Capacity Mechanism Team
DECC
3 Whitehall Place
London SW1A 2AW

4 October 2011

Dear Sir/Madam

Capacity payments mechanism consultation – BG Group response

BG Group is pleased to respond to the capacity payments consultation that forms part of the recent White Paper on Electricity Market Reform.

Although BG Group no longer owns equity in any UK power plant, having disposed of our interests in Seabank and Ballylumford power stations in the course of 2010, the company is a key player in the UK gas market. BG Group is one of the largest producers of gas from the UKCS, responsible for around 7% of the annual gas production from the North Sea. The company also owns 50% of the Dragon LNG gas import terminal, holds 50% of the capacity and, since it opened for commercial operations in August 2009, has delivered significant numbers of cargoes from across our global LNG portfolio to the UK market. BG Group is also on the verge of delivering supply from discoveries in the Norwegian Continental Shelf to the UK market.

Naturally, BG Group does supply gas to UK gas-fired power stations but our interest in this consultation is a little wider: it is our view that natural gas needs to be at the heart of the UK's energy-mix for some considerable time to come but its role will be particularly critical in the difficult period for electricity generation up to the early 2020s. Between now and the early 2020s, significant amounts of coal-fired and nuclear generation will come off the system. It is broadly accepted that, if natural gas does not fill much of this gap, other technologies will not be capable of meeting our security of supply needs and the lights may go out.

However, the investment in new CCGTs, required to remove that security of power supply risk, is not a given. The UK Government needs to send strong signals to gas producers and to would-be investors in new gas-fired infrastructure, such as CCGTs, that their investments are essential and can be embarked upon with confidence, on the basis of a reliable framework that will guarantee a fair but economic return. Another BG Group goal in responding to the capacity payments consultation is to support reforms that we believe will enhance the efficiency and effectiveness of the UK's wholesale power market.

BG Group believes that the introduction of a capacity mechanism can help create that investor confidence and contribute towards a reformed, efficient and effective wholesale power market. We also agree with the assessment that, without one, it will difficult to ensure that customers will be able to enjoy secure supplies of affordable electricity.

BG Group
Thames Valley Park
Reading RG6 1PT
UK
www.bg-group.com

Tel +44-[redacted]
B/b: +44-[redacted]

A critical choice in framing a capacity payments mechanism is that between a targeted or a market-wide solution. Intuitively, BG Group would favour an approach that operated within the market and was market-wide. However, having considered the proposals in the White Paper, we believe that, at this stage, it would be unwise to introduce either a Capacity Market or a Reliability Market.

The reasons for reaching this conclusion include:

- Such mechanisms are largely untested for markets with a large portion of variable, generation whose output cannot be controlled on account of it being dependent on the weather;
- They would require the existence of a robust liquid spot market in power, so that a transparent reference price system, could be used to remunerate the plant. Unfortunately, such a market does not currently exist in the UK power market;
- As proposed, we believe that the Capacity Market and Reliability Market proposals are unlikely to produce the most competitive prices for peaking capacity; and
- The introduction of a capacity market at the same time as the introduction of a similarly untried system of feed-in tariffs through contracts for differences increases the risk of producing unforeseen consequences and sub-optimal outcomes.

Therefore, we are supporting a simpler system, which we believe will deliver security of electricity supply at more competitive prices.

Our proposal is in effect an expansion of the current STORR system. This would involve establishing a 'Strategic Reserve' (SR), which stands outside the current wholesale market. This recognises the fact that security of supply is a "public good"[1] and that the current "energy only" market seems to be failing to anticipate shortages.

We are also proposing that National Grid, which currently operates the STORR system, commission and administer the supply and dispatch of gas that makes up the Strategic Reserve rather than a new body. Over time, it may be possible to develop other means of commissioning and administering the Strategic Reserve but, again, it is our view that the option we are proposing carries the least risk in the short term and is likely to deliver the greatest certainty not only to potential investors but to consumers as well.

On two points of detail, BG Group would emphasise that it is important to:

- Insist that there be no derogations from the 450g CO_2/kWhe Emissions Performance Standard that is recommended in the White Paper; and
- Allow CCGT owners to designate a fixed percentage of the operational reserve of their plant for inclusion within the Strategic Reserve.

The first point would guarantee that Open Cycle Gas Turbine and distillate plant do not form part of the Strategic Reserve. The BG Group view, expressed in our submission to the original EMR consultation, was that OCGT and distillate plant would be the easiest resort for those administering the SR but that they would make achieving the Government's already challenging carbon emissions reduction targets more difficult.

