



To: soincentives@uk.ngrid.com

18 December 2009

Initial Proposals consultation on National Grid Electricity Transmission System Operator (SO) Incentives for 1 April 2010

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

- EDF Energy believes an appropriate scheme will incentivise the SO to manage uncertainties within its control and may contain appropriate adjusters where there are risks an SO cannot be expected to manage.
- We support the development of longer term incentive schemes subject to appropriate adjusters.
- EDF Energy would support the unbundling of constraint costs into a two year scheme with seasonal adjusters.
- EDF Energy believes that the proposed parameters of the scheme warrant further justification and their derivation should be more transparent.
- We consider the latest cost forecast (and therefore scheme target) to be high. It is based on some assumptions which we cannot currently support.
- Therefore, we provide additional analysis which we invite National Grid (NG) to consider before finalising their estimate of costs.

Scheme design

EDF Energy believes an appropriate SO incentives scheme will provide the incentives to manage the uncertainties associated with the costs of system balancing. There are aspects of system balancing costs which are outside the SO's control and, where these are correctly identified, we support the use of appropriate adjusters. However, it is important that these adjusters do not remove all incentives on the SO to optimise the strategies and processes that reduce costs.

Unbundling

The appropriate forecasting and management of system balancing costs are crucial for industry participants to understand and therefore EDF Energy believes that transparency of the SO incentive scheme is paramount. While unbundled schemes can have greater transparency for industry parties, the transparency of SO allocation of costs to each individual component is an important aspect of an unbundled scheme.

EDF Energy does not support the unbundling of energy related components of BSUoS, as the interaction between components is too great to result in a transparent and efficient incentive scheme. However, as National Grid have pointed out, there has been a recent focus on constraint costs, and there is increasing relevance to managing constraints under the Interim Connect and Manage arrangements for transmission network access. EDF Energy therefore believes that it is very timely for NG to consider a separate incentive for constraints, which will distinguish these costs from other system balancing activities.

Scheme duration

We believe that a longer term scheme is a natural evolution of SO incentives, particularly as the market currently faces a number of long term policy goals. Ensuring appropriate incentives on the costs of system operation is a critical part of the necessary investment climate to ensure that these policy goals can be met.

For constraints, a longer term scheme (with appropriate adjusters) will recognise the value in aligning the management of constraints with a forward consideration of transmission network investment and outage planning.

Adjusters

We broadly agree with the terms of adjusters to incentive schemes proposed by NG in this consultation. These should ensure that the SO is incentivised throughout the year, rather than there being a situation where a target has been missed part-way through a year, leaving the SO disincentivised for the remainder.

EDF Energy supports a seasonal adjustment to a two-year constraint incentive, provided that transparent assumptions, such as price, volume and a monthly shape of the forecast, are published in some detail. This would allow the SO to secure its incentive over shorter periods aligned to outage planning, while also requiring them to look further ahead. However, in making this step change to the incentive scheme, it is imperative that BSUoS payers can be sure that the SO would allocate actions consistently. We would therefore support publication of a transparent method for cost allocation.

Scheme parameters

EDF Energy believes that the parameters of the scheme warrant further justification and transparency. In particular the target cost levels are very high and we discuss the assumptions used to forecast costs later in our response.

We view the cap and collars as currently unjustified and do not understand the reasoning behind the chosen levels of sharing factors for the proposed schemes.

Forecast

National Grid's forecast of costs is based on some assumptions which we cannot currently support. In particular we would highlight the assumptions made for the demand forecast (section 3.2.5 of the consultation); the wholesale to offer margin price multipliers (section 3.3.5) and the constraint cost assumptions.

Demand forecast

EDF Energy does not fully support the demand forecast assumptions made by National Grid, who are assuming that economic recovery brings demand levels back up quite significantly. We note that there have been recent reports that industrial demand is still falling in this financial year (The Times 10/12/09).

