

## **CAP172 Capacity Allocation Mechanism 2**

### **Differences between CAP172 and CAP166 WGAA3**

#### **Section 1: Overview**

This note aims to detail the key differences between CAP172 and CAP166 WGAA3. This note has been prepared in light of the recent Panel decision to direct the CUSC Panel Secretary to reject CAP171 as an Amendment Proposal as a majority of Panel members believed it to have substantially the same effect as CAP166 WGAA3.

CAP172 and CAP166 WGAA3 are both capacity-duration auction mechanisms and both seek to allocate capacity to Users that wish to procure it and at the same time reflecting the short run costs of doing so. However due to the unique features of CAP172 it is in the view of the proposer impossible to create the same effects on Users with CAP166 WGAA3 or indeed any other Pending Amendment Proposal or any Amendment Proposal rejected by the Authority in the preceding two months or any combination of the same.

Under the proposed CAP166 Capacity Duration auction Users may tailor their access rights or they may choose to book a right equal to 100% of their capacity for 100% of the year. However if they choose to tailor their right then it is the User that must do so by selecting from a number of firm priced and non-firm priced access products. The User must also form its access right bidding strategy based upon the information about its own likely operation (which it will be in a position to know with greater certainty) and also the operation of other Users (which it will not know to any great degree of certainty).

Under CAP172 the User no longer has to base its access right procurement on assumptions about other Users operating positions (and internalise the risk that that presents). Instead it may give contractually binding information to National Grid who will take that information together with the contractually binding information given by other Users and be in a position to make a likely more efficient decision on access rights for all users than each user can make on its own. The User is therefore not taking on the risk that other parties may act differently to its own assumptions (an uncontrollable risk) and in return takes on the risk that its own operating behaviour will be different to that which it has contractually supplied to National Grid (a risk it can control). Overall then the risk position for Users under CAP172 is different to any proposed by CAP166 WGAA3, clearly resulting in a different effect on Users.

The table in section 3 below describes these key differences and the different effects that CAP172 has when compared with the other transmission access related amendment proposals:

#### **Section 2: Background to Development of CAP172**

The principles underlying CAP172 were first developed as part of the Working Group 2 assessment of CAP166 where it was introduced as Working Group Amendment Proposal 1 (WGAP1). The final conclusion of the Working Group recorded in section 4.3 of the Working Group Report accepted by the CUSC Panel was:

##### **“4.3 Working Group Alternative Proposal 1 (WGAP1)**

*This Working Group Alternative Proposal was developed as part of the discussions around WGAA3 in the time extension granted to the Working Group. Ultimately the proposal was not adopted as a formal Working Group*

*amendment as the Working Group felt that there were still significant areas where it needed to be developed further and as such was not in a sufficiently fit state to be formally progressed. The development of the proposal as it stood at the final Working group meeting held on 27 January 2009 is included here for completeness.”*

The Working Group reached their final view on the alternative proposal at the final meeting of the CAP166 Working Group meeting held on 27<sup>th</sup> January 2009. The record of their conversations is recorded as Annex 1 to this note as an excerpt from the minutes of that meeting.

At that meeting the group clearly felt that WGAA4 (as WGAP1 was then referred to) required further work (minute 24) and that there were two options available, one member had proposed the seeking of an extension to the timetable given to the Working Group to allow it further time to properly assess the alternative proposal (minute 23), two other members noted that it could be raised as a separate amendment proposal (minute 23 and 27). Ultimately the majority of the group felt that it would not be appropriate to seek an extension to the Working Group’s timetable to further develop the alternative proposal at that stage.

The Working Group Chairman presented the recommendations of the Working Group to the CUSC Panel on 30<sup>th</sup> January 2009<sup>1</sup>. The three key recommendations of the Working Group were:

- Consultation containing CAP166 Original, WGAA1, WGAA2 and WGAA3 should proceed to further industry consultation
- Working Group Report is accepted by the CUSC Panel and the WG is disbanded
- If there is interest in WGAP1, then this should be raised as a separate CUSC Amendment Proposal.

Clearly then at that stage it was felt by Working Group members that further significant development of the proposal was required before it could be formally progressed and that if progressed it should be through a separate amendment proposal. National Grid has therefore decided to do so.

