

Report to Secretary of State Adjustment to Demand Curve

2021 Year-Ahead Capacity Auction for 2022/23

7 January 2022

T - 1 auction
2022/23 Delivery Year

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Report to Secretary of State on Amendments to the T-1 Demand Curve

Background

The Electricity Capacity Regulations 2014 (“the Regulations”) and the Capacity Market Rules 2014 (“the Rules”), both as amended, oblige National Grid Electricity System Operator Limited in its role as Delivery Body to publish Auction Guidelines. This document has been prepared to discharge that obligation.

Capitalised terms used in this report shall have the meanings given in the Rules and references to a Rule are to a rule within the Rules.

In accordance with the specific requirements in the Regulations and the Rules, this document sets out:

- The aggregate de-rated capacity of Capacity Market Units (CMUs) which have prequalified to bid in the Capacity Auction
- The aggregate de-rated capacity of CMUs of which applications were rejected
- The aggregate de-rated capacity of Generating CMUs of which the Delivery Body received an Opt-out Notification stating that the CMU will be closed down, decommissioned or otherwise non-operational by the commencement of the delivery year
- The aggregate de-rated capacity of Generating CMUs of which the Delivery Body received an Opt-out Notification stating that the CMU will be temporarily non-operational for all the winter of the delivery year but will be operational thereafter
- The aggregate de-rated capacity of Generating CMUs of which the Delivery Body received an Opt-out Notification stating that the CMU will remain operational during the delivery year
- Whether an adjustment is required to the Demand Curve in light of Prequalification Results
- A recommendation as to the adjustment to the Demand Curve.

Prequalification Results (as of 5 January 2022)

Volume of Prequalified Capacity Market Units

The aggregate de-rated capacity of Capacity Market Units (CMUs) that have Prequalified to bid in the Capacity Auction is 5,166 MW.

Volume of Conditionally Prequalified Capacity Market Units

The aggregate de-rated capacity of Capacity Market Units (CMUs) that have Conditionally Prequalified to bid in the Capacity Auction is 195 MW.

Volume of Capacity Market Units of which the Applications Did Not Prequalify

The aggregate de-rated capacity of CMUs that have Not Prequalified to bid in the Capacity Auction is 145 MW.

Volume of Capacity Market Units of which the Applications were rejected

The aggregate de-rated capacity of CMUs of which applications were rejected is 184 MW.

CMUs that submitted Opt-Out Notifications

Opt-Out: Non-Operational

The aggregate de-rated capacity of Generating CMUs of which the Delivery Body received an Opt-out Notification stating that the CMU will be closed down, decommissioned or otherwise non-operational by the commencement of the delivery year is 7,926 MW.

Opt-Out: Temporarily Non-Operational

The aggregate de-rated capacity of Generating CMUs of which the Delivery Body received an Opt-out Notification stating that the CMU will be temporarily non-operational for all the winter of the delivery year but will be operational thereafter is 0 MW.

Opt-Out: Operational

The aggregate de-rated capacity of Generating CMUs of which the Delivery Body received an Opt-out Notification stating that the CMU will remain operational during the delivery year is 0 MW.

Update to the Demand Curve

Opt-Out: Operational

The Demand Curve should be adjusted to reflect capacity that has elected to opt-out of the capacity market and is likely to be operational to ensure that consumers are not required to pay for capacity that will remain operational without a capacity agreement.

The aggregate de-rated capacity of Generating CMUs of which the Delivery Body received an Opt-out Notification stating that the CMU will remain operational during the delivery year is 0 MW.

As such, we do not recommend an adjustment.

Embedded Generation adjustments including Long-Term STOR

Modelling work carried out to inform the 2021 Electricity Capacity Report and updated for new information received since then assumed that there was around 2,600 MW of existing embedded small scale de-rated capacity (outside of our generation backgrounds) including Demand Side Response (DSR) without a previous Capacity Obligation covering 2022/23 that is capable of meeting a Capacity Obligation for 2022/23.

This volume has been compared to the volume of small embedded Existing Generating CMUs, small embedded Refurbishing CMUs, Proven DSR CMUs and Unproven DSR CMUs in the CM register to test if any such capacity has implicitly opted-out from the Capacity Market.

The de-rated capacity of such CMUs, which have submitted a Prequalification Application for the T-1 Auction for 2022/23, is approximately 1,500 MW. It would, therefore, appear that over half of this existing eligible small-scale capacity assumed by National Grid ESO has opted-in to the Capacity Market and is seeking a Capacity Agreement.

Of the remaining de-rated capacity (approximately 1,100 MW), we estimate that around 400 MW of capacity with long-term STOR contracts appears to have opted out of the capacity auction but is expected to be operational in 2022/23. In addition to this, the Base Case assumed around 400 MW of over-delivery assumed to be eligible small-scale capacity without a CM agreement. For the other 300 MW of remaining capacity, there is insufficient evidence that provides confidence that we can rely on that this embedded capacity will be operational in 2022/23.

