

Ian Pashley
National Grid
National Grid House
Gallows Hill
Warwick
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22 December 2010

Dear Ian,

Electricity SO Incentives: Initial Proposals for 1 April 2011 and Constraints Addendum

EDF Energy is one of the UK's largest energy companies with activities throughout the energy chain. We provide 50% of the UK's low carbon generation. Our interests include nuclear, coal and gas-fired electricity generation, renewables, combined heat and power plants, and energy supply to end users. We have over 5 million electricity and gas customer accounts in the UK, including both residential and business users.

EDF Energy welcomes the opportunity to respond to this consultation. The key points of our response are as follows:

- We welcome the revised approach to incentives and the proposal to implement a two year incentive scheme.
- This new approach places significant reliance on the robustness and accuracy of modelling techniques, consequently, in addition to consultation with industry, we would expect that the Regulator and their consultants apply sufficient scrutiny to ensure that the modelling is as accurate as is reasonably practicable.
- We support the use of a symmetrical cap and floor in the scheme design and would propose that for a two year scheme +/- £30m is used.
- In the modelling of constraint costs the level of any discount factor against Balancing Mechanism prices warrants greater transparency.
- We would welcome a significant increase on the detail and frequency of information publication regarding Balancing Services Use of System charges.

We have previously stated our support for longer term incentives schemes. We believe that such schemes allow National Grid (NG) to take a view of costs and benefits over longer timescales which should result in more efficient processes and investments than a shorter one year scheme. Therefore, we welcome the proposed scheme for 2011-2013 in this Initial Proposals consultation.

We recognise that the previous approach taken to modelling system operator (SO) costs did not lend itself to longer term schemes and welcome the scrutiny that NG's modelling has been given, so far, by the Regulator and their consultants in the ongoing SO Review. The revised approach should, in our view, allow incentives to be maintained on the SO throughout the duration of the scheme. It reflects normal business practice to ensure that there is an incentive to manage costs throughout the scheme. For example, when nine months into a one-year scheme, if one cost element of the existing scheme is significantly overspent to the extent that NG will no longer make any further losses, there is no incentive for the SO to continue to manage costs in the remaining three months of the

scheme. Conversely, if one element is significantly under spent it leaves 'headroom' where the SO could overspend in other areas and NG might still make their maximum profit. Therefore, we welcome a revised scheme design which allows a view of spend to date to be incorporated into the target and ensure that incentives are maintained on the SO throughout the scheme's duration.

However, the new approach does place significant reliance on the accuracy of modelling techniques. It is difficult for us to provide robust, informed views of the proposed models outlined in this consultation and the appropriateness of NG's approach. This is due to the extensive analysis that is required to inform the process of establishing relationships between variables and the design of the models. However, NG's review of the ability to control and forecast scheme inputs, on the whole, seems reasonable.

We agree that NG's incentive for the management of constraint costs should ensure that both volumes and price of constraints should be incentivised. It is right that the prices NG achieve for constraint management should aim to be at a discount against BM prices. However, we would welcome a greater understanding of how such a discount would be determined, for example if historic performance is to be used to inform this discount level we would expect this measure to be subject to sufficient scrutiny by Ofgem.

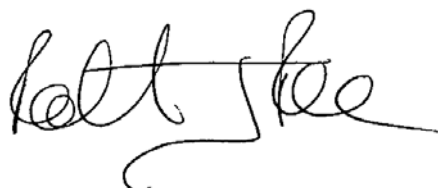
Overall we agree with the scheme design; however, we disagree with NG's view that a cap and floor of +/- £50m should be used. We believe that a symmetrical cap and floor of +/- £30m would seem appropriate for the two year scheme; reflecting that this year's scheme has a cap of £15m and this revised approach is, as yet, untested.

Finally, we would wish to highlight our responses to your questions regarding publication of forecast data where a number of items are requested. We believe that transparent information will reduce the uncertainty on system users in establishing our system costs and this increased predictability will benefit the end consumer.

Our detailed responses are set out in the attachment to this letter.