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<sup>1</sup> [http://www.nationalgrid.com/NR/rdonlyres/67E84D52-CF04-47B0-90C5-3A8BB72249DD/31951/CUSCPanel\\_WGreports\\_166\\_300109.ppt#289.14,Working Group Recommendation](http://www.nationalgrid.com/NR/rdonlyres/67E84D52-CF04-47B0-90C5-3A8BB72249DD/31951/CUSCPanel_WGreports_166_300109.ppt#289.14,Working Group Recommendation)

### Section 3: Key Differences between CAP172 and the other Transmission Access Amendment Proposals

<p>Definition of the Access Right</p>	<p>The access right in CAP172 that is offered at a firm ex-ante price is defined by reference to a load duration curve. The load duration curve allows users to specify how many hours a year each of its Power Stations may operate at different output levels. This allows a Power Station to define a bespoke access right that allows a certain number of hours at full output and a certain number of hours at varying levels of part-loaded output. Importantly the Capacity Pricing Mechanism will then operate in a manner that removes the risk to a Users posed by other Users operating behaviour, replacing it with the risk that a User may get its ex-ante access right profile wrong, which is a risk that the User should potentially be able to manage more effectively. This cannot be achieved using the access rights offered by any of the other CUSC Amendment Proposals CAP161-166 or CAP168 that are related to the review of the Transmission Access arrangements. These amendments only definitively offer a fixed MW level of access right for the entire year. Therefore while a User may request a lower MW level of access right than its full capacity in a given year it can then only generate in excess of subject to procuring an SO release product (CAP161) or through Overrun (CAP162). The price of these products will be heavily dependent not just on the User's own operating position but also that of the other Users, a risk that a User cannot necessarily manage effectively on its own.</p> <p>Even if the User is content to manage the risk exposure of other Users operating regimes it must do so without being able to fix its price (the only products outside of CAP172 that allow this are variably priced). Therefore there is no "bankability" of such access rights as a User may not approach lenders with a firm idea of its outgoings over the course of the project. This was noted by developers during the assessment of CAP166 to be a significant defect of those arrangements. The proposer of CAP172 believes that the firm priced access rights that it would offer are a material improvement over those offered by CAP166 WGAA3 and the Short-Term access proposals as they have a fundamentally different impact on Users certainty of cashflow.</p> <p>Another aspect of CAP172 that cannot be replicated by any of the other access related amendments is the use of the load duration curve in the assessment of the price of access rights in the Capacity Pricing Mechanism. Only CAP166 WGAA3 offers a similar pricing mechanism and this only permits annual blocks of capacity to be requested. This results in a generator that expects to generate at a variety of load levels to have to either "over-book" capacity obtaining a right to generate at full output for the entire year even though it does not intend to do so and to then take on the risk that it may be able to trade on its surplus firm rights, or to "under-book" and have to rely on another non-firm priced access product to generate in excess of its firm</p>
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	<p>priced access right. Should the generator choose to over-book then this will likely result in a higher firm price of access than it should receive, and indeed is likely to receive were it able to tender a load duration related access right into the capacity duration auction.</p> <p>To summarise, no other product or combination of products allows a generator to obtain a profiled access right to use the GB Transmission System, be able to do so at a fixed ex-ante calculated price that accurately reflects the likely true costs of that generators operating regime on the GB Transmission System while also signalling to National Grid the requirement to potentially invest in long-term GB Transmission System assets.</p>
<p>Efficiency of Access Rights Allocation</p>	<p>CAP166 WGAA3 means that Users have to make assumptions both of their own operating regime and that of other Users when determining what the combination of rights they desire. Under CAP166 WGAA3 Users can effectively book a fixed volume at a fixed price and then overrun or seek SO Release for the remainder of their planned levels of operation.</p> <p>The main risk to a User under this approach is that it will underestimate the volume of running of other Users and as such the price of overrun or SO Release will be materially higher than it expects. The only mitigation strategy is therefore to “over-book” the fixed element to reduce this exposure. As the access right under this amendment is a capacity block valid for 100% of the year the only option to completely mitigate the risk of overrun is to book 100% of the capacity of the power station. This then leads to potentially inefficient levels of fixed price access rights being allocated.</p> <p>The alternative presented by CAP172 will see all users submit their expected levels of operation into the capacity pricing mechanism via their load duration curve. Whilst Users may wish to mitigate their levels of risk by “over-booking” against the load duration curve as at most they would book 100% of their capacity for less than 100% of the year (i.e. they would discount the periods where the Power Station is expected to be offline completely). This would then lead to a more efficient allocation and have a different effect on Users and pricing levels than under CAP166 WGAA3.</p> <p>To summarise CAP172 gives Users a Capacity and Hours based firm priced access right, CAP166 can only offer a Capacity based firm priced access right.</p>
<p>Impact of the Buy-back price</p>	<p>The Buy-back price is another unique feature of CAP172 that is not offered by any other amendment proposal offering long-term access. It seeks to codify a contractual right to place a hedge around the submitted BM Bid Prices of a generator as a pre-condition to granting access rights to use the transmission system. No other amendment proposal offers this functionality. While such contracts could be struck on a</p>

