

ONITA R. KING
Tariffs and Regulatory Compliance
Tel: 503.721.2452
Fax: 503.721.2516
email: ork@nwnatural.com



August 11, 2017

NWN OPUC Advice No. 17-14 / ADV _____

VIA ELECTRONIC FILING

Public Utility Commission of Oregon
Attention: Filing Center
201 High Street SE Suite 100
Post Office Box 1088
Salem, Oregon 97308-1088

Re: General Rule 24 “Gas Quality Standards and Determination of Thermal Units”

Northwest Natural Gas Company, dba NW Natural (“NW Natural” or “Company”), files herewith revisions to its Tariff P.U.C. Or. 25¹, as listed below and stated to become effective with service on and after **September 13, 2017**:

Second Revision of Sheet RR-24
General Rule 24,
“Gas Quality Standards and Determination of Thermal Units;” and

Third Revision of Sheet RR-24.1,
General Rule 24,
“Gas Quality Standards and Determination of Thermal Units (continued).”

This filing is made in accordance with OAR 860-022-0015 and OAR 860-022-0025.

The purpose of this filing is to propose clarifying revisions to portions of General Rule 24 “Gas Quality Standards and Determination of Thermal Units (“Rule 24”) of the Company’s Tariff as follows:

1. Revisions are proposed at RR-24 to:
 - a. Correct a typographical error in the energy content figures identified in the first paragraph. The correct energy content range should read “between 985 and 1155 Btu per standard cubic foot ...” The current tariff incorrectly states a range “between 985 and 1115; and
 - b. Restate the billing factor formula for clarity. The current language appears to combine the therm calculation and billing factor calculations which can be confusing to the reader. The proposed change will eliminate this confusion.

¹ Tariff P.U.C. Or. 25 was filed pursuant to ORS 757.205 and OAR 860-022-0005 and originated November 1, 2012 with Docket UG 221; OPUC Order No. 12-408 as supplemented by Order No. 12-437.

2. Revisions are proposed at Sheet RR-24.1 to update the Newport weather station I.D. The Company has become aware that NOAA Station 352032 is no longer an active station. Our research indicates that NOAA Station 352032 was discontinued but that NOAA now associates that station to the station identified as WBAN 24285. Geographically, the stations are very close in proximity. This change has no impact on customer billing.

Because none of the revisions discussed above result in a change from current policy or business practice, the Company views these changes as housekeeping.

There is no effect on Company revenues as a result of the changes proposed herein.

The Company respectfully requests that the tariff sheets filed herein be approved by the Commission to become effective with service on and after September 13, 2017, and if deemed necessary by the Commission that a hearing be scheduled, in accordance with ORS 757.210.

In accordance with ORS 757.205, copies of this letter and the filing made herewith are available in the Company's main office in Portland, Oregon and on its website at www.nwnatural.com.

Please address correspondence on this matter to me with copies to:

eFiling
Rates & Regulatory Affairs
NW Natural
220 NW Second Avenue
Portland, Oregon 97209
Telecopier: (503) 721-2516
Telephone: (503) 226-4211, ext. 3589
eFiling@nwnatural.com

Sincerely,

/s/ Onita King

Onita R. King
NW NATURAL

Attachments:

General Rule 24, Sheet RR-24
General Rule 24, Sheet RR-24.1

NORTHWEST NATURAL GAS COMPANY

P.U.C. Or. 25

Second Revision of Sheet RR-24
Cancels First Revision of Sheet RR-24

GENERAL RULES AND REGULATIONS

(continued)

Rule 24. Gas Quality Standards and Determination of Thermal Units.

The quality of Natural Gas or Biomethane procured and delivered by the Company or by Customers under **Schedule T** shall conform to standard purity requirements of the Commission; shall have an energy content between 985 and 1155 Btu per standard cubic foot; and shall permit satisfactory operation of appliances. Biomethane shall, in addition, conform to the gas quality specifications and associated testing and reporting standards established by the Company, as such standards are amended from time to time. (C)

Customer usage is calculated in energy units, normally in Therms. Determination of thermal units shall consider metered volume, metering pressure, temperature, compressibility ratio, and the energy content of the gas. Therms are computed to a standard base pressure of 14.73 PSIA and a standard temperature of 60 degrees Fahrenheit. Equipment and methods used for billing factor calculations may vary.

