

Modification 407 Workgroup – NTS Revised Costs Estimate



29 January 2013
National Grid Transmission

Mod 407 Workgroup (12 Dec) – Action 1

- Ofgem has requested that NTS and DNs review the costs provided and to identify any other potential options that might be available other than a pipeline build

NTS Design Margin Impact – Recap

- GL Group confirmed that 2008 Design Margin study assumed the 2 hour 5% rule was being complied with
- The GL analysis results (14-15 mcm combined linepack effect) indicate that the NTS Design Margin needs to increase from the current 2% to between 5 and 7%

Component	Factor	2008	Description / Mitigation
Transient	Compressor trips	2%	“Compressor stops running”
	Forecasting errors		“Lag between demand and supply from and to NTS”
	Supply alerts		“Supply failure upstream of NTS”
	Operational element	0%	“NTS operating state alteration is carried out by GNCC and the risks involved are mitigated through their control of the network under UNC rules.”
Total value		2%	

- Initial cost estimate provided - £500m (6mcm) to £1.4bn (15mcm) to meet linepack requirement through pipeline build (same methodology as used by GDNs)
- NTS informed the group that work is being undertaken to identify the full impacts of such a change to the NTS Design Margin

Network Analysis Approach

- Network Analysis completed as outlined within the Transmission Planning Code for the Long Term Exit Capacity Bookings Process
- NTS capability is assessed first considering demand flows that occur in line with DNO OCS bookings and central scenario flows for directly connected NTS loads, under a central supply scenario
- NTS capability is next assessed considering demand flows that occur in line with DNO OCS bookings and directly connected loads located in sensitive areas of the network flowing up to obligated levels, under a localised supply sensitivity. This is completed on a region by region basis and considers:
 - South East
 - South West
 - Scotland
 - North West
- The Network Analysis completed to assess the impact of removing the 2 hour 5% rule repeats this Exit capacity analysis with an increased Design Margin of 5% and then 7%

NTS Network Analysis – Base Case

- *Base case analysis covers DNs capacity set to sold levels, with DCs capacity set to forecast levels. Central case supply is assumed.*
- Design Margin needs to increase to 5% to address 6-8 mcm linepack depletion effect
- Design Margin needs to increase to 7% to address 10-14 mcm linepack depletion effect
- No NTS network investment required under base case scenarios

NTS Network Analysis – Sensitivity Analysis

- *Sensitivity analysis covers all DNs set to sold capacity levels with localised DCs capacity set to obligated levels. Supply sensitivities for the region have also been applied.*
- NTS network investment required to address constraints identified:

Design Margin	SE	SW	SC	NW	Others	Total
5%	£98m	£318m	£50m?	£50m?	TBC	£516m
7%	£192m	£332m	£100m?	£100m?	TBC	£724m

- SE & SW LDZs fully analysed
- Other LDZs – constraints identified but costs estimated

NTS Network Analysis – Incremental Capacity

- If the Design Margin is increased to between 5 & 7% this will flow through to any new incremental capacity projects (could be both entry and exit related)
- Difficult to quantify at this stage

NTS Design Margin Review

- If Mod 407 is approved then a full review of the NTS Design Margin would need to be undertaken prior to its implementation
- This review would confirm the exact NTS Design Margin figure to be adopted