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FAO Dena Barasi
Electricity Transmission Policy
Ofgem
9 Millbank
London
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4th July 2011

Dear Dena,

Impact Assessment on RWE proposal P229 – seasonal zonal transmission losses scheme

Drax Power Limited ("Drax") is the operating subsidiary of Drax Group plc and the owner and operator of Drax Power Station in North Yorkshire. Drax Power Limited also owns an electricity supply business, Haven Power Limited ("Haven"), which supplies some 33,500 business customers and provides an alternative route to market for some of Drax's power output.

Drax welcome's this opportunity to provide feedback on Ofgem's Impact Assessment on BSC Modification P229. Appendix 1 to this letter contains answers to the specific questions raised in the Impact Assessment document and forms the main body of this response. Appendix 2 contains an additional confidential submission that further considers the impact of implementing P229.

The following statements summarise the key points in this submission:

- Whilst the analysis suggests that transmission losses would be expected to reduce by an average of 211GWh per annum as a result of implementing P229:
  - The resulting saving to consumers of £9.1 million per year would only result in an average saving of 0.003p/kWh or £0.10 per year per household bill;
  - This should be considered against an average "medium" domestic electricity bill of £608 per annum;
  - The value of the redistributed energy, on the other hand, will run into hundreds of millions of pounds for wholesale market participants;
  - On this basis the consequential impacts to the industry appear wholly disproportionate to the potential benefits;
- Neither of the P229 proposals is likely to have an impact on siting decisions; investors will place greater weight to more important considerations, such as capital costs, ongoing operational costs and access to fuel / port infrastructure or achievable wind speeds;
- The impact of P229 on a given plant will depend on where the marginal generator is sited, therefore it is difficult to determine the potential benefits or detriments of implementing P229 as there are many other factors to consider, such as fuel prices and availability;
- The primary role of transmission charging and losses allocation should be to recover the costs incurred in developing and transporting energy across the transmission network:
  - Transmission charging should not be used as an environmental signal when such signals cannot be mitigated by investment in carbon abatement technology and improvements in plant efficiency;
  - Efficient environmental signals target the most polluting plant and provide signals to invest in technology that will reduce the volume of emissions produced per MWh generated;
  - P229 only aims to shift generators' output to a different location, regardless of whether the volume of emissions produced per MWh increases or decreases;
  - There are existing, more efficient and proven mechanisms for reducing emissions, such as the EU ETS and LCPD arrangements;

- P229 Proposed results in a huge transfer in value across the system that effectively rewards southern based generators for producing transmission losses:
    - Transmission losses arise due to the actions of all generators, regardless of their location on the transmission system; a “cost reflective” allocation methodology should reflect this fact;
    - P229 Proposed would lead to a distortion in competition in the wholesale electricity market, rewarding some generators for causing losses whilst penalising others;
    - P229 Alternative goes some way to mitigate this issue.

In addition, Drax wishes to note the following in terms of the interactions between P229 and other policy and regulatory work-streams:

- DECC’s EMR work-stream is considering a number of proposals that will have potentially wide ranging consequences on the operation and economics of the GB electricity market:
    - It is clear that Ofgem, consumer bodies and market participants are not currently in a position to consider P229 alongside the most significant changes to the electricity market in a decade;
    - Given the timetable for the EMR work-stream, it would appear prudent for Ofgem to delay a decision on transmission losses and prepare a holistic appraisal of transmission charging principles when greater detail is available;
- A further consideration is the development and implementation of the new European Network Codes and the European model for market integration:
    - Drax considers the integration of European electricity markets to be a positive move for market liquidity, which is an essential element of a robust and competitive market;
    - It is essential that the implementation of P229 does not undermine the ability of the GB market to progress towards integration with other European electricity markets in an efficient and coordinated manner;
- Drax believes that it is appropriate for transmission losses to be considered alongside other locational pricing signals that will, inevitably, interact:
    - It would be inappropriate for the Authority to make a decision on P229 prior to Ofgem completing Project Transmit, which is reviewing transmission charging principles;
    - It would be an unfortunate scenario should the implementation of BSC Modification P229 need to be reversed due to Project Transmit resulting in a contradictory set of conclusions;
- The most appropriate way forward would be for Project Transmit to consider the allocation of transmission losses as part of its remit:
    - By combining the transmission charging work-streams under one holistic review, the full impact of transmission charging reform can be appreciated and evaluated by Ofgem, consumer bodies and industry participants;
    - At this time, there is not enough information for these parties to appreciate the wider transmission charging outlook in order to evaluate the potential implications to market participants and end users.

