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Dear Ian,

### **Project Discovery: Options for Delivering Secure and Sustainable Energy Supplies**

Thank you for providing SSE with the opportunity to respond to the above consultation. We welcome the further analysis and stress tests carried out by Ofgem.

In our view, provided there is a stable regulatory regime going forward, the current market framework is likely to deliver the required level of security of electricity supply beyond the LCPD pinch-point in 2015/16. However, we recognise that there are risks to this outcome, as highlighted by Ofgem. We would therefore urge Ofgem in the first instance to ensure that security of supply is put at the centre of its policy-making and we highlight below some areas where to date this has perhaps not been the case. We also believe that in electricity the risk of insufficient investment could be minimised by a few, evolutionary, policy interventions, in particular a carbon price floor and measures in relation to the demand side.

Outside of this, we are firmly opposed to the wider interventions set out in Ofgem's policy packages, which we consider would undermine the wider market, would be costly for consumers and in many cases may make things worse, rather than better. We also find it curious that Ofgem's scenarios highlight that one of the main areas of concern is a dependence on gas, yet the majority of the solutions are focused on the electricity market (to indirectly reduce dependence on gas).

We do agree that the forward looking security of supply position in gas is more of a concern and we recognise the risk, in particular, that circumstances might lead to periods of supply-side "shocks". However, we do not believe that Ofgem's packages of measures will address this problem. The most obvious way to guarantee that we are insured against gas supply-side interruption is to develop a strategic "buffer" of gas. We therefore believe that the UK Government should consider the retention of part of the UKCS as such a strategic reserve. It may also be necessary, however, to consider interventions in the market to deliver more gas storage, but in so doing it will be vital for Ofgem and Government to guarantee that existing and planned storage facilities will see their rights "grandfathered", otherwise Government intervention will crowd-out much needed investment.

A more detailed consideration of each of these issues is set out below and in the attachments.

### **Electricity Security of Supply**

#### **Existing Policy**

As noted above, given the future risks highlighted by Project Discovery, we consider that Ofgem should in the first instance make security of supply the central priority in policy-making. In light of this, we believe that there are a number of Ofgem's existing policies that can and should be reformed.

For example, Ofgem are presently consulting on proposals to force more liquidity into the wholesale markets. We are supportive of the policy objective, but it is also clear that some of the options such as enforced contracting of output by the major suppliers or self-supply restrictions would actively discourage investment in new generation by those companies. These proposals should be dropped as a matter of urgency.

More generally, at the same time as Project Discovery has set out concerns about whether there will be sufficient investment, Ofgem have published proposals for the distribution price control which

include the lowest cost of capital of any utility since privatisation. There are also clear disincentives to invest as a result of changes to the accounting treatment of costs (the “equalised incentives”). The DNOs accepted those proposals, but (presumably) only because they see scope to outperform. In our view, the new price control framework, while having positive elements (e.g. the Low Carbon Network Fund) is not pro-investment. We would urge Ofgem to reflect on this in bringing forward future price controls.

It is well understood that a significant level of investment in electricity infrastructure is required over the next decade. It is also not disputed by most commentators that much of this investment will be in new generation, including renewables, in peripheral parts of the transmission network which will in turn require investment in those networks. In addition, most commentators would, we believe, agree that we should make the most of the assets we currently have in situ.

Against this background, we consider it bizarre that Ofgem and National Grid should on the one hand continue to agonise about security of supply, but on the other continue to pursue a transmission charging methodology which will, *by design*, discourage new build of renewables, nuclear and CCS and encourage otherwise efficient plant to close earlier. The current transmission charging methodology encompasses a punitive locational “signal” which is reflective of some assumptions about the costs of hypothetical future upgrades, rather than the underlying costs of running the transmission system. The methodology is therefore not cost-reflective, but it is a barrier to new investment in the north of the country without the corresponding benefit being “bankable” in the south of the country because of the variability and volatility of the charges. Ofgem continue to also push for a similar approach at distribution level.

We therefore firmly believe that before Ofgem embark on a radical re-design of the market, an easy win to de-risk future investment would be to bring forward transmission charges that reflect the public policy imperatives of security of supply.

#### New Policy

In addition, we consider that three specific and targeted interventions could reduce the risks to security of supply highlighted in the report.

#### *Improved demand side response*

We support any improvements that can be made to increase demand side response and flexibility. It is clear from recent research that this is not only essential in order to meet wider environmental objectives, it is also the most cost effective way of doing so. We also believe demand side response will be key to ensuring we can maintain security of supply, reduce the need for peaking capacity and smooth prices over time. We therefore fully support measures to allow the demand side to respond to balance the system against variable electricity and gas supplies.

#### *Carbon floor price*

In order to bring forward the investment necessary to meet low carbon obligations we believe some additional measures are required. We believe a commitment to introduce a carbon floor price is required now. However, actual implementation should be delayed until nearer 2020 to ensure appropriate market incentives are provided and to avoid distortions. That is, the price should only be set nearer 2020 when the actual costs of alternatives such as nuclear and associated waste decommissioning and CCS are better understood. The precise details should be subject to further consultation.

#### *EU Environmental Policy*

The Industrial Emissions Directive (IED) is currently being debated in Europe and the outcome of this is clearly very significant for the UK as a whole and in the context of Project Discovery. The UK is already facing a potential security of supply challenge in late 2015 and continued uncertainty on the post 2016 regime increases the risk of insufficient capacity being available. Therefore, it is important that the IED is finalised as soon as possible this year to allow critical investment decisions to be made and abatement equipment fitted where required.

In addition, there are a number of options for flexibility being debated as part of the second reading of the IED including an option for plant to take a 20,000 hours limited life opt-out from 2016 to 2023. We believe that it is absolutely vital that the 20,000 hours limited life opt-out from 2016 to 2023 is maintained in the final agreed version of the IED in order to safeguard security of supply within the UK beyond 2016.

