GAMING REVIEW AND MITIGATION MEASURES

Scope

1. This paper provides a summary of the findings of the Gaming Study that DECC commissioned Charles River Associates (CRA) to carry out. This paper reviews the recommendations made, in particular on the following areas:
    a. Independents versus Portfolios
    b. Auction rules
    c. Communication of Information
    d. Demand Side Response
    e. Role of Auction Monitor
    f. Role of Market Monitor

2. The Annex to this paper also considers other design choices that affect gaming risk but that were not explicitly considered in CRA's gaming study.

Summary of Gaming Study

3. CRA's study provided a strong endorsement for the overall package of measures. In particular CRA noted that:
    a. There are strong incentives for existing plant to participate in the auction rather than withhold, due to the use of the demand curve, reducing demand according to opt out numbers, and the price taker threshold.
    b. While there are gaming risks around the penalty regime these are likely to be contrary to company's REMIT obligations and detectable by the regulator.
    c. They did not identify any gaming issues around the fact that plant receiving low carbon support is outside the mechanism

4. However they noted a number of residual risks and proposed some further mitigation measures that are summarised and considered in the following sections. The report had a number of recommendations, although the principal recommendation was around the importance of having bodies monitoring competition in the auction as well as gaming at times of stress.

Independents versus Portfolios

5. CRA noted that the most important driver of competition in the auction is that there are sufficient numbers of market participants – including independents. To this end they noted that around half of currently consented new builds are from non-Big 6 companies, which is more than their current share of generation, and that the Capacity Market potentially makes it easier for independents to secure finance.

6. However CRA noted that the risk of penalties would have a greater cost to independents without a portfolio, and that this effect would be most significant if a liquid hedging market fails to develop.

7. CRA had no specific suggestions for furthering secondary trading, although they recommended that DECC consult on how Government can best facilitate the development of a liquid hedging market, and that Government or Ofgem monitor liquidity in the hedging market and consider options for intervention if problems are identified. DECC agrees with these recommendations.

8. A further recommendation from the CRA study was that the practical participation requirements need to be as un-onerous as possible for independent players.

9. DECC agrees with this recommendation and intends to use the Collaborative Development Process flush out ways in which the interfaces can be designed to minimise administrative obstacles to independents' participation.

Issue	CRA Recommendation	DECC Response
Encouraging Independents	1. Consult on how best to facilitate secondary trading	Agree
	2. Monitor development of hedging market and consider intervention if necessary	Agree
	3. Make practical participation requirements as unonerous as possible	Agree – will use the Collaborative Development process to do this.

Auction Rules

10. While supportive of the overall suite of measures, CRA provided some concerns and suggestions:
    a. Length of Auction: CRA thought that a Capacity Auction could be run in a day (as it is in PJM) and that this would minimise time for participants to exchange information about bidding strategies.
    b. Auction cancellation: They recommended that DECC retain discretion to not run the auction on the basis of criteria other than just the total volume - for instance monitoring the number of players.
    c. Predatory pricing: They noted that parties may submit artificially low bids into the auction to keep out independents - and questioned whether we look to prevent this, for instance by preventing price makers from pricing below the price taker threshold.
    d. Explanations from Opt Out: "Opt Out" plant (including Retirement) should be obligated to provide an explanation for their choice of category as part of Prequalification.
    e. Net CONE: CRA noted that estimates of Net CONE are significantly lower than in the US on grounds that it assumes investors earn high scarcity rents. CRA say DECC's approach is reasonable but that it may be worth considering adjusting either Net CONE or the auction price cap to allow for investors that will not invest on the basis of uncertain scarcity rents.

f. Year-ahead target: CRA recommend providing non-binding estimates of capacity to be procured through the year-ahead auction be issued at the time of the four year-ahead auction.

11. DECC agrees that ideally the Capacity Auction should be carried out within a day – although it is also important that the auction rules are drafted to allow for the auction to be conducted over a longer period (up to one week) should circumstances require.

12. DECC will seek to retain discretion to cancel or postpone the auction if insufficient number of players is forthcoming in the Prequalification. It has no intention however to make a formal assessment of competition following each prequalification phase and will by default allow the auction to proceed. However it may be appropriate to reconsider this if a Market Monitor is put in place and could be tasked with such a role.

