

Recap: LNG Methodology introduced by Mod 0698

$$LNG_d = Min\left[ECWC_d, \frac{US_d}{2}\right]$$

 US_d

the expected cold weather capability for all LNG Importation Facilities for the Gas Flow Day

the aggregate usable stock at all LNG Importation Facilities for the Gas Flow Day

- When LNG stocks are high, this methodology ensures that a higher LNG figure contributes to the overall Non-Storage Supply (NSS) number and vice-versa
- Pre-mod 0698, the LNG number was a best view from National Grid and tended to remain constant during winter unless supply patterns changed

Interconnector Methodology

 The 0669R workgroup also considered changing the contribution of interconnectors to the daily NSS figure using the correlation between interconnector flow and hub price differentials

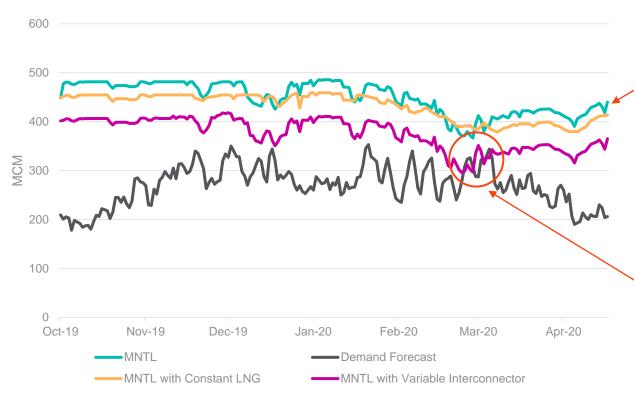
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BBL\ Interconnector \\ = Min\left(Max\ BBL\ Technical\ Capability, Average\ Flow\ from\ last\ 2\ Days\ * \frac{D-1\ NBP:TTF\ Differential}{NBP:TTF\ Average\ Differential\ from\ last\ 2\ Days}\right)
IUK\ Interconnector \\ = Min\left(Max\ IUK\ Technical\ Capability, Average\ Flow\ from\ last\ 2\ Days\ * \frac{D-1\ NBP:ZEE\ Differential\ }{NBP:ZEE\ Average\ Differential\ from\ last\ 2\ Days}\right)
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 However, when this methodology was applied to previous winters, it would have triggered Margins Notices at demand levels below 300mcmd and therefore was not adopted into Mod 0698

Monitoring During Winter 2019/20

- We committed to report back to Transmission Workgroup during and post winter 2019/20, to
 - Share how the new Margins Notice methodology is functioning
 - Review what effect the Interconnector methodology would have had
- We reported on this topic mid-winter to the February Transmission Workgroup
- The following graph shows for October 2019 to mid April 2020:
 - The D-1 demand forecast
 - The actual margins notice trigger level (MNTL) (including the LNG methodology change)
 - What MNTL would have been <u>without</u> the LNG methodology change
 - What MNTL would have been <u>with</u> the LNG methodology change <u>and</u> the revised IC methodology

Margins Notice Winter Review



MNTL has usually been above what it would have been, had the new LNG methodology not been introduced

The Margins Notice would have been triggered on 7 days in late Feb / early March had the interconnector methodology been used

Observations

- A mild winter; no Margins Notices or 95% warnings issued have been issued
- For the majority of the winter, high LNG stock levels and entry flows resulted in a higher MNTL than would have been the case without Mod 0698
- MNTL dropped in late Feb / early March due to a reduction in storage inventories and lower LNG stocks
- Interconnectors have exported as well as imported over the period and flows have been low (typically <10 mcmd). Therefore, had the interconnector methodology been in force, the MNTL would have been materially lower (pink line)
- If the interconnector methodology had been applied in addition to the new LNG methodology:
 - Margins Notices would have been issued on 7 days between 25th to 28th February and 3rd to 5th March 2020 despite additional interconnector capability. IUK was even exporting on some of these days, indicating an oversupplied system
 - 95% notices would have been issued on 9 days during the period
- The Margins Notice process for this winter was extended by an additional two weeks to mid April.

Conclusions

- We expected that Mod 0698 would lead to an increase in the number of Margins Notices during winter 2019/20. This didn't happen, mainly because the winter was so mild and due to high LNG flows
- When LNG stocks dropped, the MNTL responded in the mechanistic way designed by Mod 0698
- We do not believe that system conditions in late Feb / early March warranted Margins Notices being issued and therefore the decision not to include the interconnector methodology in Mod 0698 was correct
- We would be interested to hear any views from the Workgroup about the suitability of the Mod 0698 reforms and whether further refinements should be considered