

Anthony Mungall,
Senior Manager Transmission Policy
Ofgem
107 West Regent Street
Glasgow
G2 2QZ

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ProjectTransmit@ofgem.gov.uk

Project TransmiT: Impact Assessment of industry's proposals (CMP213) to change the electricity transmission charging methodology - RWE response

Dear Anthony,

We welcome the opportunity to respond to the Project TransmiT: Impact Assessment of industry's proposals (CMP213) to change the electricity transmission charging methodology (the "Impact Assessment"). This response is provided on behalf of RWE Npower plc, RWE Npower Group, RWE Generation SE, RWE Supply and Trading GmbH and the UK subsidiary of RWE Innogy GmbH, RWE npower renewables Limited.

The "minded to" position of the Authority to implement CMP213 Working Group Alternative Modification 2 (WACM2) reached in and as a result of the Impact Assessment is not justifiable. We consider that any decision to adopt and implement CMP213 WACM2 at this stage would be flawed. Significant further work is required before any conclusion can be reached that CMP213 WACM2 better meets Ofgem's objectives than the current arrangements.

In particular, we consider that:

- Ofgem is not presently able to conclude that CMP213 WACM2 is more cost reflective than the current arrangements, as it has failed to demonstrate and justify that it is more cost reflective, on the apparent basis that to do so would be too difficult. Ofgem will need to conduct further analysis before it can legitimately reach this conclusion
- CMP213 WACM2 is not in the interests of existing and future consumers. The modelling presented with and relied on in, the Impact Assessment, relating to the impact of CMP213 WACM2 on customers indicates that there will be negative financial effects on customers in the short to medium term. Ofgem's reliance on longer-term benefits after 2020) to offset those negative impacts is based on unsupported assumptions as to the future state of the energy market which may prove unfounded and fail to give due consideration to relevant factors that could undermine the anticipated longer-term benefits. Other modelling undertaken by NERA and Imperial College¹ in fact indicates that CMP213 WACM2 would be less cost reflective than the current

RWE Supply & Trading GmbH
Swindon Branch

Windmill Hill Business Park
Whitehill Way
Swindon SN5 6PB
United Kingdom

T +44(0)1793/87 77 77
F +44(0)1793/89 25 25
I www.rwe.com

Registered No. BR 7373

VAT Registration No.
GB 524 921354

Supervisory Board:
Peter Terium
(Chairman)

Board of Directors:
Stefan Judisch (CEO)
Dr Markus Krebber
Alan Robinson

Head Office:
Essen, Germany
Registered at:
Local District Court, Essen
Registered No.
HR B 14327

Bank details:
Deutsche Bank Essen
Bank Code 360 700 50
Account No. 105 127 500
SWIFT: DEUTDEDE
IBAN: DE05 3607 0050 0105
1275 00

¹ Project TransmiT: Modelling the Impact of the WCM 2 Charging Model, NERA and Imperial College, October 2013 (the NERA/Imperial College Modelling Report)

arrangements and as a result would cost around £6 billion in the period to 2030; and

- It would in any event be unreasonable to implement CMP213 WACM2 on 1st April 2014 since users cannot respond to the change or the long term pricing signals in this time-frame without incurring significant penalties.

The TNUoS charging methodology must reflect the long run marginal costs associated with investment in the transmission system and connection of generating capacity in a manner consistent with the National Electricity Transmission System Security and Quality of Supply Standard (NETS SQSS) for it to be compliant with the directions issued to National Grid in relation to the Significant Code Review under Project TransmiT. CMP213 WACM2 does not achieve this .

In order to direct National Grid to make CMP213 WACM2 Ofgem must be of the opinion that it would, as compared with the then existing provisions of the CUSC and any alternative modifications set out in the final modification report, better facilitate achieving the applicable CUSC Objectives². Ofgem have failed to demonstrate that CMP213 WACM2 will better facilitate competition (Objective A), improve cost reflectivity (Objective B) or take account of developments in the transmission system (Objective C) because:

- CMP213 WACM2 may distort marginal generation costs by applying charges that are not cost reflective in a manner that is detrimental to competition (failure to meet Objective A)
- the distributional effects of the modification proposal need to be assessed, but instead have been dismissed and the material impacts of these on competition have not been assessed (failure to meet Objective A);
- Ofgem must but has not considered the impact of the proposals on the wider electricity market and in particular demand side market participants (failure to meet Objective A);
- the implementation date of 1st April 2014 cannot be justified on the grounds of increased cost reflectivity since users are unable to respond to the price signals without incurring material costs. To do so would be disproportionate and demonstrate poor regulatory practice and undermine investor certainty leading to increased costs of financing and costs to consumers. (failure to meet Objective B);
- Ofgem must but has failed to present any evidence that CMP213 WACM2 improves cost reflectivity, despite evidence being presented to Ofgem that the proposals are in fact less cost reflective. (failure to meet Objective B);
- Ofgem must but has failed to analyse the impact of the detailed elements of the proposal (including the use of the applicable Annual Load Factors) and these may result in the allocation of charges that are not cost reflective (failure to meet Objective B);

² “a) that compliance with the Use of System charging methodology facilitates effective **competition** in the generation and supply of electricity and (so far as is consistent therewith) facilitates **competition** in the sale, distribution and purchase of electricity; b) that compliance with the Use of System charging methodology results in charges which **reflect, as far as is reasonably practicable, the costs** (excluding any payments between transmission licensees which are made under and in accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard condition C26 (Requirements of a connect and manage connection); c) that, so far as is consistent with sub-paragraphs (a) and (b), the Use of System charging methodology, as far as is reasonably practicable, properly takes account of the **developments** in transmission licensees' transmission businesses.”, Project transmit Impact Assessment of the industry's proposals (CMP213) to change the electricity transmission charging methodology”, Ofgem, 1st August 2013 (Ofgem emphasis)

- the flawed implementation of CMP213 WACM2 in translating the changes to the NETS SQSS indicates that the modification proposal does not properly take into account developments in the transmission system (failure to meet Objective C; see below); and
- In making changes to the NET SQSS³, Ofgem explicitly confirmed that there would be no “direct impacts for charging” and users are entitled to rely on that statement.

Ofgem have failed adequately to consider the impact of CMP213 WACM2, thereby reaching an unjustifiable conclusion that CMP213 WACM2 is more cost reflective than the current system.

