CMP264: Embedded Generation Triad Avoidance Standstill
and
CMP265: Gross charging of TNUoS for HH demand where Embedded Generation is in the Capacity Market

CMP269: Potential consequential changes to the CUSC as a result of CMP264
and
CMP270: Potential consequential changes to the CUSC as a result of CMP265

What stage is this document at?

01	Initial Written Assessment
02	Workgroup Consultation
03	Workgroup Report
4	Code Administrator Consultation
05	Draft CUSC Modification Report
06	**Final CUSC Modification Report**

CMP264 aims to change the Transport and Tariff Model and billing arrangements to remove the netting of output from those New Embedded Generators who export on to the system, when determining liability for locational and wider HH demand TNUoS charges.

CMP265 aims to change the Transport and Tariff Model and billing arrangements to remove the netting of output from those embedded generators who are in the Capacity Market who export on to the system, when determining liability for the residual HH demand TNUoS charges.

CM269 aims to amend Section 11 of the CUSC to align any changes introduced under CMP264.

CM270 aims to amend Section 11 of the CUSC to align any changes introduced under CMP265.

Published on: 28 November 2016

High Impact: Suppliers and embedded generators

The CUSC Panel Recommendation:

At the CUSC Modifications Panel meeting on 25 November 2016, the Panel voted on CMP264, CMP265, CMP269 and CMP270 Originals and WACMs against the Applicable CUSC Objectives.

The Panel voted on CMP264 and CMP269 against the Applicable CUSC Objectives. The Panel agreed by majority that WACM1, WACM2, WACM3, WACM4, WACM5, WACM6, and WACM7 were all better than the Baseline.

Most Panel members recommended WACM3 as being the best option; this was followed by WACM5.

The Panel voted on CMP265 and CMP270 against the Applicable CUSC Objectives. The Panel agreed by majority that WACM1, WACM2, WACM3, WACM4, WACM5, WACM6, and WACM7 were all better than the Baseline.

Most Panel members recommended WACM3 and WACM5 as by being the best.

Contents

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About this document

This is the Final CUSC Modification Report which contains responses to the Code Administrator Consultation and details of the CUSC Panel vote. This report has been prepared and issued by National Grid as Code Administrator under the rules and procedures specified in the CUSC.

The purpose of this document is to assist the Authority in making its recommendation on whether to implement CMP264, CMP265, CMP269 or CMP270.

An electronic copy of this document can be found via the following link

http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP264/

http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP265/

http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP269/

http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP270/

Document Control

Version	Date	Author	Change Reference
1.0	28 November 2016	Code Administrator	Final Modification Report to the Authority

1 Summary of the original Proposals, Terms of Reference and structure of this report

1.1 This document aims to describe the Original CMP264 and CMP265 CUSC Modification Proposals (the Proposal), as well as, summarising the deliberations of the Workgroup, the responses to the Workgroup Consultation, the Workgroup Alternative CUSC Modifications (WACMs) and the voting by the Workgroup against the Applicable CUSC objectives.

1.2 As part of the Workgroup analysis for CMP264 and CMP265, the Workgroup identified that although these Modifications were Charging Modifications (which if approved would require change to aspects of section 14 - Charging Methodologies of the CUSC) there were in fact, some references within section 11 of the CUSC which would also require some change, should CMP264 and/or CMP265 be approved.

1.3 The above mentioned changes to section 11 could not be addressed via CMP264 and CMP265 as they would have to be assessed against the Applicable Charging Objectives. Consequently, CMP269 and CMP270 have been raised to address the changes required to Section 11 of the CUSC.

1.4 At the CUSC Panel meeting held on 26 August 2016, it was agreed to align CMP269 and CMP270 with CMP264 and CMP265 as CMP269 and CMP270 were enabling Modifications to support any non-Charging changes in the CUSC that may be introduced under CMP264 and/or CMP265.

1.5 The Workgroup Report was presented to the CUSC Modifications Panel at a meeting held on 25th October 2016. The Panel agreed that the Workgroup had met their terms of Reference and accepted the Workgroup Report. The Panel then agreed to progressCMP264, CMP265, CMP269 and CMP270 Code Administrator Consultation for a period of 8 Working days.

CMP264: Generation Triad Avoidance Standstill

1.6 CMP264 was proposed by Scottish Power and was submitted to the CUSC Modifications Panel for its consideration in May 2016. A copy of this Proposal is provided within Annex 1. The Panel made a decision to send the Proposal to a Workgroup in order to be developed and assessed against the relevant CUSC Applicable Objectives.

1.7 The defect for CMP264 is detailed as the existence of large non-cost reflective Triad avoidance values are likely to distort investment decisions, by favouring small generation units over large ones, that may be more efficient. This could cause more efficient investments, which do not benefit from Triad avoidance, to be abandoned or deferred whilst less effective ones, which do benefit, are carried forwards. This would increase total system costs, which is likely to lead to higher costs for consumers. Cost reflective charges would lead to better investment decisions and lower costs for consumers.

1.8 The original solution to this defect is to change the Transport and Tariff Model and billing arrangements to remove the netting of output from those New Embedded Generators who export on to the system, when determining liability for locational and wider HH demand TNUoS charges. The proposal is to apply until Ofgem has completed its consideration of the current Electricity Transmission Charging Arrangements (and any review which ensues) and the resulting changes have been fully implemented.

1.9 Following the Workgroup Consultation, as summarised in this report, the Original Proposal and 15 Workgroup Alternative CUSC Modifications (WACMs) were brought forward.

CMP265: Gross charging of TNUoS for HH demand where Embedded Generation is in the Capacity Market

1.10 CMP265 was proposed by EDF Energy and was submitted to the CUSC Modifications Panel for its consideration in May 2016. A copy of this Proposal is provided within Annex 1. The Panel decided to send the Proposal to a Workgroup to be developed and assessed against the relevant CUSC Applicable Objectives.

1.11 The defect for CMP265 is detailed as charging demand on a net basis means that some of the gross HH demand will not pay the residual, and neither will the embedded generation that nets off that demand. The effect of the net demand charging basis is thus that the value of the demand residual charge element is credited to the embedded generation, where there is an association with an embedded generator as part of that Supplier's portfolio in that GSP group. This is not cost-reflective, as there is no logical reason for that credit, which is growing, to be given.

1.12 The original solution to this defect is to change the Transport and Tariff Model and billing arrangements to remove the netting of output from those embedded generators who are in the Capacity Market and export on to the distribution network, when determining liability for the residual HH demand TNUoS charges.

1.13 Following the Workgroup Consultation, as summarised in this report, the Original Proposal and 14 Workgroup Alternative CUSC Modifications (WACMs) were brought forward.

1.14 Due to the commonality between the workgroup discussions, similarity in topics and for ease of use the Workgroup has prepared a single Workgroup Consultation document however, when this is presented to the CUSC Panel, it will be treated separately.

Workgroup Conclusions

1.15 For CMP264 (CMP269) none of the 22 Workgroup members whom voted considered that the Original proposal better facilitated the Applicable CUSC Objectives. WACM 3 received four votes to indicate that it better facilitated the Applicable CUSC Objectives followed by the baseline and WACM 8 receiving three votes respectively as the preferred option.

1.16 For CMP265 (CMP270) one Workgroup member voted that the Original proposal better facilitated the Applicable CUSC Objectives, WACM 10 received four Workgroup member votes for better facilitating the Applicable CUSC Objectives followed by the baseline, WACM 3 and WACM 8 receiving three votes respectively as the best option.

Code Administrator Consultation Responses

1.17 Section 15 summarises the thirty responses received. Volume 6 of this report contains the full set of responses.

Additional Code Administrator Consultation

1.18 An additional Code Administrator Consultation was held for 2WDs (23 – 24 November 2016) as a material typographical error had been identified in the draft legal text for those WACMs that have a 3 year phasing element (WACM 2, WACM 4, WACM 5 and WACM 7). This related to the draft legal text for CMP264 and CMP264 only, with the draft legal text for CMP269 and CMP270 not being impacted.

1.19 Three responses were received to the Consultation. Section 16 provides the full responses. Two respondents confirmed that the amendment to the draft legal text for phasing in the named WACMs is correct. The other respondent raised concerns that whilst the amendments were correct having to issue a second consultation was symptomatic of concerns raised in the first Code Administrator Consultation on the time industry had been given to adequate time to fully assess the impact of the wide range of WACMs.

CUSC Panel recommendation

1.20 At the CUSC Modifications Panel meeting on 25 November 2016 the Panel voted on CMP264, CMP265, CMP269 and CMP270 Originals and WACMs against the Applicable CUSC Objectives.

For CMP264/CMP269:

1.21 The Panel voted on CMP264 and CMP269 against the Applicable CUSC Objectives. The Panel agreed by majority that WACM1, WACM2, WACM3, WACM4, WACM5, WACM6, and WACM7 were all better than the Baseline. In summary for Vote 1 (better than the Baseline), the Panel voted as follows;

1.22 Eight Panel members considered that WACM1 and WACM3 were better than the baseline.

1.23 Seven of the Panel members considered that WACM2, WACM4, WACM5 were better than the baseline.

1.24 Five Panel members considered that WACM6 and WACM7 were better than the baseline.

1.25 Three Panel members considered that the Original Proposal was better than the baseline.

1.26 Two Panel members considered that WACM19 was better than the baseline.

1.27 One Panel member (not the same Panel member for each WACM) considered that WACMs 8 to 18, 22 and 23 were better than the baseline.

1.28 No Panel members considered WACM20 and WACM21 as better than the baseline.

1.29 For Vote 2, most Panel members considered WACM3 as the best option receiving four votes. This was followed by three Panel members considering WACM5 as being the best option. One Panel member considered WACM7 as being the best option and Panel member abstained from voting.

For CMP265/270

1.30 The Panel voted on CMP265 and CMP270 against the Applicable CUSC Objectives. The Panel agreed by majority that WACM1, WACM2, WACM3, WACM4, WACM5, WACM6, and WACM7 were all better than the Baseline. In summary for Vote 1 (better than the Baseline), the Panel voted as follows;

1.31 Seven Panel members considered that WACM1 and WACM3 were better than the baseline.

1.32 Six Panel members considered that WACM2, WACM4, WACM5 were better than the baseline.

1.33 Five Panel members considered that WACM6 and WACM7 were better than the baseline.

1.34 Three Panel members considered that the Original Proposal was better than the baseline.

1.35 One Panel member (the same Panel member for each WACM) considered that WACMs 8 to 10 and 12 to 17 were better than the baseline.

1.36 No Panel members considered WACM11 and WACM18 as better than the baseline.

1.37 For Vote 2, the Panel's view was split as to which option was the best. Most votes went to WACM3 and WACM5 as by being the best receiving three votes each. The Original and WACM7 received one voted each one Panel member abstained from voting.

1.38 This Final CUSC Modification Report has been prepared in accordance with the terms of the CUSC. An electronic copy can be found on the National Grid Website,

http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP264/

http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP265/

http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP269/

http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP270/

Terms of Reference

1.39 The CUSC Panel detailed in the Terms of Reference the scope of work for the CMP264/CMP265 Workgroups and the specific areas that the Workgroup should consider. The table below details these specific areas and where they are referenced in this report. The full Terms of Reference can be found in Annex 2.

1.40 For CMP264 urgency was not requested but accelerated timescales were set such that a decision could be achieved by December 2016 to be in advance of the Capacity Market auction. The CUSC Panel agreed to accelerated timescales.

1.41 For CMP265 the Proposer requested urgency as it considered that if not urgently addressed it may cause a significant commercial impact on parties, consumers or other stakeholder(s). As the next Capacity Market auction (for winter 2020/21) takes place in December the present arrangements give an artificial advantage to Embedded Generators, distorting the capacity market. The CUSC Panel in its deliberations did not consider that it should be granted urgency as the Modification was considered complicated and could not be addressed fully by the Workgroup using an urgent process. It considered that following an urgent timetable holds an inherent risk of unintended consequences, which may arise due to there being insufficient time for all aspects of a Modification Proposal to be considered. Ofgem[1] agreed with the CUSC Panel's assessment that urgency should not be granted but that an accelerated timetable should be followed.

1.42 The original date for providing the final report to the Authority for decision was 12 October 2016. The Workgroup requested a month extension to allow for further meetings and discussion to be had, whilst remaining on an accelerated timetable and supporting submitting the final report to the Authority no later than 28 November 2016.

1.43 It is part of the standard CUSC modification process for the statement of the defect to be within the gift of the proposer who has identified said defect and determined a possible modification (solution) to address the defect. It was noted that several of the requests for Workgroup alternatives that were submitted to the Working Group provided solutions that were wider than the scope of the defect in that they had an impact outside of the triad benefit to embedded generators. The workgroup had discussed the scope of the defect prior to its consultation (see section 3.2 of the workgroup consultation) and acknowledged the narrow nature of the defect and proposed solution. At the time of the workgroup consultation the workgroup has not agreed on a definitive view of the defect.

1.44 As part of discussions held to narrow down the number of alternatives to be an efficient way forward (as directed by the workgroup terms of reference) the workgroup acknowledged that any proposals which altered the structure of demand TNUoS tariffs would be out of scope of these modifications. See also section 7.12 of this report for more on this matter.