13. DECC does not think parties qualifying as price makers should be restricted from bidding below a particular threshold in the auction – as this is contrary to the principle of a descending clock, whereby providers should be able to learn from the behaviour of other providers. However, this can be reconsidered in the event that parties express concerns about this type of gaming having occurred.

14. DECC agrees it is appropriate to collect information about why plants are choosing to Opt Out. However this is mainly to allow for review of the policy, rather than to determine the level of capacity assumed to come from Opt Out plant (see Annex).

15. DECC also agrees it is important to consider the appropriateness of its calculation of Net CONE and the auction price cap – and will be consulting on these parameters in October alongside secondary legislation.

16. Finally while DECC agrees that it is preferable to retain discretion about whether and how much to buy in the year-ahead auction – i.e. by issuing non-binding estimates of capacity at the four year ahead point. However we also recognise that this could lead to boom-and-bust prices at the year-ahead stage and so provide insufficient certainty to the DSR industry which we hope will develop. We therefore propose to commit to buying a year ahead at least half of the amount that we indicated four years ahead we would seek to buy.

Issue	CRA Recommendation	DECC Response
Auction Rules	4. Run auction within a day	Agree – though retain potential to last a week if necessary
	5. Retain discretion to cancel auction on basis of wider range of criteria	Agree
	6. Assess whether price-maker rules should aim to prevent parties pricing too low	We will work with Ofgem to consider this further
	7. Plant opting out should be required to say why they are opting out.	Agree
	8. Consider higher Net CONE or price cap	We will consult on this parameter in

	to allow for plants not assuming energy market rent.	October.
	9. Provide only non-binding estimates of T-1 procurement four years out	We will only commit to buying 50% of our estimate four years out.

Communication of information

17. CRA reviewed whether the information given to market participants needed to be restricted to mitigate gaming risks. They recommended that:

    a. The Auctioneer should conceal information about the supply curve from bidders - for instance providing a range around supply, and changing price decrements between rounds.
    b. Bidders should sign up to a Communications Protocol; agreeing to not share information about bids and provide a bid bond. The auction trustee or Ofgem should monitor for such communication and should be able to exclude them from the auction and withhold bid bonds if they suspect a breach of the Protocol.
    c. The SO should ensure that any answers given to participants that raise questions during both the Prequal and Auction should be made public (removing confidential information where appropriate).

18. DECC accepts the potential benefits of concealing information about supply in each round of the auction to prevent potential collusion. It is proposed that total supply in each round should be published and rounded to the nearest GW in the four year ahead auction (or to the nearest 100MW in the year-ahead auction), and that information about the volume of supply should not be disaggregated by unit, technology, pricemaker/taker etc.

19. DECC agrees in principle to incorporate the recommendation for a Communications Protocol and are working with Ofgem to assess this. DECC also considers that the Secretary of State should retain the power to exclude parties that are suspected of breaching the Protocol, or other auction rules. However it does not seek to introduce bid bonds at this time.

20. DECC accepts the recommendation about the importance of transparency in answering questions – and accepts that part of the role of the auction trustee should be to ensure this is followed.

21. CRA had initially considered whether it would be beneficial to conceal the “Reserve Price” (i.e. price cap) from the market, but later accepted that the benefits of this might be outweighed by the benefits of transparency, and that it is more important to partially conceal supply between auction rounds. DECC proposes to publish the full capacity demand curve ahead of the auction, to provide participants with certainty over the level of capacity that will be contracted at each price in the auction.

22. DECC proposes to work with National Grid to develop an algorithm that will dictate the price decrement between rounds. We consider that this algorithm should vary the size of the

decrement from round to round, and that the algorithm should contain a random element. We do not propose to publish this algorithm.

Issue	CRA Recommendation	DECC Response
Communication of Information	10. Auctioneer should conceal supply within bounds	Agree – round information shared about supply to nearest 1GW
	11. Auctioneer should vary size of price decrements	Agree – subject to further work on decrement algorithm
	12. Bidders must sign up to a communications protocol	Agree in principle – DECC to work with Ofgem to assess this further.
	13. Bidders should provide a bid bond they may forfeit if they breach the protocol	Bid bond imposes additional credit cost and unlikely to be effective given difficulty in enforcement. Can review in future if needed.
	14. SoS/Auction Monitor/Ofgem should have ability to exclude parties breaching protocol from auction	SoS will have ability to exclude parties that breach auction rules
	15. SO/Auctioneer should make answers to questions public, e.g. with FAQ site	Agree

Demand Side Response

23. CRA claim that DSR presents "the largest source of gaming, in number of issues if not in total impact."

24. CRA noted particular risks around the verification of energy delivered by embedded generation on sites where energy is not exported through a meter, particularly where demand reduction is also taking place. DECC intends to mitigate this by requiring on-site metering where there is complex generation and load arrangements.

