

# **TOEGANGSREGLEMENT VOOR VERVOER**



Bijlage C.4:  
Specifieke eisen op Aansluitingspunten

## Table of Contents

1	Operating Conditions and quality requirements at IZT and Zeebrugge _____	2
2	Operating Conditions and quality requirements at ZPT _____	3
3	Operating Conditions and quality requirements at Eynatten 1 (GasPool) <sup>1</sup> _____	4
4	Operating Conditions and quality requirements at Eynatten 2 (NCG) <sup>2</sup> _____	5
5	Operating Conditions and quality requirements at VIP THE-ZTP <sup>3</sup> _____	6
6	Operating Conditions and quality requirements at Virtualys _____	7
7	Operating Conditions and quality requirements at GDLux _____	8
8	Operating Conditions and quality requirements at VIP-BENE _____	9
9	Operating Conditions and quality requirements at Hilvarenbeek L _____	10
10	Operating Conditions and quality requirements at Blaregnies L _____	11
11	Operating Conditions and quality requirements at Zeebrugge LNG Terminal _____	12
12	Operating Conditions and quality requirements at Dunkirk LNG Terminal _____	13
13	Operating Conditions and quality requirements at Loenhout _____	14
14	Operating Conditions and quality requirements at Domestic Points for Injection _____	15

Specifieke Eisen voor alle Aansluitingspunten (Interconnectiepunten, Installatiepunten en Binnenlandse Aansluitingspunten) worden op het Elektronisch Data Platform gepubliceerd en kunnen van tijd tot tijd worden gewijzigd. Voorafgaand een wijziging aan de Specifieke Eisen, zal de TSO de marktpartijen consulteren met betrekking tot deze wijziging en deze wijziging zal onder voorbehoud zijn van de goedkeuring door de CREG. Deze Specifieke Eisen ("Operating Conditions and quality requirements"), zijn omwille van het internationale karakter in het Engels uitgedrukt.

---

<sup>1</sup> As from 01/04/2022 it will be included in the VIP THE-ZTP (subject to a pre notice of 4 weeks)

<sup>2</sup> As from 01/04/2022 it will be included in the VIP THE-ZTP (subject to a pre notice of 4 weeks)

<sup>3</sup> As from 01/04/2022 (subject to a pre notice of 4 weeks)

**1 Operating Conditions and quality requirements at IZT and Zeebrugge**

	<b>Unit</b>	<b>Min.</b>	<b>Max.</b>
Gross Calorific Value	kWh/m <sup>3</sup> (n) (25°C, 0°C)	10.80	12.38
Wobbe Index	kWh/m <sup>3</sup> (n) (25°C, 0°C)	13.82	15.05
Pressure <sup>(1)</sup>	barg	55	80
Temperature	°C	2	38
Hydrocarbon dewpoint	°C from 0 to 69 barg		Minus 2
Water dewpoint	°C at 69 barg		Minus 8 <sup>(2)</sup>
Oxygen content (O <sub>2</sub> )	ppm by vol		1000
Carbon dioxide content (CO <sub>2</sub> )	Mole %		2.5
Hydrogen sulphide content (H <sub>2</sub> S) (inclusive of COS) (as S)	mg/m <sup>3</sup> (n) (as S)		5
Total sulphur at any time (as S)	mg/m <sup>3</sup> (n) (as S)		30
Mercaptans (as S)	mg/m <sup>3</sup> (n) (as S)		6

(1) Natural gas shall be made available in the entry direction at any pressure within this range as requested from time to time by Fluxys

(2) As long as the maximum water dewpoint applicable in the IUK system is -10°C at 69 barg, said value shall be applicable.

The Natural Gas delivered may not contain any other elements or impurities (such as, but not limited to methanol, condensates and gas odorants) to the extent that the Natural Gas delivered cannot be transported, stored or marketed in Belgium without incurring additional cost for quality adjustment.

The Natural Gas delivered may not contain any added odorants.