The second point would give potential investors in new CCGTs the flexibility to benefit from the normal, day-to-day merit order, while also being able to designate some capacity to the Strategic Reserve. This could increase the attractiveness of the investment. Naturally, CCGT owners would need to hold back that SR capacity during normal operations to ensure that it was available in the event of a supply emergency.

[1] *See footnote 14, p181, of The White Paper*

I attach detailed answers to some of the questions raised in the consultation.

Yours sincerely,

[redacted]

Head of Policy and Corporate Affairs - Europe & Central Asia

BG Group's responses to questions in EMR capacity payments consultation

Q1. Does this table capture all of your major concerns with a targeted capacity mechanism? Do you think the mitigation approach will be effective?

A1. Yes.

Q2. How long should the lead time for strategic reserve capacity procurement be and why?

A2. A rolling five years, to allow all forms of capacity to be able to compete to provide the service.

Q3. Should the length and nature of the contracts procured by the Strategic Reserve be constrained in any way?

A3. Not longer than the technical life of the plant.

Q4. Which criteria should providers of Strategic Reserve be required to meet?

A4. National Grid would be best able to specify these criteria, but they will relate to availability and operating efficiency (assuming fuel is passed through), response time, operating duration, number of 'calls' per annum. It is worth remembering that these services may be required for extended periods, such as during long, still, cold spells or in the event of the loss of a group of generators.

Q5. How can DSR be designed to encourage the cost effective participation of DSR, storage, and other forms of non-generation technologies and approaches?

A5. DSR is already scheduled by National Grid as part of its system operator service. However, the unit sizes tend to be large (>50MW). In order for more widespread DSR to evolve, the ability to accommodate smaller contributions would be required. An automated, self monitoring system may be possible for half-hourly metered customers and could be extended to other customers when smart metering is rolled out.

Q6. Government prefers the form of economic despatch described here. Which of the proposed despatch models do you prefer and why?

A6. Economic dispatch sounds sensible, until one considers how the bid price is to be set. As a "last resort" form of generation, one could argue that it should not be included in any merit order and simply be dispatched by the National Grid in order to secure the system. If the reserve is contracted on a simple annual payment for capacity and energy according to output, the plant could be dispatched, in turn by National Grid, according to the energy price alone. The annual charge would be recovered through the transmission

charges and the energy costs through the balancing system. Economic dispatch opens the possibility for the holder of strategic reserve to embark on a slippery slope and, in the ultimate, be responsible for the purchasing of all new capacitycapacity. This, coupled with the central purchasing of non-fossil through the FiTs, would be tantamount to establishing a Single Buyer. However, it would allow this entity to purchase plant on overall minimum cost and order a CCGT, rather than constrain itself to the provision of peaking capacity alone.

Q7. How would the Strategic Reserve methodology and dispatch price best be kept independent from short term pressures?

A7. The dispatch price is kept separate as described in A6. The key will be ensuring that the plant is only operated at times of actual or anticipated (given start-up times) stress. There already exist procedures for declaring such times.

Q8. **Do you agree that a Strategic Reserve should periodically be reviewed? If so, who would be best placed to carry out the review and how often should it be reviewed?**

A8. Yes, but not for at least five years. Ofgem would probably be best placed.

Q9. Into which market should the strategic reserve be sold and why?

A9. The electricity purchased through the Strategic Reserve could be sold through the balancing market. The costs of purchasing this power could be recovered in two ways: any fixed capacity charges could be charged through transmission network charges, whilst the energy charges could be recovered through the balancing system, as described in A6.

Q.10. Do you have any comments on the functional arrangements proposed for managing a Strategic Reserve?

A10. The proposals seem very complicated and, hence, expensive. BG Group would recommend that the duties be given at least initially to National Grid as system operator.

Q11. Given the design proposed here and your answers to the above questions, do you think a Strategic Reserve is a workable model of Capacity mechanism for the GB market?

A11. Yes, if National Grid were to be the operator.

Q12. How and by whom should capacity in a GB market be bought and why?

A12. Capacity should be bought by suppliers on the basis of their customers' anticipated demand. Suppliers should "know their customers" better than anyone else. The problems arise with extraordinary events and it would not make financial sense for them

to purchase additional capacity "just in case". This is best covered by the market as a whole, since it is a public good and there may be benefits of aggregation.