[1] http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP265/

Proposal section contains the letter from the CUSC Panel and Ofgem on the urgency request

Table 1: CMP264 ToR

CMP264

Specific area	Location in the report
a) The Workgroup should consider whether, on the balance of probabilities, the current level of embedded generation triad avoidance benefit significantly exceeds the actual avoided transmission investment cost, whether this causes a distortion in competition, and whether the proposed temporary removal of such benefits (pending the outcome and implementation of Ofgem's considerations) would better meet the code objectives.	Workgroup consultation Report contains evidence (please refer to volume 2 of this report). The Workgroup noted that it had been considered but with limited analysis and time spent due to the accelerated timescales.
b) The Workgroup should not attempt to resolve the issue of what the most appropriate charging arrangements should be on an enduring basis, as this will be the subject of Ofgem's considerations.	The Workgroup did not consider the issue of what the most appropriate charging arrangements should be.
c) The Workgroup should consider the definition of and criteria for the "disapplication date" in the proposed solution, i.e. the date on which the modification would cease to have effect.	N/A as the Proposer removed disapplication date. Refer to section 3.9
d) The Workgroup should consider whether the Workgroup's conclusions would be materially impacted by the length of time between implementation and the "disapplication date".	N/A as the Proposer removed disapplication date. Refer to section 3.9
e) The Workgroup should consider consumer impacts resulting from the proposal.	Workgroup consultation Report contains evidence (please refer to volume 2 of this report). The Workgroup noted that it had been considered but with limited analysis and time spent due to the accelerated timescales.
f) Consider any link to the Balancing and Settlement Code with particular focus on timescales of any changes.	Workgroup consultation Report contains evidence (please refer to volume 2 of this report). The Workgroup noted that it had been considered but with limited analysis. The BSC Modification P348[2] and P349[3] Workgroups shared a number of Workgroup members with CMP264/265. In addition a BSC representative attended CMP264/265 as an observer.
g) Consider any link to EMR Settlements metering with particular focus on timescales of any changes.	Workgroup consultation Report contains evidence (please refer to volume 2 of this report). The Workgroup noted that it had been considered but with limited analysis and time spent due to the accelerated timescales.

[2] https://www.elexon.co.uk/mod-proposal/p348/

[3] https://www.elexon.co.uk/mod-proposal/p349/

Table 2: CMP265 ToR

CMP265

Specific area	Location in the report
a) This Workgroup should not focus on transmissions connected generators in negative zones.	The Workgroup did not consider the issue of transmission connected generators in negative zones.
b) The Workgroup should not look to amend the existing Capacity Mechanism.	The Workgroup did not consider amending the existing Capacity Mechanism.
c) The Workgroup should consider all Embedded Generation with Capacity Market contracts directly or indirectly.	Workgroup consultation Report contains evidence (please refer to volume 2 of this report). The Workgroup noted that it had been considered but with limited analysis and time spent due to the accelerated timescales.
d) The Workgroup should consider consumer impacts resulting from the proposal.	Workgroup consultation Report contains evidence (please refer to volume 2 of this report). The Workgroup noted that it had been considered but with limited analysis and time spent due to the accelerated timescales.
e) The Workgroup should consider whether, on the balance of probabilities, the current level of embedded generation triad avoidance benefit significantly exceeds the actual avoided transmission investment cost, whether this causes a distortion in competition, and whether the removal of such benefits (pending the outcome and implementation of Ofgem's considerations) would better meet the code objectives.	Workgroup consultation Report contains evidence (please refer to volume 2 of this report). The Workgroup noted that it had been considered but with limited analysis and time spent due to the accelerated timescales.
f) Consider any link to the Balancing and Settlement Code with particular focus on timescales of any changes.	Workgroup consultation Report contains evidence (please refer to volume 2 of this report). The Workgroup noted that it had been considered but with limited analysis. The BSC Modification P348 and P349 Workgroups shared a number of Workgroup members with CMP264/265. In addition a BSC representative attended CMP264/265 as an observer.
g) Consider any link to EMR Settlements metering with particular focus on timescales of any changes.	Workgroup consultation Report contains evidence (please refer to volume 2 of this report). The Workgroup noted that it had been considered but with limited analysis and time spent due to the accelerated timescales.

Structure of the report

1.45 The main body of this report is split into 14 sections and 4 annexes. In additional there will be 6 volumes to this report.

Sections:

1. Section 1: summarises the original proposals, where the Terms of Reference have been met in the report and the structure of this report.
2. Section 2 is a summary of the Workgroup meetings.
3. Section 3 goes through a high level overview of the original defects proposed under CMP264 and CMP265.
4. Section 4 covers the questions posed in the Workgroup Consultation.
5. Section 5 covers responses to Workgroup Consultation questions.
6. Section 6 covers analysis provided by the Workgroup members post the Workgroup Consultation.
7. Section 7 covers the features contained in alternative options.
8. Section 8 covers key themes within alternatives proposed.
9. Section 9 covers WACMs and voting on an alternative to a Workgroup Alternative CUSC Modification (WACM).
10. Section 10 covers the approach to legal text changes to the CUSC.
11. Section 11 covers the voting by the Workgroup.
12. Section 12 summarises the conclusions of the Workgroup.
13. Section 13 covers the impacts and assessment.
14. Section 14 covers the proposed implementation and Transition arrangement.
15. Section 15 covers the responses to the Code Administrator Consultation.
16. Section 16 covers the responses to the ***Additional*** Code Administrator Consultation.
17. Section 17 covers the CUSC Panel voting.

Annexes

1. Annex 1 contains the CUSC Proposals forms for CMP264, CMP265, CMP269 and CMP270
2. Annex 2 contains the Terms of Reference for CMP264, CMP265, CMP269 and CMP270
3. Annex 3 contains the attendance register

Volumes

1. Volume 1a is this report.
2. Volume 1b, 1c and 1d is the draft legal text changes.
3. Volume 2 contains the Workgroup Consultation report that was issued in 2 August 2016.
4. Volume 3 contains all the responses received to the Workgroup Consultation report questions and with page references for each respondent.
5. Volume 4 contains the voting statements by Workgroup members, with page references for each respondent.
6. Volume 5 contains presentations from Workgroup members post Workgroup Consultation.
7. Volume 6 contains all the responses received to the Code Administrator Consultation.

1.46 This Final Modification Workgroup Report has been prepared in accordance with the terms of the CUSC. An electronic copy can be found on the National Grid Website, along with the CUSC Modification Proposal form.

http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP264/
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http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP269/

http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP270/

2 Summary of Workgroup meetings

2.1 The Workgroup initially met five times to discuss and clarify the defects and the proposed rectification approach. The output from these meetings resulted in the Workgroup Consultation report which was issued in August 2016. The report detailed the work performed to date; the alternative options a number of Workgroup members had raised and posed a number of questions to respondents.

2.2 CMP264 received **47** responses and CMP265 received **46** responses to the questions posed. A number of the respondents provided views on the specific alternatives contained in the report and also proposed alternative ideas. The Workgroup Consultation Report that was issued is contained in **volume 2** of this report.

2.3 The Workgroup has subsequently met seven times to review the responses to the questions and work through the options for WACMs. At its meeting on 19 September the Workgroup voted on which options should become WACMs. In addition the Workgroup Chair also considered that **29** of the alternatives (across both CMP264 and CMP265) to be better than the baseline and facilitates the CUSC charging objective (a) of "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". The Chair considers that the requirement to retain these additional WACMs reflects the composition of the Workgroup and the variety of views. This will allow the CUSC Panel and ultimately the Authority to be provided with a wide range of alternatives that reflects the views of the Workgroup to meet the defects described. This is detailed in sections 6 & 8.

2.4 On 5 October the Workgroup met to vote on which whether the original Proposals or any of the WACMs would be better than the baseline of the CUSC. This is detailed in section 9.

3 High level overview of the original defects proposed under CMP264 and CMP265

3.1 CMP264 aims to change the Transport and Tariff Model and billing arrangements to remove the netting of output from those New Embedded Generators who export on to the system, when determining liability for locational and wider HH demand TNUoS charges.

3.2 CMP265 aims to change the Transport and Tariff Model and billing arrangements to remove the netting of output from those embedded generators who are in the Capacity Market who export on to the system, when determining liability for the residual HH demand TNUoS charges.

CMP264: Generation Triad Avoidance Standstill

3.3 CMP264 was proposed by Scottish Power and was submitted to the CUSC Modifications Panel for its consideration in May 2016. A copy of this Proposal is provided within Annex 1. The Panel decided to send the Proposal to a Workgroup to be developed and assessed against the relevant CUSC Applicable Objectives.

3.4 The defect CMP264 attempts to address is changing the Transport and Tariff Model and billing arrangements to remove the netting of output from those New Embedded Generators who export on to the system, when determining liability for locational and wider HH demand TNUoS charges. The proposal is to apply until such as time as Ofgem has completed its consideration of the current electricity Transmission Charging Arrangements (and any review which ensues) and any resulting changes have been fully implemented. The original proposal had an implementation date of 1 April 2017.

3.5 Following the Workgroup Consultation, as summarised in this report, the Original Proposal and 15 Workgroup Alternative CUSC Modifications (WACMs) were proposed.

CMP265: Gross charging of TNUoS for HH demand where Embedded Generation is in the Capacity Market

3.6 CMP265 was proposed by EDF Energy and was submitted to the CUSC Modifications Panel for its consideration in May 2016. A copy of this Proposal is provided within Annex 1. The Panel decided to send the Proposal to a Workgroup to be developed and assessed against the relevant CUSC Applicable Objectives.

3.7 The defect CMP264 attempts to address is changing the Transport and Tariff Model and billing arrangements to remove the netting of output from those embedded generators who are in the Capacity Market and export on to the distribution network, when determining liability for the residual HH demand TNUoS charges. The original proposal had an implementation date of 1 April 2020.

3.8 The table 3 below summarises the key features in each of the original Proposals.

Table 3: Comparison of the Original CMP264 and CMP265 proposals

	CMP264 Original Proposal	CMP265 Original Proposal
Proposer	Scottish Power	EDF Energy
Proposal	Do not deduct New Embedded Generation from a suppliers' charging volumes, for the purposes of demand TNUoS. Thereby, removing demand TNUoS embedded benefit for those New Embedded Generators.	Do not deduct certain embedded generation (those with Capacity Market agreements[4]) from a suppliers' charging volumes, for the purposes of demand TNUoS. Thereby, removing demand TNUoS embedded benefit for those embedded generators.
Affected Embedded Generators who have a different value of the embedded benefit under the proposal	Embedded generators defined as "New" after 30 June 2017	All Embedded Generators with a Capacity Market agreement.
Demand TNUoS Embedded benefit for the affected generators[5]	New Embedded Generators will receive no demand TNUoS embedded benefit (neither the locational nor the residual)	Affected Embedded Generators would receive the locational demand TNUoS tariffs as an embedded benefit, but not the demand residual.
Implementation Date (for changes to charging methodology)	1 April 2017 (please refer to Table 9) The first affected volumes would be for "new embedded generators" during the 2017/18 November – February Triad season.	1 April 2020
Disapplication	Intended as a 'stop-gap' solution until Ofgem confirms that it has completed its consideration of the issues (and any review which may ensue) and any resulting changes have been fully implemented. (See section 3.9)	No. Enduring solution, unless superseded by an implemented outcome of Ofgem/Grid wider review of charging arrangements that has effect in the same area of the CUSC.
Related BSC Modification	P349 – Facilitating embedded generation Triad Avoidance Standstill	P348 - Provision of gross BM Unit data for TNUoS charging

Amendments to the original CMP264 proposal and removal of the Disapplication Date

[4] CM agreements are commonly described as contracts throughout this report

[5] For SVA registered embedded generators (the majority) the embedded benefit is paid through the supplier, so any changes affect supplier TNUoS charges and so the embedded generator indirectly. For CVA registered embedded generators the demand TNUoS embedded benefit is received directly from National Grid.

3.9 During discussion within the Workgroup, the Proposer for CMP264 has amended the Original Proposal to remove the Disapplication Date. The reasoning behind this was that as it was not possible to predict when a review will take place or indeed what the recommended changes would be/get implemented. This could present problems in defining a Disapplication Date in terms of a specified action by the Authority in the CUSC legal text.

3.10 The Workgroup did discuss an alternative option of defining a firm Disapplication Date but considered that this too was also problematic as the timetable for Ofgem's review and the Modification process which could potentially follow is uncertain. Too short a Disapplication Date could lead to a hiatus between the disapplication of CMP264 and the implementation of Ofgem's conclusions. Too long a Disapplication Date (e.g. in 2026) leaves the provisions subject to the normal modification process and would be in effect meaningless.

3.11 Furthermore it was recognised that the use of a firm Disapplication Date could in no way bind Ofgem to a date for concluding the review and implementation the conclusions.

3.12 On this basis, while continuing to emphasise the intended temporary nature of CMP264, the Proposer has concluded that formal provisions for a Disapplication Date would add little in practice to the proposed Modification. Accordingly, it has decided not to include Disapplication Date provisions in the Original proposal.

4 Questions included in the Workgroup Consultation Report

4.1 Volume 2 of this report contains the full Workgroup Consultation Report and should be read in conjunction with this report. The Workgroup Consultation was issued 2 August 2016, with responses to be received by 24 August 2016.

4.2 The Workgroup in addressing which questions to should be included in the Workgroup Consultation Report considered what information they were seeking directly for CMP264 or CMP265 or those that could be considered to be shared by both Modifications.

CMP264

4.3 The specific questions the Workgroup wanted to understand the views of industry on the 'cut-off' date and definition for those plants that would be classed as 'new Embedded Generation' under the Modification. They also wanted to understand if the date proposed for implementation would be appropriate and if not why. The Modification may introduce a loophole due to the fact that it didn't consider behind the meter or mixed sites and industry views were canvassed on what its views would be regarding a loophole. The Workgroup were also keen to understand what value (if any) industry considered should be appropriate for Embedded Benefits and why.

CMP265

4.4 The specific questions the Workgroup wanted to understand what the implications (if any) would be in respect of mixed sites and what category of Capacity Market CMU should be captured under the Modification.

