

## Sutton Bridge Power Station ExCS Informal Notice - Appendix 1

1<sup>st</sup> August 2017

Our Ref: 2017 – Sutton Bridge Power Station ExCS

This Appendix relates to the proposed substitution of NTS Exit Capacity from Sutton Bridge Distribution Network (DN) and Wragg Marsh (Spalding power station) NTS Exit Point (s) to Sutton Bridge power station exit point.

### 1. Recipient selection:

The PARCA application in respect of Sutton Bridge power station for Enduring Annual NTS Exit (Flat) Capacity triggered a PARCA exit Window. During that PARCA exit Window, further PARCA applications were received from Eggborough and Knottingley power stations.

Sutton Bridge power station is downstream of Hatton compressor station, while Eggborough and Knottingley are upstream. Thus, for the purpose of substitution, it was deemed best to carry out the assessment for Sutton Bridge power station separately from that of Eggborough and Knottingley power stations.

### 2. Donor selection:

Substitution from individual donor NTS exit points was assessed by reducing the capacity at the most favourable NTS Exit Points that had Substitutable Capacity. The most favourable donor NTS exit Points will normally be the furthest downstream NTS exit points from the recipient NTS exit point as measured by pipeline distance.

For the purposes of the NTS Exit Capacity Substitution analysis, three (3) sequences of NTS exit points were analysed to determine the best exchange rate.

The exit points identified as potential donor sites were as follows;

<b>NTS Exit Point</b>	<b>Obligated Capacity (GWh/d)</b>	<b>Unsold Capacity (at 1st October 2016)(GWh/d)</b>
Wragg Marsh (Spalding power station)	42.02	42.02
Sutton Bridge DN	1.71	0.63
Gosberton DN	15.23	2.90

The pipeline distances to the potential donor NTS Exit Points are:

<b>From</b>	<b>To</b>	<b>Pipeline distance (km)</b>
Sutton Bridge Power Station	Wragg Marsh	15.53
	Sutton Bridge DN	1.98
	Gosberton DN	27.92

As a result of these analyses, the final NTS Exit Points selected were as follows;

<b>NTS Exit Point</b>	<b>Type</b>	<b>Recipient / Donor</b>	<b>Current Baseline (kWh/d)</b>	<b>Proposed Baseline (kWh/d)</b>	<b>Remaining unsold capacity (kWh/d)</b>
Sutton Bridge Power Station	DC	Recipient	37,470,000.00	42,637,000	0
Sutton DN	DN	Donor	1,710,546.00	1,079,269	0
Wragg Marsh (Spalding Power Station)	DC	Donor	42,020,000	37,283,600	37,283,600

In accordance with paragraph 62 of the methodology the individual donor NTS Exit Point to recipient NTS Exit Point exchange rate was determined and is as follows:

<b>Donor NTS Exit Points</b>	<b>Exchange Rate (Recipient : Donor)</b>	<b>Total Exchange Rate (Recipient : Donor)</b>
Sutton DN	1.0884 : 1	1.0388 : 1
Wragg Marsh (Spalding power ptation)	1.0326 : 1	

### 3. Network analysis: Supply & demand scenario

- Substitution analysis was conducted for the Gas Year 2018/19 as the first year of the enduring Exit capacity period for which substitution could be effected, based on our understanding of the customer's required timescales at that point in time.
- The analysis starting point is our 2018/19 1-in-20 peak day demand network. From this a South East sensitivity network is created, taking the most onerous credible demand levels for power stations and DN offtakes from sold and forecast levels for the South East Exit zone as detailed in Section 5, and with Isle of Grain supplies reduced to a credible minimum.
- The substitution network is created from the South East sensitivity network, with the potential donor distribution network NTS Exit Points in the area increased to obligation in accordance with the Methodology, as these were deemed to have a reasonable probability of being donors.
- Sutton Bridge Power station NTS Exit Point was set at the level of prevailing Obligated Exit Capacity in 2018 ( 0 kWh/d).

4. Enhanced Network

- No System enhancements for the substitution network were required.

5. Exit points set at obligated, sold or otherwise:

- All South East Direct Connect sites are set at obligated level, with the remaining Direct Connects being scaled back from the forecast so that the aggregate total matches the forecast total.
- Sites increased to their obligated level as part of the South East sensitivity network are the potential donors (DN offtakes) listed above; none of these sites had already been set to their obligated level.
- All other DN NTS Exit Points are at Sold level as booked through the annual NTS Exit (Flat) Capacity application processes.

6. Flow adjustments:

- Flow adjustments were made in accordance with Paragraph 45 of the Methodology.
- Flow adjustments are detailed in Section 3 above, the substitution network demand is 497 GWh/d, which is higher than the 1 in 20 peak demand (including sold capacity levels at DN NTS Exit Points).

7. Remaining unsold NTS Exit (Flat) Capacity at the donor NTS Exit Points:

If substitution is effected as stated in this notice on 1<sup>st</sup> October, 2018, the remaining unsold Annual NTS Exit (Flat) Capacity at the donor exit points is shown in the following tables.

<b>Donor NTS Exit Points</b>	<b>Type</b>	<b>Unsold capacity at donor exit points in kWh/d (Post-2018) Sutton Bridge power station capacity reservation</b>
Sutton DN	DN	0
Wragg Marsh (Spalding Power Station)	DC	37,283,600

8. Summary of network analysis key parameter changes:

- No significant parameter changes were required between substitution networks.

9. Exchange Rate Validation

In order to validate that the above donor list and the sequence of substitution provides the best exchange rate, three different donor sequences were assessed. These are listed, with their respective exchange rates, in the following tables:

<b>Recipient NTS Exit Point</b>	<b>Sequence</b>	<b>Donor NTS Exit Points</b>	<b>Capacity Donated (kWh/d)</b>	<b>Capacity Received (kWh/d)</b>	<b>Exchange Rate (Recipient : Donor)</b>	<b>Total Exchange Rate (Recipient : Donor)</b>
Sutton Bridge Power Station	1	Wragg Marsh (Spalding Power Station)	5,376,800	5,167,000	1.0406 : 1	1.0406 : 1
	2	Wragg Marsh	2,946,342	2,597,000	1.1345 : 1	1.1332 : 1
		Gosberton	2,908,858	2,570,000	1.1319 : 1	
	3	Sutton DN	631,277	580,000	1.0884 : 1	1.0388 : 1
		Wragg Marsh (Spalding Power Station)	4,736,400	4,587,000	1.0326 : 1	