For the avoidance of doubt, as currently drafted this limited life opt-out to 2023 would *not* be available to plant currently opted out under the existing Large Combustible Plant Directive (LCPD).

The LCPD has been implemented and generators have taken decisions about whether to opt-in or opt-out their plant and made the necessary investments accordingly. We therefore firmly believe that any attempt to change the rules now to allow opted out plant to remain open beyond 2015 should be firmly resisted as it would undermine other generators' investment decisions.

### **Gas Security of Supply and Strategic Storage**

Gas will have a key role to play in generation, even in a low carbon market, but particularly in the transition period. We therefore recognise the potential risk associated with loss of infrastructure and the increasing dependency on gas for electricity security of supply. The most obvious way to mitigate this risk is to create a strategic "buffer" of gas as an insurance against a supply interruption to the UK.

We have previously put forward in response to Government consultations on security of supply proposals for a Contingent Capacity mechanism for both electricity and gas. In short, this would involve the system operators making projections of future capacity, say 3-5 years out, and where such projections illustrate a shortfall the system operator would offer a tender for the "last power station" or storage facility to fill the gap. Such a competitive tender for the final, strategic capacity would allow the market to function for the remainder, thereby limiting the scale of the intervention. We continue to believe such a mechanism would provide comfort to Government and indeed customers without interfering with the operation of (or investment in) the market.

However, given there could be limitations on gas supply (as highlighted by Project Discovery) in timescales associated with the build of new storage, this suggests that this mechanism should be started as soon as possible and that more may be required. In particular, we believe that Government should give consideration to the strategic use of the UK's UKCS reserves to provide a strategic gas reserve. In addition, we believe that consideration should be given to mandating the build of new storage facilities. However, there are serious risks with mandating storage: it could undermine existing investments and hence delay or sterilise any future private sector investment in gas storage. For these reasons, it is vital that any Government consultation on mandating gas storage should make it clear that existing storage assets will see their returns grandfathered into the new regime.

One further area where it is worth considering NGG's involvement in enhancing security of gas supplies is in gas ballasting and blending for interconnector imports. We believe that security of gas supply would be enhanced if NGG were able to tender for gas ballasting facilities and that the costs for this were socialised.

### **Ofgem's Policy Packages**

We are firmly opposed to Ofgem's various packages of proposed reforms. Of particular concern are Ofgem's packages D and E which effectively return the industry to the CEGB pre-privatisation era. We do not see how these are consistent with the operation of a competitive market in generation or indeed supply. We firmly believe these will produce the wrong mix and type of investment at a much higher cost to customers than would otherwise be the case.

We consider that the packages in relation to enhanced obligations and centralising the renewables market will risk undermining investment in renewables. Tenders of renewables have been attempted before (e.g. NFFO) and the result has been disappointing. In particular, there is a tendency for such tender processes to produce a "winner's curse" whereby the low winning bids turn out to be uneconomic so the projects do not go ahead. This will challenge the renewables targets. Similarly, we would be concerned that enhancing obligations on suppliers or the system operator (unless as a last resort) will crowd-out private investment.

Of the packages put forward (though we do not understand why they have been packaged in this way), option A is the least intrusive and most consistent with the policies we have set out above. However, even here we think that Ofgem's approach needs further thought, for example, in relation to its policy on improved price signals. Making prices more marginal in the balancing mechanism might produce stronger signals to build peaking plant. However, this has to be balanced against the shorter term signal this has to keep plant back from the market to act as a reserve. In addition, the impact on competition needs to be considered. We believe that in the short term more marginal pricing would reduce competition and worsen real-time security in the balancing market.

Ofgem also need to clarify their position on peaking prices. On the one hand, there is discussion in the context of Project Discovery about the need to encourage and tolerate peaky prices, but on the other hand Ofgem have separately been seeking new powers to intervene in the market when prices are perceived to be "too high" (the Market Power Licence Condition or MPLC). If Ofgem are concerned about incentives to build peaking plant, urgent clarity is required on these issues and in particular we consider that detailed market guidance should be given about how the MPLC would be applied.



## **Conclusion**

While we consider the current market framework is likely to deliver the required level of security, we do recognise that there are risks to this outcome, particularly in gas. We believe that these risks could be mitigated by Ofgem and Government taking a few, evolutionary policy steps. We have therefore set out above an evolutionary mix of policies that we consider would mitigate the risks to security of supply identified in Ofgem's paper.

First, Ofgem should ensure that security of supply is central to all decision making and policy development. As part of this, we would urge Ofgem to undertake an urgent review of its existing policy on locational transmission charging, as well as revisiting its suggestions for improving liquidity.

Second, two pragmatic and timely measures which could be implemented relatively easily are: i) a commitment to introduce a carbon floor price; and ii) measures to improve demand side response.

Third, we believe that Government should give consideration to the strategic use of the UKCS to provide a strategic gas reserve. In addition, we believe that consideration should be given to mandating the build of new storage facilities. However, there are serious risks with mandating storage: it could undermine existing investments and hence delay or sterilise any future private sector investment in gas storage. For these reasons it is vital that any Government consultation on mandating gas storage should make it clear that existing storage assets will see their returns grandfathered into the new regime.

Finally, Government should ensure that the Industrial Emissions Directive does not damage security of supply. In particular, the limited hours derogation under that Directive for plant that is already opted in to the LCPD should be retained.

We consider that these targeted interventions would provide a more stable policy framework going forward than the various ad hoc packages of reforms put forward by Ofgem, to which we are firmly opposed. We consider that the options put forward by Ofgem, particularly in relation to centralising buying functions are unhelpful and effectively involve the dissolution of the competitive generation and supply markets. We consider that this would result in sub-optimal infrastructure provision and significantly higher costs for customers.