Should you wish to discuss any of the issues raised in our response or have any queries please contact my colleague Louise Schmitz on 01452 656370, or myself.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Rob Rome'.

Rob Rome
Head of Transmission and Trading Arrangements
Corporate Policy and Regulation

Attachment

Electricity SO Incentives Initial Proposals for 1 April 2011

EDF Energy response to your questions

Question 1: To what extent do you think that the proposed approach to incentivisation, with the use of Ex-Post data for volatile, difficult to forecast parameters, will result in more appropriate incentivisation of National Grid's system operator activities?

It is difficult to predict how this significant change in approach will result, however we believe that this mechanism is more likely to maintain the incentive on the system operator throughout the duration of the scheme. We therefore recognise that although the arrangements are as yet untested it is a reasonable step change which should create appropriate incentives.

Question 2: Do you agree with the criteria used by National Grid to assess the extent to which it can forecast or control BSIS drivers? Are there other criteria that you think National Grid should consider?

The criteria presented in Table 4 seem to be a reasonable assessment. However, we would also note that regarding Industry code changes NG might also ensure that they are actively involved in any code changes which might influence the system operator role and that they do not merely have an obligation to propose changes which might better facilitate their own aims.

Question 3: What are your views on National Grid's conclusions regarding the treatment of Generation Availability in BSIS models?

We agree that the use of OC2 data as a primary source of information would seem reasonable. However, NG may wish to use other sources of information and consider the use of scenarios to formulate their view on generation availability.

Question 4: What are your views on National Grid's conclusions regarding the treatment of Generation Running in BSIS models?

The conclusions seem balanced, however we believe that opportunistic behaviour and running below cost overnight to avoid start up costs and/or failures to start can be difficult to model.

Question 5: What are your views on National Grid's conclusions regarding the treatment of Demand Volatility in BSIS models?

NG's conclusions would seem reasonable and we believe that NG is well placed to forecast demand volatility for ex-ante models.

Question 6: What are your views on National Grid's conclusions regarding the treatment of Transmission Availability in BSIS models?

We agree that it would not be appropriate for NG to treat transmission equipment faults as an ex post input as a separate reliability incentive already exists. The intention to use OC2 data as an ex ante input in the context of its association with transmission outages is reasonable.

Question 7: What are your views on National Grid's conclusions regarding the treatment of Transmission Capability in BSIS models?

As NG has stated it is clear that the maximisation of transmission capability should be incentivised and therefore any associated data be treated on an ex ante basis.

Question 8: To what extent do you think that National Grid's proposed approach to delivering a modelled target cost for Energy Imbalance will act as an appropriate incentive to deliver cost efficiencies?

We note that this new approach places significant reliance on the accuracy of modelling techniques. The analysis which is required upfront in order to establish relationships within these models is extensive and therefore it is difficult to provide any well-informed and detailed views on the appropriateness of NG's approach. Based on the information available it seems reasonable to use the Energy Imbalance model, which seeks to ensure that NG is incentivised to match or beat the historic BM price premium over wholesale market price.

Question 9: To what extent do you think that National Grid's proposed approach to delivering a modelled target cost for Margin will act as an appropriate incentive to deliver cost efficiencies?

Noting the above general comments, and the difficulties with respect to establishing the relationships between input data and Margin Price which were discussed at NG's workshop on 8 December 2010, we believe the efficiencies NG will be incentivised to obtain are appropriate.

Question 10: To what extent do you think that National Grid's proposed approach to delivering a modelled target cost for Fast Reserve will act as an appropriate incentive to deliver cost efficiencies? Are there any areas where you think that improvements to the models could be made?

We have no further suggestions in respect of the Fast Reserve model.

Question 11: To what extent do you think that National Grid's proposed approach to delivering a modelled target cost for Frequency Response will act as an appropriate incentive to deliver cost efficiencies?

The model seems to identify the appropriate relationships to ensure that incentives are maintained to deliver efficiencies in operational costs and contracting conditions.

