

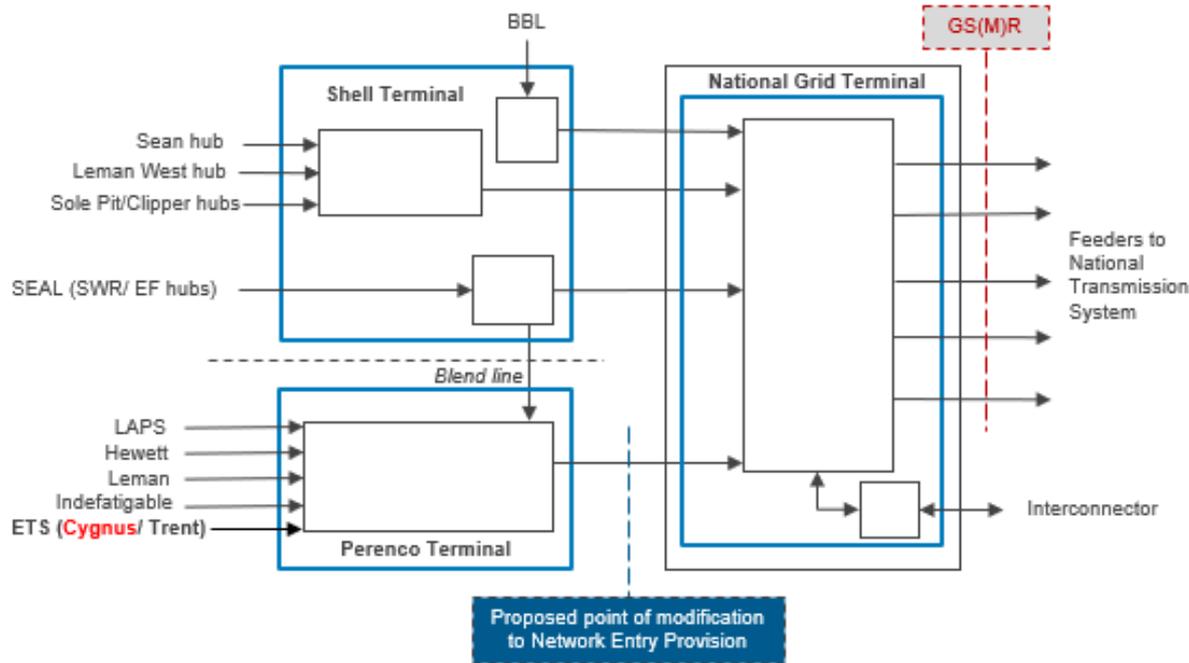
UNC Modification Proposal

AMENDMENT OF NETWORK ENTRY PROVISIONS AT
PERENCO BACTON TERMINAL
5 December 2019

THE CYGNUS GAS FIELD

- Cygnus is a new development in the Southern North Sea; unlocking investment in an underdeveloped area of the UKCS and two years into a 20+ year life.
- Cygnus Alpha and Bravo produce gas through the ETS pipeline to the Perenco Bacton terminal; key for London and SE security of supply.
- Cygnus gas is 1% below the GS(M)R Wobbe Index specification but within the emergency limit.
- The existing gas quality requirements have already had significant impact on gas supply to the UK network from the Cygnus field and this is set to increase in 2020.





- Gas from the ETS pipeline arrives at the Perenco terminal with a Wobbe Index (WI) of 46.5 to 46.7 MJ/m³
- Existing infrastructure enables fortuitous blending with fields flowing into the Perenco terminal and access to blend gas from the SEAL pipeline only from the neighbouring terminal.
- The existing Network Entry Provision with National Grid requires the gas leaving the Perenco terminal to be over 47.2 MJ/m³
- A gas quality control system is utilised to ensure gas below this limit never leaves the Perenco terminal, requiring an additional margin above 47.2 MJ/m³ to be achieved to do so.

Proposal

- An amendment to the Network Entry Provision between Perenco and National Grid is sought to reduce the Wobbe Index lower limit from 47.2 to 46.5 MJ/m³.

Alternate Options

- Access to further SEAL blend gas volumes is already in progress. Extended planned shutdown (39 days) of the GAEL system in summer 2020 and SEAL source diversity reduction thereafter limits benefit.
- Significant infrastructure mods to enable upstream blending with other gas sources will take >2 years to enact.

Parallel Process

- An exemption from the HSE would need to be sought by National Grid in order to allow for the potential of gas down to the existing GS(M)R emergency limit of 46.5 MJ/m³ to leave the National Grid terminal. Exemption would demonstrate:
 - No diminution in safety through independent study, including laboratory testing
 - Volumetric requirements to blend Cygnus gas to existing WI limit are low and supply/diversity of source exist at Bacton to cover requirement under all reasonable scenarios. Therefore likelihood of gas <47.2 MJ/m³ leaving NG terminal is considered very low.
 - The additional UK gas able to be unlocked in 2020 alone is significant, with benefits to consumers, UK plc and industry.