I hope the above comments are helpful. Our detailed views on all of the policy options put forward by Ofgem are provided in Appendix 1. We have also provided answers to the consultation questions posed by Ofgem in Appendix 2.

Should you have any questions on our response, please do not hesitate to contact me.

Yours sincerely,

Rob McDonald  
Director of Regulation

## **Appendix 1: Ofgem's Proposals for Reform**

This section provides our views on the elements of Ofgem's packages of proposals. In particular, it sets out our key concerns regarding aspects of Ofgem's proposals and our views on where we believe effort should be focused.

### **Minimum Carbon Price**

We agree that current low carbon prices combined with uncertainty over the future policy framework have done little to encourage investment in new low carbon generation. If the EU ETS permits policy remains, we believe a carbon floor price or tax could be required to provide investor certainty. Given the long lead times for electricity generation assets (e.g. around 10 years for a nuclear power station), we believe commitment to introduce such an arrangement should be made now but only implemented at some specified date in the future e.g. 2020 at the forecast start of operation of the first nuclear new build power station, when costs and hence the level of support required are fully known.

It is not entirely clear how a carbon floor price would be implemented and indeed it may be simpler to introduce the support through a carbon tax. Further consultation on the detail of such a mechanism and its implementation would be required.

Whilst this has been discussed in the context of UK implementation, we believe it would be considerably more effective if implemented at an EU level and indeed, there may be legal issues associated with implementing such an arrangement at UK level only. This would need to be investigated.

We believe such a mechanism would provide a clear incentive for investment whilst allowing the market to determine the generation mix and dispatch patterns. By focussing on the end (carbon reduction) not the means, it also encourages the full range of carbon abatement options, e.g. demand reduction, plant efficiency and fuel switching to be considered and play their part. It is also consistent with the EU ETS as the main driver of emission reductions.

### **Changes to the Electricity Cash-Out Arrangements**

There have been a number of changes and reviews of the cash-out arrangements in electricity over the nine years of NETA (some 33 Modifications), most recently resulting in the approval and implementation of Modification P217A in November 2009. Mod P217A is intended to clean up the cash-out price by tagging and removing system actions. However, even with the implementation of P217A, it has yet to be shown that a pure energy price is capable of being formed. We are concerned that unless a pure energy price can be established a move to a marginal price would incorrectly allocate constraint costs and further penalise customers. This would be unacceptable as it would not promote the economic and efficient operation of the system and would not promote competition. Indeed, it would introduce additional risk and impose an unnecessary and inappropriate burden on those customers who are out of balance. Smaller players and intermittent generators would be particularly disadvantaged which could in turn increase the risk and cost to other players should some of these smaller players default.

Marginal pricing would also result in the revenues from out of balance parties far exceeding the costs of energy balancing, leading to transfers of funds and cross subsidy from those that are out of balance to those that are balanced. One concern would be that this could lead to a significant barrier to entry, which is at odds with enhancing or protecting security of supply.

Whilst making prices more marginal in the balancing mechanism might produce stronger signals to build peaking plant, this has to be balanced against the shorter term signal this has to keep plant back from the market to act as a reserve. We believe that overall, more marginal pricing would reduce competition and worsen real-time security in the balancing market.

One final point of note is Ofgem's comments in approving Mod P217A, "that a more marginal price is likely to be less cost-reflective, and could therefore lead to inefficient investment decisions."

### **Allocation of Reserve Costs**

It is clear from Ofgem's conclusions on Modification P217A that the intention was to have a review of reserve cost allocation. However, as acknowledged in Mod P217A, there is no industry consensus on what constitutes energy balancing versus system balancing. There is general consensus that the costs of managing transmission constraints and sub-15 minute actions should not be included in cash-out prices. However, there are differing views on the treatment of reserve. In our view, the use of reserve should be considered as an insurance for which the whole market should pay. In particular, the cost of reserve availability fees should be considered as benefiting the system as a whole and therefore should not be targeted at those out of balance through the cash-out price.

We already have a methodology that targets costs of reserve into the half-hours when historically reserve has been used, the current BSAD Methodology. In our view even this should be changed to ensure costs are socialised rather than targeted.

We believe that increasing the peakiness of the cash-out price through further targeting of costs will have a similar impact on both competition and smaller players as a move to a marginal cash-out price as described above. We do not believe that it will improve investment signals. Allocating costs in this way would be arbitrary and artificial and expose players to unnecessary risk.

We are also concerned that the proposal to introduce a daily reserve market, forcing NGET to only contract for reserve on a daily basis, presumably day-ahead would increase risk and interfere with NGET's obligations relating to the economic and efficient operation of the system. Such actions are likely to result in increased costs to customers and reduced efficiency. In addition by preventing NGET from forward contracting Ofgem would be removing a critical revenue stream and increasing uncertainty for those generating stations currently providing such services. We are concerned that this could mean that operators will not make the necessary capital additions necessary to keep those stations open and they could be forced to close, further exacerbating security of supply concerns.

### **Pricing under Electricity Voltage Control and Disconnection**

Ofgem have identified two issues with the current arrangements when the system is under stress:

- i) that customers may get cut-off at a price below their Value of Lost Load (VOLL) and
- ii) that reduced or disconnected demand is not valued and does not feed through into the cash-out price.

Before the treatment and potential pricing of demand can be considered, the different conditions of voltage reduction and demand disconnection need to be recognised. Under a voltage reduction, there is no clear level of demand interference. This makes it difficult to price, therefore it is difficult to make any meaningful contribution to the level of the cash-out price. If the system conditions are such that there are then demand reductions, then it is likely to have triggered emergency arrangements, in which case the market would be suspended. We do not believe that attempting to introduce a price for demand reductions into the cash out price in such emergency conditions will improve investment signals. Instead, any change to make the cash out price to take account of emergency conditions is more likely to reduce investment for fear of participants being exposed to extreme cash out prices and the risk of going out of business. In the short-term, extreme price signals are likely to result in plant being held back from the market to act as a reserve. As a consequence, this might actually accelerate an emergency situation being declared.

