

**Connect and Manage Analysis – Transmission workgroup action TR0601**

1. We have carried out analysis to investigate the impact of connecting new sites to the NTS. The analysis considers both the likely occurrences of constraints and the associated volumes. A range of sites including new CCGTs, storage sites and entry points have been considered as part of this analysis.
2. As part of the May 2012 RIIO-T1 submission we provided a forecast of constraints on the NTS. The connect and manage analysis considers the incremental constraint costs associated with connecting these new sites without any associated system reinforcement.
3. This analysis uses a similar methodology to that used for the RIIO-T1 (but excludes compressor and pipeline outages i.e. assumes an intact network) submissions where a large range (357,700) of potential supply and demand distributions are considered using Monte Carlo analysis to produce a constraint forecast.
4. The range of supply / demand scenarios is consistent with the Gone Green scenario set out in the Future Energy Statement with increased CCGT utilisation. The increased CCGT utilisation has been included to replicate the economic conditions that would make the construction of several new CCGTs viable. Forecasts for the 2020/21 incentive year have been used (April-March) as this is the first year in which all the new sites could be considered to be flowing.
5. For each site network analysis has been conducted to assess the capability of the current NTS infrastructure to cope with increased flows in the area. These capabilities are then applied to the full range of supply / demand scenarios to produce a constraint forecast for the year.
6. The cost of these constraints has been calculated using the same methodology set out in our RIIO-T1 submission.
7. All network analysis has been conducted using end of day flows (which is an approximation to real-time operations) and has assumed an intact NTS (i.e. no maintenance outages).
8. The distribution below outlines the range of potential constraint management costs which could be seen should all these new sites connect without reinforcement. The graph shows the total constraint costs for the 2020/21 incentive year in £millions.