CMP264 and CMP265 shared questions

4.5 For the shared questions the Workgroup wanted to understand from Suppliers whether charges were set as to the same tariff that National Grid charges on demand customers to understand how embedded benefits were passed through to Embedded Generators. The Workgroup wanted to understand what industry considered to the value of Embedded Generation output and demand side reduction for the 2016/2017 Triad season and whether the values included in the report seemed a fair reflection.

4.6 The Workgroup also wanted to understand what the impact of the demand TNUoS Embedded Benefit may have on decisions relating to the Capacity Market and whether both the locational and residual component of the demand TNUoS should be removed as an embedded benefit (as CMP264 Original) or just the residual component (as CMP265 Original) or some other method

4.7 In addition the standard consultation questions were included for both CMP264 and CMP265 to understand what support or concerns there was from industry in respect of whether the original proposals or any of the associated potential options for change better facilitates the Applicable CUSC Objectives, what implementation date implications may be and whether the respondent wanted to raise an alternative for consideration by the Workgroup.

4.8 It was also noted by Workgroup members that Ofgem had issued its open letter[6] at the time of issuing the Workgroup Consultation Report (the letter was issued 29 July 2016 with a

6

https://www.ofgem.gov.uk/system/files/docs/2016/07/open_letter__charging_arrangments_for_embedded_generation.pdf

close date of 23 September 2016 for comments). A number of parties indicated to National Grid's Code Administration team that they would not be responding to the CMP264/265 Workgroup Consultation but rather respond to Ofgem's open letter.

5 Summary of responses to Workgroup Consultation questions

5.1 This section summarises the views of the Workgroup and the Industry that were provided after the Workgroup Consultation responses were received to the Standard Workgroup Consultation questions and the specific questions posed for each Modification. The standard first four questions of the Workgroup Consultation request views on whether the two proposals meets the applicable CUSC Objectives, if the implementation approach is supported and general comments including the requirement of any potential WACMs.

5.2 The responses to the question of whether the Original Proposal better facilitates the applicable CUSC Objectives revealed that for:

CMP264:

5.3 **Six of the 47** respondents supported the proposal (including a response from the Proposer's organisation) and believed it did better meet Objective (a). In addition two respondents were unable to confirm if they believed it did or not as there wasn't enough analysis provided to make this decision. The general view of these respondents was they believed that the Modification introduced discrimination and concerns around investment decisions made or being made and that a wider review should be performed.

CMP265:

5.4 **Seven of the 46** respondents supported the proposal (including a response from the Proposer's organisation) and believed it did better meet Objective (a). In addition three respondents were unable to confirm if they believed it did or not as there wasn't enough analysis provided to make this decision. The general view of these respondents was they believed that the Modification introduced discrimination and concerns around investment decisions made or being made and that a wider review should be performed.

5.5 A number of the respondents highlighted that **both** Proposals fail to address the wider issues associated with the defect for existing generators and also introduces discriminatory treatment between new and existing generation (which in their views continues to receive the growing Triad benefit). There were also a number of views raised about the accelerated timescales and that a partial and potentially discriminatory solution may result in creating more uncertainty into the electricity market.

5.6 Whilst reviewing these responses, the Workgroup also noted that there was support from the industry for a wider review to take place to allow sufficient time for full analysis to be performed.

5.7 A summary of the key themes in responses can be found in tables 4 to 6 below. The full responses by all respondents (excluding any where the respondent has requested it is not published for confidentiality reasons) can be found in Volume 3 to this report.

Table 4: CMP264 specific questions

Question No from Consultation	Question	High-level summary of views from the respondents
1	Do you believe that CMP264 Original proposal or either of the associated potential options for change better facilitates the	Refer to comments in 5.3 & 5.5

	Applicable CUSC Objectives?	
2	Do you support the proposed implementation approach for CMP264? Are the suggested implementation timescales suggested for CMP264 appropriate / achievable?	Refer to comments in 5.3 & 5.5
3	Do you have any other comments for CMP264?	Refer to comments in 5.3 & 5.5
4	Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider for CMP264?	A number of options were put forward; these are covered in sections 6 and 8.
10	i) Do you think a cut-off date for "new embedded generation" of 30 June 2017 is appropriate? What other date would you propose?	The majority of respondents did not consider that this would be sufficient time to allow those that hold CM contracts to consider the investment implications and also the time frame for any system changes. A smaller number of respondents did consider the timeframe to be acceptable but did voice some reservations about the speed to which a system solution could be implemented. Some respondents supported grandfathering and others did not.
	ii) Do you have any views on how mixed sites are being addressed in CMP264 Original?	With respect to mixed sites the responses were concerned that no 'loopholes' were introduced but agreed that the approach would be a pragmatic one until a wider review was undertaken.
	iii) Do you think new-build embedded generation capacity that has entered into long term financial and performance commitment obligations via 2014 and 2015 capacity market or contracts for difference auctions (prior to this modification proposal) should be given exceptions to this cut-off date?	The responses were mixed in opinion with some answering yes to support investor confidence. Those that indicated no based this on the view that that projects should be advanced enough for construction and commissioning before the cut-off date or that a non-cost reflective payment should be made continuously
	iv) Do you agree that ignoring demand behind the meter is unlikely to create a significant "loophole" or material discrimination risk in relation to the CMP264 arrangements in the short term	Concerns were raised that a loophole may be created and that this in itself may be considered discriminatory; others took the view that the loophole would be small and shouldn't be used as a

		mechanism to delay the Modifications.
	v) Question to suppliers: Do you consider that the wording of your existing contracts allow you to reflect the changes provided by these modifications in a cost reflective manner. For example, these changes will apply to existing PPAs and generators who significantly alter their output (EREC 59).	The majority of responses indicated no comment (as either not Suppliers or not wanting to make information public). A number indicated that they would have flexibility to amend contracts, whilst the counter view was received from others that they had locked in contracts that couldn't be amended in timescales proposed.
	vi) Do you agree with the definition of commissioned and do you agree that it is appropriate? If you do not agree with the definition or that it is appropriate please provide alternative definitions and rationale for this definition	Again the majority did not provide comments but a number indicated that they agreed with the definition whilst others considered that the definition may introduce distortions.
13	Do you have a view of whether implementation for the 2017/18 Triad season is sufficient to allow changes for: i) supplier contracts and billing system; and ii) for other stakeholders?	The predominant sense from responses for both elements was that more time would be needed to allow for system development and time for the industry to accommodate to the changes.
18	Do you have a view if embedded benefits are frozen at a non-zero value, what should that value be as a £/kW tariff (2016/17 value is £45.33 / kW)?	For those that were not supportive of the Modification there was a strong view that they should be frozen to provide the stability to allow investments to deliver security of supply. There were a number of counter views that Embedded Generation tariffs should be broadly equivalent in value to the tariffs applying to Transmission Connected Generators in similar locations. Because transmission connected generator tariffs can (and should) change over time, freezing tariffs for any embedded generation at any level would work against cost reflectivity and effective competition in generation.

Table 5 CMP265 specific questions

Question No	Question	Views from the respondents

from Consultation		
5	Do you believe that CMP265 Original proposal or either of the associated potential options for change better facilitates the Applicable CUSC Objectives?	Refer to comments in 5.3 & 5.5
6	Do you support the proposed implementation approach for CMP265? Are the suggested implementation timescales suggested for CMP265 appropriate / achievable?	The majority of respondents were concerned with the implementation timescales and the interaction with the Capacity Market and those plants that had prequalified and 'opted in' to the CM auction and that were unable to withdraw as CMUs price takers. It was noted that so as not to affect existing DG CMUs already prequalified for this years CM then the decision would have to be made by Ofgem (and communicated widely) by no later than Friday 18th November to enable prequalified existing DG to make an informed opt out/in decision for the T-4 2016 CM add that auction and date that is (commence 6 Dec).
7	Do you have any other comments for CMP265?	Refer to comments in 5.3 & 5.5
8	Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider for CMP265?	A number of options were put forward; these are covered in sections 6 and 8.
11	*i)* Views are sought on the implication for mixed sites discussed in 3.4.10.{*Workgroup Consultation Report reference}* ii) Views are sought on the preference of categories of capacity Market CMU captured by this proposal, please indicate your preference from the following list and reasons: • All existing and new distribution generation CMUs • All existing and new distribution generation CMUs and DSR CMUs (proven and unproven) • All price maker CMUs • All newbuild/prospective distribution generation CMUs only (defined as >1year contracts)	It was the overwhelming view that the level of complexity would be prohibitive. The majority view of those that did respond to this question that it should be all Embedded CMUs with a CM contract that should be considered in scope as having selective capacity market CMUs may risk distorting the CM clearing prices and creating perverse incentives for certain categories of CMU. Indeed other noted that it should apply to all Embedded Generators and not just those that hold a CM contract. This view was countered in the

		respect that if a CMU was a price-taker they would be unable to influence the clearing price or distort the CM outcome. A number of respondents and Workgroup members also raised the issue of secondary trading. This is addressed in section 10.6
14	Do you have a view of whether implementation for the 2020/21 Triad season is sufficient to allow changes for i) supplier contracts and billing system, and ii) for other stakeholders?	Whilst a number of respondents agreed that there would be sufficient time this was caveated with the view of not supporting the Modification.

Table 6: Questions posed for both CMP264 and CMP265

Question No from Consultation	Question	Views from the respondents
9	i) Suppliers: In setting charges for your demand customers, do you charge them at the same tariff as National Grid charges you (i.e. gross), to enable you to pay the embedded benefit to embedded generators, or please explain the way in which it is funded? ii) Suppliers: Does the estimate that 7.58GW of embedded generation output and 2.5GW of demand side reduction at the time of Triad for 2016/17 seem reasonable based on your knowledge of the UK market? If not what is your estimate of embedded generator output and DSR at time of Triad?	Due to the commercially sensitive nature most responses had no comment or were not Suppliers. One response indicated that the analysis undertaken in the Cornwall and KPMG reports provides a robust estimate of the total de-rated DG capacity that reduces Transmission demand, estimates of demand side reduction are harder to ascertain. NG's estimates of Customer Demand Management (CDM) indicated a similar level of participation.
12	Can you identify – either quantitatively or qualitatively - the impact of the demand TNUoS embedded benefit on your decisions made in making capacity market decisions?	Due to commercial considerations no detail was provided but the majority did note that they would expect the bid price into the CM to raise accordingly if either Modification was approved. A number of responses did provide information such as new-builds in the 2014 and 2015 CM had 100% priced in Triad Embedded Benefits into their CM prices and assumed this would continue without major

		reform given the regulatory stability and the recent decisions in the NG informal embedded benefits review (the NG decision not to change Triad in 2014 specifically references to 'protect investor confidence).
15	i. What are your views on the 2 broad options to enable the reporting of gross export metered data? ii) Would you have the data available required for Option B (both CMP264 and CMP265) for both new contracts and existing contracts where a customer may be partially exempt? iii) Do you believe you can implement the proposed changes by the respective implementation dates? iv) What are the pros and cons of the 2 proposals that ELEXON are considering to implement this (P348 for CMP265/ P349 for CMP264)?	The majority of respondents did not provide information; of those that did there was a split in those that consider a Supplier best placed and those that would rather have the data provided via ELEXON.
16	Do you have any further evidence / comments on the consumer impact of changing the demand TNUoS embedded benefit in either the short-run or long-run?	The overall majority view was that a wider review should be undertaken and that concerns were raised over security of supply during the Triad period. A number noted that the value of embedded benefit payments to generators due to the net charging of the Demand Residual represented a very high cost to customers and that the removal of this benefit would result in a substantial direct reduction in cost to customers. It was also noted that this customer saving may be offset to some degree by higher prices in the wholesale power market and higher clearing price of the Capacity Market.
17	Do you feel that both the locational and residual component of the demand TNUoS should be removed as an embedded benefit	The majority of respondents considered that neither should be removed. A number

	(as CMP264 Original) or just the residual component (as CMP265 Original) or some other method?	highlighted that they considered that a wider review be undertaken on all aspects of demand TNUoS and related Embedded Benefits as part of a comprehensive review of network system charging, taking full account of expected developments in system operation, future generation mix and behaviour of demand-side participants. This, it was felt, would best be undertaken as a Significant Code Review. A number of respondents did consider that locational element should remain, with a £x value for the Embedded Benefit.
19	Regarding the proposed alternatives what are your views on the suggested implementation dates? Are these achievable? Please give reasons for your view.	As highlighted before all respondents cautioned 'rushing' the solution and implementation date. By extending the implementation date out this would allow the processes and systems to be considered and implemented.

6 Analysis provided by Workgroup members post the Workgroup Consultation

6.1 Post the Workgroup Consultation a number of the Workgroup members provided presentations to the Workgroup on the alternatives they were proposing and the impact on Suppliers. These are contained Volume 5 to this report.

7 Features contained in alternative options

Background

7.1 The Workgroup considered alternative methods for providing TNUoS embedded benefit. Presently, TNUoS embedded benefit is paid in relation to demand TNUoS charges. Specifically it is associated with charges for demand metered through half hourly (HH) meters. These charges are levied against the average level of HH metered demand which occurs over the "triad". The triad refers to the three settlement periods of highest transmission system demand within a charging year. It consists of the half hour settlement period of system peak demand and the two half hour settlement periods of next highest demand, which are separated from the system peak demand and from each other by at least 10 clear days, between November and February inclusive of the charging year concerned.

7.2 TNUoS embedded benefit is realised in respect of exports from exemptible embedded generation, which is generally generation connected to a distribution network which does not need a generation licence to operate. It is realised in one of two ways depending on how the affected embedded generator is registered in central settlement systems. An embedded generator can be registered in one of two settlement processes: the Supplier Volume Allocation (**SVA**) or the Central Volume Allocation (**CVA**) systems.