Ofgem state that modelling the effects of CMP213 WACM2 is difficult and complex and conclude that “it is not proportionate or in the consumer’s interest to delay the process further and undertake more modelling”⁶. However, the work that we have undertaken demonstrates that it is possible to model the potential impact of the modification proposals such that the incremental impacts of the proposed change can be identified. Based on this modelling it is clear that implementation of CMP213 WACM2 will have a significant and material detrimental impact on overall customer welfare. Ofgem cannot therefore proceed with a decision on CMP213 WACM2 until it has conducted an appropriate analysis of the potential impacts, including the NERA analysis provided with this letter. Without such analysis it is not reasonable to assert that a delay to implementation would not be in the consumer’s interest. Indeed, it is impossible to conclude that delaying the process and undertaking more modelling is not in the consumer’s interest if no adequate analysis or modelling has been done to demonstrate even a prima facie case that CMP213 WACM2 is in the interests of consumers as compared to the status quo. We would also query why Ofgem considers that a delay would be detrimental to consumers.

CMP213 WACM2 is not in the interests of consumers

Ofgem must also assess CMP213 in the context of its principal objective, to protect the interests of existing and future consumers. However, no evidence has been presented to demonstrate that CMP213 WACM2 is in the interest of consumers. Indeed the “industry analysis” presented in the Impact Assessment suggests that there may be a negative customer welfare in the period to 2020, with purported benefits only occurring in the period 2020 to 2030 when there is considerable uncertainty about investment, low carbon support and the renewables targets (as indicated in Baringa’s review of the CMP213 modelling⁷). Analysis provided in the attached NERA modelling report indicates that the negative customer welfare is of the order of £6 billion throughout the modelling period to 2030 (see the NERA/Imperial College Modelling Report⁸). Therefore the evidence indicates that implementation of CMP 213 WACM2 is detrimental to customer welfare in the short term and in the long term.

In the NERA modelling report which is attached to this letter they state, “the role of locational TNUoS charges is to promote the efficient use of the transmission system. If changes to the transmission charging regime improve the efficiency of network usage, we would expect total power sector costs to fall as a result, and thus increase social welfare. In practice, our market and transmission system modelling suggests that the CPM213 WACM2 charging model would reduce social welfare, which suggests that it does not promote a more efficient use of the transmission system. Our analysis also

³ Minimum transmission capacity requirements in the Security and Quality of Supply Standard – 12 August 2011

⁶ Project transmit Impact Assessment of the industry’s proposals (CMP213) to change the electricity transmission charging methodology”, Ofgem, 1st August 2013, Page 20

⁷ “CMP213 modelling: Review of CMP 213 Impact Assessment Modelling for Ofgem, 21/07/13, page 94 at <https://www.ofgem.gov.uk/ofgem-publications/82377/cmp-213-modelling-review-cmp213-impact-assessment-modelling-ofgem-redpoint-energy.pdf>

⁸ NERA/Imperial College Modelling Report

suggests that introducing CMP213 WACM2 would increase costs to the consumer due to its effect on power prices.”

Ofgem has taken an inconsistent and hence irrational approach and had failed to give due consideration and weight to external factors

Furthermore, approval of the CMP213 WACM2 would not be proportionate to or in line with best regulatory practice given the impacts of change on the industry and is not consistent with the rejection of BSC Modification Proposal P229⁹ regarding the introduction of Zonal Transmission Losses. CMP213 WACM2 is being considered in the context of a changing external environment with respect to specific UK Government energy policy decisions, European initiatives and Electricity Market Reform, in which an approved proposal may be superseded before the time period where the modelled benefits can be realised. It appears that Ofgem have failed to factor into their analysis of the benefits to consumers the risk that those external factors may mean that the expected (but as yet undemonstrated/unjustified) longer term benefits of CMP213 WACM2 will never be realised and such that the short and medium-term dis-benefits anticipated from CMP213 WACM2 are never offset.

In addition, the material distributional effects of CMP213 WACM2 both between generators and between suppliers/consumers indicate that implementation is not in the interests of existing and future consumers as identified under P229.

Ofgem conclude that the “*change improves the cost reflectivity of TNUoS charges and addresses defects in the current methodology*”¹⁰. Ofgem has failed to present any evidence that this is the case, and our analysis shows the following:

- CMP213 WACM2 is based on a flawed interpretation of the NETS SQSS in the charging arrangements, particularly in relation to the use of the “economy background” as the basis for deriving a so called “year round” background (Section 4.4 in the NETS SQSS);
- the NETS SQSS makes no reference to the use of the applicable Annual Load Factor and its use in the charging arrangements cannot be justified;
- scaled load factors are used under CMP213 WACM2 to calculate shared charges while ALFs are used to allocate charges. This introduces a systematic bias which under recovers TNUoS costs with the balance recovered through the residual charge;
- the effect of CMP213 WACM2 is the production of so called “year round” charges which combined with the ALF creates a constraint related charge in TNUoS which undermines the requirement to socialise constraint costs and which may place National Grid in breach of Licence Condition C26; and
- CMP213 WACM2 introduces differential charges for the same product into the charging arrangements that has not been justified on a cost reflective basis.

Furthermore work by NERA and Imperial College demonstrates that Ofgem’s “minded to” decision to implement CMP213 WACM 2 is flawed for the following reasons:

⁹ BSC Modification Proposal P229: Introduction of a seasonal zonal transmission losses scheme, Ofgem Decision letter, 28th September 2011 at http://www.elxon.co.uk/wp-content/uploads/2012/02/P229_Authority_Decision.pdf

¹⁰ Project transmit Impact Assessment of the industry’s proposals (CMP213) to change the electricity transmission charging methodology”, Ofgem, 1st August 2013

- *“Despite Ofgem’s claims to the contrary, our analysis suggests that the proposed charging model does not reflect the recent reforms to the transmission investment planning procedures set out in the National Electricity Transmission System (NETS) Security and Quality of Supply Standards (SQSS);*
- *Ofgem has failed to compare the costs generators impose on the transmission system to WACM 2 TNUoS charges. Hence, Ofgem cannot robustly conclude whether or not the proposed charging model is cost reflective;*
- *Our own comparison suggests that charges resulting from the WACM 2 methodology do not reflect incremental transmission costs any better than the status quo methodology;*
- *Ofgem has failed to rigorously account for the distributional effects created by the proposed charging model, whereas significant distributional effects will add to perceptions of regulatory risk and increase costs to consumers through higher financing costs;*
- *The WACM 2 charging model will distort dispatch and competition in the wholesale electricity market and distort cross-border trade in the European Union, because it links TNUoS charges to a plant’s load factor; and*
- *Leaving aside these significant problems with the decision to implement the WACM 2 charging model, Ofgem’s decision to implement the new arrangements from 1 April 2014 takes no account of the time it takes to respond to changes in TNUoS, which means any efficiency benefits in this first year would be at best negligible. A later implementation date (e.g. 1 April 2015) would reduce somewhat the distributional effects associated with the proposed reforms, and would not increase or decrease the impact of reform on efficiency.”¹¹*

NERA and Imperial College conclude that it would therefore be inconsistent with Ofgem’s statutory duties and the relevant objectives of the Use of System Charging Methodology for Ofgem to implement the CMP213 WACM2 charging methodology.