To the extent that in future all gas flows through and into Belgium, which could potentially be impacted by the prospective Shipper's gas delivery at the border, may accept wider quality specifications, the table above shall be adjusted accordingly subject to compliance with the ranges and values of the EASEE-Gas Common Business Practices or any other applicable European standard as in effect at that time at a European level.

## 2 Operating Conditions and quality requirements at ZPT

	Unit	Min.	Max.
Gross Calorific Value	kWh/m <sup>3</sup> (n) (25°C, 0°C)	11.17	12.77
Wobbe Index	kWh/m <sup>3</sup> (n) (25°C, 0°C)	14.17	15.47 <sup>(1)</sup>
Pressure <sup>(2)</sup>	barg	45	80
Temperature	°C	2	30(Oct-May) 32 (June- Sept)
Hydrocarbon dewpoint	°C from 0 to 69 barg		Minus 2
Water dewpoint	°C at 69 barg		Minus 10
Oxygen content (O <sub>2</sub> )	ppm by vol		1000
Carbon dioxide content (CO <sub>2</sub> )	Mole %		2.5
Hydrogen sulphide content (H <sub>2</sub> S) (inclusive of COS) (as S)	mg/m <sup>3</sup> (n) (as S)		5
Total sulphur at any time (as S)	mg/m <sup>3</sup> (n) (as S)		30
Mercaptans (as S)	mg/m <sup>3</sup> (n) (as S)		6

(1) For redeliveries of Natural Gas at IZT/Zeebrugge, we refer to ACT - Attachment C1.

(2) Natural gas shall be made available at any pressure within this range as requested from time to time by Fluxys

The Natural Gas delivered may not contain any other elements or impurities (such as, but not limited to methanol, condensates and gas odorants) to the extent that the Natural Gas delivered cannot be transported, stored or marketed in Belgium without incurring additional cost for quality adjustment.

The Natural Gas delivered may not contain any added odorants.

To the extent that in future all gas flows through and into Belgium, which could potentially be impacted by the prospective Shipper's gas delivery at the border, may accept wider quality specifications, the table above shall be adjusted accordingly subject to compliance with the ranges and values of the EASEE-Gas Common Business Practices or any other applicable European standard as in effect at that time at a European level.

**3 Operating Conditions and quality requirements at Eynatten 1 (GasPool)**

	<b>Unit</b>	<b>Min.</b>	<b>Max.</b>
Gross Calorific Value	kWh/m <sup>3</sup> (n) (25°C, 0°C)	10.80	12.77
Wobbe Index	kWh/m <sup>3</sup> (n) (25°C, 0°C)	13.82	15.47 <sup>(1)</sup>
Pressure <sup>(2)</sup>	barg	49 exit 55 entry	80
Temperature	°C	2	38
Hydrocarbon dewpoint	°C from 0 to 69 barg		Minus 2
Water dewpoint <sup>(3)</sup>	°C at 69 barg		Minus 8
Oxygen content (O <sub>2</sub> )	ppm by vol		1000
Carbon dioxide content (CO <sub>2</sub> )	Mole %		2.5
Hydrogen sulphide content (H <sub>2</sub> S) (inclusive of COS) (as S)	mg/m <sup>3</sup> (n) (as S)		5
Total sulphur at any time (as S)	mg/m <sup>3</sup> (n) (as S)		30
Mercaptans (as S)	mg/m <sup>3</sup> (n) (as S)		6

(1) For redeliveries of Natural Gas at IZT/Zeebrugge, we refer to ACT – Attachment C1.

- (2) Natural gas shall be made available in the entry direction at any pressure within this range as requested from time to time by Fluxys
- (3) As long as the maximum water dewpoint applicable in the IUK system is -10°C at 69 barg, said value shall be applicable

The Natural Gas delivered may not contain any other elements or impurities (such as, but not limited to methanol, condensates and gas odorants) to the extent that the Natural Gas delivered cannot be transported, stored or marketed in Belgium without incurring additional cost for quality adjustment.

