



Amendment to Network Entry Provision at Shell St Fergus Terminal

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Agenda

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The Proposal

- This is an enabling Modification to facilitate permanent amendment to the Wobbe Index (WI) upper limit within the Network Entry Provisions between Shell and National Grid at St Fergus.
- It is proposed to maintain the increase in the Wobbe Index (WI) limit from 51.2 MJ/m³ to 51.4 MJ/m³.
- This is in line with the GS(M)R legislation ≤ 51.41 MJ/m³ and consistent with standard Network Entry Agreements, thereby creating a level playing field and securing effective competition between relevant shippers.
- The estimated gain in gas flows to the NTS is 10-15 TJ/d per 0.1 MJ/Sm³, which equates to 20-30 TJ/d for the 0.2 MJ/m³ Wobbe Index increase proposed.
- According to Ofgem figures, the average British household uses 14900 kWh/year* (0.05364 TJ/year) of energy (gas and electricity combined). This proposal could, therefore, increase deliveries to the NTS to meet the demand of 136,000-204,000 households per year, which would benefit UK energy supply security.
- This proposal further facilitates the UK Strategy to maximise economic recovery from existing North Sea production by fine-tuning our St Fergus operations enabling us to provide more energy to the NTS.

Background

- Shell raised the proposal 0826S in October 2022 to facilitate a temporary amendment to the Wobbe Index (WI) upper limit within the Network Entry Provisions between Shell and National Grid at St Fergus.
- The proposal was implemented on 11 January 2023 on the basis of the Panel determination that Modification 0826S is unlikely to have a material effect due to other network entry parties already operating to the requested increased Wobbe Index limit.
- Given that most Delivery Facility Operators (DFOs) already have access to the full Wobbe range permitted by GS(M)R, this proposal mitigates the risk of discrimination between different shippers.
- In light of the above, Modification 0826S followed Self-Governance procedures and we request the same process is followed to make this proposal permanent.
- We have asked to present this proposal to the Transmission Working Group to give market participants the opportunity to discuss the proposal and to ask questions.
- The aim is for the Proposal to return to the Panel meeting on 21 September 2023, where Panel members will decide if the proposal is ready to go to consultation.

Data Points for reference

- In terms of volumes and overall energy impacts, the following table illustrates the impact of this change request – all data based on operating the Shell St Fergus terminal under the current limit of 51.2 MJ/Sm³;

| Period | Average Volume of gas to grid (mcmd) | Average Wobbe level (MJ/m ³) | Energy Value (TJ/d) |
|-------------------|--------------------------------------|--|---------------------|
| All of 2020 | 18.4 | 49.6 | 673 |
| Nov 21 – Mar 22 | 23.1 | 50.6 | 927 |
| Sept 22 | 22.8 | 50.85 | 923 |
| Sept 22 – Sept 23 | 23.98 | 50.93 | 973 |

- The increase in energy already realised under the current Wobbe limit is approximately 250 TJ/d or 37% of total energy delivered at St Fergus.
- Operating within the higher temporary Wobbe, energy delivered has increased a further 50TJ/d.
- Shell UK has calculated that the increase in the Upper Wobbe limit from the current 51.2 to 51.4 MJ/m³ is equivalent to an increase in flow of between 0.16 and 0.17 mcmd with an associated energy increase of 20 – 30 TJ/d.
- The proposed Upper Wobbe limit increase represents an incremental increase of circa 3.2% in the energy compared to current average levels and less than 1% increase in total volumes delivered at St Fergus.
- Operating within the higher temporary Wobbe has increased energy by ~5.4% compared with September 2022 average levels.
- With regards to network penetration, we neither expect a local nor national effect on end users owing to the small percentage increase in incremental volume and energy, compared to total deliveries.
- The combined Upper Wobbe limit of the three St Fergus sub-terminals is 51.3 (with the Shell Terminal capped at 51.2) – increasing the Shell Terminal Cap to 51.4 raises the combined limit to the GS(M)R cap of 51.4 MJ/m³.

Conclusion

- This proposal better facilitates the Transporters' Relevant Objectives:
 - a) **Efficient and economic operation of the pipe-line system:** by facilitating increased energy to be processed through the existing network infrastructure than would otherwise be the case.
 - d) **Securing of effective competition:**
 - i. **between relevant shippers:** by levelling the playing field and preventing discrimination through aligning the Shell St Fergus Upper WI limit with the GS(M)R legislation and with other terminals delivering gas onto the NTS.
- No detrimental impact on other network users is foreseen by implementation of this proposal on the basis of the minor increase in the Upper WI limit; the relatively small percentage increase in energy and volumes, compared to overall St Fergus volumes / energy content; comingling with other gases before entering the NTS, all of which are within the GS(M)R limit.
- To our knowledge, no operational nor commercial issues have been identified during the interim period.

