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VIA ELECTRONIC FILING

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Executive Director and Secretary
Washington Utilities and Transportation Commission
621 Woodland Square Loop SE
Lacey, WA 98503

Received
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State Of WASH.
UTIL. AND TRANSP.
COMMISSION

RE: U-190818—Investigation into Renewable Natural Gas Programmatic Design and Pipeline Safety Standards—Comments of NW Natural

Northwest Natural Gas Company, dba NW Natural (NW Natural or Company), appreciates the opportunity to submit these comments in response to the September 30, 2019 Notice of Opportunity to File Written Comments (Notice).

NW Natural supports the comments provided by the Northwest Gas Association and also provides the following responses to questions 4 and 8 from the Notice.

4. How should renewable hydrogen be treated in RNG programs?

NW Natural response

Renewable hydrogen should be given the same consideration as RNG. In consideration of additional issues related to hydrogen, NW Natural supports the comments submitted by the Warren Group on behalf of the Renewable Hydrogen Alliance and Douglas County Public Utility District.

8. What gas quality standards do companies currently require for interconnection of RNG to their distribution system?

NW Natural response

NW Natural's biomethane standards for RNG interconnection are provided in the following tables.

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Gas Quality Specification

Parameter	RIAL ^a	Value		Action Level
		Min	Max	
Methane (%)	≤ 97.8	97.3		< 97.3
Heating Value (BTU ^b /SCF ^c)	≤ 990 or ≥ 1150	985	1155	< 985 or > 1155
Wobbe Number (BTU/SCF)	N/A	1290	1400	N/A
Temperature (°F)	≥ 115	35	120	> 120
Carbon Dioxide (%)	≥ 1.8		2.0	> 2.0
Nitrogen (%)	≥ 1.8		2.0	> 2.0
Total Inerts ^d + Oxygen (%)	≥ 2.7		3.0	> 3.0
Oxygen (%)	≥ 0.18		0.20 ^g	> 0.20
Hydrogen Sulfide (grain/CCF ^e)	≥ 0.20		0.25	> 0.25
Total Sulfur (grain/CCF)	≥ 4.0		5.0	> 5.0
Moisture (lb/MMSCF ^f)	≥ 4		7	> 7
Hydrocarbon Dew Point (°F)	≥ 10		15	> 15
Notes: a. RIAL – Recommended Initial Alert Level b. BTU – British Thermal Units c. SCF – Standard Cubic Feet d. Inerts – nonhydrocarbon gases including, but not limited to, carbon dioxide, nitrogen, and oxygen e. CCF – 100 Standard Cubic Feet f. MMSCF – One Million Standard Cubic Feet g. All parties agree to exercise every reasonable effort to keep the gas completely free of oxygen				

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Constituent Concentrations by Feedstock

Constituent	Trigger Level mg/m ³ (ppm _v) ^a	Lower Action Level mg/m ³ (ppm _v)	Upper Action Level mg/m ³ (ppm _v)	Landfill	Dairies	POTW ^b
Gas Quality Specifications^c				X	X	X
Health Protective Constituents – Carcinogenic						
Arsenic	0.019 (0.006)	0.19 (0.06)	0.48 (0.15)	X		
P-Dichlorobenzene	5.7 (0.95)	57 (9.5)	140 (24)	X		X
Ethylbenzene	26 (6.0)	260 (60)	650 (150)	X	X	X
n-Nitroso-di-n-propylamine	0.033 (0.006)	0.33 (0.06)	0.81 (0.15)	X	X	
Vinyl Chloride	0.84 (0.33)	8.4 (3.3)	21 (8.3)	X		X
Health Protective Constituents – Non-Carcinogenic						
Antimony	0.60 (0.12)	6.0 (1.2)	30 (6.1)	X		
Copper	0.060 (0.02)	0.60 (0.23)	3.0 (1.2)	X		
Lead	0.075 (0.009)	0.75 (0.09)	3.8 (0.44)	X		
Methacrolein	1.1 (0.37)	11 (3.7)	53 (18)	X		
Mercaptans (Alkyl Thiols)	N/A (12)	N/A (120)	N/A (610)	X	X	X
Toluene	904 (240)	9,000 (2,400)	45,000 (12,000)	X	X	X
Pipeline Integrity Protective Constituents^{d,e}						
Ammonia	5 grains/CCF	-	-	X	X	X
Biologicals	4x10 ⁴ / SCF ^f	-	-	X	X	X
Hydrogen	0.10%	-	-	X	X	X
Mercury	0.08 mg/m ³	-	-	X	X	X
Siloxanes	0.1 mg Si/m ³	-	-	X	X	X
Notes:						
a. The first number is in milligrams per cubic meter of air (mg/m ³), while the second number in parenthesis is in parts per million volume (ppm _v), unless otherwise specified						
b. Publicly Owned Treatment Works						
c. Gas Quality Specifications are found in Table 1 of this document						
d. The Pipeline Integrity Protective Constituent Lower and Upper Action Levels will be updated at a future time						
e. Testing requirements will be the lower of stated biomethane values or other tariff requirements						
f. qPCR per Acid-producing Bacteria (APB), Sulfate-reducing Bacteria (SRB), Iron-oxidizing Bacteria (IOB), group and commercially free of bacteria > 0.2 microns						

NW Natural appreciates the opportunity to provide these comments and looks forward to actively participating in this proceeding.

Please contact me if you have any questions.

Sincerely,

/s/ *Natasha Siores*

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