If you would like to discuss any of the views expressed in this response, please feel free to contact me.

Yours sincerely,

By email

Stuart Cotten
Market Development Manager
Regulation and Policy

Appendix 1: Drax response to the consultation questions

Chapter 4

Question 1: Do respondents consider that we have appropriately identified and where possible quantified the impacts of P229 Proposed and P229 Alternative?
and
Question 2: Do respondents consider that there are additional impacts which we should take into account in the decision making process and, if so, what are these?

There are a number of areas where Drax has comments on the workings of the proposals[1], the issues that may be encountered and the assessment of the impacts. These are covered under the individual headings set out below.

Accuracy in the allocation of losses

Starting with first principles, Drax does not agree that the methodology to apportion losses under P229 is either accurate or cost reflective. The allocation of losses in both proposals does not reflect the extent to which parties give rise to losses in a given period of generation, meaning the associated costs apportioned to parties is unrepresentative of the transmission losses that they "cause".

The multipliers used to allocate transmission losses under both proposals are calculated prior to the year in which generation is delivered (i.e. it is an ex-ante methodology). Whilst the proposer has used this methodology to mitigate the uncertainty associated with ex-post charging (which is positive for competition), it will cause an inaccurate allocation of transmission losses that is based upon those parties that were generating in the reference period rather than those parties that actually gave rise to the losses (which is detrimental to competition).

Drax believes that, on balance, an ex-ante methodology (as delivered by both P229 proposals) would lead to a more positive outcome for market competition than an ex-post methodology, as it provides certainty of costs prior to the point of delivery. However, the way in which the ex-ante multipliers are determined does not reflect the expected usage of the transmission system by generators in a given zone or provide a forecast of the level and distribution of demand across the system during the period that the losses are caused.

This means that the allocation of losses for a given Settlement Period is based upon the losses caused by the location of generation and demand in the previous year, regardless of how the distribution of generation and demand has changed for a particular delivery period. The effect of this mismatch of transmission user actions and signals is that the allocation of losses provides an inaccurate signal for despatch and does not reflect the way in which such losses arise.

In addition, P229 Proposed has an additional flaw in that it results in in an absurd allocation of losses that effectively rewards generators in particular zones for *producing* transmission losses. Transmission losses arise due to the actions of all generators, regardless of their location on the transmission system; as such, a "cost reflective" allocation methodology should reflect this fact. P229 Proposed would lead to a distortion in competition in the wholesale electricity market, rewarding some generators for causing losses whilst penalising others.

Disproportionate redistribution of value

The analysis surrounding P229 indicates that there will be a transfer in value between users of the transmission system. The transfer is further highlighted in Ofgem's Impact Assessment, which advises that the transfer in value will occur between northern generators and southern generators, and between southern consumers and northern consumers. This is due to the effect of the 'signal' that P229 aims to introduce into the transmission losses allocation process.

[1] P229 Proposed and P229 Alternative.

The value of the redistributed energy as a result of P229 Proposed will run into hundreds of millions of pounds, whereas the stated benefit[2] that results from the potential reduction in transmission losses is estimated to be around £9.1m per annum. This means the average saving in transmission losses for domestic consumers equates to approximately 0.003p/kWh or £0.10 per annum[3]. This saving should be considered in the context of a "medium" domestic electricity bill of £608 per annum[4] and the potential cost and upheaval to participants of the wholesale electricity market.

In terms of the distributional effect on individual businesses versus the benefit gained by the end consumer, the cost of implementation, the value of the redistribution and the impact on competition, the consequential impacts on the industry caused by implementing P229 Proposed versus the benefit to the consumer appears wholly disproportionate.

The effect of value transfers on electricity market competition

Ofgem must further consider the effects of implementing P229 on the different types of participants involved in the electricity industry. Whilst suppliers may be unable to pass-through costs to customers in the short-term (due to contracts having already been agreed), it is likely that beyond that period they will be held whole due to their ability to pass-through costs with no real detriment to competition.

The important issue is that whilst suppliers contract with generators in the wholesale electricity market for their demand requirement, they compete in a retail market where the effect of a redistributed losses allocation will affect all their competitors in the same way. This is due to transmission and distribution costs being allocated on the same basis to all users in a given supply area.

The most significant competition impact within the wholesale market will be on generation companies, due to their cost base being modified on a locational basis whilst they compete on a national basis. P229 forces generators to accept a change in their wholesale market revenue without them being able to mitigate the situation. It will depend upon the geographical location of the marginal generator as to whether the cost of losses can be fully, or even partially, recovered.