We also question the assumption that the Interconnector will be exporting at its full capacity (2GW) if market prices on the continent are higher than those in the UK. Historically, even when French prices are well ahead of the UK, the interconnector is rarely exporting at 2GW across the entire day.

There may be further downward pressures on demand as a result of embedded generation. Conversely, intermittent generation sources which are embedded and therefore not transparent to the SO may increase the costs of system balancing.

Wholesale to offer margin price multipliers

EDF Energy has conducted some analysis to validate the offer price multipliers quoted by NG. In some cases we have obtained different numbers, and so we have provided details of our methodology and findings below.

For the coal multiplier we have used published accepted offer prices divided by APX half-hourly prices. We believe these prices are more reflective of the half-hourly offer prices. Day-ahead baseload would not reflect the real-time system tightness for the specific half-hours in which offers were accepted and so was not a price considered in our analysis. Furthermore, the day-ahead market tends to hold a slight premium over within-day prices – particularly during sustained periods of system tightness.

For the calculation of the gas multiplier we used published accepted offer prices divided by the clean cost of gas. We understand this to be the same general method used by National Grid. The clean cost of gas was formulated from the within-day gas price (close) and standard assumptions of CCGT plant efficiency.

We believe NG should reconsider how its analysis has been conducted, as our own results for the same choice of time period (Aug 08 to July 09) produce different results. The CCGT multiplier is significantly different and may therefore affect the overall scheme cost. The coal multiplier we have calculated to be lower too, over this same time period.

	National Grid published (Aug 08 to July 09)	EDF Energy calculated (Aug 08 to July 09)	EDF Energy calculated (Nov 08 to Oct 09)	EDF Energy calculated (FY 2008/09)
Coal multiplier	2.18	2.01	2.02	1.87
CCGT multiplier	2.94	2.33	1.90	2.76
OCGT price	261	292	310	264
Oil price	372	299	260	367
Hydro price	139	149	126	165
Pumped Storage price	154	160	156	167

It is interesting that, when we use a more recent time period (Nov 08 to Oct 09), we find the multipliers are much reduced again. One can argue that the later period is more representative of current market conditions in the recession and that these conditions are more likely to persist in general for the next financial year. NG's own forecast of demand implies this, as do current forward market prices.

It is clear that the period chosen as a basis for these calculations is a strong influencing factor in the outturn figures, and we would welcome the rationale for choosing this period, rather than a period which includes at least one summer and one winter.

Constraint cost assumptions

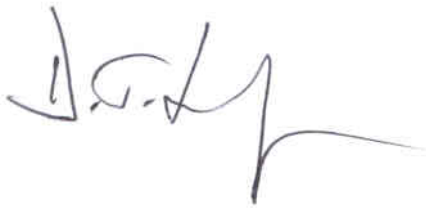
We would like to understand better how the price multipliers are used in the calculation of the constraint cost forecast (section 3.5.2). It is not clear what volumes of actions are assumed using the various multipliers and prices shown in NG's table. It is clear that these same volumes when used with the above reduced multipliers could notably reduce the constraint cost forecast.

EDF Energy notes the interaction between the constraint cost forecast and the assumptions regarding interconnector flows. In the event that market dynamics result in this forecast of costs being significantly lower than forecast we should like to understand what mechanisms might be in place to reduce the likelihood of windfall gains.

Please see our response to your detailed questions in the attachment to this letter.

If you have any queries on this response or would like to arrange a meeting to discuss it further, please do not hesitate to contact my colleague Rob Rome on 01452 653170, or myself.

Yours sincerely

A handwritten signature in black ink, appearing to read "D. Linford".

Denis Linford
Corporate Policy and Regulation Director

Attachment

National Grid Initial Proposals consultation for Electricity SO incentives

EDF Energy's detailed response

- 1. Have all cost drivers for Energy, Reactive Power, Black Start and Transmission Losses been captured and correctly identified as being within or outside National Grid control?**

EDF Energy agrees that all relevant cost drivers appear to have been captured, as we have discussed earlier the control of cost drivers and the appropriate incentive scheme is crucial to ensuring that scheme costs are correctly managed.

