

## 12. QUALITY OF GAS

The provisions set forth in this Section 12 shall apply to all gas received or delivered by Pipeline, except as expressly set forth herein to the contrary.

12.1 Natural or Artificial Gas. The gas received or delivered by Pipeline hereunder shall be a combustible gas consisting wholly of, or a mixture of:

- (a) Natural gas of the quality and composition produced in its natural state except that the Pipeline may extract or permit the extraction of any of the constituents thereof except methane.
- (b) Gas generated by vaporization of Liquefied Natural Gas ("LNG").
- (c) Manufactured, reformed, or mixed gas consisting essentially of hydrocarbons of the quality and character produced by nature in the petroleum, oil and gas fields with physical properties such that when the artificial pipeline gas is commingled with natural gas, the resulting mixture is indistinguishable from natural gas complying with specifications under the FERC Gas Tariff.

12.2 Total Heating Value and Wobbe Number.

- (a) No gas delivered hereunder shall have a Total Heating Value at the Point of Receipt below 967 Btu per cubic foot (BTU/CF) and no more than 1110 BTU/CF.
- (b) No gas delivered hereunder shall have a Wobbe Number at the Point of Receipt below 1314 or more than 1400, subject to the limitations and obligations, and related exceptions, applicable during the "Phase-In Period," all as defined and set forth in the Stipulation and Agreement submitted to FERC on February 27, 2009 and approved by FERC on April 21, 2009 in Docket No. RP08-374-000, (calculated using Total Heating Value (THV)), dry, under standard conditions at 14.73 psia at 60 degrees Fahrenheit based on the following mathematical definition and in accordance with Section 14 of these GT&C:

$$\text{THV} / \text{Sqrt SG}_{\text{gas}}$$

Where:

THV = Total Heating Value (Btu/scf)

SG<sub>gas</sub> = Specific Gravity

Sqrt = Square root of.

- (c) The Total Heating Value shall be determined by gas chromatographic analysis using most recent AGA standards or any revision thereof, or by other methods mutually agreed upon by Customer and Pipeline.

### 12.3 Composition.

- (a) Merchantability. The gas shall be commercially free, under continuous gas flow conditions, from objectionable odors (except those required by applicable regulations), solid matter, dust, gums, and gum-forming constituents which might interfere with its merchantability or cause injury to or interference with proper operations of the pipelines, compressor stations, meters, regulators or other appliances through which it flows, or their operation.
- (b) Oxygen. The gas shall not have an uncombined oxygen content in excess of two-tenths (0.2) of one percent (1%) by volume.
- (c) Non-Hydrocarbon Gases. The gas shall not contain more than four percent (4%) by volume, of a combined total of non-hydrocarbon gases (including carbon dioxide and nitrogen); it being understood, however, that the total carbon dioxide content shall not exceed two percent (2%) by volume and that the combined oxygen and nitrogen content shall not exceed two and three quarters percent (2.75%) by volume; provided, gas received from Maritimes & Northeast Pipeline Limited Partnership may contain up to two and one quarter percent (2.25%) carbon dioxide content by volume if Pipeline determines, in its reasonable discretion, that commingling opportunities exist to permit it to deliver gas into downstream interstate pipelines with a total carbon dioxide content that does not exceed two percent (2%) by volume.
- (d) Liquids. The gas shall be free of water and hydrocarbons in liquid form at the temperature and pressure at which the gas is received and delivered.
- (e) Hydrogen Sulfide. The gas shall not contain more than one-fourth (1/4) grains of hydrogen sulfide per one-hundred (100) Cubic Feet.
- (f) Total Sulphur. The gas shall not contain more than two (2) grains of total sulphur, excluding any mercaptan sulphur, per one-hundred (100) Cubic Feet.
- (g) Temperature. The gas shall not have a temperature of more than one-hundred twenty degrees (120o) Fahrenheit.
- (h) Water Vapor. For gas received into Pipeline's system from a receipt point located in the continental United States, such gas shall not contain in

excess of seven (7) pounds of water vapor per million Cubic Feet. For gas received into Pipeline's system from a receipt point north of the continental United States, such gas shall not contain in excess of five (5) pounds of water vapor per million Cubic Feet. All gas delivered by Pipeline, regardless of where received, shall not contain in excess of seven (7) pounds of water vapor per million Cubic Feet.