If any changes are to be made, they cannot be made in isolation, i.e. they need to be made in the context and consideration of the whole of the emergency arrangements.

### **Reforming the Gas Emergency Arrangements**

Like the arrangements for cash-out in electricity, the Gas Emergency arrangements have undergone a number of changes, e.g. through UNC Modification 0149 and more recently, December 2009, through UNC Modification 0260. This later modification was intended to improve the transparency and certainty of the claims process; allow Shippers to balance through taking Offers from the OCM; incentivise Shippers to balance by having the costs of balancing actions charged out to those Shippers out of balance (though this is not done through the cash-out mechanism) and ultimately to attract more gas to the UK in these emergency situations. In Ofgem's final comments on the proposals it is stated "we consider that further changes to the emergency arrangements are likely to be required in the future".

It is not yet clear what other changes Ofgem would propose to the emergency arrangements, but we did not support Modification 0260. We would not support any further changes to the arrangements that attempted to thaw the "frozen" price in an emergency, changing to one that is more dynamic, nor one that allocated costs incurred in the emergency conditions to those Shippers out of balance, possibly through no direct fault of their own. We believe that the costs incurred in these emergency situations should be smeared across all Shippers. This will counter the impact of concentrating financial loss, that might have unforeseen consequences; in the worst case, of cascade collapse as first one and then others default.

We do not believe that a change to the emergency arrangements would help to attract additional gas supplies to the UK market as shippers will already have maximised supply provision as required under their Licences and the GSMR and the signals will have little impact given the command and control mechanisms in continental Europe. In an emergency, Shippers will not know their position with certainty. Therefore, even if they had access to more gas, they would not know how much to sell to



the market because they might go from a balanced/long position to a short imbalance position and as a result, incur additional costs. Indeed, there is a risk that it might provide an incentive for shippers to hold back some gas in the belief that they could obtain a higher price at some later point in the emergency. As a consequence, this might actually accelerate an emergency situation being declared.

A potential improvement in an emergency condition may be for NGG to be able to purchase any additional non-UKCS gas under the direction of the NEC. However, to protect Shippers going out of business through being out of balance, perhaps through no fault of their own, these costs should be socialised and should not be passed through in cash-out. We believe that this would enhance gas security of supply.

#### **Improved Ability for the Demand Side to Respond**

We believe demand side response / flexibility could make a considerable contribution towards protecting and enhancing security of supply. In particular we believe it could be used to reduce the need for peaking capacity and smooth prices over time. We therefore fully support measures to allow the demand side to respond and help balance the system against variable electricity and gas supplies. However, we are conscious that the industry has been striving to encourage greater levels of demand side response for some time with limited effect. We believe further work is required to ensure pragmatic arrangements are implemented to facilitate and incentivise customer participation, providing an appropriate reward for services offered. We look forward for further discussion on this shortly as part of the Ofgem discussion paper.

#### **Enhanced Obligations on Suppliers**

It is not wholly clear what Ofgem envisage as an obligation on Suppliers in both gas and electricity. It is stated that Suppliers should be required to demonstrate that they have sufficient contracted supply to cover the future energy demand of their customers against some pre-defined security standards. In gas this could mean one of two things:

- i) that it would be necessary to show gas supply contracts for all of their demand and/or
- ii) that a percentage of the supplier's gas demand was covered by storage.

For the first of these, if it is intended that gas suppliers need to show that gas is to be physically delivered to the UK, we do not believe that this is practical, and if it is not to be physical delivery, then it is not worth having an obligation. To show physical delivery would mean being able to show contractual arrangements that existed back to the source i.e. the field, as well as appropriate access to have the gas delivered. If it is not a requirement for it to be physical, there is no worth in being able to show a paper contract for delivery at the NBP, bought from e.g. a Bank.

We would not support an obligation on suppliers to prove a percentage of demand is covered by UK storage. Instead, we believe that the simplest way to achieve a required level of storage in the UK that will least interfere with the existing market would be to put in place a contingent capacity arrangement that is only called on as a last resort (see comments below on Obligations on the System Operator).

For electricity suppliers, any obligation would need to cover both the generation capacity and the energy source. Whilst proof of generation capacity may be simpler, proof of the energy source would suffer the same drawbacks as noted for gas supply above. In all cases, it would be expected that Suppliers would need to show a level of contracting that covered the period of the asset's life and at a level of say 120% of the demand to ensure a margin.

We do not believe that supplier obligations are necessary nor that they are the best way to provide additional security. We have already had obligations on Suppliers in both electricity and gas, both of which were removed from the licences with the opening up of full competition in the market. There are also a number of additional drawbacks with going down this road, not least the detrimental impact this is likely to have on new entry. Enhancing obligations on suppliers will not only crowd-out private investment but also remove differentiation between suppliers, potentially undermining supply competition.

We believe that if anything is to be done to enhance security through an obligation that it should be an obligation on the System Operator, where the SO puts in place arrangements for contingent capacity. These are described below.

#### **Enhanced Obligations on the System Operator**

If it is felt that the system will not deliver electricity generation capacity, gas storage or gas supply, then the following mechanisms could provide a focussed intervention that is compatible – if managed correctly – with the current energy market structure, but which will also provide a tool with which to increase margin, if it is needed.