25. DECC has already proposed to make DSR providers sign up to an obligation not to adjust their load with the intention of manipulating the baseline to avoid penalties or obtain payments for overdelivery once a CM Warning is issued. Any manipulation of baselines will be considered as fraud.

26. The SO currently does not have access to metering data that is not part of STOR. In the absence of a Market Monitor, DECC proposes to either task the SO with verification (and to give it the right to obtain metering data from Elexon), or to give the role to Elexon (which will have the necessary data). In addition to potential sanctions from committing fraud, DECC proposes to be able to terminate payments to parties found to be manipulating the baseline in that delivery year and the two subsequent delivery years.

27. DECC is still considering how best to meter DSR for baselining and delivery as Elexon does not have access to MPAN level data at present. Several possible solutions have been identified that would allow a holistic view to be taken of a site's energy use, mitigating the

risk of load moving to other meters and anomalous data to be identified and flagged for investigation.

28. There are additional safeguards around DSR gaming risk: DSR will be expected to demonstrate capacity by reducing in line with system load during a test in pre-qualification and further demonstrate load reduction 5 times within the year.

Issue	CRA Recommendation	DECC Response
DSR	16. Requirement not to manipulate baseline	Agree
	17. Ex post monitoring	In absence of MM, give role of verification to either Elexon or SO.

Auction monitoring

29. CRA note that, in addition to effective design, active monitoring of Capacity Markets is required in order to deter gaming. CRA note that, despite extensive tweaks to the rules in PJM and ISO-NE, regulators have raised concerns regarding instances of market behaviour.

30. CRA makes recommends that a number of monitoring functions with regards to capacity auctions take place:
    a. Monitoring the activities of the Auctioneer
    b. Monitoring the behaviour of participants in the auction
    c. Acting as Ombudsman - i.e. acting to resolve disputes between the Auctioneer and participants
    d. Providing an audit and report of the auction to DECC and Ofgem

31. We consider that, in order for the above roles to be carried out effectively, the body responsible for these roles should be present at the auction. The body would then have the ability to carry out a brief *ex post* investigation, and provide advice to the Secretary of State (SoS) on whether there were any rule breaches during the auction. Conducting a brief investigation following the auction would allow offending parties to be excluded or the auction results to be nullified (and the auction to be rerun) in the event that a breach materially affected the result of the auction, providing protection to consumers.

32. CRA note that an Auction Trustee is generally appointed to carry out the above functions. DECC agree that it is appropriate to hire an external body/consultant to carry out these roles, as neither National Grid, Ofgem or DECC currently have the required expertise to act as an Auction Trustee.

33. DECC's legal team have advised that DECC cannot appoint such a monitor – for instance with rights to view bidders' information or to pause the auction if it suspects collusion – without amendment to the primary legislation.

34. Ofgem does not consider it appropriate that it hires the Trustee, given that the Trustee will be enforcing, among other things, the Communications Protocol. Ofgem consider that taking on responsibility for the Trustee could prejudice its Competition Act investigations.

35. DECC therefore proposes that National Grid should appoint a Trustee, to report to the SoS.

36. The Auctioneer, in consultation with the Auction Trustee, would have discretion to rerun a particular round or to change the time for a particular round if necessary – for instance in response to an IT failure – or stop the auction completely. If the auction is run to completion then the Trustee must provide within 5 working days a report on whether there is any evidence of a rule breach, and the Secretary of State will then confirm whether he accepts the results of the auction on the basis of that advice within a further 2 days. The Auctioneer will then be able to publish the results of the auction. We consider this tight timescale for the validation of auction rersults is required to minimise uncertainty for Industry, between the end of the auction and the auction results being confirmed.