We therefore recommend that the demand curve target should be reduced by 400 MW to account for long-term STOR capacity estimated to have opted-out of the CM that is expected to be operational in 2022/23.

Adjustments to Autogeneration Capacity assumed to be outside of the CM

There is no material change to the existing de-rated autogeneration capacity assumed to be outside of the Capacity Market since the 2021 Electricity Capacity Report was published, therefore we recommend no change to the demand curve for this adjustment.

Adjustment to Previously Contracted De-Rated Storage Capacity

There are no changes to the de-rating factors for storage capacity since the 2021 Electricity Capacity Report was published, therefore we recommend no change to the demand curve for this adjustment.

Adjustment to De-Rated Renewable Capacity assumed to be outside of the CM

There are no changes to the renewable capacity assumed to be outside of the CM since the 2021 Electricity Capacity Report was published, therefore we recommend no change to the demand curve for this adjustment.

Adjustment to capacity outside the CM due to plant with CM contracts not prequalified commissioning early and being operational

The de-rated capacity of CMUs with new build CM contracts in later years that have commissioned early but haven't prequalified and are expected to be operational in 2022/23 is close to 0 MW.

As such we recommend no change to the demand curve target for this adjustment.

Adjustment to Least Worst Regret outcome

The maximum non-delivery sensitivity modelled for 2022/23 had a direct influence on the outcome of the Least Worst Regret (LWR) calculation used as the basis of our recommendation for the 2022/23 T-1 target capacity in the 2021 Electricity Capacity Report¹. In response to the letter from the Minister of State² and in light of recommendations 60 and 61 in the 2021 report³ by the BEIS Panel of Technical Experts (PTE), we have gathered evidence of non-delivery and market response over recent winters that has occurred since the T-1 recommendation was made. The evidence gathered supports the maximum non-delivery risk for 2022/23 accounted for in the non-delivery sensitivities modelled in the 2021 Electricity Capacity Report.

As such, we do not recommend an adjustment to the Demand Curve target relating to the LWR outcome.

Adjustment to additional non-delivery assumed in the Base Case since the 2021 ECR

The 2021 Electricity Capacity Report used CM registers published in late Feb / early March 2021 to determine the Base Case non-delivery in the target year 2022/23. In addition to non-delivery known at that time, the 2021 Electricity Capacity Report assumed 800 MW of additional non-delivery in the Base Case based on market intelligence of capacity providers that were not expected to meet their obligations for 2022/23. Of this 800 MW, based on updated information, we now expect around 300 MW of capacity to be likely to secondary trade its CM obligations, leaving around 500 MW of capacity that is still not expected to meet its CM obligations. Some of this 500 MW of capacity has already been terminated in the CM registers published since late Feb. / early March 2021.

Alongside the 500 MW capacity not expected to meet its obligations, we have received new information that an additional 900 MW of capacity with CM agreements for 2022/23 will not be operational in 2022/23, giving an updated net total of 1,400 MW of additional non-delivery assumed in the Base Case, a net increase of 600 MW since the 2021 Electricity Capacity Report.

As a result, we recommend an increase to the demand curve target of 600 MW to account for this net change in additional non-delivery assumed in the Base Case.

1

<https://www.emrdeliverybody.com/Capacity%20Markets%20Document%20Library/Electricity%20Capacity%20Report%202021.pdf>

2 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/999919/os-beis-letter-to-ngeso-re-2021-cm-parameters.pdf

3 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/999459/panel-technical-experts-report-on-2021-electricity-capacity-report.pdf

Conclusion

In light of the Prequalification Results and new or updated information, National Grid Electricity System Operator, as EMR Delivery Body, recommends that the Demand Curve for the T-1 auction is adjusted to reflect:

- an adjustment to account for long-term (LT) STOR capacity that is estimated to have opted-out of the CM and is expected to be operational in 2022/23, and;
- a net change in additional non-delivery covering 2022/23 assumed in the Base Case since the 2021 Electricity Capacity Report assumptions were finalised.

On the basis of this analysis, it is recommended that the target capacity for the T-1 Auction for Delivery Year 2022/23 should be increased by 200 MW from 4,500 MW to 4,700 MW, comprising of:

$$-400 \text{ MW LT STOR adjustment} + 600 \text{ MW net additional non-delivery} = 200 \text{ MW}$$

As such, the Auction Parameters would be amended as shown in the following table with the minimum and maximum capacity to be decided (TBD) by the Minister:

Target capacity for T-1 2022/23 Capacity Auction	4,700 MW
Demand curve – minimum capacity at price cap	TBD MW
Demand curve – maximum capacity at £0/kW	TBD MW
Price cap	£75/kW/yr
Price Taker Threshold	£25/kW/yr
15-Year Agreement Threshold	N/A
3-Year Agreement Threshold	N/A