	<p>commercial basis through a balancing services contract for instance, there would be no way of linking this to a pre-defined access right the price of which has been determined by reference to the submitted Buy-back price.</p> <p>The Buy-back price also plays a central role in the Capacity Pricing Mechanism (CPM) allowing Users to potentially influence the price at which they are charged for the access rights they have requested. This is because they have the opportunity to change their price relative to other Users and be assessed as being more or less marginal within the Capacity Pricing Mechanism. The more marginal the unit within the forecasting algorithm that lies at the centre of the CPM then generally the lower the price that the model generates for the access rights requested by such User. No other amendment that is currently pending allows the pricing flexibility of Users to be factored into Users' access prices.</p>
Security Arrangements	<p>CAP172 proposes a system of securities for both local and wider transmission system works. The only other transmission access amendment that utilises a Capacity-Duration auction is CAP166 WGAA3 which puts in place securities for local transmission system works only. There is clearly then a materially different effect for Users as they will be potentially required to put in place different amounts of security.</p>
Pricing of Rights	<p>CAP166 WGAA3 proposes that Users be allocated a pro-rated volume of rights priced according to the existing TNUoS methodology which in total will equate to the existing transmission system's physical capacity. Any further volume is priced according to a forecast of the Short-Run Marginal Cost of providing such additional access.</p> <p>CAP172 does not differentiate between Long-Run and Short-Run pricing. Instead it prices rights according to the short-run costs only, potentially resulting in a different level of charge for the use for it transmission access rights. In theory the two should converge but only where there is a sufficiently liquid secondary market under a CAP166 WGAA3 methodology that allows a User to sell its long-term rights whenever it does not need them, or buy additional rights, again whenever it needs them. This needs to happen to allow Users to build a profile of access rights that maps across to their load duration, which under the CAP166 WGAA3 capacity-only based access right requires within year trading and an extensive liquid trading market for such rights. Such a market has yet to emerge since TEC trading was introduced.</p>
Overrun	<p>CAP172 proposes as an option a different method of pricing overrun to any that have already been presented by other Pending Amendment Proposals. One of the overrun proposals put forward by this amendment is to re-run the forecasting algorithm at the end of each period for which access rights have been defined with actual load duration curves, rather than those submitted by Users in order to calculate any overrun volumes and the charges for any such volumes. Again this process could not be utilised with any of the other methods</p>

	of charging for overrun put forward by any other Pending Amendments as they do not have within them the concept of an access right defined by reference to a load duration curve.
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## **Annex 1: Excerpt from Minutes of Working Group 2 Meeting: 27<sup>th</sup> January 2009**

### **3. Working Group Alternatives**

14. PJ voiced concern that we could not have two alternatives coming from the Working Group alternative proposal. PJ was concerned a second alternative will not have been consulted upon. HR noted that if an alternative had been proposed during the consultation it would not get any further consultation than this alternative. HR suggested that Working Group members could propose alternatives at any stage.
15. SL considered that WGAA4 was not understood in enough detail to be a full Working Group alternative. PJ agreed we did not have enough detail about how buyback and load duration would be policed and the tradability of the product. The group were also concerned that we did not have details for the auction process.
16. PJ was concerned that WGAA4 is significantly different to WGAA3. JA believed having two load duration alternatives was against the spirit of CAP160 which was to reduce the number of alternatives.
17. MZ noted her colleagues considered that provided the alternatives are both linked to the original capacity and duration models they could both be voted on by the Working Group.
18. HR noted that WGAA4 includes buyback and load duration and asked what the Working Group members who proposed these additions thought about their inclusion. JH suggested they should be included as products under the same model.
19. PJ was concerned that WGAA4 gave users more risk as the constraint cost would be rolled up in your price. HR argued that WGAA4 was not more risky. Under any model National Grid would not build 1MW of capacity for every MW of requested capacity as this would not be efficient.
20. PJ was concerned that WGAA4 could lead to volatile BSUoS charges giving Users unfair competitive advantages because of perceived costs not actual costs. HR noted that pricing could be taken forward under the Charging Methodology.
21. MDa noted that WGAA4 would be helpful to a wind generator as their load factor can be taken into account via the load duration curve.
22. MZ noted that the key difference between the pricing of the whole access allocation was capacity based.
23. JH asked if we could ask for an extension to develop WGAA4. GG suggested it could be raised as a separate amendment.
24. The group agreed to go forward with WGAA3. The group was concerned that WGAA4 required further work.
25. MZ asked what timescales would be required to either extend the working group or propose it as a new amendment. SL suggested that WGAA4 would be better proposed as a new amendment. GG suggested if it was a new amendment there would be further industry consultation.
26. BR asked what we need to do to develop the model. HR suggested we need to analyse pricing examples.
27. SC suggested if the group saw merit in WGAA4 it is worth taking it forward as a group, or if someone outside the group wants to raise it they can.
28. GG suggested the minimum time to get to a final amendment report would be around four months. HR suggested the Working Group could do a further consultation. HR suggested that it seemed over the top to take four months to do something the Working Group could do in a matter of weeks.
29. The Group voted on whether an extension to develop WGAA4 should be requested at the CUSC Panel. Two voted for extension, nine voted against an extension.