7.3 If a generator's meter is registered in SVA then a supplier tends to take responsibility for its exports of power onto the system for the purposes of settlement. The export is treated as negative demand in the calculation of that supplier's demand for a particular demand charging area, so that when the generator generates during the triad period it reduces the supplier's exposure for demand TNUoS charges.

7.4 This is referred to as "**net charging**" as it is the level of net demand during the triad which is charged demand TNUoS. For example, a supplier with 150MW of SVA demand and with 50MW of SVA registered embedded generation on average over the triad in a particular zone would be charged on the net level of 100MW. Under this "net charging" arrangement, embedded generation is seen to reduce metered peak demand which ultimately signals transmission investment need.

7.5 If an embedded generator is registered in the CVA arrangements, the party which has registered it is paid the negative demand TNUoS directly for any output generated during the triad period. That is, it doesn't need to offset any demand to realise the benefit. A supplier or the generator could be responsible for registering the generating station in the CVA arrangements. Suppliers that receive embedded benefits on behalf of generation that they have registered in settlement tend to pass most or all of this benefit to the generators concerned through the contractual arrangements they have with them.

7.6 Regardless of the route through settlement, the value of embedded benefit is effectively the negative demand tariff for the relevant zone. That is, instead of the demand tariff being a payment from the supplier to National Grid, for the embedded benefit the payment flows in the opposite direction.

7.7 The demand tariff is split into two elements: the "**locational charge**" and the "**residual tariff**". The locational charge is the collective term used within the CUSC to describe two individual charges, the "**peak**" and "**year round**" charges, which vary by location and are designed to reflect the costs of capital investment in, and the maintenance and operation of, the transmission system. The residual tariff does not vary by location and is designed to ensure that the correct revenue is recovered overall.

Alternative Approaches

7.8 The Workgroup Consultation report included information on five alternatives options for the treatment of embedded generation and also questions relating to areas that should be considered in pulling together an alternative option.

7.9 For CMP264 and CMP265 eight respondents provided alternatives. From these the Workgroup developed a matrix of features that could be included in any alternatives. Each alternative request was discussed in the Workgroup to ensure that a common understanding was held by all.

7.10 The Workgroup initially considered what could be potential features, recognising that there were multiple permutations and that the discussions that the Workgroup undertook had evolved such that some of the ideas to address the defect had wider impacts than originally envisaged.

Grandfathering:

The Workgroup considered grandfathering to mean an arrangement which preserved a higher level of Embedded Benefit compared with those that are not grandfathered Generators.

Grandfathering options could range from:

- No grandfathering
- Grandfathering existing, with different cut-off dates
- Grandfathering existing, plus those with existing CM/CFD agreements, with different cut-off date for grandfathering
- Grandfathering existing, plus those with existing CM/CFD agreements but no cut-off date
- Grandfathering all except existing CM agreements
- Grandfathering all except existing CM/CFD agreements
- Grandfathering all except existing CM/CFD agreements or CHP generators

New Embedded Benefit:

Alternative options for calculating the embedded benefit were considered. Alternatives to both elements which make up the current embedded benefit, the demand locational charge and the demand residual charge, were considered.

a) Alternatives to the Locational Charge

This could range from:

- No locational element
- Peak plus year round (as now)
- Peak only

b) Alternatives to the Residual Charge

This could range from:

- Zero £
- Using the Cornwall Energy value of c £32
- Using the value at the date of the last Embedded Benefits Review £27
- Using the 2015/16 value + RPI
- Using the 2016/17 value + RPI
- Using the Generation Residual[7]
- Using an approach of avoided infrastructure + avoided Transmission Network connection costs
- Using the average of the past [four] years

[7] For example if a Transmission Connected Generator receive a credit of £2 per kw Embedded Generators would also get a credit of £2 per kw

- Using a local reinforcement credit, wider reinforcement credit, generation residual (if negative)
- No change

Floor to avoid negative tariffs:

The Workgroup considered whether or not it was desirable to have a floor to the total level of Embedded Benefit an Embedded Generator was exposed to. The aim of this was to address concerns that a negative level of Embedded Benefit may lead to a generator not generating at times of peak demand simply to avoid paying a significant negative charge. The majority felt a floor would be appropriate but some felt it would not.

Charging base for Embedded Generators

Presently demand charges are levied over the triad period, but there are alternative periods over which they could be recovered/paid out.

Options considered were:

- Triad – no change
- Using 16:30 to 19:30 for November, December and January and 17:00 to 20:00 in February
- 16:00 to 19:00 Year Round

Implementation Date:

In this instance, the Workgroup meant the point at which the new charges would take effect, rather than when the new text to the CUSC would be implemented. Options considered were:

- 2017/2018
- 2018/2019
- 2020/2021
- A phased implementation

7.11 It was acknowledged by Workgroup Members that this gave rise to an excessive number of potential workgroup alternatives and therefore these were developed into key themes each of which is explained below.

7.12 As part of discussions held to narrow down the number of alternatives to be an efficient way forward (as directed by the workgroup terms of reference) the workgroup acknowledged that any proposals which altered the structure of demand TNUoS tariffs would be out of scope of these modifications. This aligns to the discussions held by the workgroup where a narrow defect should be addressed by any solutions, focused on the Triad TNUoS benefits for embedded generators. However, some workgroup members felt that this was a constraint as it precluded solutions which would otherwise have been more consistent with the underlying objectives of CUSC and could therefore have been more optimal.

8 Key themes within alternatives proposed

8.1 Section 8 'CUSC Modification[8]' details the Modification process. A Workgroup Consultation Alternative Request can be raised by any CUSC Party, BSC Party, the Citizens Advice or the Citizens Advice Scotland. In the instance that a Workgroup Consultation Alternative Request has been received by a party not listed or by a Workgroup member the Workgroup will 'adopt' the alternative request to include in any potential WACMs.

8.2 Tata Chemicals Europe Ltd did submit an alternative request that was taken forward in the WACM voting by the Workgroup member from the Association for Decentralised Energy (the ADE).

8.3 As part of the Workgroup meeting process and Workgroup Consultation responses the total number of alternatives that the Workgroup discussed as alternative methods to resolve the defects identified under CMP264 and CMP265 were:

- CMP264: **53** (including the original Proposal)
- CMP265: **36** (including the original Proposal).

Of these 89 different options, 62 covered both alternatives to CMP264 and CMP265.

8.4 The Workgroup discussed these potential proposals with a view to narrowing them down into formal alternative proposals. It was decided that the best way to structure the alternative proposals was to replace the current net charging of demand TNUoS with a structure whereby demand was charged on a gross basis (i.e. gross imports without Embedded Generation exports being netted from it) and that an alternative explicit embedded benefit tariff would be applied to embedded exports on a gross basis.

8.5 It was agreed that this would take the form of the demand locational tariff[9] (as now) plus a new value to replace the current demand residual. This element of the new tariff was referred to as "X". This is discussed in more detail below

8.6 The following sections details the discussions of the Workgroup on the merits of these alternatives, categorised by attribute type:

Affected Generator

8.7 For the purposes of the options, the Affected Generator described the parties to which the new arrangements would apply. For Modification CMP264 the Affected Generator was defined as all those commissioned after 30 June 2017 and for CMP265 the Affected Generator was defined as any Generator that holds a Capacity Market Contract.

CMP264: A number of the alternative options proposed mirrored the same date range but some different definitions were proposed that looked to either extend the date to those from 31 October 2018 or include all commissioned after 30/06/19 and multiyear-newbuild CM/CFD contracted after 14/15. Further options were proposed to define the Affected Generator as all commissioned after 30/06/17 excluding 14&15 CM/CFD or all new excluding 14&15 CM/CFD.
The rationale for extending the definition was to avoid affecting those users that have already made investment decisions based on the current charging arrangements.

[8] http://www2.nationalgrid.com/uk/industry-information/electricity-codes/cusc/the-cusc/

[9] This would be the negative of the locational tariff so that if the original demand locational tariff resulted in a payment from demand it would result in a payment to exports from generation.

However an alternative view was proposed by a number that it should capture all Generators and not just those commissioned after a specific date.

CMP265: A number of the options proposed looked to define the definition further to have that the Affected Generator as being classed as a Generator with CM Contract excluding 2014&2015 CM/CFD round. However an alternative view was proposed by a number that it should capture all Generators and not just those that held a CM Contract.
The rationale for extending the definition to exclude 2014&2015 CM/CFD contracts was to prevent changing transmission charging for Generators that had committed to their CM/CFD contract; whilst the rationale for extending which class of Generator would be captured under the definition was to prevent transmission charges discriminating between two classes of Embedded Generators.

Grandfathered Generator

8.8 As discussed in section 7, the Workgroup considered grandfathering to mean an arrangement which preserved a higher level of Embedded Benefit compared with those that are not grandfathered Generators. Therefore, Grandfathered Generators were those parties who would presently receive TNUoS triad embedded benefit and were not considered as an Affected Generator. For Modification CMP264 the Grandfathered Generator would be defined as all commissioned before 1 July 2017 whilst CMP265 has the definition as all Generators without a CM Contract. A number of variants were proposed:

CMP264: Include all commissioned before 1 November 2018 or all commissioned before 30 June 2019 excluding those with a multi-year new-build CM/CFD contracted after 2014/2015. Further options were proposed to include all commissioned before 1 July 2017 and with a 2014/2015 CM/CFD contract or all existing with those with a 2014/2015 CM/CFD contract. The final option proposed was to include all commissioned before 1 July 2017 and CHP plants.

CMP265: A number of the options proposed looked to extend the definition to those Generators without a CM contract and those that hold a CM/CFD contract for 2014/2015. A number looked to restrict it to those with a CM/CFD contract for 2014/2015 OR those with a CM/CFD contract for 2014/2015 until 2033. In contrast a number of options proposed that grandfathering should not be applied to any Generators.

8.9 Some of the Proposers of alternatives considered that grandfathering should be incorporated to protect existing investor commitments that were generally made on the assumption of higher triads and could safe-guard against rising cost of capital that may be borne by consumers. Furthermore without grandfathering this may lead to plant closure and security of supply issues and that the benefit of reduced reinforcement costs at transmission level are more attributable to existing plant than future plant. Offering a grandfathering element for those obligated under the 2014 or 2015 CM would cap Triad payments at existing levels to allow for the process of setting a realistic/practical date for commissioning cut off matching the obligations under the CM.

8.10 For those options that included grandfathering Embedded Generators with existing CM/CfD until 2033, the reason was to avoid stranding assets/investments for a sub set of users who were holders of Capacity Market and Contracts for Difference agreements. In principle it will protect investment decisions made in good faith when the newly formulated Electricity Market Reform (EMR) auctions were run during 2014 and 2015. These auctions are designed to secure capacity to deliver security of supply, affordability, de-carbonisation and to attract new investment and reduce cost of capital.

8.11 It was the view of the proposer of these alternatives that the auctions were intentionally designed to be complementary to other revenue streams available in the electricity market and importantly market participants were encouraged to take account of alternative revenues when placing their bids to fulfil the contracted obligations. Newbuild Distributed generation assets in both the CM and CfD auctions prior to the announcement of further reviews during 2016 by Ofgem are reliant on their investment case to receive Demand

TNUoS embedded benefits. These Newbuild capacity obligations are secured for approximately 15 years any failure to meet these obligations would result in significant termination penalties, sterilisation of sites and capacity from entering future auctions and potentially replacement capacity being bought in the T-1 and T-4 auctions at additional expense.

8.12 The various alternatives have been developed to protect these investment decisions for the duration of their EMR obligations to avoid stranding these assets that could place unnecessary additional risks borne by the end consumer. Analysis presented to the Workgroup suggested a potential benefit to the end consumer of up to £1.5bn through the introduction of specific grandfathering to 2033 for this sub set of capacity[10].

Embedded Generator Tariffs

8.13 It was understood by Workgroup Members that affected generators and grandfathered generators could be subject to different Embedded Generator TNUoS tariffs. An Embedded Generator tariff would be made up of a locational element (the demand locational tariffs from the TNUoS transport model) and a residual element.

8.14 X' was used by the workgroup as terminology to capture the replacement value for the residual element of an embedded generator's tariff. Different values of 'X' were considered for the two different groups of Embedded Generator.

Locational Element

8.15 Both the CMP264 and CMP265 originals and all proposed alternatives included keeping in the locational element.

Peak vs. year round

8.16 The Workgroup discussed whether charges should be based on year round or peak. A number of the alternatives proposed to charge the year round locational tariff on a wider charging base as it would be a better reflection of transmission investment than the Triad charging base. The Triad charging base approach, it was argued, overstates the location benefit by giving full credit based on running over just three half hours and that in negative zones the half hourly tariff is unlikely to discourage generation during high demand periods.

8.17 The Workgroup recognised that there may be merit in reviewing this aspect as part of a wider review but that implementation may be too complex to implement in the time allowed by the Authority and the CUSC panel and the narrow scope of the proposer's identified defects.

Affected Generator value of 'X'

8.18 Both originals for CMP264 and CMP265 had this value set at £0. A number of the alternatives provided the value of 'X'. The value of 'x'" all use a common approach that the value of the net element of the Demand Residual is reduced to £0. I.e. the Demand Residual becomes 100% gross. This value of 'x' is a new number to represent a new measure of embedded benefit.