- 2. Have all the cost drivers for Constraints been captured and correctly identified as being within or outside National Grid control?**

EDF Energy agrees that all relevant cost drivers appear to have been captured.

- 3. Is historic market length a suitable proxy for future market length?**

EDF Energy views historic market length as an unsuitable proxy for future market length due to the continuously evolving picture of generation and demand. We refer in particular to the significant variation in national demand in the last 18 months due to the recession. Furthermore whilst generation follows a broad seasonal pattern it is affected by other factors such as unplanned trips and clean price spreads. Finally we note that the 2008 NIV generation data will be impacted by plants being offline due to the late fitting of FGD kits which is specific to 2008 only.

- 4. Do you agree with the conclusions we have reached with respect to the observed changes in NIV since BETTA go-live? If not, why not?**

EDF Energy broadly agrees with the conclusions reached with respect to observed changes in NIV.

- 5. What do you believe is the impact of wind on market length at this time; how do you see this varying as wind penetration increases and what do you believe are the key drivers? What additional analysis could be carried out to determine the current and / or future impacts?**

EDF Energy believes that wind has a notable impact on market length and would generally act to increase market length. However wind is also likely to increase the volatility of NIV, particularly on a daily level and much in line with the volatile nature of wind itself. Furthermore, wind tends to be strongest in periods of mild temperature, and comparatively absent during cold or very warm conditions (i.e. when demand is high). EDF Energy sees embedded wind generation as creating a further a dynamic as apparent national demand jumps up during cold or hot but calm periods. We would also note that although wind can vary significantly over the UK at any one time, weather systems are typically large enough to implement day-on-day changes to wind strength over a wide area.

EDF Energy expects that as wind penetration increases this volatility will increase and may not be transparent to the SO if it is embedded.

- 6. Do you agree with our base case scenario for NIV? If not, which scenario should be used and why?**

EDF Energy does not agree with National Grid's base case NIV forecast. Instead we believe that a scenario close to the red line (later recovery from recession with wind

generation making NIV longer and more volatile) is more appropriate for the reasons discussed in response to question 3. This view also seems more realistic given new commissioning plant (particularly CCGTs) and widening system margins.

7. Are there any other factors or scenarios that you believe should be considered in deriving a NIV forecast?

We view the year-ahead of OC2 submissions as helpful in determining NIV for the next 12 months as this gives a first indication of system margin. Secondly, forward clean spreads can be important.

8. Do you believe that installed wind capacity will increase as indicated? If not, please indicate how you believe the rate will change and why.

NG assumptions based on current signed connection agreements and construction rates seem appropriate. We note that industry's best source of data is the latest National Grid Quarterly Connections Update.

9. Do you believe that nuclear generation will maintain its current level of availability?

This would seem both a reasonable and appropriate assumption.

10. Do you agree with the assumptions made in producing a frequency response volume forecast? If not, please indicate why not.

National Grid forecast no significant change to generator characteristics over the next two years and they comment that their recent improvements in optimisation processes will be maintained. We are unable to comment on the viability of such assumptions given the amount of detail presented in this consultation. In particular we would wish to understand better how recent improvements in optimisation processes will be maintained.

11. Do you agree with the assumptions made in producing a fast reserve volume forecast? If not, please indicate why not.

We can broadly agree with these assumptions however, it is important to stress in particular that the dynamism of demand is likely to increase as distribution connected wind capacity continues to increase. This may not be transparent to the SO.

12. Do you agree with the assumptions made in producing a reactive volume forecast? If not, please indicate why

As we have commented earlier, the basis for National Grid's assumption that improved optimisation processes will be maintained is not visible to us. Otherwise the assumptions and basis for the forecast seem appropriate.

13. Do you agree with the assumptions made in producing a demand forecast? If not, please indicate why not.

EDF Energy do not fully support the demand forecast assumptions made by National Grid. In particular the view regarding economic recovery we view as optimistic as we note that there have been recent reports that industrial demand is still falling in this financial year (The Times 10/12/09).

