

UNC Mod Proposal 0498 – Update on actions



Transmission Workgroup
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National Grid NTS, Dennis Rachwal

Action 498/501 SSE Gas Quality Questions (1)

a) What is the limit on the total allowable inerts in the fuel specification when the CO₂ limit is lifted to 4 mole %?

No change has been requested in the mods to the total inerts at Teesside. (For info on existing limit see action 498/503)

b) Where is the level of inerts stated in the GSMR?

Gas Safety Management Regulations (Schedule 3) does not contain an explicit inerts limit (and neither does the Gas Ten Year Statement (GTYS) or the UNC).

The following table summarises the regulation limits and the GTYS indicative limits.....

Action 498/501 Gas Quality Specification

Content or Characteristic	Gas Safety Management Reg (GSMR) Value http://www.legislation.gov.uk/ukxi/1996/551/schedule/3/made	Gas Ten Year Statement Value (A5.3.2) http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=30018
Hydrogen sulphide (H ₂ S) content	≤5 mg/m ³	≤5 mg/m ³
Total sulphur content (including H ₂ S)	≤50 mg/m ³	≤50 mg/m ³
Hydrogen content	≤0.1% (molar)	≤0.1% (molar)
Oxygen content	≤0.2% (molar)	≤0.001% (molar)
Impurities	shall not contain solid or liquid material which may interfere with the integrity or operation of pipes or any gas appliance (within the meaning of regulation 2(1) of the 1994 Regulations) which a consumer could reasonably be expected to operate	shall not contain solid or liquid material which may interfere with the integrity or operation of pipes or any gas appliance within the meaning of regulation 2(1) of the Gas Safety (Installation and Use) Regulations 1998 which a consumer could reasonably be expected to operate
Hydrocarbon dewpoint and water dewpoint	shall be at such levels that they do not interfere with the integrity or operation of pipes or any gas appliance (within the meaning of regulation 2(1) of the 1994 Regulations) which a consumer could reasonably be expected to operate	Hydrocarbon dewpoint ≤ -2° C at 85 barg Water dewpoint ≤ -10° C at 85 barg
Wobbe Number (WN)	(i) ≤51.41 MJ/m ³ , and (ii) ≥47.20 MJ/m ³	(i) ≤51.41 MJ/m ³ , and (ii) ≥47.20 MJ/m ³
Incomplete Combustion Factor (ICF)	≤0.48	≤0.48
Sooting Index (SI)	≤0.60	≤0.60
Carbon Dioxide		≤2.5% (molar)
Other		Organo halides, Radioactivity, Odour, pressure, temperature (see statement for details)

Action 498/501 SSE Gas Quality Questions (2)

c) What is the expected normal future gas composition (including LHV, total inerts)?

d) What is the expected Worst future gas composition and estimated durations when this worst case gas supply would be in use (including LHV ,total inerts)?

National Grid NTS does not currently attempt to forecast gas composition or seek to influence delivered gas quality other than within day monitoring of compliance with contracted entry limits and with GSMR