Based on the arguments in this consultation response and the NERA and Imperial College conclusions, we strongly disagree with the Ofgem’s minded-to decision to implement CMP213 WACM2. Given the large expected detrimental impacts to competition and total system costs and no justified grounds of improvement over the existing, proven charging arrangements, we strongly recommend continuation of the current charging arrangements until or unless more cost-reflective arrangements can be identified.

Our response to the specific questions raised in the consultation document is presented in Annex 1.

We are also submitting the NERA/Imperial College Modelling Report (“Project Transmit: modelling the Impact of the WACM2 Charging Model”) and the NERA/Imperial College review of the Ofgem Impact Assessment (“Project Transmit: Review of Ofgem’s Impact Assessment of Industry Proposals”) as part of our consultation response.

If you have any comments or wish to discuss the contents of this letter then please do not hesitate to contact me.

Yours sincerely

¹¹ Project Transmit: Review of Ofgem Impact assessment of Industry Proposals CMP213, NERA and Imperial College, October 2013, Executive Summary (the NERA/Imperial College Review)

By email

Tom Glover
Director, RWE Npower plc
Head of Commercial Asset Optimisation, UK, RWE Supply & Trading GmbH

Annex 1: Responses to the specific questions in the consultation letter

CHAPTER: Four

Question 1: Do you think we have identified the relevant impacts from NGET's modelling and interpreted them appropriately?

No.

We cannot detect (and Ofgem have not identified) the impact of CMP213 WACM2 on the cost reflectivity of transmission charges on the evidence presented in NGET's modelling. Furthermore, NGET have failed to undertake any sensitivity analysis associated with the proposals. Therefore we do not believe that the NGET analysis provides a sound basis for determining the relevant impacts of CMP213 WACM2.

Furthermore, we have undertaken a detailed analysis of the computer code of the CMP213 WACM2 charging model and tested this with several scenarios. We found that there are instances where the implemented model differs significantly from the documentation in the Modification proposal and the legal text.

We believe that the proposals may frustrate the Government's intention to meet the 2020 targets and further work is required to understand the impact of this change on renewables deployment. The industry analysis in the Impact Assessment indicates an overall reduction in the amount of renewables being delivered under CMP213 WACM2 from 32.8% to 31.3% when compared to the status quo. In addition there is an overall reduction in offshore wind of 2.1 GW. This appears to be driven by higher wider tariffs for offshore wind in south of GB. CMP213 WACM2 will also make it more difficult to achieve the Government's offshore cost reduction targets in the light of increasing transmission costs and reduced support mechanisms. The target was originally based on the government's commitment to 18GW of offshore wind. The industry analysis shows a considerable reduction on this figure as a result of charging signals alone.

Question 2: Do you have any further evidence of the impacts of the charging options not covered by NGET's analysis?

We have provided further analysis of the impacts of the charging options in the documents included in this consultation response¹². In addition we have the following comments on CMP213 WACM2:

- **The charging methodology is based on a flawed implementation of a year round background based on the "economy background" in the NETS SQSS:** The NETS SQSS under GSR009 establishes that the Main Interconnected Transmission (MITS) should be designed to accommodate flows that occur at peak demand under Average Cold Spell (ACS) conditions (4.4 to 4.6) and under a background that reflects conditions on the system during a year of operation (4.7 to 4.10)¹³. Under the ACS peak demand conditions the intact transmission system must reflect both a generation background that includes all conventional (thermal) generation to meet demand (the Security Background) and one that reflects a contribution of output from intermittent, nuclear and hydro generation using fixed "scaling factors", with conventional generation contributing the remainder of generation output (the Economy Background). Essentially, both the Security Background and the Economy

¹² NERA/Imperial College Modelling Report and NERA/Imperial College Review

¹³ National Electricity Transmission System Security and Quality of Supply Standards, Version 2.2, March 5th 2012, page 22 at <http://www.nationalgrid.com/NR/rdonlyres/5C1E8E34-B655-4D46-B9AF>

Background identify the minimum investment requirements for the MITS under ACS peak conditions.

Under CMP213 WACM2 the Economy Background with the associated scaling factors is used as a basis for deriving a so called “year round” background. This is clear from the following draft legal text for CMP213 WACM2 which states:

14.15.5 “The transport model requires a set of inputs representative of the Demand Security and Economy Criterion set out in the Security Standards. These conditions on the transmission system are represented in the Peak Security and Year Round background respectively”¹⁴.

The “economy criterion” in the draft charging methodology for CMP213 WACM2 is the “Economy Background” as defined in paragraph 4.4 of the NETS SQSS¹⁵. However, as noted above the “Economy Background” is not a year round background but is defined “at ACS peak demand with an intact system”¹⁶ alongside the “Security Background”. Consequently, CMP213 WACM2 is therefore based on a flawed implementation of the NETS SQSS in the charging methodology in that the so called “year round” background is in fact a peak background.

- **There is no reference to Annual Load Factor (ALF) in the NETS SQSS:** The charging methodology uses an historic load factor to apply the year round shared charge. However, there is no reference to historical load factors in the NETS SQSS and the basis for utilising this allocation methodology in charging is unclear. Furthermore, the charging methodology states that the ALF is a proxy for constraints. However, in designing the MITS the NETS SQSS uses a scaling methodology to allocate the contribution of generation output to peak demand under the Economy Background. The ALF approach would appear to introduce a new parameter in charging which is not consistent with the NETS SQSS and which may “double count” the effect of generation output on investment. This would be illogical and would go against the objective of increasing cost-reflectivity.
- **Scaled load factors are used under CMP213 WACM2 to calculate shared charges while ALFs are used to allocate charges. This introduces a systematic bias which under recovers TNUoS costs with the balance recovered through the residual charge:** The charging methodology uses the NETS SQSS load factors in the derivation of the year round background as the basis for the calculation of prospective charges:

“14.15.7 Scaling factors for different generation plant types are applied on their aggregate capacity for both Peak Security and Year Round backgrounds. The scaling is either Fixed or Variable (depending on the total demand level) in line with the factors used in the Security Standard”¹⁷

However, the charging methodology uses historic ALFs in the allocation of the charges.

