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Minutes

Technical group 3, Gas Transmission Charging Review

This group supports the development of the technical modelling of potential options for NTS entry charging arrangements.	From	Tim Aldridge	4 August 2014
	Date and time of Meeting	30 July 2014, 10-12h	Ofgem Millbank
	Meeting materials	https://www.ofgem.gov.uk/publications-and-updates/third-gtcr-technical-work-group	

1. Present

Laura Butterfield (NGG)
Lee Bowerbank (Exxon) [phone]
Jeff Chandler (SSE) [phone]
David Cox (London Energy Consulting Ltd/Gas Forum) [phone]
Gareth Davies (Statoil)
Kirsten Elliot-Smith (Cornwall Energy)
Richard Fairholme (Eon/Gas Forum) [phone]
Francisco Gonçalves (Gazprom)
Graham Jack (Centrica)
Natasha Ranatunga (EDF Energy)
Charles Ruffell (RWE)
Colin Williams (NGG)
Nick Wye (Waters Wye)

Ofgem: Tim Aldridge, Alena Fielding, Nathan Macwhinnie
CEPA/TPA: Ian Alexander, Debra Hawkin, Patrick Taylor, Andrei Vladareanu

2. Apologies

Julie Cox (EnergyUK)
Pavanjit Dhesi (Interconnector)
Ricky Hill (Centrica)
Thomas Jesshop (Conoco Phillips)
Andrew Pearce (BP Gas Marketing Ltd)
Nigel Sisman (Sisman Energy Consultancy)
Ofgem: Victoria Volossov

3. Market modelling

3.1. Patrick Taylor (PT) presented the Market Modelling slides from the presentation circulated prior to the meeting and available on the GTCR website. The presentation was separated into two parts. What follows is a summary of the key discussion points as they relate to each of the slides, along with some general comments from the discussion.

3.2. The consultants confirmed that they will need responses on the issues raised by close on Tuesday 5 August to be able to incorporate them into the first draft model. Any comments received after this can still feed into the project but will be too late for inclusion in the first draft model.

Part 1 of Slide Pack

3.3. PT said that **pages 1 and 2** give the overall framework of the model. He explained that the model begins with traded gas wholesale prices and then transaction costs (eg commodity charge) are added to understand the arbitrage decisions of supply sources with flow optionality. This then feeds into the dispatch schedule (so that gas demand equals supply) for each day of the gas year. This dispatch schedule is then converted into NTS capacity booking for each ASEP.

3.4. In the model, (historical) wholesale gas prices are an input – that is, they are not determined within the model. On **page 3**, PT outlined the importance of accurate wholesale prices as an input to the modelling. Without accurate trading prices the model could miss the impact of the transaction cost component within the wider traded gas price. The model needs to capture the transaction costs of flowing to different points to capture the impact of transaction costs on arbitrage decisions. The model is

not seeking to forecast the NBP price for any given year, but rather how price relativities influence flow decision making.

3.5. The model currently has interconnector flow decisions based on spot prices but it would be possible to build a constraint into the model based on assumed long-term booked capacity. Ofgem's prior work on interconnectors may help inform the assumptions for interconnectors. The consultants plan to build in functionality to the model to allow flexibility in the parameters, such as how much to constrain interconnectors in terms of assumed long-term bookings (without flow optionality). For example, if the model is assumed to start in 2018 (see paragraph 3.11 below) then an assumption of low long term contractual commitments (and therefore high flow optionality) may be more appropriate in the modelling.

3.6. On **page 7** PT described the proposed interactions between the tariff model and the market (price responsiveness) modelling. PT proposed that:

- LRMCs will be set in the tariff modelling using the Transportation model and data from the Ten Year Statement (to be consistent with NGG's current approach of modelling LRMCs);[1]
- The adjustments to calculate floating tariffs and commodity charges, however, will take account of the outputs from the market (price responsiveness) modelling;
- The tariff adjustments will be calculated using the bookings data derived as an output from the previous year market modelling (for example, the tariffs calculated for 2019 will use bookings and flow data from 2018).

3.7. It was noted that NGG currently set commodity charges twice per year whereas the consultants' modelling will calculate charges once per year. The updates to NGG's charges during the year are based on changes unanticipated at the start of the year. The group supported the consultants' approach on this: modelling a semi-annual adjustment would necessitate highly speculative assumptions, but is unlikely to improve the outputs of the model significantly.

3.8. Ofgem confirmed that the consultants will include an explanatory narrative alongside the model, which will highlight the key differences from the NGG modelling approach/assumptions used currently to produce NTS charges. The consultants also confirmed that the modelling will reflect both the current situation and that anticipated once the Tariff Network Code comes into force.

3.9. **Pages 4 and 5** consider the key inputs to an interconnector arbitrage decision. While the transaction costs are a relatively small component of the total wholesale price, the hub prices tend move closely so the relative transaction costs on certain days may be decisive in the decision making. Therefore consultants recommend using actual historical traded prices to capture realistic price differentials as much as possible.

3.10. The diagram currently excludes capacity charges for entry and exit as such charges are to some extent a sunk cost of long-term capacity. It may be possible to run the model with different scenarios concerning the extent to which the capacity charge is taken into account in decision making.