The Natural Gas delivered may not contain any added odorants.

To the extent that in future all gas flows through and into Belgium, which could potentially be impacted by the prospective Shipper's gas delivery at the border, may accept wider quality specifications, the table above shall be adjusted accordingly subject to compliance with the ranges and values of the EASEE-Gas Common Business Practices or any other applicable European standard as in effect at that time at a European level.

**4 Operating Conditions and quality requirements at Eynatten 2 (NCG)**

	<b>Unit</b>	<b>Min.</b>	<b>Max.</b>
Gross Calorific Value	kWh/m <sup>3</sup> (n) (25°C, 0°C)	10.80	12.77
Wobbe Index	kWh/m <sup>3</sup> (n) (25°C, 0°C)	13.82	15.47 <sup>(1)</sup>
Pressure <sup>(2)</sup>	barg	49 exit 55 entry	80
Temperature	°C	2	38
Hydrocarbon dewpoint	°C from 0 to 69 barg		Minus 2
Water dewpoint <sup>(3)</sup>	°C at 69 barg		Minus 8
Oxygen content (O <sub>2</sub> )	ppm by vol		1000
Carbon dioxide content (CO <sub>2</sub> )	Mole %		2.5
Hydrogen sulphide content (H <sub>2</sub> S) (inclusive of COS) (as S)	mg/m <sup>3</sup> (n) (as S)		5
Total sulphur at any time (as S)	mg/m <sup>3</sup> (n) (as S)		30
Mercaptans (as S)	mg/m <sup>3</sup> (n) (as S)		6

(1) For redeliveries of Natural Gas at IZT/Zeebrugge, we refer to ACT - Attachment C1..

- (2) Natural gas shall be made available in the entry direction at any pressure within this range as requested from time to time by Fluxys
- (3) As long as the maximum water dewpoint applicable in the IUK system is -10°C at 69 barg, said value shall be applicable

The Natural Gas delivered may not contain any other elements or impurities (such as, but not limited to methanol, condensates and gas odorants) to the extent that the Natural Gas delivered cannot be transported, stored or marketed in Belgium without incurring additional cost for quality adjustment.

The Natural Gas delivered may not contain any added odorants.

To the extent that in future all gas flows through and into Belgium, which could potentially be impacted by the prospective Shipper's gas delivery at the border, may accept wider quality specifications, the table above shall be adjusted accordingly subject to compliance with the ranges and values of the EASEE-Gas Common Business Practices or any other applicable European standard as in effect at that time at a European level.

**5 Operating Conditions and quality requirements at VIP THE-ZTP**

	<b>Unit</b>	<b>Min.</b>	<b>Max.</b>
Gross Calorific Value	kWh/m <sup>3</sup> (n) (25°C, 0°C)	10.80	12.77
Wobbe Index	kWh/m <sup>3</sup> (n) (25°C, 0°C)	13.82	15.47 <sup>(1)</sup>
Pressure <sup>(2)</sup>	barg	49 exit 55 entry	80
Temperature	°C	2	38
Hydrocarbon dewpoint	°C from 0 to 69 barg		Minus 2
Water dewpoint <sup>(3)</sup>	°C at 69 barg		Minus 8
Oxygen content (O <sub>2</sub> )	ppm by vol		1000
Carbon dioxide content (CO <sub>2</sub> )	Mole %		2.5
Hydrogen sulphide content (H <sub>2</sub> S) (inclusive of COS) (as S)	mg/m <sup>3</sup> (n) (as S)		5
Total sulphur at any time (as S)	mg/m <sup>3</sup> (n) (as S)		30
Mercaptans (as S)	mg/m <sup>3</sup> (n) (as S)		6

(1) For redeliveries of Natural Gas at IZT/Zeebrugge, we refer to ACT - Attachment C1..

