

GAS SPECIFICATIONS

APPENDIX C

to

STANDARD TERMS AND CONDITIONS

for

TRANSPORTATION

of

GAS

in

DONG NATURGAS'

OFFSHORE PIPELINES

to

the Danish West Coast

Valid from 15 December 2010

1 GAS SPECIFICATIONS AT DELIVERY POINT TYRA EAST

1.1 Gas Specifications valid for Shipper

Gas delivered by the Shipper at the Delivery Point Tyra East shall comply with the Gas Specifications stipulated in the table below in this Article.

Parameter	unit	Requirement
Wobbe index	MJ/m ³	50.8 - 55.8
Relative density	-	0.555 - 0.700
CO ₂	mol %	max 2.5
O ₂	mol %	max 0.1
H ₂ S + COS	mg(S)/m ³	max 5
Mercaptan	mg(S)/m ³	max 6
Total sulphur	mg(S)/m ³	max 30
Water dew point	°C	max -8 at pressures 0-70 bar
Hydrate formation	°C	no formations above -8 at pressures 0-70 bar
Hydrocarbon dew point	°C	max -2 at pressures 0-70 bar
Dust and liquids	The Gas shall be technically free of gaseous, solid or liquid substances to the extent that this may involve a risk of blocking and malfunction or corrosion of ordinary gas installations and standard gas equipment. This does not apply to liquid formation that occasionally occurs in Gas in the form of very small droplets and that cannot be removed from it.	
Odourisation	The Gas shall be delivered unodorised.	
Other components and contaminants	The Gas shall not contain other components and/or contaminants to an extent which may imply that it cannot be transported, stored and/or marketed without further adjustment of the quality or treatment of the Gas.	
Temperature	°C	0 - 50
Pressure	bar(g)	up to 138

If the operator of the Transmission System should change the requirements valid for the Redelivery Point (currently referred to in the Danish Network Code as 'Quality and Delivery Specifications'), the corresponding requirements in the above table may be amended by the Operator to reflect the amendments in the Danish Network Code.

1.2 Gas Specifications valid for DONG (as User)

Gas delivered by DONG (as User) at the Delivery Point Tyra East shall comply with the Gas Specifications stipulated in the table below in this Article.

Parameter	unit	Requirement
Wobbe index	MJ/m ³	50.8 - 55.8
Relative density	-	0.555 - 0.700
CO ₂	mol %	max 4
O ₂	mol %	max 0.1
H ₂ S + COS	mg(S)/m ³	max 5
Mercaptan	mg(S)/m ³	no requirements
Total sulphur	mg(S)/m ³	max 150
Water dew point	°C	max -3 at pressures 0-138 bar
Hydrate formation	°C	no formations above -3 at pressures 0-138 bar
Hydrocarbon dew point	°C	no requirements
Dust and liquids	The Gas shall not contain dust, other solid particles or free liquids which may cause damage to or interference with the proper operations of the inlet system of the Operators processing plant in Nybro.	
Odourisation	no requirements	
Other components and contaminants	no requirements	
Temperature	°C	0 - 50
Pressure	bar(g)	up to 138

2 GAS SPECIFICATIONS AT DELIVERY POINT SOUTH-ARNE

2.1 Gas Specifications valid for Shipper

Gas delivered by the Shipper at the Delivery Point South Arne shall comply with the Gas Specifications stipulated in the table below in this Article.

Parameter	unit	Requirement
Wobbe index	MJ/m ³	50.8 - 55.8
Relative density	-	0.555 - 0.700
CO ₂	mol %	max 2.5
O ₂	mol %	max 0.1
H ₂ S + COS	mg(S)/m ³	max 5
Mercaptan	mg(S)/m ³	max 6
Total sulphur	mg(S)/m ³	max 30
Water dew point	°C	max -8 at pressures 0-70 bar
Hydrate formation	°C	no formations above -8 at pressures 0-70 bar
Hydrocarbon dew point	°C	max -2 at pressures 0-70 bar

Dust and liquids	The Gas shall be technically free of gaseous, solid or liquid substances to the extent that this may involve a risk of blocking and malfunction or corrosion of ordinary gas installations and standard gas equipment. This does not apply to liquid formation that occasionally occurs in Gas in the form of very small droplets and that cannot be removed from it.	
Odourisation	The Gas shall be delivered unodorised.	
Other components and contaminants	The Gas shall not contain other components and/or contaminants to an extent which may imply that it cannot be transported, stored and/or marketed without further adjustment of the quality or treatment of the Gas.	
Temperature	°C	0 - 50
Pressure	bar(g)	up to 138

If the operator of the Transmission System should change the requirements valid for the Redelivery Point (currently referred to in the Danish Network Code as 'Quality and Delivery Specifications'), the corresponding requirements in the above table may be amended by the Operator to reflect the amendments in the Danish Network Code.

2.2 Gas Specifications valid for DONG (as User)

Gas delivered by DONG (as User) at the Delivery Point South Arne shall comply with the Gas Specifications stipulated in the table below in this Article.

Parameter	unit	Requirement
Wobbe index	MJ/m ³	50.8 - 56.36
Relative density	-	0.555 - 0.700
CO ₂	mol %	max 2.5
O ₂	mol %	max 0.1
H ₂ S + COS	mg(S)/m ³	max 5
Mercaptan	mg(S)/m ³	no requirements
Total sulphur	mg(S)/m ³	max 50
Water dew point	°C	max -3 at 138 bar pressure
Hydrate formation	°C	no formations above -3 at pressures 0-138 bar
Hydrocarbon dew point	°C	max -2 at pressures 0-70 bar
Dust and liquids	The Gas shall be commercially free from dust and other solid particles and free liquids	
Odourisation	no requirements	
Other components and contaminants	no requirements	
Temperature	°C	0 - 50
Pressure	bar(g)	up to 138

3 GAS SPECIFICATIONS AT REDELIVERY POINT

3.1 Gas Specifications valid for Shipper and DONG (as User)

Gas redelivered by the Operator to the Shipper and to DONG (as User) at the Redelivery Point shall comply with the gas specifications required by the Transmission System operator at the Redelivery Point at any time (currently referred to in the Danish Network Code as 'Quality and Delivery Specifications').