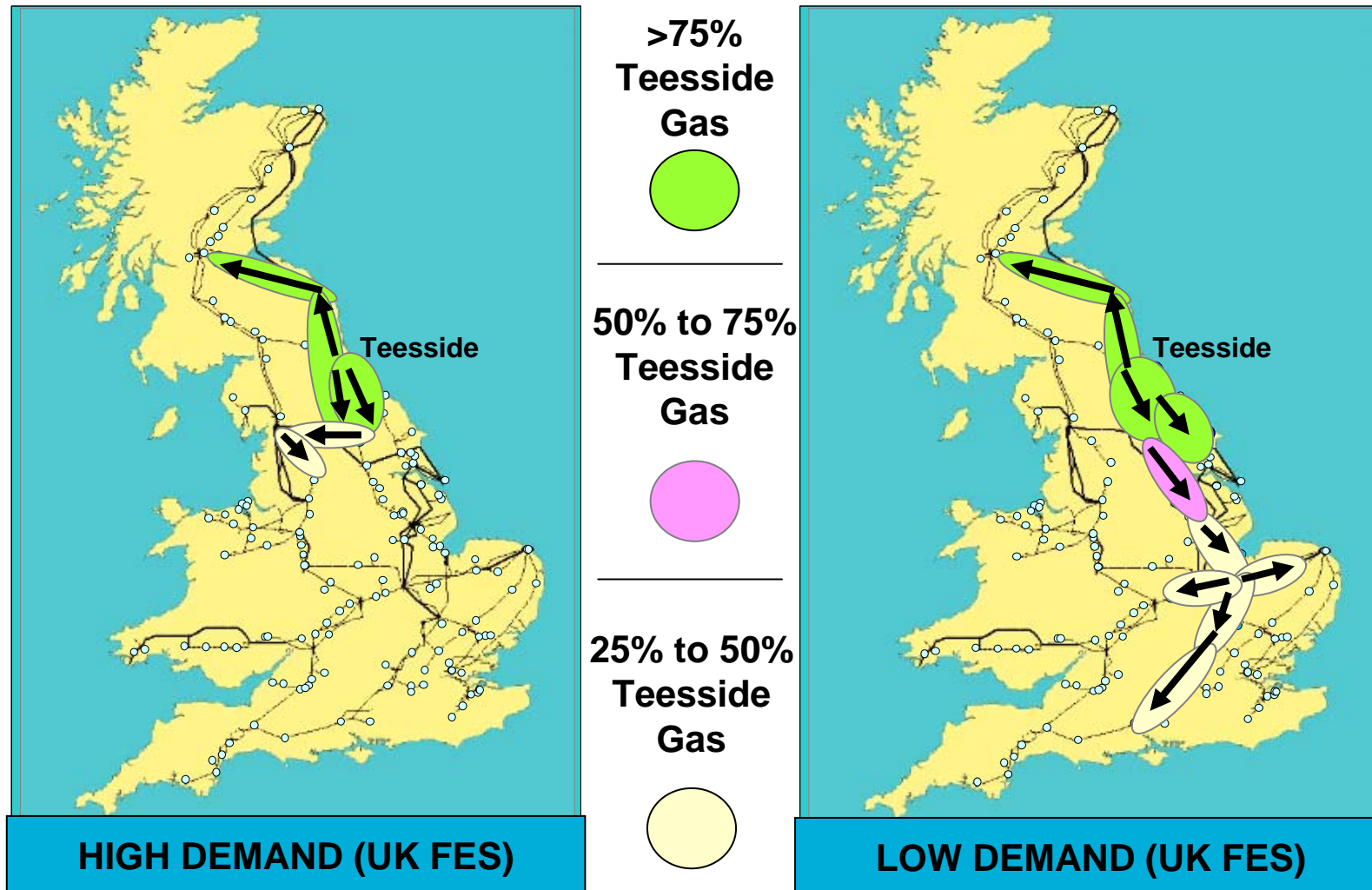
Action 498/501 SSE Gas Quality Questions (3)

- e) What is the anticipated rate of change of Wobbe that can be expected to be seen at an offtake point?
- f) What is the expected profile of variations in gas supply quality at an take off point per hour/day/week /month/year?

We do not currently attempt to forecast dynamic changes to gas quality within the network. The challenges to consider for gas quality forecasting include:-

- *The timing and availability of information on supply and demand patterns*
- *The timing and availability of information on upstream production variables, DFO activities and associated influencing factors*
- *Complexity of modelling required to produce meaningful results*
- *Cost / benefit assessment*

Action 498/502 Gas Flow Patterns from Teesside



Potential revised gas specification for Teesside

Transporters are obliged by UNC TPD I 2.1 to provide existing Network Entry Provisions (i.e. contractual limits) at specific Entry Points to shippers provided this is not “*materially prejudicial to the commercial interest of the Delivery Facility Operator*”