¹⁴ CMP213 Project TransmiT TNUoS Developments, Stage 06 Final CUSC Modification Report, Volume 4, at <http://www.nationalgrid.com/NR/rdonlyres/70C7A64A-A62C-418D-A72A-FF87CEE869FA/61007/FinalReportVolume4v10FinalReport.pdf>

¹⁵ National Electricity Transmission System Security and Quality of Supply Standards, Version 2.2, March 5th 2012, page 22 at <http://www.nationalgrid.com/NR/rdonlyres/5C1E8E34-B655-4D46-B9AF->

¹⁶ “National Electricity Transmission System Security and Quality of Supply Standards, Version 2.2, March 5th 2012, page 22 at <http://www.nationalgrid.com/NR/rdonlyres/5C1E8E34-B655-4D46-B9AF- EF6EE91B12B2/52026/NETS SQSSversion22FINALchangesremoved.pdf>

¹⁷ CMP213 Project TransmiT TNUoS Developments, Stage 06 Final CUSC Modification Report, Volume 4, page 87 at <http://www.nationalgrid.com/NR/rdonlyres/70C7A64A-A62C-418D-A72A-FF87CEE869FA/61007/FinalReportVolume4v10FinalReport.pdf>

“14.15.10the initial tariff for Shared component is multiplied by both, the total forecast generation capacity and the ALF to give the initial revenue recovery”¹⁸

The effect of these differences is to ensure that the year round tariffs will under recover the appropriate TNUoS charges with the balance recovered in the residual charge.

- **CMP213 WACM2 introduces differential charges for the same product into the charging arrangements that cannot be justified and may be discriminatory.** Users located in similar parts of the transmission system with different types of plant will face different transmission charges depending on the assumptions on load factor applied under CMP213 WACM2. This means that users who generate at the peak may or may not face transmission costs that reflect the costs incurred at the peak. Consequently certain classes of generator will be able to operate at the peak while avoiding the consequential charges. By contrast the current arrangements reflect the firm transmission rights held by users that enable the costs of transmission use to be economically and efficiently reflected on users. This is achieved under the current charging arrangements through
 - a) **Non-discriminatory capacity-based charging:** The original intention of the ICRP charging regime is based on an approach that “enables the costs incurred by NGC as a consequence of a change in demand or generation at each point on the system to be identified and the users at the point to be charged accordingly”²² and “as a consequence the charges can be seen as non-discriminatory (as each user pays on the same basis) and to provide appropriate signals for efficient decisions by the user, whether in terms of increasing or reducing the levels of demand or generation”²³;
 - b) **Transmission Rights reflect capacity:** The current arrangements recognise that that users have firm transmission rights to use the system without discrimination and the fact that the transportation elements of the charging methodology “relate primarily to the capacity of the system required to transport energy from the station”²⁴ since “this is clearly related to the generating capacity of the station (i.e. its registered capacity)”²⁵ and therefore under the ICRP methodology “it is intended to charge solely on this basis”²⁶; and

We conclude that it is wholly appropriate that the charging arrangements exclusively charge for firm capacity and do not reflect load factors or sharing.

CHAPTER: Five

Question 3: Do you agree with our assessment of the options in terms of the strategic and sustainability impacts? In particular, are there any impacts that we have not identified?

We do not agree with the assessment of the options in terms of the strategic and sustainability impacts.

While Ofgem assert that CMP213 WACM will improve cost reflectivity, no evidence has been presented to support this conclusion. . In fact, we do not consider CMP213 WACM2 is more cost

¹⁸ CMP213 Project TransmiT TNUoS Developments, Stage 06 Final CUSC Modification Report, Volume 4, page 105 at <http://www.nationalgrid.com/NR/rdonlyres/70C7A64A-A62C-418D-A72A-FF87CEE869FA/61007/FinalReportVolume4v10FinalReport.pdf>

²² “Transmission Use of System Charges Review: Proposed investment cost reflective planning of transmission charges”, National Grid, June 1992, (the “ICRP Methodology”), page 18 at <http://www.nationalgrid.com/uk/Electricity/Charges/usefulinfo/>

²³ ICRP Methodology, Page 18

²⁴ ICRP Methodology, Page 30

²⁵ ICRP Methodology, Page 30

²⁶ ICRP Methodology, Page 30

reflective compared with the current arrangement. As indicated by the modelling conducted by NERA/Imperial College London and enclosed with this response.

Question 4: Do you think that socialising some of the cost of HVDC converter stations could lead to other wider benefits, such as technology learning? If so, please provide further evidence in this area.

No.

CHAPTER: Six

Question 5: Do you agree with our assessment of the options against the Relevant CUSC objectives? Please provide evidence to support any differing views.

We do not agree with your assessment of the options against the relevant CUSC objectives. We have reviewed CMP213 WACM 2 under each of the relevant CUSC Objectives.

*CUSC Objective A: Compliance with the Use of System charging methodology facilitates effective **competition** in the generation and supply of electricity and (so far as is consistent therewith) facilitates **competition** in the sale, distribution and purchase of electricity*

- **CMP213 WACM2 may distort marginal generation costs by applying charges that are not cost reflective in a manner that is detrimental to competition (Objective A):** CMP213 WACM2 has a negative effect on competition as a result of the potential for distortive effects in the GB generation market as a consequence of the impact of charges that do not reflect underlying costs on the marginal costs of generation. Power stations in Southern Britain, including renewable plant will see substantial increases in charges despite the fact that they are located close to the main GB demand centres. By contrast power stations, particularly low load factor power stations, in Northern Britain will see a substantial decrease in charges (with the potential for a significant increase in constraint costs).