This is a particular issue for independent and single site generators. Generators that do not form part of a geographically diverse portfolio are unable to fine tune their output to be more economically efficient; they either generate or switch off. Ultimately, vertically integrated parties are in the most ideal position, as they have a choice as to where they allocate their increase in costs across their portfolios and / or business units.

Effects on competition in non-energy markets

Ofgem must consider the impact of P229 on competition in non-energy markets, i.e. the markets in which end users (businesses) participate. This is a particularly sensitive area of consideration in the current economic climate.

It is anticipated that both P229 proposals will have an upwards pressure on electricity prices for consumers located in the south. There appears to be little consideration of the competitive effects on such consumers in their own markets, particularly for energy intensive users.

The likely impact of both P229 proposals, but particularly P229 Proposed, is that those business consumers located in the south that are involved in domestic markets will be placed at a competitive disadvantage to those that are located in the north. Not only will the cost of energy usage increase for southern based consumers, but the cost of their northern competitors' energy usage will decrease.

In addition to domestic markets, the impact on the competitiveness of southern based energy intensive users should be considered in the wider context of European and international markets.

[2] Paragraph 4.20 of the Impact Assessment.
[3] Based on typical medium consumption figures. Source: Ofgem, "Factsheet 96: Typical domestic energy consumption figures", 18th January 2011.
[4] See Footnote 3.

Effects of the new cross-subsidisation on plant closure signals

A claim from the originator of the modification, which is echoed by Ofgem's Impact Assessment, is that P229 would remove a cross-subsidy that exists within the current transmission losses allocation process. It is claimed that the current cross-subsidy transfers value from southern generators to northern generators and occurs due to consumers being located in a different region of the country to the generation plant required to meet the overall demand requirement. However, both the proposer and the impact assessment have failed to identify that P229 Proposed introduces a new cross-subsidy from northern generators to southern generators.

Whilst both proposals signal an earlier closure date for northern generators (in terms of an increase in costs over the base line), P229 Proposed signals that southern plant should remain open for longer, regardless of how inefficient it is or how much pollution per MWh it produces. This is due to P229 Proposed creating a new cross-subsidy that effectively pays southern generators for delivering power, regardless of the fact that all plant operating in a particular Settlement Period will contribute to the overall volume of transmission losses.

The introduction of this new cross-subsidy from northern to southern based plant would add to the value currently received by inefficient oil, coal and gas-fired plant in the form of negative locational TNUoS payments. The allocation of negative losses further incentivises such plant to remain on the system, which in turn means that local and wider transmission capacity is not released for new investment and the value of capacity is depressed, further diminishing generation investment signals. P229 Alternative goes some way to mitigating this issue.

Transmission charging is not an appropriate tool to deliver environmental signals

The analysis suggests an environmental benefit resulting from P229. However, if a benefit does transpire from the implementation of P229, the reality is that it will likely be a one-off shift in emissions as generators re-evaluate the economics of their investments. The benefit will ultimately be determined by availability of plant and market conditions (e.g. fuel price determining the marginal generator), rather than the losses allocation process.

P229 only scratches the surface of the complexities involved in providing environmental signals to generating plant. True environmental savings are achieved from regimes that target the most polluting plant and provide signals to invest in abatement technology to reduce the volume of emissions per MWh produced. The P229 modification is short sighted in that it only aims to shift generation to a new location, regardless of whether the volume of emissions produced per MWh increases or decreases. This is not environmentally responsible, particularly in the long-term.

The EU ETS and LCPD arrangements target the highest polluting plant in terms of total carbon, SOx and NOx emitted per unit of electricity generated. This allows investors to decide how best to reduce their total emissions in the most economically efficient way via strategic investment. If such investment is economically inefficient, then the plant will reduce its output and, potentially, close all together.

Drax has made significant investments in carbon abatement technology since the inception of the EU ETS, including £85m on biomass co-firing and direct injection technology and a further £100m on upgrading the efficiency of the low-pressure and high-pressure turbines across all six generating units. Many sites around the UK have made significant investments in FGD technology as a result of the LCPD.

It is important to acknowledge that P229 will not signal such investment. P229 signals that investment should be based upon location, rather than the potential to provide the most environmentally beneficial investment. P229 does not encourage plant to reduce emissions as the volume of losses allocated is based upon total generation and location. The proposals simply encourage northern generators to reduce load and southern generators to increase load, regardless of whether such plant are high polluting or using renewable technology.