We also view the assumption that the Interconnector will be exporting at 2GW across the period as an uncertain assumption since it depends on relatively market prices which are at risk from change. Furthermore, even when French prices are well ahead of the UK, EDF Energy rarely sees IC exports at the full 2GW across the day.

14. Do you agree that the relationship between the volume of margin actions and market length is an appropriate input to the model?

The relationship seems reasonable, although rather simplistic given the very wide scatter of data. Of course the change in market fundamentals since the onset of recession has acted to increase market length so that fewer margin actions would be expected.

15. Do you believe that wind generation will displace conventional generation behind key boundaries? Do you believe that conventional generation behind constraint boundaries will stop running?

EDF Energy agrees that the requirement for conventional generation will fall during windy periods; however there will still be a need for it at other times, particularly in the winter. This of course means that as conventional generation is likely to run less in the longer term, the sustainability of the generating units themselves could be questioned. This could result in early plant closures especially if those plants face additional charges on their cost base, e.g. locational BSUoS.

16. Do you have any comments on the assumptions made in producing a margin volume forecast? Are there any other considerations that should be included in the margin volume assumption?

We have no further comments.

17. Do you agree that the Argus forward price values are an appropriate measure of wholesale prices over the forecast period? If not, please indicate why not.

EDF Energy views Argus forward prices as a reasonable assessment of the market for National Grid to use in this forecast. However an additional source of data could be consulted or indeed a basket of prices could be used particularly for the forward, less liquid contracts.

18. Do you agree that Bloomberg is a suitable source for Carbon prices and the Euro to Sterling conversion rates used within the forecast? If not please indicate why not.

Bloomberg would seem an appropriate source for Carbon prices but we note that there are several of prices quoted in Bloomberg and these can be quite different (e.g. EUA forwards, ECX ICE, generics). On the forward exchange rates, a Bloomberg mean value for forward FX should in our view be fairly representative.

19. Do you agree with the assumptions made in producing a BM energy price forecast? If not, please indicate why not.

EDF Energy suggests that market dynamics across 2010/11 might change due to an extra ~2GW of new CCGT coming online. Other plants (particularly peaking plants) could respond by varying their BM prices when being called on to generate to compensate for the reduced running hours. Therefore historical BM prices may not be applicable.

20. Do you agree with the assumptions made in producing a BM Response price forecast? If not, please indicate why not

See response to question 19.

21. Do you agree that a 12 month average of the prices for Footroom is a reasonable assumption? If not, please indicate why not.

See response to question 19.

22. Do you agree with the assumptions made in producing a Fast Reserve price forecast? If not, please indicate why not.

We broadly agree with these assumptions.

23. Do you agree with the assumptions made in producing a Margin price forecast? If not, please indicate why not.

EDF Energy has conducted some analysis of the multipliers used by National Grid in calculating their margin price forecast as we have discussed. The results of this analysis and our conclusions can be seen below.

	National Grid published (Aug 08 to July 09)	EDF Energy calculated (Aug 08 to July 09)	EDF Energy calculated (Nov 08 to Oct 09)	EDF Energy calculated (FY 2008/09)
Coal multiplier	2.18	2.01	2.02	1.87
CCGT multiplier	2.94	2.33	1.90	2.76
OCGT price	261	292	310	264
Oil price	372	299	260	367
Hydro price	139	149	126	165
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For the coal multiplier we have used published accepted offer prices divided by APX half-hourly prices, on the basis that baseload (i.e. day-ahead) would not reflect the real-time system tightness. Furthermore, the day-ahead market tends to hold a slight premium over within-day prices – particularly during sustained periods of system tightness.

Calculation of the gas multiplier used published accepted offer prices divided by the clean cost of gas. We understand this to be the same general method used by National Grid. The clean cost of gas was formulated from the within-day gas price (close) and standard assumptions of CCGT plant efficiency.