Table 7

[10] Please refer to the presentation from UKPR in section 6.1

Value of 'X'	Description
£32.30 in April 2016 prices + RPI	Based on analysis by Cornwall Energy [11]on the avoided costs of transmission
£45.33 in April 2016 prices + RPI	Maintain the value of demand residual in 2016/17 to prevent further increases
Avoided GSP investment (last estimate £1.62)	Based on a National Grid estimate of the cost of reinforcing a GSP which is avoided by embedded Generators
£20.12 This comprises of £18.50 in April 2019 prices + RPI and Avoided GSP cost (last estimate £1.62)	Based on estimated cost of transmission reinforcement cost calculated by Cornwall Energy[12] and + Avoided GSP cost which is based on a National Grid estimate of the cost of reinforcing a GSP which is avoided by embedded Generators[13]
£34.11 in April 2016 prices + RPI for 1 charging year then £20.12 as calculated above	Four year average of demand residual to 2016/17 which represents the demand residual while recent investment decisions were made; then based on estimated cost of transmission reinforcement cost calculated by Cornwall Energy[14] and + Avoided GSP cost
Generation Residual	Gives the same value of residual for Generators connected to the transmission and distribution system
£27.17 in April 2013 prices + RPI for 5 charging years then Generation Residual	Based on the level that demand residual was at when this issue was last considered in 2013/4 during a National Grid informal consultation.
Generation Residual + Avoided GSP investment (last estimate £1.62)	Gives the same value of residual for Generators connected to the transmission and distribution system and takes account of the avoided cost of reinforcing a GSP as estimate by National Grid
Magnitude of Lowest locational value (Locational including both year round and peak security year HH demand TNUoS tariff elements)	Maintains the full cost differential of the indicative locational signal which represents the value of embedded Generators locating within each demand zone
Demand residual with offshore costs removed	Calculates what the embedded benefit would have been if the cost of offshore transmission were removed

[11] http://www.theade.co.uk/embedded-benefits-review--manufacturing-energy-cost-concerns_4069.html

[12] http://www.theade.co.uk/embedded-benefits-review--manufacturing-energy-cost-concerns_4069.html

[13]See section 4.6 of "Informal Review Paper: Review of the Embedded (Distributed) Generation Benefit arising from transmission charges"
http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=29996

[14] http://www.theade.co.uk/embedded-benefits-review--manufacturing-energy-cost-concerns_4069.html

Grandfathered Generator value of 'X'

8.19 Both originals for CMP264 and CMP265 had this value set to the existing net charge. A number of the alternatives agreed that this value should be net. Other alternatives had that the value was not applicable or provided a value and timeframe for application.

Table 8

Grandfathered Generator value of 'X'	Description
£34.11 in April 2016 prices + RPI for 10 years then move to Affected Generator	Four year average of demand residual to 2016/17 which represents the demand residual while recent investment decisions were made
£45.33 in April of first applicable charging year of implementation + RPI	Maintain the value of demand residual from 2016/17 to prevent further increases. The hard coded value will be increased by RPI only after the WACM has been implemented
£45.33	Maintain the value of demand residual in 2016/17 to prevent further increases
£45.33 in April 2016 prices + RPI	Maintain the value of demand residual in 2016/17 to prevent further increases

Flooring to £zero

8.20 **CMP264** original and all but one of the alternatives proposed that the total tariff applicable to affected and grandfathered Embedded exports should be floored to £zero because of the view that a negative Triad benefit may provide an incentive for Embedded Generators to turn down to avoid generating during Triad periods. The rationale was that this approach of flooring at £zero would avoid the potential distortionary incentive some Workgroup members considered exists because of the non-cost reflective nature of using the Triad as the charging base for this benefit (i.e. effectively applying a negative Year Round tariff to a measure of peak generation). Furthermore there was a view that this may no longer be required if a different definition of charging periods (e.g. different to Triad) were introduced.

8.21 This approach was shared by all of the potential alternatives proposed except for one option that proposed that there shouldn't be a floor of £zero included. The rationale for this one option was that the proposer of this option considered it was a better reflection of transmission investment and that in negative zones the half hourly tariff is unlikely to discourage generation during high demand periods as the alternative used a longer time window instead of the Triads currently used. The Workgroup discussed how it could distort dispatch and how this may worsen the situation if over a longer period than the Triad. As the alternative was not progressed as a WACM the Workgroup did not consider this issue further.

8.22 For **CMP265** the majority of alternatives had that there should be a floor of £0, the only ones that considered that there shouldn't be a floor of £zero were the original and one of the alternatives (the same proposer as the one for CMP264 that didn't have flooring to £zero). The rationale was as above and also that the proposer of the original did not consider the rationale for flooring to £zero as the locational charge and how it is applied, is supposed to be cost-reflective. If it was considered not to be cost reflective then it should be amended, via a separate change, to become cost-reflective.

3 year phasing

8.23 Both the CMP264 and CMP265 originals did not include a concept of phasing. Whilst the majority of alternatives also did not include the concept of phasing a number of alternates did on the basis that it would stop there being undue disruption to the market. It would limit the impact of a significant change in the tariffs for Embedded Generators and allow National Grid time to understand the implications from a forecasting tariffs perspective. Whilst a number of the Workgroup acknowledged that this approach may reduce the concerns of the 'cliff edge', there was a view that by phasing all that will happen is that industry will delay the 'cliff edge'.

Charging Window – applicable to affected Generator and Grandfathered Generator

8.24 The majority of alternates and the originals had that this should be against Triad. Different Charging Windows were suggested ranging from using 16:00 to 19:00 weekdays November to February or 16:30 to 19:30 weekdays November to January and 17:00 to 20:00 February through to extending the Charging Window out to 16:00 to 19:00 year round.

8.25 Amending the Charging Window for all demand users of the system was discounted as it was considered out of scope of the defect of the Modifications.

Mixed sites

8.26 Whilst the Workgroup discussed whether there should be a separate feature for mixed sites it was agreed that any Affected Generator or Grandfathered Generator that held mixed sites meters would be captured under the definitions.

Provision of data

8.27 It was raised by a number of Workgroup members concerns about using existing BSC Systems data flows and impacts of changing older systems and that dependant on the change new systems may need to be developed. As a result proposals had their dates moved forward, but the Workgroup noted that the governance of BSC systems is under the BSC and implementation may take longer were new systems to be required.

Renewable Obligations (RO)

8.28 A Workgroup member suggested that where the scope of grandfathered generator includes CfDs contracts that this should be extended to RO. However it was recognised that with the closure date of the Renewable Obligation and the implementation dates proposed, it was thought unlikely that any of the proposals with a cut-off date would impact RO plant as they should have all commissioned prior to that date.

9 Details of Workgroup Alternative CUSC Modifications (WACMs)

9.1 The Workgroup voted on the 19 September on which potential alternatives should become Workgroup Alternative CUSC Modifications (WACMs). This resulted in:

- CMP264: **8** alternatives being voted by majority as WACMs
- CMP265: **4** alternatives being voted by majority as WACMs

9.2 During the voting exercise a seven of the alternatives proposed as WACMs were withdrawn by Workgroup members.

9.3 Following the voting by Workgroup Members, the **Chair** exercised the option to retain an additional **29** of the different alternatives that did not receive a majority vote as these are considered by the Chair to be better than the baseline and facilitates the CUSC charging objective (a) of "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".

9.4 In addition the Chair considered that the requirement to save these additional WACMs reflected the composition of the Workgroup and the variety of views.

9.5 The breakdown of WACMs retained was:

- CMP264: **15** alternatives being voted in by the Workgroup Chair as a WACM
- CMP265: **14** alternatives being voted in by the Workgroup Chair as a WACM

9.6 Tables 9 and 10 detail the elements in each WACM and the original Proposals for CMP264 and CMP265.

9.7 More detail on the rationale for the value of 'X' can be found in paragraph 8.18 and 8.19

Table 9 – elements for CMP264 (WACM and original)

WACM No	WACM Proposer	Affected Generator (AG)	Grandfathered Generator (GG)	Affected Generator Value of 'X'	Grandfathered Generator Value of 'X'	Preferred First Charging Year (where specified)	Floored at £0 (Y/N)	3 Year Phasing	Charging Window Applicable to AG & GG
n/a	CMP264 Original – SP	All commissioned after 30/06/17	All commissioned before 01/07/17	£0	Net		Y	N	Triad
WACM 1	Centrica B (CMP264)	All	N/A	Generation Residual	N/A	2020/2021	Y	N	Triad
WACM 2	NG C (CMP264)	All	N/A	Generation Residual	N/A		Y	Y	Triad
WACM 3	Uniper A (CMP264)	All	N/A	Avoided GSP investment (last estimate £1.62)	N/A	2018/19	Y	N	Triad
WACM 4	SSE A (CMP264)	All	N/A	Avoided GSP investment (last estimate £1.62)	N/A		Y	Y	Triad
WACM 5	SSE B (CMP264)	All	N/A	Generation Residual + Avoided GSP investment (last estimate £1.62)	N/A		Y	Y	Triad
WACM 6	NG A (CMP264)	All	N/A	Magnitude of Lowest	N/A	2018/19	Y	N	Triad

				locational value					
WACM No	**WACM Proposer**	**Affected Generator (AG)**	**Grandfathered Generator (GG)**	**Affected Generator Value of 'X'**	**Grandfathered Generator Value of 'X'**	**Preferred First Charging Year (where specified)**	**Floored at £0 (Y/N)**	**3 Year Phasing**	**Charging Window Applicable to AG & GG**
WACM 7	NG D (CMP264)	All	N/A	Magnitude of Lowest locational value	N/A	2018/19	Y	Y	Triad
WACM 8	ADE E (CMP264)	All	N/A	£32.30 in April 2016 prices + RPI	N/A		Y	N	Triad
WACM 9	Infinis A (CMP264)	All	N/A	£34.11 for 1 year then £20.12	N/A		Y	N	Triad
WACM 10	Greenfrog A (CMP264)	All	N/A	£45.33 in April 2016 prices + RPI	N/A		Y	N	Triad
WACM 11	Eider A (CMP264)	All	N/A	Demand residual with offshore costs removed	N/A	2018/19	Y	N	Triad
WACM 12	UKPR F1 (CMP264)	All excluding grandfathered generators	Multi-year 14&15 CM contracts for new build generation & all CFD contracts from 14&15	Generation Residual	£45.33 in April of first applicable charging year of implementation + RPI		Y	N	Triad
WACM 13	UKPR G1 (CMP264)	All excluding grandfathered generators	Multi-year 14&15 CM contracts for new build generation & all	Avoided GSP investment (last estimate £1.62)	£45.33 in April of first applicable charging year of implementation +		Y	N	Triad

			CFD contracts from 14&15		RPI				
WACM No	**WACM Proposer**	**Affected Generator (AG)**	**Grandfathered Generator (GG)**	**Affected Generator Value of 'X'**	**Grandfathered Generator Value of 'X'**	**Preferred First Charging Year (where specified)**	**Floored at £0 (Y/N)**	**3 Year Phasing**	**Charging Window Applicable to AG & GG**
WACM 14	UKPR H1 (CMP264)	All excluding grandfathered generators	Multi-year 14&15 CM contracts for new build generation & all CFD contracts from 14&15	Generation Residual + Avoided GSP investment (last estimate £1.62)	£45.33 in April of first applicable charging year of implementation + RPI		Y	N	Triad
WACM 15	UKPR I1 (CMP264)	All excluding grandfathered generators	Multi-year 14&15 CM contracts for new build generation & all CFD contracts from 14&15	Magnitude of lowest locational value	£45.33 in April of first applicable charging year of implementation + RPI		Y	N	Triad
WACM 16	UKPR J1 (CMP264)	All excluding grandfathered generators	Multi-year 14&15 CM contracts for new build generation & all CFD contracts from 14&15	£20.12 + RPI	£45.33 in April of first applicable charging year of implementation + RPI		Y	N	Triad
WACM 17	UKPR K1 (CMP264)	All excluding grandfathered generators	Multi-year 14&15 CM contracts for new build generation & all CFD contracts	£32.30 in April 2016 prices + RPI	£45.33 in April of first applicable charging year of implementation + RPI		Y	N	Triad

			from 14&15						
WACM No	**WACM Proposer**	**Affected Generator (AG)**	**Grandfathered Generator (GG)**	**Affected Generator Value of 'X'**	**Grandfathered Generator Value of 'X'**	**Preferred First Charging Year (where specified)**	**Floored at £0 (Y/N)**	**3 Year Phasing**	**Charging Window Applicable to AG & GG**
WACM 18	UKPR L1 (CMP264)	All excluding grandfathered generators	Multi-year 14&15 CM contracts for new build generation & all CFD contracts from 14&15	Demand residual with offshore costs removed	£45.33 in April of first applicable charging year of implementation + RPI		Y	N	Triad
WACM 19	SP B	All commissioned after 30/06/17	All commissioned before 01/07/17	£0	£45.33 in April 2016 prices + RPI		Y	N	Triad
WACM 20	Alkane A	All commissioned after 31/10/18	All commissioned before 01/11/18	£27.70 for 5 charging years then Generation Residual	£45.33 in April 2016 prices + RPI until 31/03/33 then move to AG	2018/19	Y	N	Triad
WACM 21	Alkane B	All commissioned after 31/10/18	All commissioned before 01/11/18	Magnitude of lowest locational value	£45.33 in April 2016 prices + RPI until 31/03/33 then move to AG		Y	N	Triad
WACM 22	ADE C	All commissioned after 30/06/19 and multiyear-newbuild CM/CFD contracted after	All commissioned before 30/06/19 excluding multiyear-	£0	£45.33 in April 2016 prices + RPI		Y	N	Triad

		14/15	newbuild CM/CFD contracted after 14/15						
WACM No	**WACM Proposer**	**Affected Generator (AG)**	**Grandfathered Generator (GG)**	**Affected Generator Value of 'X'**	**Grandfathered Generator Value of 'X'**	**Preferred First Charging Year (where specified)**	**Floored at £0 (Y/N)**	**3 Year Phasing**	**Charging Window Applicable to AG & GG**
WACM 23	Infinis B	All excluding grandfathered generators	All commissioned before 01/07/17 and multi-year, new build 14&15 CM/CFD	£34.11 + RPI for 1 charging year then £20.12 +RPI on-going	£34.11 in April 2016 prices + RPI for 10 years then move to AG		Y	N	Triad