The primary role of transmission charging and losses allocation should be to recover the costs incurred in developing and transporting energy across the transmission network. Transmission charging, in any form, should not be used as an environmental signal for early closure of plant, particularly when such

signals cannot be mitigated by investment in carbon abatement and plant efficiency, in line with UK and EU policy.

The current regime follows the principle of a notional balancing point

It should be noted that the GB trading arrangements work on the basis of a notional balancing point. As such, bilateral contracts between parties do not consider the physical relationship between individual market participants and the distance that electricity must travel from one contracting party to another. The arrangements were developed in this way due to the nature of electricity as a product and the principle of there being a single, central transmission system and contract delivery point.

The P229 proposals do not differentiate between losses that are due to an in-zone imbalance and losses that are associated with flows of energy through a given zone. The proposals imply that despite being located in zones that contain significant areas of demand, generators are located in the wrong place purely due to where the centre of demand lies. This does not appear rational.

P229 does not signal where new plant should locate

Drax notes Ofgem's comments regarding the impact of P229 on site location decisions. Drax agrees that the impact of both proposals on siting decisions is likely to be minimal. Investors will put greater weight to more important considerations, such as capital costs, ongoing operational costs and access to fuel / port infrastructure or achievable wind speeds.

It should be noted that projects involve a significant level of investment prior to the start of construction, in terms of developing the plant design, securing land rights, securing a transmission connection, gaining local community support, ensuring environmental standards are to be met and achieving planning permission. If P229 were to influence siting decisions, plant that is currently connected, in the commissioning stage, under construction or has securitisation placed against a new connection, would be unable to take account of the locational signals without there being a large cost associated with abandoning the project. This has not been appropriately considered by the Impact Assessment.

Impact on renewables

Drax notes paragraph 4.39 of the Impact Assessment, which states:

"Some parties have argued that as renewable generation tends to be sited in the north where they would face higher locational losses under the P229 proposals, it might have a more significant impact on the siting decisions of future renewable plant (than for conventional generation). The Lot 3 analysis considers the impact, if any, the P229 proposals would have on renewable generation. It looked at the profitability of various types of renewable energy and examined how the P229 proposals might be expected to impact. It found that with the exception of wave power (which appeared unprofitable with and without the P229 proposals) renewable generation was likely to remain profitable under the P229 proposals."

It may be prudent for Ofgem to ensure that where renewable generation is *"likely"* to remain profitable, that an adequate return can be achieved to allow investors to secure the level of capital required. In addition, Ofgem must ensure that the level of return expected by such investors as a result of implementing P229 is consistent with the levels that DECC envisages as part of its ongoing RO Banding Review.

It must be borne in mind that a change in costs for such plant could alter the overall economics of construction projects, meaning the RO banding levels may require reconsideration. If a change to the level of subsidy is required as a result of P229, the consequential impact to consumers should be recognised by the cost benefit analysis.

Chapter 5

Question 1: Do respondents consider that we have appropriately identified the potential interactions of the P229 proposals with TransmiT and the EMR?
and

Question 2: Do respondents consider that we have appropriately identified the likely impacts of these interactions?

Drax agrees that the range of options being considered under Ofgem's Project Transmit and the Government's EMR work-streams may have considerable implications for the perceived benefits of the P229 proposals. Drax also considers transmission charging principles, and the desired signals that result from these charges, has a further interaction with European proposals for greater market integration. These issues are explored further below.

Project Transmit

Drax believes that a review of transmission charging principles, and potential alternatives to the current regime, would be best handled via a coordinated, structured and transparent process. As such, Drax has recently indicated in response to an open letter regarding Project Transmit[5] that a Significant Code Review may provide a suitable platform to develop the industry's thoughts on whether the current transmission charging regime is capable of delivering investment and promoting a competitive electricity market in line with UK and European policy.

Drax believes that the concepts to be explored by Project Transmit must be considered alongside other locational pricing signals that will, inevitably, interact. As such, it would appear inappropriate for the Authority to make a decision on the P229 proposals prior to Ofgem completing Project Transmit. Doing so could be perceived as pre-empting a decision on, amongst other considerations, locational transmission charging principles.

The Cost Benefit Analysis indicated a total cost range of £3.2m to £4.5m to implement P229. This is a cost that will be borne by consumers until potential savings, if any, arise. It would be an unfortunate scenario should the implementation of P229 need to be modified or reversed due to Project Transmit resulting in a contradictory set of conclusions.