- (2) Natural gas shall be made available in the entry direction at any pressure within this range as requested from time to time by Fluxys
- (3) As long as the maximum water dewpoint applicable in the IUK system is -10°C at 69 barg, said value shall be applicable

The Natural Gas delivered may not contain any other elements or impurities (such as, but not limited to methanol, condensates and gas odorants) to the extent that the Natural Gas delivered cannot be transported, stored or marketed in Belgium without incurring additional cost for quality adjustment.

The Natural Gas delivered may not contain any added odorants.

To the extent that in future all gas flows through and into Belgium, which could potentially be impacted by the prospective Shipper's gas delivery at the border, may accept wider quality specifications, the table above shall be adjusted accordingly subject to compliance with the ranges and values of the EASEE-Gas Common Business Practices or any other applicable European standard as in effect at that time at a European level.

**6 Operating Conditions and quality requirements at Virtualys**

	<b>Unit</b>	<b>Min.</b>	<b>Max.</b>
Gross Calorific Value	kWh/m3 (n) (25°C, 0°C)	10.80	12.77
Wobbe Index	kWh/m3 (n) (25°C, 0°C)	13.82	15.47 <sup>(1)</sup>
Temperature	°C	2	38
Hydrocarbon dewpoint	°C from 0 to 69 barg		Minus 2
Water dewpoint	°C at 69 barg		Minus 8
Oxygen content (O2)	ppm by vol		1000
Carbon dioxide content (CO2)	Mole %		2.5
Hydrogen sulphide content (H2S) (inclusive of COS) (as S)	mg/m3(n) (as S)		5
Total sulphur at any time (as S)	mg/m3(n) (as S)		30
Mercaptans (as S)	mg/m3(n) (as S)		6

(1) For redeliveries of Natural Gas at IZT/Zeebrugge, we refer to ACT - Attachment C1.

The Natural Gas delivered may not contain any other elements or impurities (such as, but not limited to methanol, condensates and gas odorants) to the extent that the Natural Gas delivered cannot be transported, stored or marketed in Belgium without incurring additional cost for quality adjustment.

The Natural Gas delivered may not contain any added odorants.

To the extent that in future all gas flows through and into Belgium, which could potentially be impacted by the prospective Shipper's gas delivery at the border, may accept wider quality specifications, the table above shall be adjusted accordingly subject to compliance with the ranges and values of the EASEE-Gas Common Business Practices or any other applicable European standard as in effect at that time at a European level.



**7 Operating Conditions and quality requirements at GDLux**

	<b>Unit</b>	<b>Min.</b>	<b>Max.</b>
Gross Calorific Value	kWh/m <sup>3</sup> (n) (25°C, 0°C)	10.80	12.77
Wobbe Index	kWh/m <sup>3</sup> (n) (25°C, 0°C)	13.82	15.47 <sup>(1)</sup>
Pressure	barg	27	66.2
Temperature	°C	2	38
Hydrocarbon dewpoint	°C from 0 to 69 barg		Minus 2
Water dewpoint	°C at 69 barg		Minus 10
Oxygen content (O <sub>2</sub> )	ppm by vol		1000
Carbon dioxide content (CO <sub>2</sub> )	Mole %		2.5
Hydrogen sulphide content (H <sub>2</sub> S) (inclusive of COS) (as S)	mg/m <sup>3</sup> (n) (as S)		5
Total sulphur at any time (as S)	mg/m <sup>3</sup> (n) (as S)		30
Mercaptans (as S)	mg/m <sup>3</sup> (n) (as S)		6

(1) For redeliveries of Natural Gas at IZT/Zeebrugge, we refer to ACT - Attachment C1.

The Natural Gas delivered may not contain any other elements or impurities (such as, but not limited to methanol, condensates and gas odorants) to the extent that the Natural Gas delivered cannot be transported, stored or marketed in Belgium without incurring additional cost for quality adjustment.

The Natural Gas delivered may not contain any added odorants.

To the extent that in future all gas flows through and into Belgium, which could potentially be impacted by the prospective Shipper's gas delivery at the border, may accept wider quality specifications, the table above shall be adjusted accordingly subject to compliance with the ranges and values of the EASEE-Gas Common Business Practices or any other applicable European standard as in effect at that time at a European level.