- (i) Liquefiable Hydrocarbons. The gas shall not contain liquid hydrocarbons or hydrocarbons liquefiable at temperatures warmer than 15°F and normal pipeline operating pressures of 100-1440 psig. This correlates to a limit of 0.032 gallons of C6+ hydrocarbons per thousand Cubic Feet of natural gas (GPM) at any operating pressure.
- (j) Microbiological Agents. The gas shall not contain, either in the gas or in any liquids with the gas, any microbiological organism, active bacteria or bacterial agent capable of contributing to or causing corrosion and/or operational and/or other problems.

Microbiological organisms, bacteria or bacterial agents include, but are not limited to, sulfate reducing bacteria (SRB) and acid producing bacteria (APB). Tests for bacteria or bacterial agents shall be conducted on samples taken from the meter run or the appurtenant piping using American Petroleum Institute (API) test method API-RP38 or any other test method acceptable to Pipeline and Customer which is currently available or may become available at any time.

- (k) Non-methane Hydrocarbons. The gas shall not contain a non-methane hydrocarbon content of more than twelve percent (12.0%) of ethanes and heavier hydrocarbons (C2+), of which the content of butanes and heavier hydrocarbons (C4+) shall not exceed one and one half percent (1.5%) of the gas.

- 12.4 If the gas tendered for Customer's account to Pipeline shall fail at any time to conform to any of the specifications set forth in this Section 12 or in Pipeline's reasonable judgment, may cause harm to its facilities or diminish the quality of gas in the system, then Pipeline shall have the right, after either written, oral or telephonic notice to Customer, to refuse to accept all or any portion of such quality deficient gas. In the event Pipeline refuses to accept gas tendered by Customer because such gas does not conform to the specifications set forth herein, Customer shall not be relieved of its obligation to pay any Reservation Charge provided for in Customer's Service Agreement. If the gas tendered by Pipeline for Customer's account shall fail at any time to conform to any of the specifications set forth in this Section 12 then Customer shall notify Pipeline of such deficiency and may, at its option, refuse to accept delivery pending correction by Pipeline.

## 12.5 Waiver.

- (a) Notwithstanding the requirements set forth in this Section 12, to the extent that any interruption of supply physically available for delivery to Pipeline's system would result in volumes physically available for flow on the system that, in Pipeline's reasonable determination, are less than the aggregate quantity of local distribution company and end-use markets connected directly to the system, Pipeline may allow Customer to tender for service or cause to be tendered, pursuant to an executed Service Agreement under Pipeline's rate schedules, gas which does not when injected into Pipeline's pipeline meet the quality specifications set forth in this Section 12; provided that Pipeline's acceptance of such gas shall not adversely impact Pipeline's system facilities or operations. Pipeline shall post on LINK® any such waiver of Pipeline's gas quality requirements. Customer acknowledges that following the posting of a waiver as contemplated in this Section 12.5(a), Customer may receive gas that does not conform to the specifications set forth in this Section 12 if deliveries are scheduled under Customer's Service Agreement while the posting is in effect. Pipeline shall implement this Section 12.5(a) on a non-discriminatory basis. Notwithstanding anything to the contrary in this Section 12.5(a), Pipeline shall not waive the requirements of this Section 12 to permit gas to enter the system that has a Wobbe Number less than 1300 or greater than 1410, a Total Heating Value greater than 1120 BTU/CF, a carbon dioxide content by volume greater than two and nine-tenths of one percent (2.9%), or a sulphur content, excluding mercaptan sulphur, per one-hundred (100) Cubic Feet greater than five (5) grains. In the event that Pipeline's acceptance of such gas results in the diminution in quality, quantity or economic value of gas transported for others, Customer who injects or causes to be injected such gas into Pipeline's system shall be liable for any damage caused thereby and such Customer shall indemnify and hold Pipeline harmless from any damage caused thereby; provided, however, that Customer shall not be obligated to indemnify Pipeline for any damage resulting from Pipeline's gross negligence, undue discrimination or willful misconduct in its handling of the gas pursuant to this Section 12.5(a).
- (b) In addition to Section 12.5(a), Pipeline may waive the requirements set forth in this Section 12 in order to allow Customer to tender or cause to be tendered gas which does not, when injected into Pipeline's system, meet the quality specifications set forth in this Section 12; provided that acceptance of such gas shall not adversely affect Pipeline's system facilities or operations, and further provided that the commingled gas stream at any point on Pipeline's system where Maritimes can deliver gas, including any local distribution company or end-use market connected

