

Balgray ExCS Informal Notice - Appendix 1

14th Feb 2019
Our Ref: 2018 – Balgray ExCS

This Appendix relates to the proposed utilisation of unsold NTS Exit Capacity at Balgray and substitution of NTS Exit Capacity to Balgray NTS Exit Point from Careston GDN (SC) and Drum GDN (SC) NTS Exit Points.

1. Recipient selection:

The PARCA application is in respect of Balgray for Enduring Annual NTS Exit (Flat) Capacity and triggered a PARCA Exit Window. During the PARCA Exit Window, further PARCA applications were received. However, these were not local to Balgray.

As of April 2020 there is 765,381 kWh/d of Unsold Capacity at Balgray. This was utilised first and therefore subtracted from the capacity request of 2,808,000 kWh/d. This left 2,042,619 kWh/d of capacity to be met by Substitution.

2. Donor selection:

Substitution from individual donor NTS Exit Points were 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, six (6) donor sequences of NTS Exit Points were analysed to determine the best exchange rate.

The Exit Points identified as potential donor sites were as follows:

| NTS Exit Point | Type | Obligated Capacity (GWh/d) | Unsold Capacity (at 1/4/20) (GWh/d) |
|-----------------------|-------------|-----------------------------------|--|
| Glenmavis | GDN (SC) | 145.79 | 17.53 |
| Bathgate | GDN (SC) | 24.18 | 3.09 |
| Drum | GDN (SC) | 82.53 | 15.57 |
| Careston | GDN (SC) | 3.85 | 0.28 |

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

| From | To | Pipeline distance (km) |
|-------------|-----------|-------------------------------|
| Balgray | Glenmavis | 132.34 |
| | Bathgate | 113.98 |
| | Drum | 73.69 |
| | Careston | 31.10 |

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

| <i>NTS Point</i> | <i>Type</i> | <i>Recipient / Donor</i> |
|------------------|-------------|--------------------------|
| Balgray | GDN (SC) | Recipient |
| Careston | GDN (SC) | Donor |
| Drum | GDN (SC) | Donor |

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3. Network analysis: Supply & demand scenario

- Substitution analysis was conducted for the Gas Year 2020/21 as the first year the capacity will be required by Balgray.
- The analysis starting point is our 2020/21 1-in-20 peak day demand network. From this a Scotland sensitivity network is created, taking the most onerous credible demand levels for power stations (and other DCs), and GDN offtakes from sold and forecast levels for the Scotland zone as detailed in Section 5, and with Scotland supplies reduced to a credible minimum.
- The substitution network is created from Scotland sensitivity network, with the potential GDN 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.
- Balgray NTS Exit Point was set at the level of prevailing Obligated Exit Capacity from April 2020 (15,723,362 kWh/d).

4. Enhanced Network

- No reinforcements were required.

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

- All Scotland DC sites are set at obligated level, with the remaining DCs 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 Scotland sensitivity network are the potential donors (GDN offtakes) listed above; none of these sites had already been set to their obligated level.
- All other GDN NTS Exit Points were 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 5277 GWh/d, which is higher than the 1 in 20 peak demand (including sold capacity levels at GDN NTS Exit Points).

7. Summary of network analysis key parameter changes:

- No significant parameter changes were required between substitution networks.

8. Exchange Rate Validation

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

Sequence 1

| Recipient NTS Point | Donor NTS Exit Points | Capacity Donated (kWh/d) | Capacity Received (kWh/d) | Exchange Rate (Donor : Recipient) |
|----------------------------|------------------------------|---------------------------------|----------------------------------|--|
| Balgray | Glenmavis | 2,572,619 | 2,042,619 | 1.2595 : 1 |

Sequence 2

| Recipient NTS Point | Donor NTS Exit Points | Capacity Donated (kWh/d) | Capacity Received (kWh/d) | Exchange Rate (Donor : Recipient) |
|----------------------------|------------------------------|---------------------------------|----------------------------------|--|
| Balgray | Bathgate | 2,562,619 | 2,042,619 | 1.2546 : 1 |

Sequence 3

| Recipient NTS Point | Donor NTS Exit Points | Capacity Donated (kWh/d) | Capacity Received (kWh/d) | Exchange Rate (Donor : Recipient) |
|----------------------------|------------------------------|---------------------------------|----------------------------------|--|
| Balgray | Drum | 2,232,619 | 2,042,619 | 1.093 : 1 |

Sequence 4

| Recipient NTS Point | Donor NTS Exit Points | Capacity Donated (kWh/d) | Capacity Received (kWh/d) | Exchange Rate (Donor: Recipient) | Total Exchange Rate (Donor: Recipient) |
|----------------------------|------------------------------|---------------------------------|----------------------------------|---|---|
| Balgray | Careston | 275,037 | 275,037 | 1 : 1 | 1.235 : 1 |
| | Glenmavis | 2,247,582 | 1,767,582 | 1.2716 : 1 | |

Sequence 5

| Recipient NTS Point | Donor NTS Exit Points | Capacity Donated (kWh/d) | Capacity Received (kWh/d) | Exchange Rate (Donor: Recipient) | Total Exchange Rate (Donor: Recipient) |
|----------------------------|------------------------------|---------------------------------|----------------------------------|---|---|
| Balgray | Careston | 275,037 | 275,037 | 1 : 1 | 1.2399 : 1 |
| | Bathgate | 2,257,582 | 1,767,582 | 1.2772 : 1 | |

Sequence 6 (Selected)

| Recipient NTS Point | Donor NTS Exit Points | Capacity Donated (kWh/d) | Capacity Received (kWh/d) | Exchange Rate (Donor: Recipient) | Total Exchange Rate (Donor: Recipient) |
|----------------------------|------------------------------|---------------------------------|----------------------------------|---|---|
| Balgray | Careston | 275,037 | 275,037 | 1 : 1 | 1.0666 : 1 |
| | Drum | 1,903,687 | 1,767,582 | 1.077 : 1 | |