Ofgem indicate as part of the Impact Assessment that there is a "potential extreme case" for short-term changes to wider transmission charges to take effect prior to the implementation of P229[6], rendering spend on implementation to be unnecessary. However, the timescales set out in Ofgem's Project Transmit open letter suggests that the regulatory risk is much more significant:

"We think that the work we will do over the coming months could identify options for change that could be implemented in 2012. Whilst our aim is for any change identified to be in place from April 2012, we recognise that this timetable is challenging and that there is a possibility that any appropriate change may be implemented at a later date."

Whilst Drax agrees that there could be a "signal" that the indicated P229 implementation spend would not be required, once the Authority has approved P229 the industry is unable to act on any such signal until a decision is reached not to implement P229. In addition, it is likely that for many small and independent market participants, the modifications required to IT systems will be carried out by external contractors meaning it may not be possible to reverse the agreed spend.

The most appropriate way forward would be for Project Transmit to consider the allocation of transmission losses as part of its remit. The two mechanisms (locational TNUoS and locational transmission losses) are calculated using unrelated methodologies over different timescales. There is a risk that the combination of the two could either over emphasise a locational advantage or provide parties with contradictory signals. In addition, the P229 proposals add a further level of complexity to the allocation of transmission costs. By combining the transmission charging work-streams under one holistic review, the full impact of transmission charging reform can be appreciated and evaluated by Ofgem, consumer bodies and industry participants.

It is extremely important that such parties are able to understand the full picture for transmission charging and the potential implications of transmission charging reform over the next decade and beyond. At this

[5] Ofgem "Project TransmiT: approach to electricity transmission charging work" open letter, 27th May 2011.
[6] Paragraph 5.12.

time, there is not enough information for these parties to appreciate the wider transmission charging outlook in order to evaluate the potential implications to market participants and end users.

Electricity Market Reform (EMR)

As described in Section 2 of the Impact Assessment, DECC's EMR work-stream is considering a number of proposals that will have potentially wide ranging consequences on the operation and economics of the GB electricity market. Given the timing of the EMR work-stream, Ofgem state in paragraph 2.21:

"Any of these measures could conceivably affect the impact of the P229 proposals (by affecting the marginal cost of plant and ultimately the generation mix). The consultation on DECC's proposals closed in March 2011 and the next step will be the publication of a White Paper confirming the approach to be taken. We do not have sufficient detail at this stage to consider any interaction between the P229 proposals and EMR."

The White Paper containing further detail on the Government's preferred package of reform is expected to be released during July. It is also expected that work will continue on the package of reform during the second half of 2011. It is likely that there will be a clearer picture of the nature of the proposed changes during the second half of the year.

It is clear that Ofgem, consumer bodies and market participants are not currently in a position to consider P229 alongside what may be the most significant changes to the workings of the electricity market in a decade. Given the timescales for DECC's reform agenda, it would appear prudent for Ofgem to delay a decision on transmission losses and prepare a holistic appraisal of transmission charging principles (in the form of Project Transmit) when greater detail is available on DECC's package of reform.

European Developments

A further consideration is the development and implementation of the new European Network Codes and the European model for market integration. Drax considers the integration of European electricity markets to be a positive move for market liquidity. Liquidity is an essential element of a robust and competitive market.

It is essential that the implementation of P229, along with the outcome of Project Transmit, does not undermine the ability of the GB market to progress towards greater integration with other European electricity markets in an efficient and coordinated manner. It is important to consider both work-streams and their interactions (e.g. the combined signals that they produce, amongst other considerations) and how they will help or hinder the integration process.

As a minimum, Ofgem should further consider the implementation of P229 in the context of moving towards a more integrated European market model. However, it would seem more appropriate for transmission losses to be considered within the remit of Project Transmit, in order to ensure a holistic review of transmission charging principles that results in an enduring regime.

Summary

It is extremely important to ensure that any reform to transmission charging provides the stability required to better inform investment decisions over the next decade and beyond. To deliver such stability, the transmission charging regime (including losses allocation) should only be modified when decision makers are in a position to understand the impact of existing policy work-streams, in particular the Government's Electricity Market Reform package and the European market integration model. It would be an obstacle to investment if the principles upon which the transmission charging regime is based were to be subject to numerous changes over the next decade.

On this basis, it is imperative that the industry understands the detail behind Government's Electricity Market Reform proposals, the principles of the European Network Codes and the broad direction of European market integration ***prior*** to modifying the GB transmission charging principles. This will ensure that an enduring transmission charging and losses allocation regime can be implemented that will provide stability and certainty for new and existing investors.