Issue	CRA Recommendation	DECC Response
Auction Monitor/Trustee	18. Appoint auction trustee/monitor with particular roles	CRA's monitoring recommendations will be covered by a combination of Ofgem and an Auction Trustee

Role of Market Monitor

37. CRA recommend a role for a Market Monitor to "examine the competition and efficiency of the CM and the particular behaviour of participants." Duties would include:
    a. Monitoring issues that arise during prequalification
    b. Evaluation of stress events - examine the performance of information provided by CMUs prior to and during each CM Warning period to identify gaming for either energy or capacity payments
    c. Review contribution of DSR providers, particularly whether there has been gaming of the baseline.
    d. Provide an overall review of the design of the mechanism and suggest changes where appropriate.

38. Ideally market monitoring would be carried out by a body that is independent of DECC and Ofgem. However, there is currently no provision in the primary legislation to allow for DECC to appoint such a body and DECC has decided not to pursue such an amendment.

39. We therefore propose that Ofgem, or a consultant hired either by Ofgem or DECC, will provide analysis on the efficiency and competitiveness of the Capacity Market. This analysis will primarily involve assessment competitiveness and efficiency in relation to a set of agreed metrics; it will not be accompanied by a judgement on whether, for example, there was anti-competitive behaviour in a capacity auction (this will be left to Competition Act or REMIT investigations).

40. DECC and Ofgem will keep this situation under review, and consider strengthening the market monitoring function under alternative institutional arrangements if the proposed arrangements prove to be insufficient.

Issue	CRA Recommendation	DECC Response
Market Monitor	19. Appoint Market Monitor with particular roles	Ofgem or a consultant will provide a degree of market monitoring.

ANNEX: DERATING OF OPT OUT PLANT

1. Unlike US capacity markets, participation in the GB CM is voluntary and therefore at particular risk of gaming if parties are able to withhold capacity. This risk has been mitigated by mandating that where plant chooses to "opt out," demand in the auction must be equivalently lowered. This measure is strongly endorsed by the Gaming Study.

2. However it should be noted that there are difficulties with estimating the capacity provided by opt out plant. Some plant may be particularly unreliable and so opt out if they will be administratively derated at the class average. Parties may also be intending to carry out significant maintenance over the course of the year.

3. Ideally Government or the System Operator would take a judgement on each plant choosing to opt out. However this would put either Government or the SO in a difficult position in terms of exercising a difficult judgement and there is unlikely to be robust evidence on which to take this decision.

4. Hence it is proposed that Opt Out plant should automatically be assumed to be providing capacity – at the lowest end of the range that parties within a particular class may elect if they opt in. This minimises incentives to opt out as they are no more able to withhold capacity than if they had opted in.

5. However to mitigate the risk of under-procurement – where the parties choosing to opt out are those that are likely to either be unavailable for the year or particularly unreliable – it is proposed that two additional categories are created, where CM demand is not reduced:

    a. Retirement: Plants choosing this category that fail to close will face sanctions in that they will be ineligible for participation in the CM in the year-ahead auction or the two subsequent delivery years.
    b. "Non Operational Opt Out": Plants choosing this category are expected to not generate at all during the delivery year – or else be excluded from receiving capacity payments in the two subsequent delivery years.

6. However it is recognised that there remains risk to this approach: Plant are now strongly incentivised to choose "Operational Opt Out" rather than "Retirement" or "Non-Operational Opt Out" even if they know they are likely to close – as this allows them to change their mind nearer to the delivery year if circumstances change. If there are significant amounts of plant that are genuinely at risk of closure (and for whom the level of capacity payments they can receive is not the key driver in the retirement decision) then this could lead to under-procurement. This residual risk is assessed to be acceptable given the imperative to mitigate gaming risk around withholding.

7. A further risk is that this approach creates perverse incentives for plant that cannot opt in due to planned refurbishment work to not generate at all even if it is able to complete its

refurbishment in less than a year. This is unlikely to be a significant risk as plants that are likely to be able to become operational during the delivery year will be incentivised to choose the “operational opt out” category – although as noted this has its own risks in terms of prompting under-procurement.

8. Ultimately there is significant uncertainty about how much plant (if any) will choose to opt out of the mechanism before the first auction. It is therefore likely to be appropriate to review the policy on treatment of opt out plant following the first capacity auction.