Questions and Answers

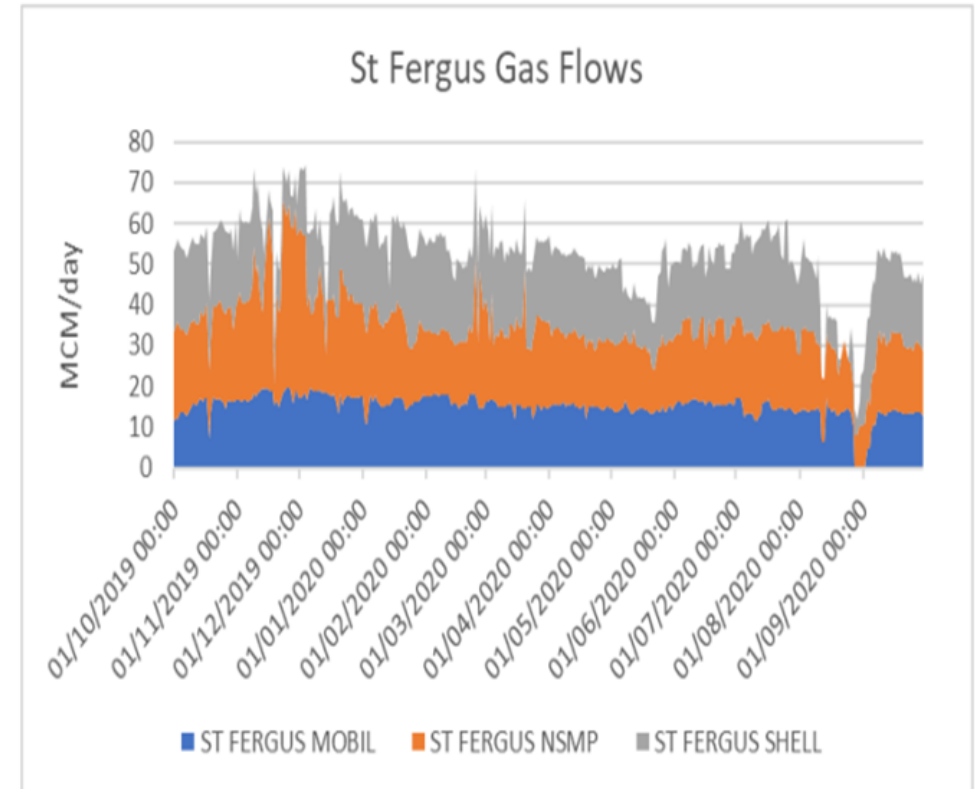
Q&A



ANNEX

St Fergus Gas Flows

- The St Fergus gas terminal accepts gas from three sub-terminals and is currently one of the highest utilised sites on the NTS.
- The opposite graph shows an assessment of the flow rates of gas entering the NTS at St Fergus, which was undertaken by SAGE North Sea Limited (SNSL)* over an 18 month period (UNC 0780).
- Flows from the sub-terminals are comingled before reaching the NTS, thereby minimising the net effect of a change to gas quality in one of the sub-terminals and the risk of impacting network penetration further downstream.
- **N.B.** Whilst comingling mitigates the impact of WI changes between the sub-terminals, increasing the St Fergus terminal Upper WI limit by 0.2 MJ/m³ is not dependent on comingling to ensure compliance with the GS(MR) limit.



| Entry Point Flowrates | SAGE (mcm/day) | NSMP (mcm/day) | Shell (mcm/day) |
|-----------------------|----------------|----------------|-----------------|
| Max Flowrates | 19.70 | 47.46 | 26.44 |
| Average Flowrates | 15.35 | 19.86 | 18.14 |

History of Gas Quality Changes

- There have been at least 12 proposals to change the gas quality parameters at entry terminals, all of which have been implemented.
- 0256: Amendment to the Network Entry Agreement at St Fergus SAGE Terminal:

| Gas Quality Characteristic | Current Specification | Proposed Specification |
|----------------------------|------------------------|-------------------------|
| WN Lower Limit | 48.2 MJ/m ³ | 47.2 MJ/m ³ |
| WN Upper Limit | 51 MJ/m ³ | 51.41 MJ/m ³ |

- Implemented in October 2009
- The 8 respondents were unanimous in their support of implementation, including NGG.
- In their response, NGG cited some of the following reasons for their support:
 - a) we believe that the Proposal is not being driven by an intention to bring gas of a particularly high or low wobble and CV specification into the NTS but rather by a desire to 'level the playing field' with most other DFOs
 - b) In the unlikely event that gas was entered at the SAGE sub-terminal within the expanded wobble range [the] mixing effect would mitigate any CV related commercial risk.