**8 Operating Conditions and quality requirements at VIP-BENE**

	<b>Unit</b>	<b>Min.</b>	<b>Max.</b>
Gross Calorific Value	kWh/m <sup>3</sup> (n) (25°C, 0°C)	10.80	12.77
Wobbe Index	kWh/m <sup>3</sup> (n) (25°C, 0°C)	13.82	15.47 <sup>(1)</sup>
Pressure			
IP s' Gravenvoeren		49	66.2
IP Zandvliet H	barg	55	80
IP Zelzate 1		59	80
IP Zelzate 2		55	80
Temperature	°C	2	38
Hydrocarbon dewpoint	°C from 0 to 69 barg		Minus 2
Water dewpoint	°C at 69 barg		Minus 8
Oxygen content (O <sub>2</sub> )	ppm by vol		1000
Carbon dioxide content (CO <sub>2</sub> )	Mole %		2.5
Hydrogen sulphide content (H <sub>2</sub> S) (inclusive of COS) (as S)	mg/m <sup>3</sup> (n) (as S)		5
Total sulphur at any time (as S)	mg/m <sup>3</sup> (n) (as S)		30
Mercaptans (as S)	mg/m <sup>3</sup> (n)		6

(1) For redeliveries of Natural Gas at IZT/Zeebrugge, we refer to ACT - Attachment C1.

The Natural Gas redelivered may not contain other elements and impurities (such as but not limited to methanol, condensates, gas odorants) to the extent that the Natural Gas redelivered cannot be transported, stored and marketed in Belgium without incurring additional cost for quality adjustment

The Natural Gas delivered may not contain any added odorants.

To the extent that in future all gas flows through and into Belgium, which could potentially be impacted by the prospective Shipper's gas delivery at the border, may accept wider quality specifications, the table above shall be adjusted accordingly subject to compliance with the ranges and values of the EASEE-Gas Common Business Practices or any other applicable European standard as in effect at that time at a European level.

**9 Operating Conditions and quality requirements at Hilvarenbeek L**

	<b>Unit</b>	<b>Min.</b>	<b>Max.</b>
Gross Calorific Value	kWh/m <sup>3</sup> (n) (25°C, 0°C)	9.53	10.74
Wobbe Index	kWh/m <sup>3</sup> (n) (25°C, 0°C)	12.20 <sup>(1)</sup>	13.02
Pressure	barg	49	66.2
Temperature	°C	2	38
Hydrocarbon dewpoint	°C from 0 to 69 barg		Minus 2
Water dewpoint	°C at 69 barg		Minus 8
Oxygen content (O <sub>2</sub> )	ppm by vol		1000
Carbon dioxide content (CO <sub>2</sub> )	Mole %		2.5
Hydrogen sulphide content (H <sub>2</sub> S) (inclusive of COS) (as S)	mg/m <sup>3</sup> (n) (as S)		5
Total sulphur at any time (as S)	mg/m <sup>3</sup> (n) (as S)		30
Mercaptans (as S)	mg/m <sup>3</sup> (n)		6

(1) This value will be lowered in agreement with the adjacent operator, subject to compliance with the range and values of the Belgian legislation as in effect at that time

The Natural Gas redelivered may not contain other elements and impurities (such as but not limited to methanol, condensates, gas odorants) to the extent that the Natural Gas redelivered cannot be transported, stored and marketed in Belgium without incurring additional cost for quality adjustment

The Natural Gas delivered may not contain any added odorants.