Question 12: To what extent do you think that National Grid’s proposed approach to delivering a modelled target cost for Footroom will act as an appropriate incentive to deliver cost efficiencies?

The approach seems reasonable.

Question 13: To what extent do you think that National Grid’s proposed approach to delivering a modelled target cost for reactive power will act as an appropriate incentive to deliver cost efficiencies?

The approach seems reasonable and we note that the decline in the market tenders for reactive power has led NG to assume that no volumes of reactive power will be obtained from market arrangements.

Question 14: To what extent do you consider that there exists the potential for windfall profit or loss under the scheme if a single snapshot of the generation outage plan were to be taken prior to scheme start (and used in the models for the duration of the scheme)?

We agree that the potential certainly exists as planned generation outages can change significantly over the course of a year.

Question 15: To what extent do you consider that a rolling Ex-Ante approach to modelling planned generation outages, as notified via Grid Code OC2 processes, is an appropriate mechanism to ensure the modelled outage plan remains representative (and suitable for incentivisation)? What other mechanisms could be considered?

We agree that an annual rolling ex ante approach would seem a reasonable approach and that the use of Grid Code OC2 processes as a source of information is practical.

Question 16: To what extent do you consider that there exists the potential for windfall profit or loss under the scheme if unplanned generator availability is not considered when calculating target costs for constraint management incentivisation?

The potential of windfall profits or losses clearly exists and stochastic modelling may provide a view on average or typical costs plus a range of outcomes. However, if a unit that has a critical impact on constraints has an unplanned outage then the actual outturn costs may be markedly different from the average produced by any such modelling.

Question 17: Do you agree that treating generation faults as an Ex-input to [constraint] models is an appropriate mechanism to ensure the modelled target cost remains representative (and suitable for incentivisation)?

Given the above comments this would appear sensible.

Question 18: To what extent do you consider that there exists the potential for windfall profit or loss under the scheme if a single snapshot of the transmission outage plan were to be taken prior to scheme start (and used in the models for the duration of the scheme)?

We agree that the potential certainly exists as planned transmission outages might change significantly over the course of a year.

Question 19: To what extent do you think that BM price submissions can reasonably be forecast?

As NG have discussed this is very difficult if not impossible to do accurately and we would be unconvinced of any approach which placed too much reliance on historic behaviour. There are many different influencing factors on BM prices many of which will not be transparent to parties outside of the owning company.

Question 20: What are your views on the use of submitted BM prices Ex-Post as a means of determining target costs for constraint management?

In view of the above this would seem to be a better approach than attempting to forecast BM prices ex-ante.

Question 21: What are your views on the use of a 'pseudo BM price' to apply to contracted BM Units when calculating target constraint costs? To what extent do you agree that the options outlined in paragraph 355 might be suitable?

We believe that the 'pseudo BM price' approach seems complex and difficult to govern transparently.

In particular, regarding how counterparties might be contractually required to provide a pseudo BM price it is unclear how any arbitration process would work. Details such as the duration, frequency and role of an arbiter would need to be established all of which increase uncertainty and procedural costs for an unspecified benefit.

The first option in paragraph 355 to use time-based average prices looks preferable although remains complex.

Question 22: Do you agree that National Grid should be incentivised to beat historic constraint contracting performance?

Other than the issues discussed on how this might be achieved it is difficult to give any reasons why such an objective should not be included.

Question 23: If yes, what in your view is the most appropriate way to achieve this in practice?

As noted above this is difficult to achieve having reviewed NG's discussion it seems that a more straightforward approach, noted in paragraph 359, by comparing out-turn actions

with a target which discounts against ex post BM prices is more reasonable. However, as highlighted in the above letter, how the level of this discount factor is set warrants greater transparency.

Question 24: To what extent do you agree with National Grid's views on the need for a cost 'dead-band' under the proposed approach to incentivisation?

We have no objection to NG's proposal for no deadband but would note that it would not be unreasonable were a deadband to be used to cover the potential for modelling errors under this new approach.