3.11. The group raised a question about the first year that the model will provide outputs for. There was some appetite among group members for 2018 to be the first year due to changes as a result of the CAM and Tariff Network Code being introduced between now and then. Ofgem will seek to provide clarity on the likely implementation date of the changes and the consultants will consider the appropriate Year 1 of the model.

[1] This will also mean that the LRMCs for each modelled year are consistent across modelled policy scenarios.

3.12. The diagram is based on BBL flow being physical rather than virtual. Currently there is uncertainty regarding the scope for BBL to have virtual reverse flow when CAM comes in (a limit on interruptible capacity may restrict the scope for virtual reverse flow.)

3.13. PT confirmed that CEPA/TPA now have a source for the GTS entry tariff. They are investigating historical data for the relationship between price differentials and the volume of flow on interconnectors in different directions. Members of the group confirmed that there is not a transaction cost for ZEE entry and that ZEE traded prices are the "beach price" for ZEE gas. Following a group suggestion, the consultants will contact the interconnectors directly for information on their transportation costs.

3.14. On **page 6** PT posed the question of whether ZIGMA would change the transaction costs depicted on Page 5. The group agreed that, though there might be an impact, there is so much uncertainty around ZIGMA that CEPA/TPA should not focus on this for now.

Part 2 of Slide Pack

3.15. On **page 2**, PT stated that transaction costs are key to understanding the relative net profit of flowing Norwegian gas to GB or the continent. The group approved the consultants' assumption that the margin is the wholesale price less the entry point costs (ie treating the pipes as a sunk cost).

3.16. The group raised some issues with the 80-20 split of Norwegian gas between contracted versus that available for arbitrage. Complexities include summer maintenance and the availability for flow on a cold day across Western Europe. The consultants will look at seasonally-profiling the availability of Norwegian gas, taking into account historical data from NGG.

3.17. PT described some of the complexities around modelling storage on **page 3**. While long-term storage is assumed to be largely non-responsive to entry tariff changes, it will contribute to overall revenue recovery so is included in the model. The group noted that while storage is currently buying long-term entry capacity, it is likely to move towards short-term.

3.18. For short/medium-term storage, in the first scenario presented, the only impact of the policy options is for those facilities with flow optionality to other markets. The second scenario is extremely difficult to model so it may be necessary to make simplifying assumptions. It may be possible to look at aggregate trends between weekend (injection) and weekday (delivery) prices.

3.19. The consultants are seeking entry flows at each entry point based on the existing network (and therefore storage facilities with existing ASEPs). The group noted that Ofgem will need to consider additional storage in future. The discussion on storage concluded with the point that the model will show the direction of distributional effects under the proposed policy options, and whether some network users may be affected disproportionally.

3.20. **Pages 4 and 5** considered modelling peak day flows. PT explained that the current modelling is based on a mixed approach using NGG's merit order for tariffs and another based on the consultants' price responsiveness modelling for dispatch (see paragraph 3.6 above). The group agreed that this represented a pragmatic approach and it made sense to use the Transportation model assumptions for tariff modelling.

3.21. **Page 6** explains the working assumptions around the UKCS allocation. The group encouraged the consultants to investigate data for differentiating between different sources using NGG or DECC data.

3.22. On **page 7**, the group discussed the usefulness of physical capacity, obligated capacity or contracted capacity in terms of calculating the probability of a constraint in modelling short-term versus long-term booking decisions. Discussions covered the fact that not all contracted capacity has the desire to flow. Expected flow as a proportion of physical capacity (potentially represented by obligated capacity) was proposed as an alternative probability calculation to using contracted capacity.

3.23. The consultants will revisit **page 8** at the next meeting with the results of the modelling. In response to comments, they noted that products (and therefore multipliers) at IPs are yearly, quarterly, monthly and daily, while for non-IPs they are quarterly, monthly and daily.

3.24. During the discussion of the slides there was some debate about the inconsistencies between the draft Tariff Network Code and the associated Framework Guidelines. Ofgem is confident that the modelling undertaken will usefully feed into the impact assessment, policy analysis and subsequent comitology discussions.

Actions	**Person – By**
Send CEPA/TPA comments on modelling issues.	All – by 5 August
Provide clarification on timing of likely implementation of European code changes in GB	Ofgem – by 6 August – see below
Decide on first year of outputs for first draft of model	CEPA/TPA – by 6 August
Consider flex in Norwegian gas assumptions e.g. for seasonality.	CEPA/TPA – by 6 August
Investigate different data sources for forecast gas depletion of different sources of UKCS gas.	CEPA/TPA – by 6 August

Ofgem response to action

- CAM implementation date: 1 November 2015
- TAR NC implementation date: 1 October 2017, or 18 months from the date of entering into force of the Network Code, whichever is later

4. Next steps

4.1. Gas Forum representatives confirmed that they will coordinate the writing of the industry-led report. This will start in earnest once the modelling assumptions are presented at the final meeting of this working group.

4.2. The final meeting will take place at Ofgem/Millbank on 20 August 10-12h at which CEPA/TPA will present the model outputs and assumptions. Ofgem will upload materials at the latest by close on 15 August.

4.3. Ofgem will email participants when uploading new documents, and you can also subscribe to the GTCR RSS feed: https://www.ofgem.gov.uk/feeds/87224/rss.