In our view, competition is likely to be more effective if the costs which parties impose on the system are properly reflected in the charges, and therefore their decision making processes, regarding location. We have seen no evidence that charging on the basis of load factor is more cost reflective than charging on the basis of capacity. Indeed, the evidence presented under CMP213 including work by the University of Bath²⁷ would suggest that it is considerably less cost reflective than the current baseline. As stated in the University of Bath report there are three main reasons for this finding:

- a generator's load factor is not a fixed parameter but varies throughout the year;
- even for a given technology, load factor will vary according to location, congestion and efficiency (price of energy production); and
- Congestion costs vary significantly across boundaries over time.

Therefore, since CMP213 WACM2 does not adequately address the main cost drivers for varying types of generation and output across the system they do not better facilitate competition.

²⁷ Year-round System Congestion Costs-Key Drivers and Key Driving Conditions-University of Bath, January 2013

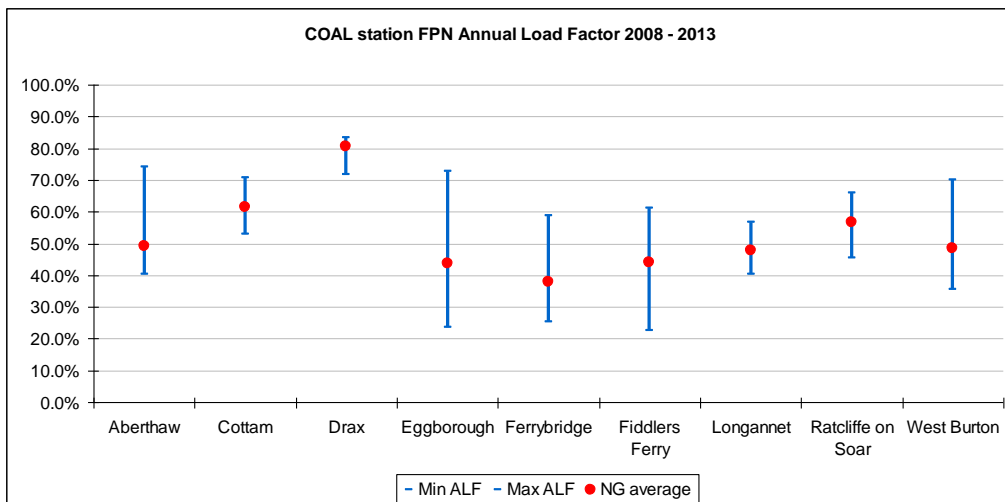
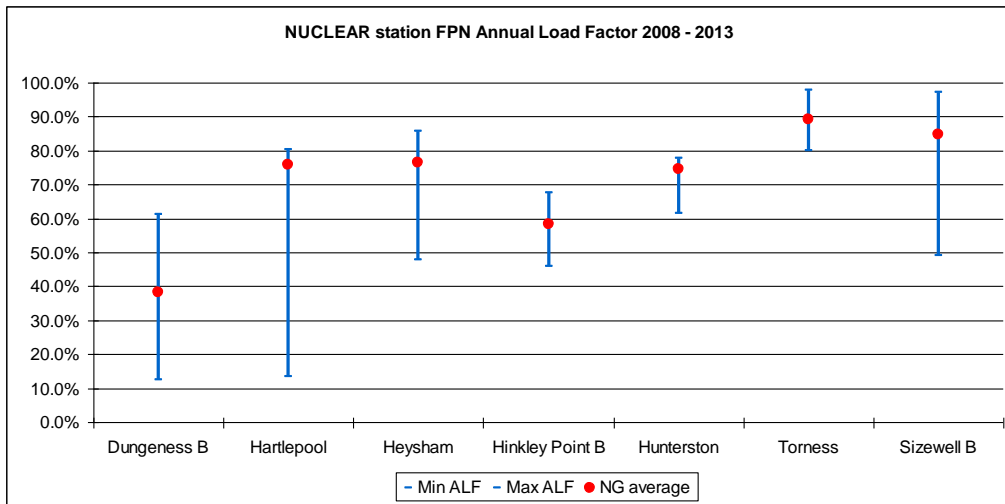
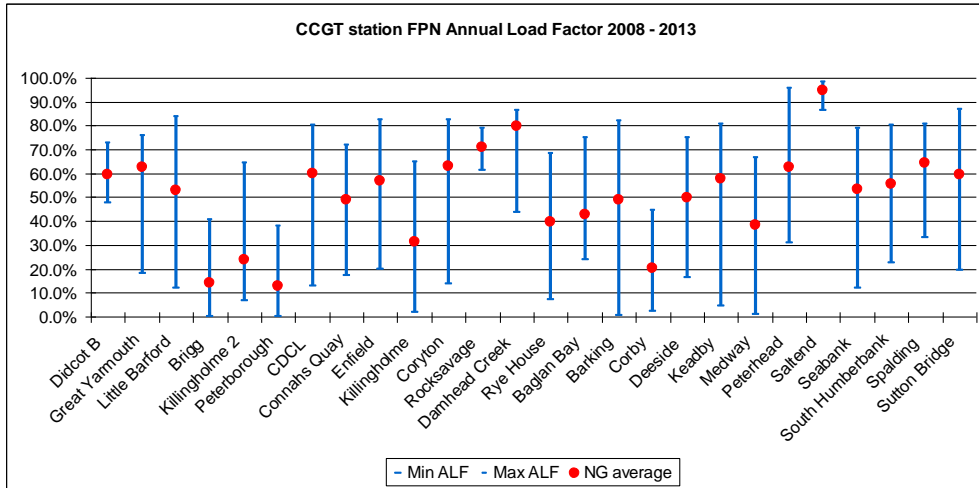
- **Ofgem has failed to consider the competitive effects of the proposal on the wider electricity market and in particular demand side participants (CUSC Objective A).** The “Impact assessment” does not provide any quantitative evidence that demonstrates the impact of the proposals on demand and in particular on embedded generation. It is important that generation and demand charges are aligned in order to prevent perverse incentives to connect to distribution systems rather than transmission systems (or vice versa) and to ensure that embedded generation operates in a way that is compatible with economic and efficient operation of the transmission system. We have analysed the CAP213 WACM2 charges released by National Grid on 10th September 2013 and note that there appears to be a significant impact on demand charges from CMP213 WACM2.