### Electricity Emergency Capacity

The mechanism would be based on NGET's analysis of generation plant availability and on the construction of new generation plant, as set out in its Seven-Year Statement. If, according to that analysis, it became apparent that the market was unlikely to provide sufficient generation capacity in time to maintain reliable supplies of electricity, NGET would be able to invoke a two-stage tender exercise to build new plant to operate only under certain prescribed emergency conditions.

The aim would be to make sure that the tender process is not triggered too early, so that the market has time to deliver before the "panic button" is pushed. A logical way of doing this would be to look at NGET's generation margin analysis for each of the 7 years ahead, and when the predicted generation margin is below the desired generation capacity margin within 4 years of the present day, the process gets triggered.

The first stage of the process would involve securing all the planning and other permissions to construct the new plant. In the first stage, a retainer would be paid by NGET to the successful generator to cover the cost of getting and maintaining permissions, the necessary network connections and maintaining the site.

With the completion of the first stage, the second stage, the construction, would be much more straightforward. If the forecast generation margin remains below what is decided is required, the second stage, construction, would commence. Existing planned (but not developed) generation plant would be excluded from taking part in the first stage of this process, but its potential contribution should be assessed in the second stage, when the key priority would be to ensure capacity was built.

Costs would be recovered in the same way as e.g. Black Start, through NGET's Balancing Service Use of System (BSUoS) charges system. The generator would be paid for the capital costs of the station's availability. The generator would not be allowed to sell into the market or to customers at prescribed times, such as winter 'tea-time' peaks. The reason is that this plant is being put in place and maintained as a contingency reserve for security of supply, not to be sold into the market on unequal terms.

The plant would be dispatched by NGET as a last resort only after all other "commercial" generation had been used. As noted above, in relation to emergency arrangements, a holistic approach is needed, which would include consideration of this contingent capacity, when it is used in the emergency and what triggers it. It would be important to only trigger the reserve to prevent demand curtailment. It would be triggered as a system emergency was declared and the market suspended. Voltage reductions would be part of the declaration of an emergency. The use of the contingent capacity would be priced at least at VOLL. With the market suspended, it would not however feed through into cash-out, but instead, like the costs for establishing the capacity, the cost would simply be recovered through BSUoS.

### Gas Strategic Storage

An analogous process to that described for electricity could be implemented in the gas market. Like electricity, the level of capacity to deliver gas to the UK system is compared to forecast demands. However, given the Discovery document has highlighted that there could be limitations on gas supply (though we believe that this is most likely to be through infrastructure failure) in timescales associated with the build of new storage, then it suggests that this mechanism should be started as soon as possible.

NGG would tender for infrastructure build and separately for filling the storage with gas. These costs would be collected through the SO commodity charge. It would be important for the level of security to be defined in order to scope out the level of storage required. The level of contracted storage would be based on securing domestic demand and would cater for e.g. the loss of the largest in-feed for say 45 days.

Once built, like electricity, the use of this capacity would be after all other "commercial" supplies have been used but before firm demand curtailment. It would be designed to fit into the gas emergency arrangements, and, as noted above, this would include consideration of the capacity, when it is used and what triggers it. It would be important to only trigger the reserve to prevent demand curtailment. It would also be important that the gas taken out of strategic store is priced at a very high VOLL. Such a high price would deter users holding back their own sources of gas and relying on the strategic storage. Just as the costs of establishing and filling the storage would be socialised, the costs of using the storage in an emergency would also be socialised.

### Gas Ballasting

One further area where it is worth considering NGG's involvement in enhancing security of gas supplies is in gas ballasting and blending for interconnector imports. We believe that security of gas supply would be enhanced if NGG were able to tender for gas ballasting facilities and that the costs for this were socialised. Without the costs being socialised there is a danger that the gas will be sold to



other EU markets. The additional costs of ballasting at LNG terminals would need to be considered alongside this.

#### **Obligations on Gas-fired Power Stations**

DECC consulted on distillate back-up for CCGTs in 2007. We did not support its retrofit application to existing power stations for technical reasons and continue not to support this. In addition, we cannot see any real benefit from imposing the obligation on new CCGTs. There are likely to be technical difficulties making high efficiency CCGTs work on distillate (fundamentally they are designed to operate on gas), and there are economic, practical and environmental factors that need considered. From our own experience of having distillate back-up, if operation on distillate is not carried out regularly then it inevitably fails to “change over” (from gas to distillate and vice versa). However, changing over routinely to distillate (to test and maintain the changeover capability) when it is uneconomic to do so is unattractive. Changing over to distillate also exposes the generator to cash-out risk in electricity at these times of, what will inevitably be, high prices. Overall, we believe that the way to provide additional security of gas supply is through an obligation on the System Operator for strategic storage of gas (as above).

#### **A Centralised Renewables Market**

We do not believe that sharper price signals are required for investment in new generation. We therefore do not believe that it is necessary to introduce a separate Renewables Market that would not be subject to the existing cash-out arrangements. The Centralised Renewables Market would further separate renewables from the market signals of when energy is needed on the system and the cost to the system of being out of balance, creating further inefficiencies in operation of the system. The cause of such imbalance would not be exposed to the imbalance costs nor would they be incentivised to improve forecasting or reliability of their plant. In addition, the benefits of lower cash-out risk can be had through the existing arrangements through consolidation and the use of MVRNs. However, if Ofgem were to impose sharper price signals through marginal cash-out or changes to reserve allocation, a Centralised Renewables Market would be necessary to deliver against renewables targets.

#### **Replace the RO with a Renewables Tender**

We do not believe that there is a need for a Renewables Tender, since the existing Renewables Obligations have worked extremely well in bringing forward new renewable generation and that any lack of developed generation projects has been to do with other factors such as Planning and Connection to the Grid. Ofgem’s proposal itself looks similar to the NFFO/SRO contract process; although it is acknowledged in the document that lessons would need to be learned from these tender processes. We agree with that comment. It is clear that the Renewables Obligation has far exceeded the output levels of the NFFO/SRO contracts, despite the external difficulties. The differences between this proposal and the NFFO/SRO process seem to be that: the generator will be exposed to the wholesale price (as the RO generator is); and that penalties will be applied for non-delivery.

