Third Party Access

Gas Processing Facilities at Connah's Quay and the Dee Pipeline

Introduction

Uniper UK Limited (Uniper) is a Uniper SE Group company. As owner of plant for the processing of natural gas ("Gas Processing Facilities") at Connah's Quay and a gas pipeline ("The Dee Pipeline") that connects the Gas Processing Facilities to the National Grid National Transmission System (NTS) at Burton Point, Uniper sets out below the main commercial conditions relating to the grant to another person of a right to have gas processed and conveyed in the pipeline.

The accuracy and completeness of the information presented is being made available in good faith and on a no-liability basis. Please note that this does not constitute an offer capable of acceptance, but merely sets out the commercial terms referred to above and are therefore subject to contract.

Description of Assets

Gas Processing Facilities

Uniper's Gas Processing Facilities are located adjacent to its gas-fired Connah's Quay Power Station at Connah's Quay in Flintshire (OS Reference: SJ 275 713) (the "Power Station") and comprise an **Above Ground Installation** ("AGI") and a **Gas Treatment Plant** ("GTP") (together the "Uniper Facilities"). The Uniper Facilities, the Dee Pipeline (see below) and the Power Station are operated as an integrated asset. (See Figure 1)

The AGI is used to route gas to/from the Dee Pipeline, the Gas Treatment Plant and the Power Station.

The GTP is designed to remove nitrogen from gas to meet NTS quality prior to the gas being fed into the Dee Pipeline for export to the NTS. The key steps in this process are:

1. Reduction in water content to meet the NTS specification
2. Reduction in nitrogen
3. Gas compression to meet the NTS operating system pressure

The principal components of the GTP are:

1. A water removal unit
2. A cryogenic nitrogen /helium removal unit
3. Gas compression and associated process equipment

4. Site utilities and ancillaries (ground flare, thermal oxidiser, regeneration unit, instrument air system, nitrogen package, fuel gas system, back up propane system, plant cryogenic drainage system, standby diesel generator and firewater system)

The output from the GTP is fed via the Export Compressors and the AGI into the Dee Pipeline. The GTP cannot process gas from the NTS.

Dee Pipeline

The Dee pipeline is approximately 3 km long, 750mm diameter and connects the Uniper Facilities and the Power Station to the NTS at Burton Point on the north of the river. The pipe is installed subsurface passing under the river, the south bank of which is designated a Site of Special Scientific Interest.

The pipe is used either to transport gas from the Power Station to the NTS ("export") or to transport gas from the NTS towards the Power Station ("import"). The direction of flow depends on both technical and commercial considerations at any time and can change at short notice.

The pipeline operates at the same pressure as the NTS and the quality of gas must be compatible with the requirements of the NTS in both import and export modes. There is gas compression at the Connah's Quay end of the pipeline, but none at the Burton Point end.

Irrespective of the direction of flow, all gas entering the Dee Pipeline must be to NTS specification.

Capacity

Gas Processing

The maximum capacity is designed to be 235 kSm^3/hr

The current maximum capacity is 150 kSm^3/hr

The minimum capacity is designed to be 45 kSm^3/hr

As the GTP operates at cryogenic temperatures, it can take up to 7 days from start to full operation. The GTP requires non NTS gas flow to cool down to the required temperature. Until the GTP is fully operational the exported gas cannot be sent to the NTS, as it does not meet the entry specification, instead the exported gas has to be burnt in the Connah's Quay power station.

Dee Pipeline

Import (i.e. Burton Point to Connah's Quay) is designed to be 260 kSm^3/hr

Export (i.e. Connah's Quay to Burton Point) is designed to be 260 kSm^3/hr Export

Compression is designed to be 235 kSm^3/hr

Ullage

Import

The Uniper Facilities, the Power Station and the Dee Pipeline are operated as an integrated gas asset. When the power station is operating at full-load it requires 100% of the ***import*** capacity of the Dee Pipeline. This means that Dee Pipeline import capacity can be made available only on an interruptible basis. Indicative import ullage for the next five gas years is shown in Table 1 below. Interruptible capacity is currently 100% available.