Total Energy = Metered Volume x Billing Factor, where Billing Factor = Pressure Factor (PF) X Temperature Factor (TF) X Compressibility Ratio (CR) X BTU Factor (C)

Metered Volume is measured at the Customer Premises. The meter index volume readings are typically in hundreds of cubic feet (ccf). An index multiplier of one (1) is used for most Residential and Commercial Customers. Larger volume Customers may have index multipliers of 10, 100, or 1000.

Metered Volume = Index Volume x Index Multiplier

The Pressure Factor times compressibility ratio (PF x CR) for Residential and small Commercial Customer billings is approximately 1.0091 when metering pressure is 6.5 inches water column, and approximately 1.1293 for 2.0 psig metering pressure. The pressure factor will be calculated on a Customer-specific basis for metering pressures above 2.0 psig. Some meters may use a pressure-compensating device for automatic calculation of the pressure factor at the meter site.

Pressure Factor (PF) = $\frac{\text{Metering Pressure (PSIG)} + \text{Atmospheric Pressure (PSIA)}}{14.73 \text{ PSIA}}$

Atmospheric Pressure (PSIA) is calculated in accordance with American Gas Association (AGA) recommendations (AGA 3, as revised from time to time), and is determined from plat map average elevation and an average determined from the daily barometric pressure during the billing period.

Atmospheric Pressure (PSIA) = 14.73 x Barometric Factor x Elevation Factor

Barometric Factor = $\frac{\text{(PDX Barometer Reading (inHg)} + 0.025)}{29.99}$

Elevation Factor = $0.9871 \times \frac{(55457 - \text{Elevation})}{(54735 + \text{Elevation})}$

(continue to Sheet RR-24.1)

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NORTHWEST NATURAL GAS COMPANY

P.U.C. Or. 25

Third Revision of Sheet RR-24.1
Cancels Second Revision of Sheet RR-24.1

GENERAL RULES AND REGULATIONS

(continued)

Rule 24. Gas Quality Standards and Determination of Thermal Units (continued).

Temperature Factor (TF) is an average determined from representative samples of metering temperatures for the billing period. Temperature information for most accounts will be obtained from daily temperature data for the weather stations specified in this **Rule 24**, as published daily by third party sources. The temperature factor might alternatively be applied through on-site temperature compensating devices or other temperature recording equipment.

$$\text{Temperature Factor} = \frac{520}{(\text{Metering Temperature } ^\circ\text{F} + 460)}$$

Temperature data will be based on the daily temperatures reported for the weather stations listed in the table below. Each weather station corresponds to one of eight weather zone assignments within the Company's Oregon service territory. Each account is assigned a weather zone based upon where the Customer's premise is located on a geographical plat map. In most cases, the weather zone assigned to a plat will correspond with its assigned service district. NW Natural uses data received from County Assessors Offices in the process of establishing weather zone assignments.

Weather Station	NWN Weather Zone
Astoria (350328)*	Astoria
Coos Bay (356073)*	Coos Bay
Newport (WBAN 24285)	Lincoln City
Corvallis Oregon AgriMet Weather Station (CRVO)	Albany
Hood River Oregon AgriMet Weather Station (HOXO)	The Dalles
Portland (356751)*	Portland
Eugene (352709)*	Eugene
Salem (357500)*	Salem

(C)

* Denotes NOAA weather station

If at any time the daily temperature data is not available for any of the listed weather stations, the Company will use data from a substitute station within the respective weather zone, and will adjust the data for the high and low temperature differential between the two stations. In the event that temperature data for any weather station is continually unavailable or unreliable, the Company will select a replacement weather station within the respective weather zone. When a replacement weather station is established, the normal weather heating degree days for the replacement station will be adjusted so that the data used for the replacement weather station remains aligned with the data used to determine normal weather in the Company's last general rate case.

(continue to Sheet RR-24.2)

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