Table 10 elements for CMP265 (WACM and original)

WACM No	**WACM Proposer**	**Affected Generator (AG)**	**Grandfathered Generator (GG)**	**Affected Generator Value of 'X'**	**Grandfathered Generator Value of 'X'**	**Preferred First Charging Year (where specified)**	**Floored at £0 (Y/N)**	**3 Year Phasing**	**Charging Window Applicable to AG & GG**
n/a	CMP265 Original - EDF A	Generator with CM Contract	Generator without CM Contract	£0	Net		N	N	Triad
WACM 1	Centrica B (CMP265)	All	N/A	Generation Residual	N/A	2020/2021	Y	N	Triad

WACM No	WACM Proposer	Affected Generator (AG)	Grandfathered Generator (GG)	Affected Generator Value of 'X'	Grandfathered Generator Value of 'X'	Preferred First Charging Year (where specified)	Floored at £0 (Y/N)	3 Year Phasing	Charging Window Applicable to AG & GG
WACM 2	NG C (CMP265)	All	N/A	Generation Residual	N/A		Y	Y	Triad
WACM No	**WACM Proposer**	**Affected Generator (AG)**	**Grandfathered Generator (GG)**	**Affected Generator Value of 'X'**	**Grandfathered Generator Value of 'X'**	**Preferred First Charging Year (where specified)**	**Floored at £0 (Y/N)**	**3 Year Phasing**	**Charging Window Applicable to AG & GG**
WACM 3	Uniper A (CMP265)	All	N/A	Avoided GSP investment (last estimate £1.62)	N/A	2018/19	Y	N	Triad
WACM 4	SSE A (CMP265)	All	N/A	Avoided GSP investment (last estimate £1.62)	N/A		Y	Y	Triad
WACM 5	SSE B (CMP265)	All	N/A	Generation Residual + Avoided GSP investment (last estimate £1.62)	N/A		Y	Y	Triad
WACM 6	NG A (CMP265)	All	N/A	Magnitude of Lowest locational value	N/A	2018/19	Y	N	Triad

WACM No	WACM Proposer	Affected Generator (AG)	Grandfathered Generator (GG)	Affected Generator Value of 'X'	Grandfathered Generator Value of 'X'	Preferred First Charging Year (where specified)	Floored at £0 (Y/N)	3 Year Phasing	Charging Window Applicable to AG & GG
WACM 7	NG D (CMP265)	All	N/A	Magnitude of Lowest locational value	N/A	2018/19	Y	Y	Triad
WACM 8	ADE E (CMP265)	All	N/A	£32.30 in April 2016 prices + RPI	N/A		Y	N	Triad
WACM 9	Infinis A (CMP265)	All	N/A	£34.11 for 1 year then £20.12	N/A		Y	N	Triad
WACM 10	Greenfrog A (CMP265)	All	N/A	£45.33 in April 2016 prices + RPI	N/A		Y	N	Triad
WACM 11	Eider A (CMP265)	All	N/A	Demand residual with offshore costs removed	N/A	2018/19	Y	N	Triad
WACM 12	UKPR F1 (CMP265)	All excluding grandfathered generators	Multi-year 14&15 CM contracts for new build generation & all CFD contracts from 14&15	Generation Residual	£45.33 in April of first applicable charging year of implementation + RPI		Y	N	Triad

WACM No	WACM Proposer	Affected Generator (AG)	Grandfathered Generator (GG)	Affected Generator Value of 'X'	Grandfathered Generator Value of 'X'	Preferred First Charging Year (where specified)	Floored at £0 (Y/N)	3 Year Phasing	Charging Window Applicable to AG & GG
WACM 13	UKPR G1 (CMP265)	All excluding grandfathered generators	Multi-year 14&15 CM contracts for new build generation & all CFD contracts from 14&15	Avoided GSP investment (last estimate £1.62)	£45.33 in April of first applicable charging year of implementation + RPI		Y	N	Triad
WACM 14	UKPR H1 (CMP265)	All excluding grandfathered generators	Multi-year 14&15 CM contracts for new build generation & all CFD contracts from 14&15	Generation Residual + Avoided GSP investment (last estimate £1.62)	£45.33 in April of first applicable charging year of implementation + RPI		Y	N	Triad
WACM 15	UKPR I1 (CMP265)	All excluding grandfathered generators	Multi-year 14&15 CM contracts for new build generation & all CFD contracts from 14&15	Magnitude of lowest locational value	£45.33 in April of first applicable charging year of implementation + RPI		Y	N	Triad

WACM No	WACM Proposer	Affected Generator (AG)	Grandfathered Generator (GG)	Affected Generator Value of 'X'	Grandfathered Generator Value of 'X'	Preferred First Charging Year (where specified)	Floored at £0 (Y/N)	3 Year Phasing	Charging Window Applicable to AG & GG
WACM 16	UKPR J1 (CMP265)	All excluding grandfathered generators	Multi-year 14&15 CM contracts for new build generation & all CFD contracts from 14&15	£20.12 + RPI	£45.33 in April of first applicable charging year of implementation + RPI		Y	N	Triad
WACM 17	UKPR K1 (CMP265)	All excluding grandfathered generators	Multi-year 14&15 CM contracts for new build generation & all CFD contracts from 14&15	£32.30 in April 2016 prices + RPI	£45.33 in April of first applicable charging year of implementation + RPI		Y	N	Triad
WACM 18	UKPR L1 (CMP265)	All excluding grandfathered generators	Multi-year 14&15 CM contracts for new build generation & all CFD contracts from 14&15	Demand residual with offshore costs removed	£45.33 in April of first applicable charging year of implementation + RPI		Y	N	Triad

9.8 Both originals and all approved WACMs require changes to existing metering data flows and demand forecasts to support TNUoS charging. The changes to the metering data flows will be specified under BSC Modifications P348 and P349. The changes to demand forecast are specified in the legal text changes for CMP264 and CMP265. This can be found in Volume 1b, 1c and 1d.

10 The approach to determining the legal text changes

10.1 It was agreed by the Workgroup that a sub-group should be formed to consider the legal text changes to Section 14 the CUSC. This group convened five times. Volume 1b, 1c and 1d details the changes to the CUSC should either an original or a WACM be approved by the Authority for implementation.

10.2 The legal text sub-group considered how best to facilitate the drafting of a large number of WACMs and agreed a modular approach that was in line with the formation of proposals in the main sub group. This approach used one set of changes that took the majority of changes to CUSC into account but was combined with 'bolt on' definitions that would be inserted depending on which original or alternative modification was in question.

10.3 Central to this approach was using the terms Affected Export and Grandfathered Export. These terms are used to refer to users that export onto the distribution system and depending on the particular proposal, would be treated differently to today. For CMP264 and CMP265 originals, grandfathered exports continue to be treated on a net basis as today.

10.4 There are two main approaches for defining the difference between grandfathered and affected exports; these were:

- If the generator held a capacity market (CM) obligation or contract for difference (CFD)
- The commissioning date of the generator according to its G59 certification

10.5 The sub-group discussed what should happen if a CM obligation or CFD were terminated. The group concluded that the generator should be treated as not having a CM obligation or CFD from the beginning of the following charging year.

10.6 The scenario of secondary trading of a CM obligation was raised where one party may have been awarded the obligation at auction but the obligation is then passed the obligation to a third party. The approach for CMP265 original is to define affected embedded exports as generation that holds a CM obligation from either auction or secondary trading. All other proposals that used CM obligations as a differentiator between affected and grandfathered exports do not consider secondary trading; they only define generators according to CM obligations that were awarded at auction.

10.7 The sub-group considered how best to capture the commissioning date of an Embedded Generator and at decided that the use of G59 certification is the most appropriate method. The G59 certificate is a document that is signed by a DNO for any generation connecting that is greater than 3.68kW. While this approach was agreed by the group there were a number of limitations to this method highlighted by sub-group members. These included:

- The G59 certification has a de-minimis level of 3.68kW which will mean that some generators are not captured
- There is a possibility that a DNO may issue a new G59 certificate for reasons other than the replacement or addition of existing generation. The effect of this would be that exports would move from grandfathered to affected exports as a result which is not the intended effect of using G59 certification.
- Concerns were raised that certification could be awarded to generation and dated in relation to the equipment meeting certain standards and not the commissioning of the equipment. The intention of using the G59 certification is only to identify the commissioning date of the generation and not dates of meeting standards unrelated to commissioning.

- There is currently a possibility that G59 certification will be replaced by a new certificate. It was agreed that if this does happen, the appropriate replacement will be adopted as the method of determining commissioning date.

10.8 As CMP264 and CMP265 have been raised as changes to the Charging Methodology of the CUSC and that there may be a need to amend other sections of the CUSC that do not relate to Section 14. Consequential Modifications CMP269 and CMP270 have been raised to detail the potential changes to Section 3 and Section 11 of the CUSC.

10.9 It is suggested that these Modifications are considered together with CMP264 and CMP265 to cover changes to Section 3 and Section 11. Following the legal text sub group meetings it was confirmed that only changes to Section 11 would be required:

- Section 11: the proposals will require new definitions such as New Embedded Generation (i.e. those who qualify for a different value of embedded benefit under the CMP264 Original) [Capacity Market Embedded Generation (i.e. those who embedded generators who hold a capacity market agreement)] in order for these terms to be in Section 14 and Section 11 of the CUSC consistently.

11 Workgroup voting

11.1 The Workgroup met on 5 October and voted on the Original Proposals and the Workgroup Alternative CUSC Modifications. The voting was comprised of the rounds of voting for each Modification.

Vote 1: Does the original or a WACM facilitate the objectives better than the baseline?

11.2 For **CMP264/CMP269** ***WACM11*** received the highest number of votes for vote 1. The votes received are as follows:

Table 11

CMP264/CMP269 Vote 1 Record

WACM Ref	WACM identifier	Workgroup voted yes overall
Original	CMP264/CMP269	5
WACM 1	Centrica B (CMP264)	8
WACM 2	NG C (CMP264)	6
WACM 3	Uniper A (CMP264)	7
WACM 4	SSE A (CMP264)	5
WACM 5	SSE B (CMP264)	6
WACM 6	NG A (CMP264)	5
WACM 7	NG D (CMP264)	5
WACM 8	ADE E (CMP264)	6
WACM 9	Infinis A (CMP264)	6
WACM 10	Greenfrog A (CMP264)	8
WACM 11	Eider A (CMP264)	9
WACM 12	UKPR F1 (CMP264)	2
WACM 13	UKPR G1 (CMP264)	2
WACM 14	UKPR H1 (CMP264)	3
WACM 15	UKPR I1 (CMP264)	4
WACM 16	UKPR J1 (CMP264)	6
WACM 17	UKPR K1 (CMP264)	6
WACM 18	UKPR L1 (CMP264)	7
WACM 19	SP B	4
WACM 20	Alkane A	7

WACM 21	Alkane B	6
WACM 22	ADE C	5
WACM 23	Infinis B	6

11.3 For **CMP265/CMP270** a number of the WACMs received the equal highest number of votes for vote 1. The votes received are as follows:

Table 12

CMP265/CMP270 Vote 1 Record

WACM Ref	WACM identifier	Workgroup voted yes overall
Original	CMP265/CMP270	5
WACM 1	Centrica B (CMP264)	6
WACM 2	NG C (CMP264)	5
WACM 3	Uniper A (CMP264)	6
WACM 4	SSE A (CMP264)	5
WACM 5	SSE B (CMP264)	5
WACM 6	NG A (CMP264)	6
WACM 7	NG D (CMP264)	6
WACM 8	ADE E (CMP264)	7
WACM 9	Infinis A (CMP264)	7
WACM 10	Greenfrog A (CMP264)	7
WACM 11	Eider A (CMP264)	7
WACM 12	UKPR F1 (CMP264)	1
WACM 13	UKPR G1 (CMP264)	1
WACM 14	UKPR H1 (CMP264)	2
WACM 15	UKPR I1 (CMP264)	3
WACM 16	UKPR J1 (CMP264)	5
WACM 17	UKPR K1 (CMP264)	5
WACM 18	UKPR L1 (CMP264)	6

Vote 2: Does the WACM facilitate the objectives better than the Original?

11.4 For **CMP264/CMP269** a number of the WACMs received the equal highest number of votes for vote 2. The votes received are as follows:

Table 13

CMP264/CMP269 Vote 2 Record

WACM Ref	WACM identifier	Workgroup voted yes overall
WACM 1	Centrica B (CMP264)	10
WACM 2	NG C (CMP264)	8
WACM 3	Uniper A (CMP264)	10
WACM 4	SSE A (CMP264)	7
WACM 5	SSE B (CMP264)	7
WACM 6	NG A (CMP264)	9
WACM 7	NG D (CMP264)	8
WACM 8	ADE E (CMP264)	9
WACM 9	Infinis A (CMP264)	8
WACM 10	Greenfrog A (CMP264)	9
WACM 11	Eider A (CMP264)	10
WACM 12	UKPR F1 (CMP264)	4
WACM 13	UKPR G1 (CMP264)	4
WACM 14	UKPR H1 (CMP264)	4
WACM 15	UKPR I1 (CMP264)	5
WACM 16	UKPR J1 (CMP264)	5
WACM 17	UKPR K1 (CMP264)	6
WACM 18	UKPR L1 (CMP264)	6
WACM 19	SP B	9
WACM 20	Alkane A	9
WACM 21	Alkane B	8
WACM 22	ADE C	7
WACM 23	Infinis B	6

11.5 For **CMP265/CMP270 *WACM11*** received the highest number of votes for vote 1. The votes received are as follows:

Table 14

CMP265/CMP270 Vote 2 Record

WACM Ref	WACM identifier	Workgroup voted yes overall
WACM 1	Centrica B (CMP264)	9
WACM 2	NG C (CMP264)	9

WACM 3	Uniper A (CMP264)	9
WACM 4	SSE A (CMP264)	8
WACM 5	SSE B (CMP264)	8
WACM 6	NG A (CMP264)	8
WACM 7	NG D (CMP264)	8
WACM 8	ADE E (CMP264)	8
WACM 9	Infinis A (CMP264)	7
WACM 10	Greenfrog A (CMP264)	10
WACM 11	Eider A (CMP264)	11
WACM 12	UKPR F1 (CMP264)	4
WACM 13	UKPR G1 (CMP264)	4
WACM 14	UKPR H1 (CMP264)	4
WACM 15	UKPR I1 (CMP264)	5
WACM 16	UKPR J1 (CMP264)	5
WACM 17	UKPR K1 (CMP264)	5
WACM 18	UKPR L1 (CMP264)	6

Vote 3: Which option is considered to be the best?