Export

Export capacity for the Dee Pipeline can be made available on a firm or interruptible basis. Indicative export ullage for the next five gas years is shown in Table 1. Interruptible capacity is currently 100% available.

Availability

The planned future availability of the gas treatment plant can be found at https://remit-uniper.energy/. The forecast remaining lifetime of the Gas Processing Facilities and the Dee Pipeline is to 2026.

Conditions of Use

General

1. Any apparatus installed must match the performance characteristics of the current installation.
2. Any agreement would be subject to existing contractual commitments.
3. Due recognition would need to be given to the operational and maintenance requirements of the assets.

Specific – Gas Processing

4. The feed gas specification (at the inlet (Point A in Figure 1) is as per the NTS specification[1] with the following exceptions:
    a) Have a nitrogen content between eight (8) and twelve decimal five (12.5) mol%
    b) Maximum CO_2 content decimal two four (0.24) mol%
    c) Maximum combined hydrogen and helium content of one thousand (1000) ppmv
    d) Maximum water content one hundred and seventy-six (176) ppm

[1] http://www2.nationalgrid.com/uk/industry-information/gas-transmission-system-operations/gas-quality/

e) Maximum mercury content one hundred (100) µg / Nm^3 (microgram per normal meter cubed) at full flow rate

f) Maximum H_2S three decimal three four (3.34) ppmv

g) Minimum supply pressure twenty eight (28) Bar

h) Have a temperature between zero (0) and twelve (12) degree Celsius

5. It would be necessary to carry out a full evaluation of the characteristics of any proposed gas to ensure these would not cause any technical issues and would not result in a breach of any authorisation.
6. Interruptions may occur at short notice in the case of technical problems

Specific - Dee Pipeline – Import Mode

7. The gas quality at the inlet (Point B in Figure 1) must be to NTS quality.

Specific - Dee Pipeline – Export Mode

8. In the event that a third party wished to export gas to Burton Point using the Dee Pipeline, but elected not to use Uniper's gas processing facilities, then the gas at the point of entry into the Dee Pipeline must be to NTS quality.

Method of Calculating Cost

The processing and transportation charges will deliver a reasonable rate of return to Uniper and would cover all relevant costs, including the following:

1. Installation of any additional or upgraded apparatus
2. Operating costs associated with maintaining these facilities
3. Lease or other property usage costs arising from the installation of any apparatus on Uniper or third party land
4. Any charges levied by National Grid Gas
5. Capital recovery costs
6. Processing costs which vary depending on the quality of the gas to be processed, the volume and rate of processing and the operating regime (see firm export ullage above) 7. Any other reasonable internal or external costs incurred by Uniper

Further Details

If you are interested in access to these facilities, please contact:

The Plant Manager
Connah's Quay Power Station
Kelsterton Road
Connah's Quay
Flintshire
CH5 4BP

We will aim to respond within 14 working days.