On the first of these, whilst having the generator exposed to the wholesale price mimics the situation under the RO, it is a backward step with regard to the NFFO/SRO contracts. This will either deter investment compared to the NFFO/SRO process (which was not good in the first place) or cause costs to increase. It is also noted that a type of Revenue Stabilisation Mechanism (RSM) could be introduced to stabilise prices to the generator and protect customers. This again makes it look very similar to the NFFO/SRO contracts where contract prices were fixed. On the second of these, introducing penalties for non-delivery will either deter investment or again increase prices.

It is not clear what benefits a fundamental change such as this would have for renewable development. As far as costs to customers are concerned, given the introduction of an RSM has already been trailed by DECC, it seems likely that some form of RSM could be introduced to the RO.

There are a number of weaknesses highlighted in the document relevant to this proposal such as: the imposition of a penalty for non-delivery increasing costs to customers; a central body deciding on the mix and location of projects and getting it wrong; legal issues; involvement of Government and timescale. However, in addition to the “winner’s curse”, we see the biggest drawback of proposing such a move away from the RO as the uncertainty it introduces to existing and future investment under the RO. It needs to be made clear very quickly that such a proposal will not go ahead, or it will simply create a hiatus in renewable development. We do not see the need for nor would we support such a fundamental change to the RO.

#### **Capacity Tenders**

We would be opposed to specific tenders for electricity generation capacity at this stage. Not only do we consider this unnecessary, it would undermine the competitive market in generation and indeed supply. In particular, such a move is wholly unnecessary for the period through to 2015/2016. We



believe the immediate effect of introducing this scheme would be a hiatus in investment whilst the rules of the scheme are formulated. The tender process would suffer similar problems as described for the Renewables Tender above, (i.e. the “winner’s curse”, the imposition of a penalty for non-delivery increasing costs to customers; a central body deciding on the mix and location of projects and getting it wrong; legal issues; involvement of Government and timescale).

#### **Central Energy Buyer**

We have similar concerns regarding proposals to introduce a central energy buyer. We believe this would be an unnecessary overreaction. Such measures would only be necessary if there was significant market failure and we do not believe this is the case.

There are a number of drawbacks to this proposal. It assumes a central entity would be responsible for getting the mix and location of plant correct. It is not clear who this body would be but we believe it is unlikely that it would do better than the market, particularly in terms of reducing costs, improving security of supply or delivering environmental targets. As acknowledged in the document, it will also likely focus on large scale centralised generation solutions rather than small scale, innovative and demand side solutions.

## **Appendix 2: Answers to Consultation Questions**

### **CHAPTER: Three**

#### **Question 1: Do you agree with our assessment of the current arrangements?**

We agree with elements of the assessment conclusions, but disagree with others as follows.

On *carbon pricing*, we agree that uncertainty of the future carbon price can impede investment. We would therefore support a commitment to a carbon floor price.

On *investment signals in generation*, making prices more marginal in the balancing mechanism might produce stronger signals to build peaking plant. However, this has to be balanced against the shorter term signal this has to keep plant back from the market to act as a reserve. In addition, the impact on competition needs to be considered. We believe that in the short term more marginal pricing would reduce competition and worsen real-time security in the balancing market. We would also reiterate our view that it is imperative that there is no interference on price spikes and that detailed market guidance should be given about how the MPLC would be applied.

We agree that there are potential issues in relation to the *interaction with interconnected markets* in gas. We believe that consideration should be given to the strategic use of the UKCS to provide a strategic gas reserve and that consideration should also be given to mandating the build of new storage facilities.

In relation to the *costs and availability of finance*, we agree that perceived risks in the GB energy sector will deter investment. However, it is clear that Ofgem are central to ensuring a stable regulatory environment and that Ofgem's existing policies are part of this. Therefore, Ofgem should, in the first instance, make security of supply their central priority in policy making.

We fully support enhancement of the *demand side*, and agree that it is not only essential to meet wider environmental objectives, it is also the most cost-effective way of doing so.

On the *interaction with networks*, we believe that the Government's proposals for Connect & Manage will bring forward generation connections.

In relation to *non-financial barriers*, we would hope that the changes to the planning process will improve the process.

On the *current market rules*, we do not agree with Ofgem's conclusions that changes are required as suggested in both electricity and gas. As noted above, making prices more marginal in the balancing mechanism might produce stronger signals to build peaking plant. However, this has to be balanced against the shorter-term signal this has to keep plant (or gas) back from the market to act as a reserve.

In relation to *risk management*, we do not believe that the energy market behaves in the same way as the financial market. In addition, there are already "insurance" arrangements in place and being paid for.

With increasing low carbon initiatives, *costs to customers* will inevitably increase unless the costs are recovered through general taxation.

On *market structure*, we would comment that consumers can express a preference for more stable energy cost, but in the main choose not to do so.

#### **Question 2: Are there other aspects of the current arrangements which could have a negative impact on secure and sustainable energy supplies, or costs to customers?**

Yes. We believe that there are a number of areas, under Ofgem's influence, that are having and will continue to have a negative impact on secure and sustainable supplies. In general terms, the stability of the regulatory framework, but more specifically Ofgem's influence on locational signals, in particular transmission charge; the extreme proposals on market Liquidity; Ofgem's recent proposals for the new Distribution price control framework, and the lack of clarity on Ofgem's position on peaking prices.