**10 Operating Conditions and quality requirements at Blaregnies L**

	<b>Unit</b>	<b>Min.</b>	<b>Max.</b>
Gross Calorific Value	kWh/m <sup>3</sup> (n) (25°C, 0°C)	9.53	10.74
Wobbe Index	kWh/m <sup>3</sup> (n) (25°C, 0°C)	12.20	13.02
Pressure	barg	49	66.2
Temperature	°C	2	38
Hydrocarbon dewpoint	°C from 0 to 69 barg		Minus 2
Water dewpoint	°C at 69 barg		Minus 8
Oxygen content (O <sub>2</sub> )	ppm by vol		1000
Carbon dioxide content (CO <sub>2</sub> )	Mole %		2.5
Hydrogen sulphide content (H <sub>2</sub> S) (inclusive of COS) (as S)	mg/m <sup>3</sup> (n) (as S)		5
Total sulphur at any time (as S)	mg/m <sup>3</sup> (n) (as S)		30
Mercaptans (as S)	mg/m <sup>3</sup> (n)		6

The Natural Gas redelivered may not contain other elements and impurities (such as but not limited to methanol, condensates, gas odorants) to the extent that the Natural Gas redelivered cannot be transported, stored and marketed in Belgium without incurring additional cost for quality adjustment

The Natural Gas delivered may not contain any added odorants.

**11 Operating Conditions and quality requirements at Zeebrugge LNG Terminal**

	<b>Unit</b>	<b>Min.</b>	<b>Max.</b>
Gross Calorific Value	kWh/m <sup>3</sup> (n) (25°C, 010)	10.80	12.77
Wobbe Index	kWh/m <sup>3</sup> (n) (25°C, 0°C)	13.67	15.56
Pressure	barg	55	80
Temperature	°C	2	38
Hydrocarbon dewpoint	°C from 0 to 69 barg		Minus 2
Water dewpoint	°C at 69 barg		Minus 8
Oxygen content (O <sub>2</sub> )	ppm by vol		1000
Carbon dioxide content (CO <sub>2</sub> )	Mole %		2.5
Hydrogen sulphide content (H <sub>2</sub> S) (inclusive of COS) (as S)	mg/m <sup>3</sup> (n) (as S)		5
Total sulphur at any time (as S)	mg/m <sup>3</sup> (n) (as S)		30
Mercaptans (as S)	mg/m <sup>3</sup> (n) (as S)		6

The Natural Gas delivered may not contain any other elements or impurities (such as, but not limited to methanol, condensates and gas odorants) to the extent that the Natural Gas delivered cannot be transported, stored or marketed in Belgium without incurring additional cost for quality adjustment.

The Natural Gas delivered may not contain any added odorants.

To the extent that in future all gas flows through and into Belgium, which could potentially be impacted by the prospective Shipper's gas delivery at the border, may accept wider quality specifications, the table above shall be adjusted accordingly subject to compliance with the ranges and values of the EASEE-Gas Common Business Practices or any other applicable European standard as in effect at that time at a European level.

**12 Operating Conditions and quality requirements at Dunkirk LNG Terminal**

	<b>Unit</b>	<b>Min.</b>	<b>Max.</b>
Gross Calorific Value	kWh/m <sup>3</sup> (n) (25°C, 0°C)	11.17	12.77
Wobbe Index	kWh/m <sup>3</sup> (n) (25°C, 0°C)	14.17	15.47 <sup>(1)</sup>
Pressure	barg	55	84.5
Temperature	°C	2	38
Hydrocarbon dewpoint	°C from 0 to 69 barg		Minus 2
Water dewpoint	°C at 69 barg		Minus 10
Oxygen content (O <sub>2</sub> )	ppm by vol		1000
Carbon dioxide content (CO <sub>2</sub> )	Mole %		2.5
Hydrogen sulphide content (H <sub>2</sub> S) (inclusive of COS) (as S)	mg/m <sup>3</sup> (n) (as S)		5
Total sulphur at any time (as S)	mg/m <sup>3</sup> (n) (as S)		30
Mercaptans (as S)	mg/m <sup>3</sup> (n) (as S)		6

(1) For redeliveries of Natural Gas at IZT/Zeebrugge, we refer to ACT - Attachment C1.