CUSC Objective B: compliance with the Use of System charging methodology results in charges which reflect, as far as is reasonably practicable, the costs (excluding any payments between transmission licensees which are made under and in accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard condition C26 (Requirements of a connect and manage connection)

- **Ofgem’s “minded to” decision to implement CMP213 WACM2 on 1st April 2014 is flawed and cannot be more cost reflective (Objective B).** Users respond to changes in TNUoS tariffs by considering changes to TEC, this requires giving at least 1 year and 5 days’ notice to National Grid or paying a penalty fee, therefore users cannot respond to the proposed implementation date of 1st April 2014. Therefore as the costs are unlikely to change as a result of the implementation of the new charging methodology we do not accept that this implementation date can be justified on the grounds on increased cost reflectivity. Regulatory decisions such as this add to investors’ perception of regulatory risk and increase the costs of financing for the British energy industry, and thus further increase consumer bills.
- **Ofgem has failed to provide any evidence that CMP213 WACM2 is more cost reflective (CUSC Objective B) than the current arrangements.** The “Impact assessment” does not provide any quantitative evidence that demonstrates CMP213 WACM2 is more cost reflective than the current baseline. Yet Ofgem conclude that it is and then rely on this unjustified conclusion to reach their minded-to position.
- **Ofgem has failed to analyse the impact of the detailed elements of the proposal (including the use of the applicable Annual Load Factors) and these may result in the allocation of charges that are not cost reflective (Objective B). These elements include:**
 - **The use of historic load factors which do not provide a sound basis for predicting future usage of the transmission system:** The ALF data used in the allocation of prospective user tariffs (year round * ALF) is based on baseline load factors for a 5-year period. This data is derived from the years immediately prior to the year in which the charges are calculated and will apply for the next charging period. As illustrated in the Modification Report the data is an inaccurate and unreliable proxy for future use of the transmission system. For example, while the average difference in 5-year load factors is 13% and 16% for 2010/11 and 2011/12 respectively, the *maximum* absolute difference is 44% and 58%²⁸ Our own work illustrates the variability of historic load factors (Figure 1)

Figure 1: Power Station annual load factors 2008-13 (RWE Analysis)

²⁸ CMP213 Project TransmiT TNUoS Developments, Stage 06 Final CUSC Modification Report, Volume 2, page 163 at <http://www.nationalgrid.com/NR/rdonlyres/639E5187-DBB4-4D6A-9AC2-75CDBB18C501/61005/FinalReportVolume2v10.pdf>



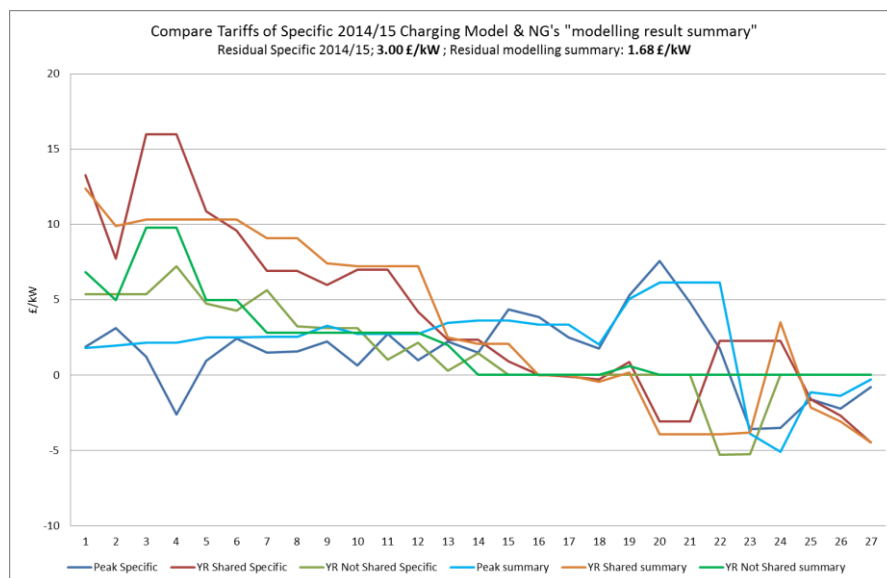
The observed ALF for CCGTs can vary between 0 and near 100%. The NGET method of deriving an average varies over the range 10% to 95% across CCGTs. The ALFs for nuclear power stations also indicate a wide range of output despite the fact that it is argued that this plant type is fossil fuel price independent and should operate at a more

or less constant average ALF with differences between years being attributed to planned maintenance and re-fuelling, and unplanned outages.

Consequently the historical nature of the data and its inaccuracies mean that the load factor cannot reflect the prospective use of a user in the relevant charging year. Therefore, the charges calculated under the CMP213 WACM2 methodology cannot be cost reflective.

- **The use of FPN as a proxy for load factor results in actual tariffs that are not cost reflective (Objective B):** CMP213 WACM2 is based on an ALF derived from the maximum of final physical notification (FPN) or metered output²⁹. Since there may be occasions when the FPN overstates the actual metered output the actual charges are not cost reflective.
- **The price signals that are produced by CMP213 WACM2 are unstable and not cost reflective (Objective B):** The complexity of the modification proposal and the difficulty in calculating and estimating charges suggests that users cannot reliably predict charges and respond to the market signals produced by the charging methodology. Indeed we note that National Grid have found it difficult to calculate the applicable tariffs for 2014/15 and have indeed withdrawn and replaced charging statements reflecting these problems in calculating the charges. We illustrate the issues associated with producing the tariffs by reference to the tariffs produced by National Grid in the Impact Analysis published on 1st August 2013 for 2014/15 and the tariffs produced by National Grid on the 10th September 2013 (Figure 2).

Figure 2: Comparison of 2014/15 tariffs produced on 1st August 2013 and 10th September 2013 (Source: RWE analysis of National Grid data)



In addition, we believe that the Transport and Tariff methodology is complex and difficult to implement. Evidence of this in the form of older versions of the model code which were revealed when we examined this model in detail. This may also indicate

²⁹ CMP213 Project TransmiT TNUoS Developments, Stage 06 Final CUSC Modification Report, Volume 4, page 88 at <http://www.nationalgrid.com/NR/rdonlyres/70C7A64A-A62C-418D-A72A-FF87CEE869FA/61007/FinalReportVolume4v10FinalReport.pdf>

that the robustness of this model may be questionable and should be subject to a line by line external audit to ensure that the relevant tariffs are calculated correctly.

We also note that at the TCMF on 10th September 2013, NGET published a further set of WACM2 Tariffs. When these are used to derive charges for Generators, it was noted that using the initial data published on 1st August 2013 led to a under recovery of about £180m when compared to a previous version of the CMP 213 WACM2 Tariffs. We believe that this suggests that the output tariffs of the WACM2 model may differ significantly with iterations of the development of this WACM2 model. Furthermore, our observations when examining the model showed cases where the derivation of incremental marginal signals was independent of the magnitude of the power flow. Consequently, we believe that implementation of CMP213 WACM2 is not be justified.