For the same time period used by National Grid, the multipliers we have calculated for coal and gas are lower. Interestingly, when we use a more recent time period (Nov 08 to Oct 09) then the values become lower still. One can argue the later period to be more representative of current market conditions in the recession and that these conditions are likely to persist in general for the next financial year. National Grid's own forecast of demand implies this, as do current forward market prices.

24. Do you agree with the assumptions made in producing a Balancing Services price forecast? If not, please indicate why not.

As we have discussed, the use of historical data may not necessarily be the best view of the contract prices in the future. The demand and margin price forecasts may not be appropriate.

25. Do you have a view on the future trend of STOR contract prices?

It is reasonable to expect an increased upwards pressure on operating short-term reserve contract prices as increased wind generation leads to dynamism of demand

and therefore increased need for STOR. However, we believe that STOR utilisation prices whilst contracted at a increasing level can outturn below this from BM participants who may chose to lower their prices within year. There is evidence of this in 2009/10.

26. Do you have any further comments regarding this forecast or the assumptions made in its development?

We have no further comments.

27. Do you have any comments on the background and assumptions made in constructing the constraints volume forecast?

EDF Energy notes the interaction between the constraint cost forecast and the assumptions regarding interconnector flows. In the event that market dynamics result in this forecast of costs being significantly lower than forecast we should like to understand what mechanisms might be in place to reduce the likelihood of windfall gains.

28. Do you have any comments to make regarding the assumptions made in constructing the constraints price forecast?

EDF Energy assumes that the pricing information and demand background assumptions described for the Balancing Services forecast are used in the calculation of a constraints price forecast. We would welcome further analysis from National Grid as previously discussed in how the results of our calculations might impact their forecast.

In future, it would be useful to understand the assumed volumes of offer and bid acceptances so that the £m costs of constraints can be calculated by the reader.

29. Do you agree with the methodology used to forecast the second year of a two year scheme for all components except constraints?

EDF Energy agrees with the methodology used however we would support greater transparency and earlier sight of future constraint costs.

30. Do you have any suggestions for other factors that should be taken in to consideration for the second year?

We have no further suggestions.

31. Do you agree with the benefits outlined for the unbundling of constraints costs and the remaining balancing cost components into separate incentive schemes? What additional issues need to be considered?

EDF Energy supports the unbundling of constraint costs whilst recognising the concerns expressed regarding allocation of costs. It is imperative that BSUoS payers can be sure that NG control room would allocate actions in a similar manner independently of any individual choices. We therefore support a transparent method for cost allocation to be published should a separate incentive be implemented.

32. Do you agree that there is a misalignment in internal and external SO incentives caused by different scheme durations?

EDF Energy agrees that there is a misalignment in the duration of these schemes and would support greater transparency of internal incentive scheme costs and the interaction with the BSUoS forecast.

33. What option could or should National Grid use to develop a 2 year constraint forecast
EDF Energy supports greater transparency and earlier sight of future constraint costs particularly in view of the significant step change in costs from 09-10 to 10-11 (forecast).

34. Do you agree with the benefits outlined for the implementation of a two year incentive? What do you believe the additional benefits and / or drawbacks are of a multi-year scheme?

If further price certainty were a consequence of a longer term scheme then this would be beneficial. However, we would be wary of the possibility of creating large step changes between the longer term schemes. Therefore, two years seems an appropriate move forward from the current single year scheme without introducing this uncertainty.

35. Do you agree with the introduction of a Reactive Index Adjustment based on actual default reactive power prices? Do you agree with the form of this adjustment as presented here?

We appreciate National Grid's concerns regarding their ability to control some of the key drivers of Reactive Power costs and note the interaction here with the decline in the number of reactive power market contracts. We agree with a form of adjustment which incentivises National Grid to reduce Reactive Power volumes which are determined by the disposition of generation and demand.

36. Do you feel at this stage that there is a case for any additional adjustment terms to be introduced at this stage?

EDF Energy do not support any further adjustment terms as these will introduce additional complexity.