The Natural Gas delivered may not contain any other elements or impurities (such as, but not limited to methanol, condensates and gas odorants) to the extent that the Natural Gas delivered cannot be transported, stored or marketed in Belgium without incurring additional cost for quality adjustment.

The Natural Gas delivered may not contain any added odorants.

To the extent that in future all gas flows through and into Belgium, which could potentially be impacted by the prospective Shipper's gas delivery at the border, may accept wider quality specifications, the table above shall be adjusted accordingly subject to compliance with the ranges and values of the EASEE-Gas Common Business Practices or any other applicable European standard as in effect at that time at a European level.

**13 Operating Conditions and quality requirements at Loenhout**

	<b>Unit</b>	<b>Min.</b>	<b>Max.</b>
Gross Calorific Value	kWh/m <sup>3</sup> (n) (25°C, 0°C)	10.80	12.77
Wobbe Index	kWh/m <sup>3</sup> (n) (25°C, 0°C)	13.82	15.56 <sup>(1)</sup>
Pressure <sup>(2)</sup>	barg	60	80
Temperature	C	2	38
Hydrocarbon dewpoint	°C from 0 to 69 barg		Minus 2
Water dewpoint	°C at 69 barg		Minus 8
Oxygen content (O <sub>2</sub> )	ppm by vol		1000
Carbon dioxide content (CO <sub>2</sub> )	Mole %		2.0 <sup>(3)</sup>
Hydrogen sulphide content (H <sub>2</sub> S) (inclusive of COS) (as S)	mg/m <sup>3</sup> (n) (as S)		5
Total sulphur at any time (as S)	mg/m <sup>3</sup> (n) (as S)		30
Mercaptans (as S)	mg/m <sup>3</sup> (n)		6

- (1) For redeliveries of Natural Gas at IZT/Zeebrugge, we refer to ACT - Attachment C1.
- (2) A lower minimum pressure can be agreed upon by Fluxys and the Storage Operator in line with the provisions of attachment D.2 of the Access Code for Storage.
- (3) CO<sub>2</sub> content of the Natural Gas injected must on average be lower than 1 Mole % over the Storage Season, as defined in the Access Code for Storage

The Natural Gas redelivered may not contain other elements and impurities (such as but not limited to methanol, condensates, gas odorants) to the extent that the Natural Gas redelivered cannot be transported, stored and marketed in Belgium without incurring additional cost for quality adjustment

The Natural Gas delivered may not contain any added odorants.

To the extent that in future all gas flows through and into Belgium, which could potentially be impacted by the prospective Shipper's gas delivery at the border, may accept wider quality specifications, the table above shall be adjusted accordingly subject to compliance with the ranges and values of the EASEE-Gas Common Business Practices or any other applicable European standard as in effect at that time at a European level.

#### 14 Operating Conditions and quality requirements at Installation Point H<sub>2</sub>-IN, after H<sub>2</sub> injection

	Unit	Min.	Max.
Gross Calorific Value	kWh/m <sup>3</sup> (n) (25°C, 0°C)	10.80 <sup>(1)</sup>	12.77
Wobbe Index	kWh/m <sup>3</sup> (n) (25°C, 0°C)	13.82	15.47 <sup>(2)</sup>
Hydrocarbon dewpoint	°C from 0 to 69 barg		Minus 2
Water dewpoint	°C at 69 barg		Minus 8 <sup>(3)</sup>
Oxygen content (O <sub>2</sub> )	ppm by vol		1000
Carbon dioxide content (CO <sub>2</sub> )	Mole %		2.5
Hydrogen sulphide content (H <sub>2</sub> S) (inclusive of COS) (as S)	mg/m <sup>3</sup> (n) (as S)		5
Total sulphur at any time (as S)	mg/m <sup>3</sup> (n) (as S)		20
Mercaptans (as S)	mg/m <sup>3</sup> (n)		6
Hydrogen (H <sub>2</sub> )	Mole %		2 <sup>(4)</sup>

- (1) 10.7 kWh/m<sup>3</sup>(n) as long as the minimum Gross Calorific Value of 10.8 kWh/m<sup>3</sup>(n) is respected on Interconnection Points
- (2) 15.05 kWh/m<sup>3</sup>(n) if injected gas can be redelivered at IZT/Zeebrugge
- (3) Minus 10 °C if injected gas can be redelivered at IZT/Zeebrugge
- (4) As long as applicable H<sub>2</sub> specifications are respected on other Connection Points.

