referenced Method*	ASTM D1945/D1946	OSHA ID-188	
Sampling Method*	GC/TCD	Ion Chromatography	Filter as per protocol
<b>RNG VERIFICATION PERIOD GAS NOT INJECTED TO PIPELINE</b>			
WEEK 1-4 Testing: (Sample ONCE A WEEK, same day of the week, over 4 weeks**) (4 Test Sets Consistently Meeting Specification)***	4	4	Check filter at completion
<b>MONITORING PERIOD 1 (Month 1-6) GAS FLOWS TO PIPE</b>			
Monthly (Total Count for 6 Months) - Same week during each month (first, second, etc.)**	6	6	Check filter at completion
<b>MONITORING PERIOD 2 (Month 7-Life of Project)</b>			
Semi-annual (Every 6 Months for life of project)****	2 per year	2 per year	Check filter annually
* Approved Kern River methodology only	NOTES: Events or conditions that trigger additional laboratory analysis include: a significant reading of off-spec RNG as indicated by the continuous analyzer(s), an expansion of the RNG generation process, an indication of a significant change in the RNG composition, addition of a new biomass source, etc. Sampling methods and analytical test methods may be modified or changed over time, based upon updates in test methods and instrumentation. Proposed alternative test methods, especially for trace constituents, must be approved by Kern River. Kern River reserves the right to modify this program, based on results of testing over time. Kern River reserves the right to update laboratory methodologies, as newer, more accurate, less expensive approved approaches become available.		
** Samples to be taken on MONDAY, TUESDAY, or WEDNESDAY for overnight shipment to the laboratory.			
*** Gas does not flow to the pipeline until all testing results have been returned and verified/approved by Kern River.			
**** Sample events shall be regular, separated equally through the test period.			