11.6 For **CMP264/CMP269 *WACM3*** received the highest number of votes for vote 3 (with **four of the 22** Workgroup members voting that as the best option). The next highest options voted for was the baseline and WACM 8 with three votes each. The votes received are as follows:

Table 15

CMP264/CMP269 Vote 3 Record

WACM Ref	WACM identifier	Workgroup members voted as BEST
	Original Proposal	0
WACM 1	Centrica B (CMP264)	1
WACM 2	NG C (CMP264)	0
WACM 3	Uniper A (CMP264)	4
WACM 4	SSE A (CMP264)	0
WACM 5	SSE B (CMP264)	1
WACM 6	NG A (CMP264)	1

WACM 7	NG D (CMP264)	0
WACM 8	ADE E (CMP264)	3
WACM 9	Infinis A (CMP264)	1
WACM 10	Greenfrog A (CMP264)	2
WACM 11	Eider A (CMP264)	1
WACM 12	UKPR F1 (CMP264)	0
WACM 13	UKPR G1 (CMP264)	0
WACM 14	UKPR H1 (CMP264)	0
WACM 15	UKPR I1 (CMP264)	1
WACM 16	UKPR J1 (CMP264)	0
WACM 17	UKPR K1 (CMP264)	0
WACM 18	UKPR L1 (CMP264)	0
WACM 19	SP B	2
WACM 20	Alkane A	
WACM 21	Alkane B	1
WACM 22	ADE C	
WACM 23	Infinis B	
Baseline		3
Abstained		1

11.7 For **CMP265/CMP270 *WACM10*** received the highest number of votes with **four of the 22** Workgroup members voting that as the best option. The next highest options voted for was the baseline, WACM 3 and WACM 8 with three votes each. The votes received are as follows:

CMP265/CMP270 Vote 3 Record

Table 16

WACM Ref	WACM identifier	Workgroup members voted as BEST
	Original Proposal	1
WACM 1	Centrica B (CMP265)	1
WACM 2	NG C (CMP265)	0
WACM 3	Uniper A (CMP265)	3
WACM 4	SSE A (CMP265)	1
WACM 5	SSE B (CMP265)	1
WACM 6	NG A (CMP265)	1
WACM 7	NG D (CMP265)	0

WACM 8	ADE E (CMP265)	3
WACM 9	Infinis A (CMP265)	1
WACM 10	Greenfrog A (CMP265)	4
WACM 11	Eider A (CMP265)	1
WACM 12	UKPR F1 (CMP265)	0
WACM 13	UKPR G1 (CMP265)	0
WACM 14	UKPR H1 (CMP265)	0
WACM 15	UKPR I1 (CMP265)	1
WACM 16	UKPR J1 (CMP265)	0
WACM 17	UKPR K1 (CMP265)	0
WACM 18	UKPR L1 (CMP265)	0
Baseline		3
Abstention		1

11.8 With respect to CMP269 & CMP270 the Workgroup discussed as part of their voting how these two modifications are in essence required for the implementation of CMP264 and 265. A view was expressed that the existing governance arrangements which allow for Modifications to be assessed against different applicable CUSC objectives in itself was inefficient. Arguably implementation of any of the original or WACMs under CMP264 and CMP265 cannot be said to be efficient without the corresponding WACM from CMP269 and CMP270. These modifications could therefore be said to better meet applicable objective (d) (where the corresponding modification has been implemented) regardless of their impact on applicable objectives (a)-(c).

11.9 Below details the rationale for vote 3 for each voting Workgroup member. The complete record of voting for each Workgroup member for each vote is contained in Volume 4 of this report.

Table 17

WG member	CMP264/269 Option voted best	CMP264 vote 3 rationale	CMP269 vote 3 rationale	CMP265/270 Option voted best	CMP265 vote 3 rationale	CMP270 vote 3 rationale
James Anderson	WACM 19	WACM19 best meets the defect identified in CMP264 in that it ensures that future Capacity Mechanism auctions will be based on a level playing field and that embedded generation participants will not take account of non-cost-reflective Triad avoidance payments in making their bids. Capping the Triad avoidance payment at the 2016/17 level ensures that the detriment to consumers does not increase while an enduring solution to identifying a cost-reflective payment for embedded generation is developed.		WACM 4	WACM4 applies to all embedded generators thus avoiding any discrimination between different classes. It removes a non-cost-reflective payment from embedded generation thus improving competition between embedded and transmission connected generation. thus better facilitating Applicable Charging Objective (b). Removing a non-cost reflective Triad avoidance payment, retaining the cost-reflective locational signal (floored at zero) and introducing a payment which reflects the avoided cost of transmission investment will best facilitate Applicable Charging Objective (b).	
Tim Collins	WACM 1	Performs best against the relevant objectives. Broadly creates equivalence in TNUoS charging between new DG, existing DG and TG so significant benefits to cost reflectivity and effective competition. Preferred implementation date of April 2020 respects the CM price commitment cycle. Relatively simple to implement compared with other WACMs and decent lead time allowed for system/process changes.	Broadly creates equivalence in TNUoS charging between new DG, existing DG and TG so significant benefits to cost reflectivity and effective competition. Preferred implementation date of April 2020 respects the CM price commitment cycle. Relatively simple to implement compared with other WACMs and decent lead time allowed for system/process changes.	WACM 1	Performs best against the relevant objectives. Broadly creates equivalence in TNUoS charging between new DG, existing DG and TG so significant benefits to cost reflectivity and effective competition. Avoids linking EG TNUoS to the Capacity Market, which is arbitrary and unnecessary. Preferred implementation date of April 2020 respects the CM price commitment cycle. Relatively simple to implement compared with other WACMs and decent lead time allowed for system/process changes.	
Mike Davies	WACM 11	This option has a logical derivation of the costs used to assess the		WACM 11	This option has a logical derivation of the costs used to	

WG member	CMP264/269 Option voted best	CMP264 vote 3 rationale CMP269 vote 3 rationale	CMP265/270 Option voted best	CMP265 vote 3 rationale CMP270 vote 3 rationale
		embedded benefit. New investment in the transmission system largely to support new renewables should be ring-fenced and taken out of the calculation of TNUoS. It is simpler than other proposals to implement and able to be implemented much earlier, particularly in its original form. It allows for further refinement as more costs can be identified and excluded that are associated with technologies where state aid is supporting them. It addresses a major driver of increasing levels of embedded benefit but does not create major changes which may undermine investor confidence in the market or lead to the closure of large volumes of embedded generation, threatening energy security and increasing energy costs for consumers. Finally it preserves a structure of embedded benefits which has been reviewed on many occasions by Ofgem over a period of more than twenty years and found to be robust and fit for purpose. Through a modest change this key embedded benefit structure is made more fit for purpose.. The original form of this proposal was non-discriminatory between *behind the meter* and *in front of the meter* embedded generation and DSR. Whereas today, these parties are treated equally, the ToR of the Working Group prescribed discriminatory proposals for change.		assess the embedded benefit. New investment in the transmission system largely to support new renewables should be ring-fenced and taken out of the calculation of TNUoS. It is simpler than other proposals to implement and able to be implemented much earlier, particularly in its original form. It allows for further refinement as more costs can be identified and excluded that are associated with technologies where state aid is supporting them. It addresses a major driver of increasing levels of embedded benefit but does not create major changes which may undermine investor confidence in the market or lead to the closure of large volumes of embedded generation, threatening energy security and increasing energy costs for consumers. Finally it preserves a structure of embedded benefits which has been reviewed on many occasions by Ofgem over a period of more than twenty years and found to be robust and fit for purpose. Through a modest change this key embedded benefit structure is made more fit for purpose.. The original form of this proposal was non-discriminatory between *behind the meter* and *in front of the meter* embedded generation and DSR. Whereas today, these parties are treated equally, the ToR of the Working Group prescribed discriminatory proposals for change.
Stephen Davies * (Laurence	WACM 8	Continues to treat all embedded generation in a non-discriminatory way allowing effective competition and minimising the additional administrative burden. Whilst not based upon a comprehensive review	WACM 8	Continues to treat all embedded generation in a non-discriminatory way allowing effective competition and minimising the additional administrative burden. Whilst

WG member	CMP264/269 Option voted best	CMP264 vote 3 rationale CMP269 vote 3 rationale	CMP265/270 Option voted best	CMP265 vote 3 rationale CMP270 vote 3 rationale
Barrett)		which we believe would be the best approach, it is based upon analysis which presents a logical case for the proposed value being more cost-reflective and hence it is likely to improve cost reflectivity from the currently spiralling baseline.		not based upon a comprehensive review which we believe would be the best approach, it is based upon analysis which presents a logical case for the proposed value being more cost-reflective and hence it is likely to improve cost reflectivity from the currently spiralling baseline.
Fruzina Kemenes	CUSC Baseline	We would like to highlight the overarching concern that the working group have not had the opportunity to conduct sufficient analysis or evaluate the workings or impacts of any of the proposals. As such voting for any option being better than the baseline is irresponsible and not evidence based. The accelerated timetable and volume of WACMs has been a barrier to informed voting. The reasons for rejecting all the individual options are detailed above. To summarise, the proposals suffer from different variants of the issues listed below: A) Proposals introduce undue discrimination between users that have the same network impact. (Behind the meter and directly connected embedded generation, new/old/CM/non-CM) Proposals therefore risk distortion of competition. Where gross charging is applied to all embedded generation the potential risks of distorting competition now in favour of transmission connected generators has not been examined. B) Treating customers with the same network impact in different ways can never be cost reflective (or an improvement on cost reflectivity).	CUSC Baseline	We would like to highlight the overarching concern that the working group have not had the opportunity to conduct sufficient analysis or evaluate the workings or impacts of any of the proposals. As such voting for any option being better than the baseline is irresponsible and not evidence based. The accelerated timetable and volume of WACMs has been a barrier to informed voting. The reasons for rejecting all the individual options are detailed above. To summarise, the proposals suffer from different variants of the issues listed below: A) Proposals introduce undue discrimination between users that have the same network impact. (Behind the meter and directly connected embedded generation, new/old/CM/non-CM) Proposals therefore risk distortion of competition. Where gross charging is applied to all

WG member	CMP264/269 Option voted best	CMP264 vote 3 rationale	CMP269 vote 3 rationale	CMP265/270 Option voted best	CMP265 vote 3 rationale	CMP270 vote 3 rationale
		While identifying issues with cost reflectivity of current charges the issue remains unresolved by all proposals. Some proposals attempt to freeze net charging levels at a value that is designed by the proposers to be cost reflective. While these are pragmatic approaches for a 'stop-gap' solution - the workgroup has not analysed the basis of the values selected for the frozen tariffs. Some base their proposals on locational signal remaining intact: this does not produce a cost reflective signal as retained locational signals are not reflective of SQSS. Flooring locational signal also produces a further distorted locational signal. E) All proposals have a higher admin burden than the baseline due to level of work to support ring fencing of specified customers and application of different sets of tariffs. Change of supplier process and additional flows / central data store required.		embedded generation the potential risks of distorting competition now in favour of transmission connected generators has not been examined. B) Treating customers with the same network impact in different ways can never be cost reflective (or an improvement on cost reflectivity). While identifying issues with cost reflectivity of current charges the issue remains unresolved by all proposals. Some proposals attempt to freeze net charging levels at a value that is designed by the proposers to be cost reflective. While these are pragmatic approaches for a 'stop-gap' solution - the workgroup has not analysed the basis of the values selected for the frozen tariffs. Some base their proposals on locational signal remaining intact: this does not produce a cost reflective signal as retained locational signals are not reflective of SQSS. Flooring locational signal also produces a further distorted locational signal.	

WG member	CMP264/269 Option voted best	CMP264 vote 3 rationale	CMP269 vote 3 rationale	CMP265/270 Option voted best	CMP265 vote 3 rationale	CMP270 vote 3 rationale
					E) All proposals have a higher admin burden than the baseline due to level of work to support ring fencing of specified customers and application of different sets of tariffs. Change of supplier process and additional flows / central data store required.	
Mark Draper* (Nick Sillito)	WACM 19	This proposal achieves a pause in the incentive to locate new generation on embedded networks allowing for a proper assessment of network charging to take place. It also maintains the incentive to invest in new plant that was awarded 2014 or 2015 CM agreements, the loss of which could cause a supply squeeze in around 2018 and damage competition in the supply and generation of electricity. Its variation over the original proposal of fixing the residual that can be avoided by embedded generation removes the risk of a “price runaway” whilst the assessment is taking place.	Against the current CUSC baseline, no modification provides any improvement. If the Authority were to approve CMP 264 or a CMP 264 WACM then my view would be that the matching CMP 269 modification would better meet the CUSC objectives.	WACM 10	In my view, this option is very marginally better than the current baseline The option protects the embedded new build already in the market and therefore facilitates competition in the supply and generation of electricity for the next few years, whilst preventing a windfall if the residual charge were to rise as forecast. However, the option does not significantly reduce the embedded benefit to uncommitted new generation, and therefore if there is an issue with the current charging regime it will not prevent incorrect investment decisions from being made whilst a proper	Against the current CUSC baseline, no modification provides any improvement. If the Authority were to approve CMP 265 or a CMP 265 WACM then my view would be that the matching CMP 270 modification would better meet the CUSC objectives.