The Natural Gas redelivered may not contain other elements and impurities (such as but not limited to methanol, condensates, gas odorants) to the extent that the Natural Gas redelivered cannot be transported, stored and marketed in Belgium without incurring additional cost for quality adjustment

The Natural Gas delivered may not contain any added odorants.

To the extent that in future all gas flows through and into Belgium, which could potentially be impacted by the prospective Shipper's gas delivery at the border, may accept wider quality specifications, the table above shall be adjusted accordingly subject to compliance with the ranges and values of the applicable European standards as in effect at that time at a European level.



**15 Operating Conditions and quality requirements at Domestic Points for Injection**

	<b>Unit</b>	<b>Min.</b>	<b>Max.</b>
Gross Calorific Value	kWh/m <sup>3</sup> (n) (25°C, 0°C)	10.80 <sup>(1)</sup>	12.77
Wobbe Index	kWh/m <sup>3</sup> (n) (25°C, 0°C)	13.82	15.47 <sup>(2)</sup>
Hydrocarbon dewpoint	°C from 0 to 69 barg		Minus 2
Water dewpoint	°C at 69 barg		Minus 8 <sup>(3)</sup>
Oxygen content (O <sub>2</sub> )	ppm by vol		1000 <sup>(4)</sup>
Carbon dioxide content (CO <sub>2</sub> )	Mole %		2.5 <sup>(4)</sup>
Hydrogen sulphide content (H <sub>2</sub> S) (inclusive of COS) (as S)	mg/m <sup>3</sup> (n) (as S)		5
Total sulphur at any time (as S)	mg/m <sup>3</sup> (n) (as S)		20
Mercaptans (as S)	mg/m <sup>3</sup> (n)		6
Propane (C <sub>3</sub> H <sub>8</sub> )	Mole %		3 <sup>(4)</sup>
Hydrogen (H <sub>2</sub> )	Mole %		2 <sup>(4)(5)</sup>

(1) 10.7 kWh/m<sup>3</sup>(n) as long as the minimum Gross Calorific Value of 10.8 kWh/m<sup>3</sup>(n) can be respected on Interconnection Points

(2) 15.05 kWh/m<sup>3</sup>(n) if injected gas can be redelivered at IZT/Zeebrugge

(3) Minus 10 °C if injected gas can be redelivered at IZT/Zeebrugge

(4) Depending on the injection location, Fluxys Belgium shall determine if mitigation measures are needed to reduce Wobbe Index variations in the gas network, when such variations arise from the connection of that specific Domestic Point for Injection.

If applicable, the Local Producer shall choose between the available alternatives (reduce O<sub>2</sub>, CO<sub>2</sub> or H<sub>2</sub> specifications, addition of C<sub>3</sub>H<sub>8</sub>) or choose a combination of such alternatives, to align the Wobbe Index of the gas it produces with the Wobbe Index of the gas circulating in the natural gas network in the vicinity of that Domestic Point for Injection.

(5) As long as applicable H<sub>2</sub> specifications are respected on other Connection Points

The Natural Gas redelivered may not contain other elements and impurities (such as but not limited to methanol, condensates, gas odorants) to the extent that the Natural Gas redelivered cannot be transported, stored and marketed in Belgium without incurring additional cost for quality adjustment

The Natural Gas delivered may not contain any added odorants.

To the extent that in future all gas flows through and into Belgium, which could potentially be impacted by the prospective Shipper's gas delivery at the border, may accept wider quality specifications, the table above shall be adjusted accordingly subject to compliance with the ranges and values of the applicable European standards as in effect at that time at a European level.