#### **Question 3: Do you agree that the five issues we have highlighted are the most important?**

No. In particular, we do not agree with Ofgem's conclusions and proposals on price signals at times of system stress, for the reasons given above. We would also highlight that Ofgem have not recognised the impact that their existing policies on locational signals, new market liquidity proposals and infrastructure investment are and will have on investment and security of supply.

Ofgem also need to clarify their position on peaking prices. On the one hand, there is discussion in the context of Project Discovery about the need to encourage and tolerate peaky prices, but on the other hand Ofgem have separately been seeking new powers to intervene in the market when prices are perceived to be “too high” (the Market Power Licence Condition or MPLC). If Ofgem are concerned about incentives to build peaking plant, urgent clarity is required on this and in particular we consider that detailed market guidance should be given about how the MPLC would be applied.

**Question 4:** *Do you have any comments on our description of what might happen if no changes are made to the current arrangements?*

In our view, provided there is a stable regulatory regime going forward, the current market framework is likely to deliver the required level of security of electricity supply beyond the LCPD pinch-point in 2015/16. However, we do agree that the forward looking security of supply position in gas is more of a concern and we recognise the risk, in particular, that circumstances might lead to periods of supply-side “shocks”. However, we do not believe that Ofgem’s packages of measures will address this problem. The most obvious way to guarantee that we are insured against gas supply-side interruption is to develop a strategic “buffer” of gas. We therefore believe that the UK Government should consider the retention of part of the UKCS as such a strategic reserve. It may also be necessary, however, to consider interventions in the market to deliver more gas storage, but in so doing it will be vital for Ofgem and Government to guarantee that existing and planned storage facilities will see their rights “grandfathered”, otherwise Government intervention will crowd-out much needed investment.

#### **CHAPTER: Four**

**Question 5:** *Do you believe that our policy packages cover a sufficient range of possible policy measures?*

No. We consider that Ofgem should in the first instance make security of supply the central priority in policy-making. In light of this, we believe that there are a number of Ofgem’s existing policies that can and should be reformed.

For example, Ofgem are presently consulting on proposals to force more liquidity into the wholesale markets. We are supportive of the policy objective, but it is also clear that some of the options such as enforced contracting of output by the major suppliers or self-supply restrictions will actively discourage investment in new generation by those companies. These proposals should be dropped as a matter of urgency.

More generally, at the same time as Project Discovery has set out concerns about whether there will be sufficient investment, Ofgem have published proposals for the distribution price control which includes the lowest cost of capital of any utility since privatisation. There are also clear disincentives to invest as a result of changes to the accounting treatment of costs (the “equalised incentives”). The DNOs accepted those proposals, but (presumably) only because they see scope to outperform. In our view, the new price control framework, while having positive elements (e.g. the Low Carbon Network Fund) is not pro-investment. We would urge Ofgem to reflect on this in bringing forward future price controls.

It is well understood that a significant level of investment in electricity infrastructure is required over the next decade. It is also not disputed by most commentators that much of this investment will be in new generation, including renewables, in peripheral parts of the transmission network which will in turn require investment in those networks. In addition, most commentators would, we believe, agree that we should make the most of the assets we currently have in situ.

Against this background, we consider it bizarre that Ofgem and National Grid should on the one hand continue to agonise about security of supply, but on the other continue to pursue a transmission charging methodology which will, *by design*, discourage new build of renewables, nuclear and CCS and encourage otherwise efficient plant to close earlier. The current transmission charging methodology encompasses a punitive locational “signal” which is reflective of some assumptions about the costs of hypothetical future upgrades, rather than the underlying costs of running the transmission system. The methodology is therefore not cost-reflective, but it is a barrier to new investment in the north of the country without the corresponding benefit being “bankable” in the south of the country because of the variability and volatility of the charges. Ofgem continue to also push for a similar approach at distribution level. We therefore firmly believe that before Ofgem embark on a radical re-design of the market, an easy win to de-risk future investment would be to bring forward transmission charges that reflect the public policy imperatives of security of supply.

In addition, Ofgem also need to clarify their position on peaking prices. On the one hand, there is discussion in the context of Project Discovery about the need to encourage and tolerate peaky prices, but on the other hand Ofgem have separately been seeking new powers to intervene in the market when prices are perceived to be “too high” (the Market Power Licence Condition or MPLC). If Ofgem are concerned about incentives to build peaking plant, urgent clarity is required on these issues and in particular we consider that detailed market guidance should be given about how the MPLC would be applied.

**Question 6:** *Do you have suggestions for variants to these policy packages?*

In addition to reform of Ofgem’s existing policies as noted in response to question 5, we would propose a package that introduced:

- improved ability for the demand side to respond;
- a commitment to a minimum carbon price from 2020 as described above;
- clarity on EU Environmental policy (esp. the IED);
- consideration of the strategic use of the UK’s UKCS gas reserves;
- consideration of mandating the build of new storage facilities; and
- consideration of tendering for gas ballasting facilities

**Question 7:** *What other policy measures do you believe should be considered, and why?*

As noted above in response to question 5, we believe that Ofgem need to reconsider their existing policies in relation to locational charging; proposals for market Liquidity; network infrastructure build, and the position on peaking prices.

**CHAPTER: Five**

**Question 8:** *Do you agree with the assessment criteria that we have used to evaluate the policy packages?*

The criteria are reasonable, but weightings would have helped understand Ofgem’s evaluation.