Question 25: To what extent do you agree with National Grid's views on the magnitude of the profit cap and loss floor under the proposed approach to incentivisation?

We support the use of a symmetrical cap and floor and would propose that for a two year scheme +/- £30m be used.

Question 26: To what extent do you agree with National Grid's views on the magnitude of sharing factors under the proposed approach to incentivisation? What do you consider to be an appropriate level of sharing factor?

We agree that for this new approach symmetrical sharing factors should be used; based on NG's discussion of the issues, sharing factors of +/- 25% do not seem unreasonable.

Question 27: Do you agree that National Grid should be concerned about the potential for parties to influence its performance under the incentive scheme by using information that it makes available to the wider industry?

We note NG's concerns however we fully support information release and believe that, in general, improved transparency can only benefit the operation of the market. Furthermore, transparent information (such as that discussed in the recent Constraint Information Transparency consultation) can reduce overall costs and allow the market to self govern in respect of participant behaviour.

Question 28: Do you agree that the creation of an open, transparent statement describing National Grid's methodology for determining whether model inputs should be treated on an Ex-Ante or Ex-Post basis is appropriate?

Yes, this would give a better understanding of National Grid's methodology for inputs but would need to be subject to appropriate regulatory governance for any changes to the methodology.

Question 29: What are your expectations of National Grid when it comes to the production of an Incentivised Balancing Cost/BSUoS charge forecast?

We would welcome publication of the following list of information:

- Forecast of £/MWh annual BSUoS to be provided on a monthly basis.

- £/MWh annual forecast provided at monthly level, with supporting data rather than just the graph which is published at the Operational Forum.
- More detailed information regarding why forecast has differed from outturn and expectations for the future (e.g. balance of year).
- Information on delays/rescheduling of transmission work that may impact on future system operator costs.
- Continued information of forecast and outturn (such as is included in the MBSS reports).
- Forecast of SO internal OPEX costs.
- More regular updates of the Year 2 BSUoS forecast, particularly as it gets closer to the start of that charging year.
- Information on how assumptions may have changed between years and forecasts. This will allow us to understand if action has been taken to correct an historic over or under forecast bias.

Question 30: What are your views on the timing of such forecasts? For example, do you have processes that will be impacted by the timing of publication of an IBC/BSUoS forecast?

Our own internal monthly reporting timetables might be impacted but it is more important for us to receive more detailed information and regular publication of the forecasts from National Grid.

Question 31: Do you agree with the concept of (and need for) a Scheme Adjusting Event? If so, what sort of events do you consider it appropriate to adjust for?

Scheme adjusting events significantly increase uncertainty. However, it may be unrealistic to expect NG to absorb the cost of extreme unforeseen circumstances and conversely they should not then be able to get windfall benefits either.

The three proposed reasons presented in the consultation, namely:

- to allow for clear errors in formulae or data to be corrected
- to allow for changes brought about by shifts in regulation or step-changes in policy
- to deal with Security Periods and Force Majeure events under the Balancing and Settlement Code (BSC) and Connection and Use of System Code (CUSC) all seem reasonable events and we would anticipate that they would receive appropriate scrutiny from the Regulator.

Question 32: To what extent do you consider that the scheme needs to be able to cope with the 'known unknowns' listed in section 4.4.2? How might the impact of these events be managed?

We agree that the Olympic costs, Britned ramp management are currently difficult to model or quantify to any reasonable extent. We also note that the timing of the implementation of any increase in infeed loss limits is not currently clear as this waits for a decision from the Regulator. However, based on NG's experience of similar issues and as we get closer to the relevant event we would hope they could produce a reasonable forecast to be managed in the normal incentive scheme.

Question 33: Do you consider that your systems will be impacted by the proposed change to scheme structure outlined in these Initial Proposals? If so, what information will you require (and in what timescales) in order to accommodate the change?

We don't currently anticipate any impact on systems.

**EDF Energy
December 2010**

Electricity SO Incentives Initial Proposals for 1 April 2011 Constraints Addendum

EDF Energy response to your questions

Question CA1: To what extent do you agree that the way in which ex-ante inputs to the unconstrained model have been derived, as set out in paragraphs 21 to 44 above, is appropriate?