- **The effect of CMP213 WACM2 is the production of year round charges which combined with the ALF creates a constraint related charge in TNUoS which undermines the requirement to socialise constraint costs and which may place National Grid in breach of Licence Condition C26:** The Ofgem Impact assessment, the CUSC Modification Report and the draft legal text form CMP213 WACM2 all state that the purpose of the new charging arrangements is to base the charging methodology on load factors as a “proxy” for constraint costs and to levy use of system charges differentially based on this proxy. For example, the Final CUSC modification report on CMP213: states that “*under the Original proposal, a sharing factor based on a generator’s ALF is applied to the wider element of the TNUoS tariff as a proxy for its impact on incremental constraint costs.*”³⁰

Implementation of CMP213 WACM2 would reverse the decision of the Government to socialise constraint costs as set out in the Government’s decision document in July 2010 as set out below:

“Socialisation of Costs”

*“All constraint costs, including those arising from advanced connection, will be socialised across all generators and suppliers on a per-MWh basis, as they are at present under the Interim Connect and Manage arrangements. Standard Condition C26 of the transmission licence sets the principle of socialising constraint costs on an enduring basis.”*³¹

Furthermore the application of a proxy for user specific constraint costs in the form of an ALF in the CMP213 WACM2 results in use of system charges that are differentiated on the basis of constraints. This is not permitted under Condition C26 of the Transmission Licence which states that:

*“The licensee shall use all reasonable endeavours to ensure that in its application of the use of system charging methodology in accordance with standard condition C5 (Use of system charging methodology), use of system charges resulting from transmission constraints costs are treated by the licensee such that the effect of their recovery is shared on an equal per MWh basis by all parties liable for use of system charges.”*³²

³⁰ CMP213 Project TransmiT TNUoS Developments, Stage 06 Final CUSC Modification Report, Volume 1, page 52, paragraph 4.116 at <http://www.nationalgrid.com/NR/rdonlyres/0E5765AE-2BF5-4B5A-833A-7DFE7AC189F0/61004/FinalReportforAuthority10.pdf>

³¹ “Government response to the technical consultation on the model for improving grid access”, DECC, 27 July 2010, page 33

³² National Grid Transmission Licence, Condition C26 (6), page 276 at <https://epr.ofgem.gov.uk/Document>

CUSC Objective C: so far as is consistent with sub-paragraphs (a) and (b), the Use of System charging methodology, as far as is reasonably practicable, properly takes account of the developments in transmission licensees' transmission businesses."

- **Implementation of CMP213 WACM2 does not take into account the development of the transmission system envisaged with approval of the changes to the NETS SQSS introduced under GSR009:** Ofgem's decision to implement the dual background under GSR009 did not anticipate any impact on the charging regime. Indeed Ofgem stated that:

*"Therefore, although the GSR009 proposal would not change the cost of developing and operating the transmission system (nor would it have any direct impacts for charging), it is likely to result in some secondary impacts on consumers"*³³;

and that

*"any impact on competition is somewhat secondary in nature. The benefit from the improved process of identifying required capacity rather than any particular change in the level of that capacity"*³⁴.

The direction to National Grid to raise a change to the charging arrangements stated that the industry should consider changes to charging so that;

*"it better reflects the differing incremental impacts of individual generators on the Transmission Owner's costs in a manner which is consistent with the Security and Quality of Supply Standard"*³⁵.

Since GSR009 "would not change the cost of developing and operating the transmission system" including the impact on charges we can only conclude that CMP213 WACM2, which has a material impact on charging does not properly reflect the developments in the transmission licensee's transmission business envisaged under GSR009. It also suggests a failure in Ofgem's regulatory practice to consider the impacts of GSR009 at the time of its implementation.

- **The load factor elements under CMP213 WACM2 considerably weaken the long term investment signals provided by the current locational charging regime and do not therefore better reflect development of the transmission system (Objective C).** Locational signals for low load factor generation in the GB electricity market are significantly modified under CMP213 WACM2. Consequently, CMP213 WACM2 encourages connection of low load factor generation at the furthest periphery of the transmission system which would result in a corresponding increase in wider transmission investment, constraint costs and transmission losses. In contrast there appears to be a significant and material increase in locational charges for low load factor generators located in southern Britain which are closer to centres of demand and which tend to reduce overall transmission investment on the wider system, constraint costs and transmission charges. This significant shift in locational signals for similar classes of generation connected to the transmission system as a consequence of CMP213 WACM2 may not properly reflect the development of the transmission system.

³³ "National Electricity Transmission System Security and Quality of Supply Standards, (NETS SQSS): Minimum transmission capacity requirements (GSR009), Page 4 of 9

³⁴ "Minimum transmission capacity requirements in the Security and Quality of Supply Standard, Ofgem, 12th August 2011, page 25.

³⁵ "Directions issued by the Gas and Electricity Market Authority to National grid Electricity Transmission in relation to the Significant Code Review under Project Transmit", Ofgem, 25th May 2012, page 3 of 12 at <https://www.ofgem.gov.uk/publications-and-updates/direction-national-grid-electricity-transmission-plc-relation-significant-code-review-under-project-transmit>

Whatever else may be the case, the effect of these signals will be to increase overall costs which will ultimately result in increased costs to the consumer.

Question 6: Do you agree with our assessment of the options against our statutory duties? Please provide evidence to support any differing views.

We do not agree with your assessment of the options against your statutory duties. We do not believe that there has been any evidence presented that supports the conclusion that CMP213 WACM2 is more cost reflective when compared with the current arrangements, nor is the evidence safe to rely on in demonstrating consumer benefits, as it relies on posited longer term benefits (after shorter and medium term disbenefits until 2020) which may never materialise given the evolving energy landscape and external factors. We do not believe Ofgem has given due consideration or weight to the risk that external factors may undermine any reliance on the longer term benefits of WACM2 (assuming they exist) offsetting the immediate and medium term disbenefits to consumers. Nor has Ofgem given due consideration to the differing effects of reliance of long term benefits on different sections of the consumer society.

We have reviewed CMP213 WACM2 in the context of Ofgem's statutory duties.