**Question 9:** *Do you have any comments on our initial assessment of each of the packages?*

As well as weightings, a conclusion rather than discussion of the pros and cons would have helped understand Ofgem’s evaluation. However in relation to the individual elements:

- i) We do not agree with Ofgem’s assessment in relation to price signals i.e. making cash-out prices more marginal; the re-allocation of reserve costs; the changes to the gas emergency arrangements; or the changes proposed for voltage reduction and demand disconnection in electricity. As noted above, making prices more marginal in the balancing mechanism might produce stronger signals to build peaking plant. However, this has to be balanced against the shorter term signal this has to keep plant back from the market to act as a reserve. In addition, the impact on competition needs to be considered. We believe that in the short term more marginal pricing would reduce competition and worsen real-time security in the balancing market.
- ii) We do not agree with the assessment of Supplier obligations, given the practicalities of showing the physical deliverability of these and the impact they are likely to have on new entry and hence competition.
- iii) We do not agree with the assessment of distillate back-up on CCGTs, given the practicalities of retrofitting to existing CCGTs and for the operation of new high efficiency CCGT on two fuels.
- iv) With regard to SO Obligations, we believe they may have a place as a form of Contingent Capacity. We mainly see the need for this at the moment in relation to gas storage. It should be possible to ring-fence the procured capacity for use only in emergencies such that it does not interfere with the market.
- v) We do not agree that the replacement of the Renewables Obligation by a tender for capacity would enhance delivery of renewables nor would it enhance delivery of other generation. Tenders of renewables have been attempted before (e.g. NFFO) and the result has been disappointing. In particular, there is a tendency for such tender processes to produce a “winner’s curse” whereby the low winning bids turn out to be uneconomic so the projects do not go ahead. There is also likely to be a hiatus in renewable development whilst the new scheme was being put in place. This will challenge the renewables targets.
- vi) In relation to Capacity Tenders, we see no need for these through to 2015/16. We believe that they would undermine the competitive market in generation and indeed supply. They would suffer from similar problems as the Renewables Tender and would have the immediate effect of causing a hiatus in investment whilst the scheme rules were being formed.

We have provided further detail on each of these in Appendix 1 above.

**Question 10:** *Do you agree with our summary of the key benefits and key risks of each policy package?*

Broadly yes, however, as above,

- i) We do not agree with Ofgem's assessment in relation to price signals i.e. making cash-out prices more marginal; the re-allocation of reserve costs; the changes to the gas emergency arrangements; or the changes proposed for voltage reduction and demand disconnection in electricity. As noted above, making prices more marginal in the balancing mechanism might produce stronger signals to build peaking plant. However, this has to be balanced against the shorter-term signal this has to keep plant back from the market to act as a reserve. In addition, the impact on competition needs to be considered. We believe that in the short term more marginal pricing would reduce competition and worsen real-time security in the balancing market.
- ii) We do not agree with the assessment of Supplier obligations, given the practicalities of showing the physical deliverability of these and the impact they are likely to have on new entry and hence competition.
- iii) We do not agree with the assessment of distillate back-up on CCGTs, given the practicalities of retrofitting to existing CCGTs and for the operation of new high efficiency CCGT on two fuels.
- iv) With regard to SO Obligations, we believe they may have a place as a form of Contingent Capacity. We mainly see the need for this at the moment in relation to gas storage. It should be possible to ring-fence the procured capacity for use only in emergencies such that it does not interfere with the market.
- v) We do not agree that the replacement of the Renewables Obligation by a tender for capacity would enhance delivery of renewables nor would it enhance delivery of other generation. Tenders of renewables have been attempted before (e.g. NFFO) and the result has been disappointing. In particular, there is a tendency for such tender processes to produce a "winner's curse" whereby the low winning bids turn out to be uneconomic so the projects do not go ahead. There is also likely to be a hiatus in renewable development whilst the new scheme was being put in place. This will challenge the renewables targets.
- vi) In relation to Capacity Tenders, we see no need for these through to 2015/16. We believe that they would undermine the competitive market in generation and indeed supply. They would suffer from similar problems as the Renewables Tender and would have the immediate effect of causing a hiatus in investment whilst the scheme rules were being formed.

We have provided further detail on each of these in Appendix 1 above.

**Question 11:** *Do you have a view on which package is preferable or alternative policy measures or packages that you would advocate? We are particularly interested any analysis you may have to support your views.*

Of the packages put forward (though we do not understand why they have been packaged in this way), option A is the least intrusive and most consistent with the policies we have set out above. There are elements that may help, but equally there are other elements that could hinder investment in existing and new generation. We believe that a package that includes the following could enhance the deliverability of secure and sustainable supplies:

- improved ability for the demand side to respond;
- a commitment to a minimum carbon price from 2020 as described above;
- clarity on EU Environmental policy (esp. the IED);
- consideration of the strategic use of the UK's UKCS gas reserves;
- consideration of mandating the build of new storage facilities; and
- consideration of tendering for gas ballasting facilities

**CHAPTER: Six**

**Question 12:** *Do you agree with our assessment of the timing for important investment decisions?*

The two areas we would view differently are (i) in terms of the time to build storage, three years is not long enough, that it would be more than double this time and ii) if the IED is either not resolved in sufficient time to fit SCR abatement equipment or there are no flexibility derogations for existing plant, then some generation could close for 2016 as a result of IED rather than close in 2020 as indicated in the Discovery document.

**Question 13:** *Do you believe that early actions should be considered?*

Yes, in relation to gas storage, the IED and transmission charges.



**Question 14:** *Do you think that the issues are such that policy measures should be considered as a package or should they be considered on a case by case basis?*

There are certain elements of Ofgem's proposals that should be conditional on other changes being made. For example, whilst we do not support either policy measure, should electricity cash-out prices be changed to be more marginal then a centralised renewables market would need to be put in place to protect the renewable generators from the risk associated with marginal cash-out.

In relation to the package that we have put forward (listed below), we do not believe that the elements are necessarily inter-related.

- improved ability for the demand side to respond;
- a commitment to a minimum carbon price from 2020 as described above;
- clarity on EU Environmental policy (esp. the IED);
- consideration of the strategic use of the UK's UKCS gas reserves;
- consideration to mandating the build of new storage facilities; and
- consideration of tendering for gas ballasting facilities