37. Do you believe that National Grid should include an allowance for fault outage costs within the constraint forecast? Do you agree with the level set?

Whilst it would seem prudent to account for fault outage costs within the constraint cost forecast EDF Energy supports the use of the existing IAE mechanisms and the transparency that they bring to manage significant fault outage costs (provided such IAEs are subject to appropriate scrutiny from the Regulator). The inclusion of an average fault outage cost into the forecast constraint incentive could introduce the opportunity for windfall gains and we would wish to understand how this would be dealt with should such a sum of money be an over estimate. Should this be progressed into final proposals we would wish for much greater transparency of the calculation of the sum and the mechanism for its use.

38. Do you agree that Transmission Losses should remain bundled with the other components of BSIS, excluding constraints?

EDF Energy agrees that the transmission losses should remain bundled within the other components in order to avoid further complexity where possible.

39. Do you agree that the Transmission Losses Reference Price should remain a fixed value for the duration of the scheme?

EDF Energy does not see any benefit from making further changes to the Transmission Losses Reference Price.

40. Do you agree with the criteria used to develop the incentive scheme design? If not, what additional points should be considered?

EDF Energy agrees with the range of criteria considered in developing the scheme.

- 41. For the unbundled constraints scheme, do you agree with the parameters used? If not, what parameters should be implemented? Please explain your rationale for any changes**

EDF Energy believes that further justification and transparency of the level the cap and collars are set to should be provided. Otherwise the parameters appear acceptable.

- 42. Do you agree with the implementation of two single year incentive schemes for all balancing costs except constraints? Do you agree with the parameters used? If not, what parameters should be implemented? Please explain your rationale for any changes.**

EDF Energy supports a multi-year scheme all balancing costs except constraints where that scheme has two single year incentives. This will maintain incentives for year 2 where the target has not been met in the first year.

EDF Energy believes that all the parameters of the scheme warrant further justification and transparency. The target level is, in our view, too high. We also view the cap and collar levels as requiring further justification.

- 43. Do you agree with the parameters used for the one year fully bundled scheme? If not, what parameters should be implemented? Please explain your rationale for any changes**

EDF Energy believes that all the parameters of the scheme warrant further justification and transparency. The target level is, in our view, too high. We also view the cap and collar levels as requiring further justification.

- 44. Do you agree with the development of a two year fully bundled incentive? How should the constraint cost forecast for year two be included in the incentive target e.g. agreed post scheme or some form of constraint forecast developed pre-implementation?**

EDF Energy supports a two year bundled incentive for all costs other than constraints. Greater visibility and transparency of year 2 constraint costs should also be provided with a multi year constraint cost incentive with seasonal re-forecasting.

- 45. Do you agree with the scheme options presented here for implementation from April 2010 and what is your preferred option? If not, please provide an explanation as to why and any alternatives that you would like to see developed**

EDF Energy agree with the option for a multi-year balancing cost component incentive but would support a longer term constraint cost incentive with seasonal re-forecasting as previously discussed.

- 46. What impacts will a change in incentive scheme structure and consequential changes to the BSUoS data have on your IS systems?**

Based on the information available we are not currently aware of any significant impact these changes will have to our systems.

- 47. If your systems will be impacted by a change to scheme structure what information will you require and in what timescales in order to accommodate the change?**

See response to question 46.

- 48. Do you have any comments regarding the information provided within this consultation?**

We have no further comments.

49. Do you have any comments regarding this consultation process? What improvements would you like to see in future years?

EDF Energy supports the mechanisms for consultation and industry engagement in the drafting of proposals for incentives schemes and we recognise the commitment National Grid has made in this regard.

However, in producing their consultation document further details of the modelling and assumptions in a separate appendix might be a worthwhile development. We also note that National Grid's presentation of forecast component data has varied from one year to the next. This variation, the use of different probabilistic terms and the understanding of the interaction between different views and BSUoS are also worthy of better explanation. Finally, further transparency of internal and external incentive scheme costs would be beneficial.

EDF Energy
December 2009