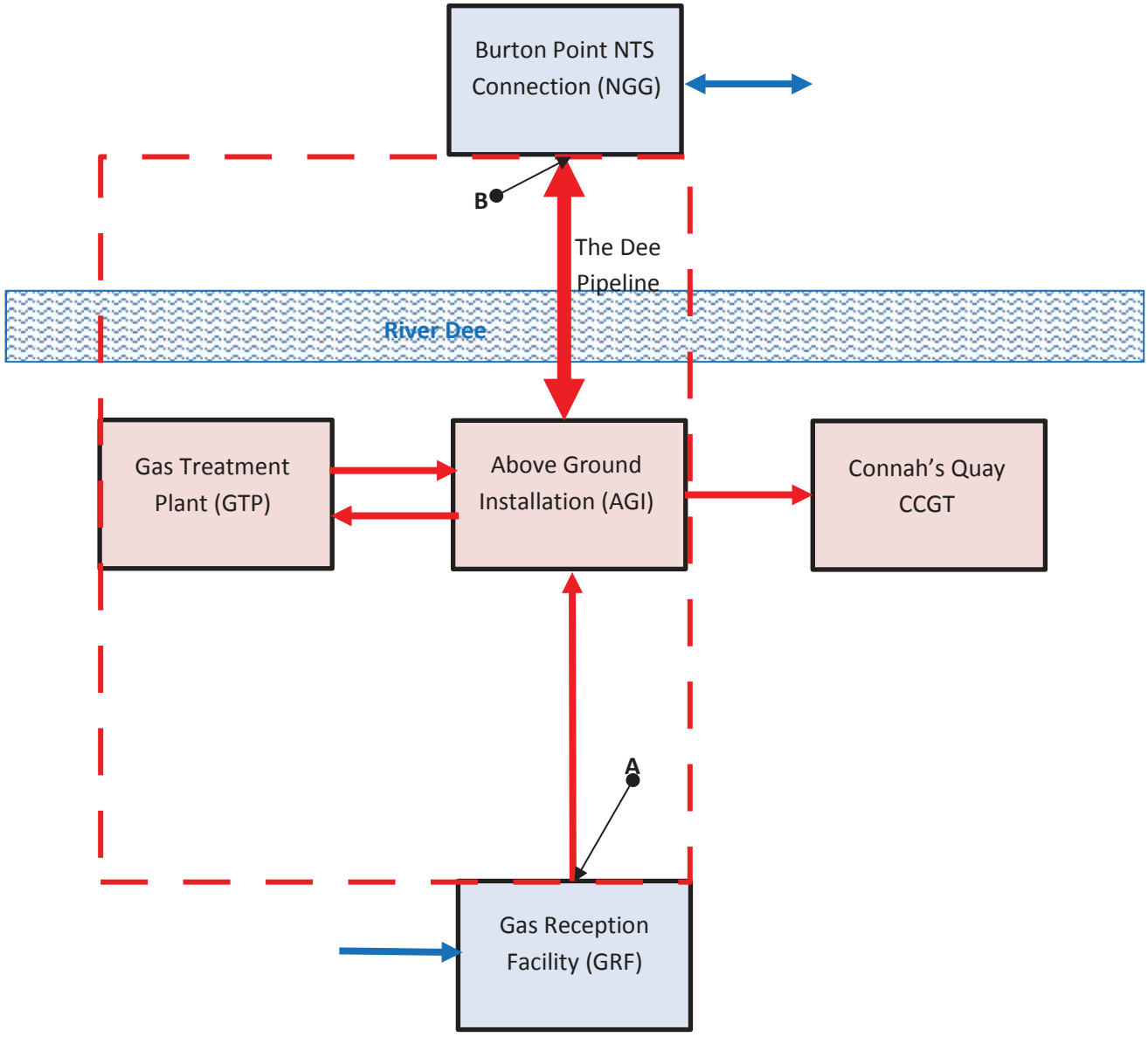
Table 1: Indicative System Capacities

Description	Capacity	2018-19	2019-20	2020-21	2021-22	2022-23
Pipeline Import Capacity	260 kSm3/hr	🔴	🔴	🔴	🔴	🔴
Pipeline Export Capacity	260 kSm3/hr	🟢	🟢	🟢	🟢	🟢
Gas Processing Capacity	150 kSm3/hr	🟢	🟢	🟢	🟢	🟢
Export Compression Capacity	150 kSm3/hr	🟢	🟢	🟢	🟢	🟢

Key

Ullage as % of system capacity		
🔴	Red	<5%
🟡	Amber	5% - 25%
🟢	Green	>25%

Figure 1 Schematic Diagram (not to scale)



KEY

Boundary of Uniper's system available for third party use

A Specification Point for gas import from Liverpool Bay

B Specification Point for gas import to Dee Pipeline from NTS

Assets Owned by Uniper UK Limited

Assets owned by others