Q13. What contract durations would you recommend for a capacity market?

A13. The contracts should be of a mixture but some should be for the technical life of the plat, thereby reducing the cost customers will pay.

Q14. How long should the lead time for capacity procurement be? Should there be special arrangements for plants with long construction times?

A14. Some should be as long as the lead times for new plant. If a spread is not offered, then competition between technology types will be lost.

Q15.Should there be a secondary market for capacity? Should there be any restrictions on participants or products traded?

A15. Yes, if we go down this route. There need not be any restrictions on participants or products traded, but it may be as well to restrict it to market participants initially. However, it is difficult to envisage a liquid market developing in these products, since it will not be easy to devise contract structures that would be of interest to a wide range of participants.

Q16. What are the advantages and disadvantages of making a central administrative determination of (i) the capacity that can be offered to the market by each generator; (ii) the criteria for being available; and (iii) the penalties for non-availability. In outline, how would you suggest making these determinations?

A16. A central determination would greatly improve transparency and could reduce the scope for gaming. Such determinations would best be made by the entity responsible for securing the market (i.e. National Grid).

Q17.How will the reference market for reliability contracts be determined and what would be an appropriate reference market if it is set by the regulator? How could any adverse effects of choosing a particular option be mitigated?

A17. This reveals the major flaw in the proposed mechanism. The obvious candidate is a spot market price. The GB system does not have a robust spot price on account of BETTA. A balancing system should represent a way of settling the differences between generators and suppliers' contract and physical positions. BETTA's balancing system sets a price which reflects the balance of these imbalances. As such, it bears no relation to movements in weather (demand), coal prices or gas prices, nor generator availability. As a consequence, there are only a limited number of entities interested in these prices, so it is difficult to hedge positions. This problem is unlikely to disappear unless there is a fundamental change to BETTA such that the balancing system reflects the balance of supply and demand of electricity, rather than net contract position.

Q18. For a reliability market, how should the strike price be determined? If using an indexed strike price, which index should be used?

A18. see A 17. above.

Q19. For a Reliability Market, what level of physical back-up (if any) should be required for reliability contracts and how should it be monitored?

A19. This should be determined by the system operator. It could require 100% physical back-up (nameplate capacity). After all, the capacity mechanism is seeking to ensure that the lights stay on. Alternatively, it could accept less but then reduce the price accordingly and purchase more capacity. It would depend on the shape of the capacity supply curve.

Q20. Do you think that a vertically-integrated market potentially raises issues for the effectiveness of a Reliability Market? If so, how should these issues be addressed?

A20. Yes, it could but, at this early stage, it is difficult to know for sure whether other players would be adversely affected.

Q21. What could we do to mitigate interactions between a capacity market (especially a Reliability market) and Feed-in with Contract for Difference without diluting the effectiveness of either?

A21. The simplest answer would be to let a single company be responsible, letting and operating the contracts for both (i.e: introducing a Single Buyer, which is tightly regulated).

Q. 22 How can a capacity market be designed to encourage the cost effective participation of DSR, storage and other non-generation technologies and approaches?

A22. By letting these technologies compete on an equal basis with generation and allowing longer contract duration for those involving investment.

Q23. Do you have any comments on the functional arrangements proposed for managing a Capacity Market?

A24. They appear to be very complicated and will incur transaction costs that will, eventually, be borne by customers. The fewer entities involved in the governance, operation and monitoring, the lower the costs are likely to be.

Q 24. Do you think that a trigger should be set for the introduction of a Capacity Market? If so, how do you think the trigger should be established, and how should it be activated?

A24. The trigger should be the point at which there is concern that there will be insufficient generation to meet demand. To a certain extent, this has already occurred for responsive plant, in that National Grid started to offer long term contracts for peaking plant in 2009. With the impending closures prompted by LCPD and lead times for plant of 2-3 years, it would be as well to start immediately.

Q25. What is the most appropriate design of capacity market for GB and why?

A25. The Strategic Reserve is probably the least "bad" of the options because competitive pressures are maintained by encouraging generators to bid to provide new capacity. A wider capacity market would be hampered by the absence of a robust, liquid spot market. The Reliability Market concept is relatively untested and, together with the similarly untested feed-in tariffs by contract for differences, would represent a very risky departure for Britain.

Contact:

[redacted]
Head of Policy and Corporate Affairs – Europe & Central Asia
BG Group
Thames Valley Park
Reading RG6 1PT
Tel: [redacted]
B/b: [redacted]