- **We do not believe that CMP213 WACM2 would operate in the interests of existing and future consumers:** CMP213 WACM2 has a negative impact on customer welfare and results in a material negative impact on customer welfare estimated as £6 billion in the period to 2030³⁶. Indeed the analysis presented with the Impact Assessment supports our conclusions that there will be a negative customer welfare in the period to 2020, with purported benefits only occurring in the period 2020 – 2030 when there is considerable uncertainty about investment, low carbon support and the renewables targets.
- **It is unsound to base any decision on the “industry analysis” presented in the consultation document. Any benefits associated with a change to the charging regime are unknown.** As Baringa state in their review of the CMP 213 modelling “*the relatively subtle differences in transmission charges can be dominated by other effects and the differences between the original and Status Quo should be considered in the context of these other factors*”³⁷.

Furthermore, the impact assessment of the modification proposal presented is of little value since the assumptions appear out of date (for example with respect to generation zones and Electricity Market Reform), the data inputs are unclear, the outputs are difficult to interpret and the overall assessment is not based on a forward looking model of power flows. The impact assessment does not properly consider the potential outcomes for current and future consumers.

Consequently it is unsafe to conclude that CMP213 WACM2 will deliver benefits for new and future consumers based on the industry analysis in the Impact Assessment. Ofgem should, therefore, conduct a full and complete impact assessment in line with its statutory obligations.

- **Approval of the CMP213 WACM2 would not be in line with best regulatory practice.** CMP 213 WACM2 is being considered in the context of a changing external environment, in which an approved proposal may be superseded before any benefits have been realised. In particular, at a European level, there is an active debate for greater integration of electricity

³⁶ NERA Modelling Report

³⁷ “CMP213 modelling: Review of CMP 213 Impact Assessment Modelling for Ofgem, 21/07/13, page 94 at

<https://www.ofgem.gov.uk/ofgem-publications/82377/cmp-213-modelling-review-cmp213-impact-assessment-modelling-ofgem-redpoint-energy.pdf>

markets focused on market splitting approaches that create multiple price areas within a national system and implies “locational” energy prices with the potential for locational marginal transmission charging (as discussed earlier in the Project Transmit significant code review). In the UK, the Government is considering widespread changes to the incentives for the construction of new generating capacity including a contract for differences for low carbon generation and a capacity mechanism which may include locational elements. There is likelihood that these potential changes to the existing GB market arrangements in the medium term would undo the benefits of CMP213 WACM2 before any possible long-term market efficiencies have been realised, such that the net effect of WACM2 on consumers is entirely negative. There is also the possibility that the introduction of the European target model may undermine any possible benefits of CMP213 WACM2 in the medium term. The prospect of the current initiatives at EU and domestic level resulting in changes in market arrangements in the medium term means that CMP213 WACM2 could be overtaken relatively quickly by some other scheme. Consequently, given the uncertainty, the forecast for negative customer welfare in the shorter term and the possible changes in arrangements which may occur in the medium term, approval of CMP213 WACM2 at this stage would not be consistent with best regulatory practice.

- **Approval of CMP213 WACM2 is not consistent with Ofgem’s views on BSC Modification Proposal P229.** While BSC Modification Proposal P229³⁸ better met the relevant BSC Objectives and had positive customer welfare, Ofgem “*concerns on the relatively high redistribution impacts coupled with the changing external environment*”³⁹ lead to the conclusion that approval would not be consistent with the wider statutory duties and the principal objective of the Authority. It is our view that given both P229 and CMP213 WACM2 affect the treatment of transmission costs it would be consistent for Ofgem to reject CMP213 WACM2 on similar grounds.

Question 7: Do you agree with our assessment that it is appropriate to implement WACM2 in April 2014? Please provide evidence to support any alternative implementation date.

We do not agree with Ofgem’s assessment that it is appropriate to implement WACM2 in April 2014.

As noted above, users cannot respond to the proposed implementation date of 1st April 2014 without incurring significant costs. Therefore we do not accept that this implementation date can be justified on the grounds of increased cost reflectivity. The proposed implementation date will distort the electricity market and will have material distributional effects with winners and losers emerging.

It is our view that the impact assessment is incomplete and information has been issued after the deadline for the industry to respond. Information on the impact assessment was presented by National Grid late in the CUSC process with little time for consideration by market participants. Further information has been released after the deadline for industry responses. Consequently:

- The CUSC working Group has failed to complete its terms of reference with respect to the assessment of the impact of CMP213 and its alternatives on current and future consumers on a national and regional basis (Working Group terms of reference k)⁴⁰ and

³⁸ BSC Modification Proposal P229: Introduction of a seasonal zonal transmission losses scheme, Ofgem Decision letter, 28th September 2011 at http://www.elexon.co.uk/wp-content/uploads/2012/02/P229_Authority_Decision.pdf

³⁹ BSC Modification Proposal P229: Introduction of a seasonal zonal transmission losses scheme, Ofgem Decision letter, 28th September 2011, page 7, at http://www.elexon.co.uk/wp-content/uploads/2012/02/P229_Authority_Decision.pdf

⁴⁰ CMP213 Project Transmit TNUoS Developments, Stage 06 Final CUSC Modification Report, Volume 1, page 3, at <http://www.nationalgrid.com/NR/rdonlyres/0E5765AE-2BF5-4B5A-833A-7DFE7AC189F0/61004/FinalReportforAuthority10.pdf>

complete an environmental analysis including an assessment of likely impact on electricity generation carbon intensity (Working Group terms of reference 1)⁴¹;

- The CUSC working group failed to consider the effects of the proposals on different classes of users including the effect of undue discrimination and the potential for winners and losers;
- Ofgem and National Grid released information on the impact assessment after the deadlines for industry responses For example; Ofgem published the National Grid modelling results summary on 1st August 2013⁴² alongside publication of the Impact Assessment. This contained information that had not been available during the deliberations by the CUSC Panel or CUSC working group on the potential impact of the modification proposal.

Consequently we remain of the view that CMP213 WACM2 should not be implemented on 1st April 2014 and that further work is required to assess the potential impact of the modification proposal and to determine whether it is compliant with the NETS SQSS.

⁴¹ CMP213 Project TransmiT TNUoS Developments, Stage 06 Final CUSC Modification Report, Volume 1, page 3, as above

⁴² "National Grid modelling results summary", 1st August 2013 at <https://www.ofgem.gov.uk/publications-and-updates/project-transmit-impact-assessment-cmp213-options>