In general these appear to be sensible. However, we would comment that the efficiency factors stated look optimistic and that the model may need to consider the impact of co-firing biomass on plant marginal costs and income (although this would require inputs of ROC and LEC prices). We also note that there is no mention of the impact of Other Works Costs and BSUOS and TLM on overall marginal costs. We also believe that Start Up costs may prove very difficult to quantify as perceptions and impacts of damage costs on decision making can rapidly change especially when a plant changes owner.

Question CA2: To what extent do you consider that the approach taken to calibration of the model provides a reasonable ongoing representation of generation output for the duration of the incentive scheme?

The calibration process described is a pragmatic solution to the problem. However, we note that the process uses observable parameters and this does mean that the ability of the model to mimic the market without these calibrations is not clear. Furthermore, we would be interested to understand how NG will track these calibrations if and when they change over time.

We would hope that a good fit to actual market outcomes can be demonstrated via back casting over last 3 -5 years. In particular the Model should correctly predict PNs (i.e. intended generation prior to BM bid and offer acceptances) by fuel and technology type. We would not expect to see individual unit PNs correctly forecast but overall sum of PNs across tranches of similar plant should match the market. Groups such as those listed below might be used:

- Nuclear
- CCGT split into groups based on age/efficiency
- Coal split into Opted In and Opted Out
- Oil
- OCGT

Question CA3: To what extent do you consider the proposed approach to modelling transmission network as a series of boundaries allows for a pragmatic representation of transmission capability for the purposes of incentivisation?

The approach taken to model a series of boundaries rather than a full assessment of the complete network (intended for the enduring model) seems to be one which requires a number of assumptions and informed estimates to be made. The work which is described seems reasonable; however, this aspect of the new incentive scheme seems an area which is at risk of modelling inaccuracies.

Question CA4: To what extent do you agree that the proposed approach to modelling generator effectiveness on boundaries will result in appropriate constraint volumes being determined?

We note the limitations of the approach and the need for adjustments in the enduring model. It is therefore difficult to give an informed view on the effectiveness of the approach.

Question CA5: To what extent do you consider that there exists the potential for windfall profit or loss under the scheme if an 'expert group' methodology is used to determine a year 2 outage plan as described above?

Clearly the potential exists for the "expert group" to make decisions which are not proved to be robust which might lead to windfall gains or losses. However, using an alternative approach is unlikely to eradicate this potential. The decision making process is however non-transparent; we would welcome more detail regarding documentation of the decision making process and any scrutiny it might receive from the Regulator.

Question CA6: To what extent do you consider it possible to forecast BM price submissions ex-ante? Do you consider there to be alternative mechanisms to that considered by National Grid for determining BM Prices ex-ante?

Please see our responses to questions 19 and 20.

Question CA7: To what extent do you consider that a 'discount factor' could be used in conjunction with Ex-Post BM pricing to deliver efficient incentivisation of constraint management activities?

It is right that the prices NG achieve for constraint management should aim to be at a discount against BM prices. However, we would welcome a greater understanding of how such a discount would be determined, for example if historic performance is to be used to inform this discount level we would expect this measure to be subject to sufficient scrutiny by Ofgem.

Question CA8: To what extent do you agree with the areas of constraint incentivisation outlined in section 3? Are there other activities that you consider should be covered by constraint incentivisation?

We agree that NG's incentive for the management of constraint costs should ensure that both volumes and price of constraints should be incentivised.

Question CA9: To what extent do you think that National Grid's proposed approach to delivering a modelled target cost for constraints will act as an appropriate incentive to deliver cost efficiencies?

We would hope that incentives on both volumes and price of constraints will provide the incentives for NG to deliver efficiencies. However, we would expect any innovation in respect of maximising the use of the transmission system to be within NG's obligations under the relevant codes and security standards, and the development of new ancillary services to be sufficiently transparent to industry parties.

**EDF Energy
December 2010**