directly to the system, as well as any lateral or downstream pipeline, shall be compliant with the quality specifications set forth in Section 12 (but excluding Section 12.5); Pipeline shall post on LINK® any waiver of Pipeline's gas quality requirements. Pipeline shall implement this Section 12.5(b) in a not unduly discriminatory manner and may cancel any waiver at any time if necessary to ensure that the commingled gas stream is compliant with the quality specifications set forth in Section 12 at any delivery point on Pipeline's system.

- 12.6 Notwithstanding the requirements set forth in Section 12.5, Pipeline, at any time and from time to time, shall have the right, either by written, oral or telephonic notice to Customer, to arrange for any necessary processing of Customer's quality deficient gas tendered to Pipeline to ensure such gas meets the minimum quality specifications set forth in this Section 12. Pipeline shall bill the applicable Customer and such Customer shall pay Pipeline for all costs (including shrinkage) incurred by Pipeline relating to the processing of the Customer's gas as necessary to ensure that Pipeline fully recovers such costs and applicable carrying charges. Pipeline shall have the right to sell or otherwise dispose of any or all of the processing products without accounting to Customer or owner of the processed gas.
- 12.7 Pipeline shall have the unqualified right to commingle gas transported hereunder with gas from other sources, and to treat and handle all such gas as its own. It is recognized that gas delivered may not be the same molecules as those received at the Point of Receipt. To the extent Customer or any other party elects not to exercise its rights, if any, to process gas for the removal of liquids and liquefiable hydrocarbons, Pipeline shall have the unqualified right to process such gas for the purpose of removing, among others, liquids and liquefiable hydrocarbons and ownership of such liquids and liquefiable hydrocarbons shall be vested in Pipeline. For any period for which Customer elects to process its gas, the Customer or other applicable party shall be obligated to perform such processing for all relevant gas quantities during such period. The quantities of gas delivered hereunder at the Point(s) of Delivery shall be thermally equivalent to the quantities of gas received at the Point(s) of Receipt for transportation less Applicable Shrinkage and, if applicable, any reduction due to processing.
- 12.8 Pipeline and Customer may agree, or governmental authorities may require, that the gas be odorized by use of a malodorant agent of such character as to indicate by a distinctive odor the presence of gas. Whenever odorized gas is delivered, the quality and specifications, as set forth in this Section 12 of such gas shall be determined prior to the addition of malodorant or with proper allowance for changes or additions due to such malodorant. Such odorization of the gas by the Pipeline, unless otherwise mutually agreed by Customer and Pipeline, shall be for the purpose of detection of the gas only during the time, prior to delivery to the Customer, when in possession of the Pipeline. Pipeline and Customer may agree

from time to time, to allow Customer to deliver odorized gas to Pipeline. Pipeline shall not be obligated to receive such odorized gas from Customer when such receipt may, in Pipeline's sole discretion, be detrimental to Pipeline's system operations.