WG member	CMP264/269 Option voted best	CMP264 vote 3 rationale	CMP269 vote 3 rationale	CMP265/270 Option voted best	CMP265 vote 3 rationale	CMP270 vote 3 rationale
		Whilst the modification will make charges to suppliers less cost reflective, its initial impact is relatively low, and this should be balanced by reducing the risk that generation may be locating incorrectly due to issues with the current charging rules.			review takes place. In my view, significantly better alternates exist under CMP 264.	
Kirsten Gardner* (Adam Heffill)	WACM 8	The value of Triad payments has increased significantly in recent years and it seems unlikely that the forecast levels of the payment are matched by cost savings to the National Grid. We would agree that this is an issue that needs to be addressed. However, the CUSC modification, or any alternative modifications that may come forward do not address the real problem. Both modification 264 and modification 265 create further distortions and discriminate against embedded generation. Neither modification is an attempt to create a level playing field The issues surrounding charging arrangements and transmission network costs are far more complex than set out in the defect described by CMP265 and should be addressed by Ofgem through a SCR or via a more suitable modification proposal. However, all parties appear to accept that embedded generation provides some grid cost reduction and the value to be paid to embedded generators proposed by WACM 8 (£32.30) is based on sound analysis by an independent group, whose assessment confirms that this would be a cost reflective payment. As such, we believe that WACM 8 best achieves the CUSC objectives.		WACM 8	The value of Triad payments has increased significantly in recent years and it seems unlikely that the forecast levels of the payment are matched by cost savings to the National Grid. We would agree that this is an issue that needs to be addressed. However, the CUSC modification, or any alternative modifications that may come forward do not address the real problem. Both modification 264 and modification 265 create further distortions and discriminate against embedded generation. Neither modification is an attempt to create a level playing field The issues surrounding charging arrangements and transmission network costs are far more complex than set out in the defect described by CMP265 and should be addressed by Ofgem through a SCR or via a more suitable modification proposal. However, all parties appear to accept that embedded generation provides some grid cost reduction and the value to be paid to embedded generators proposed by WACM 8 (£32.30)	

WG member	CMP264/269 Option voted best	CMP264 vote 3 rationale	CMP269 vote 3 rationale	CMP265/270 Option voted best	CMP265 vote 3 rationale	CMP270 vote 3 rationale
					is based on sound analysis by an independent group, whose assessment confirms that this would be a cost reflective payment. As such, we believe that WACM 8 best achieves the CUSC objectives.	
Jonathan Graham	CUSC Baseline	a) This proposal and all of the alternatives create new distortions between different types of generation (CM and non-CM; exported and on-site) and between generation and demand reduction, applying different charging methodologies for different demand users. No solution to these distortions and discrimination are foreseeable. b) Insufficient analysis was undertaken regarding the long run marginal cost of distributed generation and whether this is reflected by the current locational charge. However, ADE E is the best assessment available to reflect the avoided cost from distributed generation. (c) The proposal and related alternatives do not address the underlying symptom which is creating a growing demand residual, which is caused by both the growing unallocated cost of transmission networks and the need to better allocate and socialise specific network costs to users. d) The proposal and all of the alternatives apply discrimination between different users does not comply with Directive 2009/72/EC. e) The proposal and all of the alternatives will apply different charging methodologies for different users will create significant administrative costs for suppliers, and later application to on-site generators will create significant new inefficiencies for both suppliers and small generators. Further action will be required to address the demand residual, meaning this modification will apply costs which could be avoided.		CUSC Baseline	a) This proposal and all of the alternatives create new distortions between different types of generation (CM and non-CM; exported and on-site) and between generation and demand reduction, applying different charging methodologies for different demand users. No solution to these distortions and discrimination are foreseeable. b) Insufficient analysis was undertaken regarding the long run marginal cost of distributed generation and whether this is reflected by the current locational charge. However, ADE E is the best assessment available to reflect the avoided cost from distributed generation. In lieu of a full review of available analysis, ADE is the most appropriate assessment and better aligns with quantitative evidence provided to the Workgroup by Cornwall Energy, and reduces the risk of changing the charging methodology to a less cost-reflective one. c) The proposal and related alternatives do not address the underlying symptom which is creating a growing demand residual, which is caused by both the growing unallocated cost of transmission networks and the need to better allocate and socialise specific network costs to users.	

WG member	CMP264/269 Option voted best	CMP264 vote 3 rationale	CMP269 vote 3 rationale	CMP265/270 Option voted best	CMP265 vote 3 rationale	CMP270 vote 3 rationale
					d) The proposal and all of the alternatives apply discrimination between different users does not comply with Directive 2009/72/EC. e) The proposal and all of the alternatives will apply different charging methodologies for different users will create significant administrative costs for suppliers, and later application to on-site generators will create significant new inefficiencies for both suppliers and small generators. Further action will be required to address the demand residual, meaning this modification will apply costs which could be avoided.	
Christopher Granby	WACM 8	It is one of the few that has some analysis and has attempted to quantify the problem		WACM 8	Is one of the few mods which actually attempt some analysis.	
John Harmer	WACM 21	This is considered to provide the best balance between maintaining investor confidence in giving existing investments and commitments the revenue they reasonably forecast, so maintaining the largest pool of investors and providing greater competition by maximising the number of players in the market. It contains a gradual ramp down to a reasonable enduring value through the lack of RPI indexation which is therefore expected to reduce the gap between the grandfathered level and the enduring value. The enduring value is set at a level which has some robust logical basis in giving an undistorted locational signal to new EG whilst maintaining zero or above demand charges so as not to give a disincentive to generate at peak. This value is above the level that TG may reasonably see but this reflects market failure in the inability for small players to access medium term super peak pricing to support financing. It is significantly below the benefit for DSR and BTM competition. It has a cut-off date for grandfathering that pragmatically		WACM 10	This is considered to provide the best balance between maintaining investor confidence in giving existing investments and commitments the revenue they reasonably forecast, so maintaining the largest pool of investors and providing greater competition by maximising the number of players in the market. It contains a gradual ramp down to a reasonable enduring value through the lack of RPI indexation which is therefore expected to reduce the gap between the grandfathered level and the enduring value. The enduring value is set at a level which has some robust logical basis in giving an undistorted locational signal to new EG whilst maintaining zero or above demand charges so as not to give a disincentive to generate at peak. This value is above the level that TG may	

WG member	CMP264/269 Option voted best	CMP264 vote 3 rationale CMP269 vote 3 rationale	CMP265/270 Option voted best	CMP265 vote 3 rationale CMP270 vote 3 rationale
		reflects the timescales for delivery of yet to be constructed assets to meet existing commitments. It probably gives a lower cost to consumers than the original 264 mod by limiting the rise in demand residual that would otherwise be received by existing EG, though this is a speculative assertion as it depends on the relative volume of Affected versus Grandfathered EG. It certainty gives a lower cost than the CUSC baseline. It is thus better than the baseline in terms of objective (b). It provides an outcome that does not cause the embedded benefit to rise with increasing OFTO and onshore transmission reinforcement. It therefore is better than the baseline in terms of objective (c). It is no better or worse than the baseline or Original in terms of objective (d). It has no more complexity than other WACMs that require grandfathering and it is demonstrably amongst the simplest in legal drafting. It is no worse than the Original but in common with all WACMs and the Original it is worse than the baseline in terms of objective (e).		reasonably see but this reflects market failure in the inability for small players to access medium term super peak pricing to support financing. It is significantly below the benefit for DSR and BTM competition. It has a cut-off date for grandfathering that pragmatically reflects the timescales for delivery of yet to be constructed assets to meet existing commitments. This is considered to provide a compromise that spreads the competitive distortion relatively evenly between TG, EG, behind the meter generation and DSR so is optimum in terms of objective (b). It probably gives a lower cost to consumers than the original 269 mod by limiting the rise in demand residual that would otherwise be received by existing EG, though this is a speculative assertion as it depends on the relative volume of Affected versus Grandfathered EG. It certainty gives a lower cost than the CUSC baseline. It provides an outcome that does not cause the embedded benefit to rise with increasing OFTO and onshore transmission reinforcement. It is no better or worse than the baseline or Original in terms of objective (c). It has no more complexity than other WACMs that require grandfathering and it is demonstrably amongst the simplest in legal drafting. It is no worse than the Original but in common with all WACMs and the Original it is worse than the baseline in terms of

WG member	CMP264/269 Option voted best	CMP264 vote 3 rationale	CMP269 vote 3 rationale	CMP265/270 Option voted best	CMP265 vote 3 rationale	CMP270 vote 3 rationale
					objectives (a) and (d).	
Simon Lord	WACM 3	As has been demonstrated to the working group using the full transport and tariff model there is only a marginal difference between the cost to the transmission system uses of the connection of distributed generation and transmission connected generation at the same location. This proposal that advocate an embedded benefit of a fixed charge of ~£1.62 (the avoided Grid Supply Point reinforcement cost) plus the locational it is seen as cost reflective and we support this proposal		WACM 3	As has been demonstrated to the working group using the full transport and tariff model there is only a marginal difference between the cost to the transmission system uses of the connection of distributed generation and transmission connected generation at the same location. This proposal that advocate an embedded benefit of a fixed charge of ~£1.62 (the avoided Grid Supply Point reinforcement cost) plus the locational it is seen as cost reflective and we support this proposal.	
Graz McDonald* (Jeremy Taylor)	WACM 10	It fixes the problem, it will keep the lights on, it will maintain stability and it will benefit consumers.		WACM 10	It fixes the problem, it will keep the lights on, it will maintain stability and it will benefit consumers.	
Rob Marshall	WACM 6	Does not introduce discrimination between embedded generators • Increases cost reflectivity by removing the non-cost reflective demand residual • Uses the indicative locational signal to represent the value of embedded generation avoiding the cost of network reinforcement • Efficient methodology to implement		WACM 6	Does not introduce discrimination between embedded generators • Increases cost reflectivity by removing the non-cost reflective demand residual • Uses the indicative locational signal to represent the value of embedded generation avoiding the cost of network reinforcement • Efficient methodology to implement	
Paul Mott	WACM 3	Uniper A uses grid's figure for avoided GSP cost for the true benefit "X". Lacking phasing or grandfathering, giving good benefit – best overall –	I understand that the proposer has included an attempt to identify what he contends to be the "correct" value for benefits (avoided GSP switchgear costs, re-assessed each price control). I am	CMP265 Original	Statement of defect of CMP265 is to address a distortion in the CM. This mod does exactly that, none of the WACMs does as they all affect other plant too, thus less accurately meeting the statement of defect. Against its own statement of defect, it is excellent	

WG member	CMP264/269 Option voted best	CMP264 vote 3 rationale	CMP269 vote 3 rationale	CMP265/270 Option voted best	CMP265 vote 3 rationale	CMP270 vote 3 rationale
		and the lack of grandfathering also slightly eases administration/implementation of this option. I see no rationale for flooring, though, as the locational charge and how it is applied, is supposed to be cost-reflective and its application should just be put right if it were established to be not cost-reflective.	open-minded but warm to this concept; it is better than the other ideas, which seem to lack justification, around what "X" should be. There is no grandfathering, and no phasing, enabling quick consumer benefits, and efficient, simple implementation; therefore best option re : CMP264/269			
Andy Pace	WACM 9	This is the preferred option as it sets the level of the demand residual to be used for embedded generation at a level that provides a reasonable level of compensation to existing and new plant while allowing for a more thorough review of embedded benefits to take place, particularly in the area of connection charges and the calculation of the locational charge.		WACM 9	This is the preferred option as it sets the level of the demand residual to be used for embedded generation at a level that provides a reasonable level of compensation to existing and new plant while allowing for a more thorough review of embedded benefits to take place, particularly in the area of connection charges and the calculation of the locational charge.	
Guy Phillips* (Paul Jones)	WACM 3	Discrimination on basis of being embedded is removed and a more cost reflective charge replaces it. The avoided GSP charge is the only embedded benefit which has been demonstrated to exist over and above the locational charge. Does not have the administrative complexities associated with grandfathering.		WACM 3	Discrimination on basis of being embedded is removed and a more cost reflective charge replaces it. The avoided GSP charge is the only embedded benefit which has been demonstrated to exist over and above the locational charge. Does not have the administrative complexities associated with grandfathering.	
Bill Reed	CUSC Baseline	The proposals and the alternatives will not better meet the relevant CUSC Objectives for the reasons	To the extent both these mods facilitate implementation of other mods then these better meet Objective d. (Administrative efficiency)	CUSC Baseline	The proposals and the alternatives will not better meet the relevant CUSC Objectives for the reasons	To the extent both these mods facilitate implementation of other mods then these better

WG member	CMP264/269 Option voted best	CMP264 vote 3 rationale	CMP269 vote 3 rationale	CMP265/270 Option voted best	CMP265 vote 3 rationale	CMP270 vote 3 rationale
		outlined in relation to each modification proposal. Furthermore, I am concerned that any views against the applicable objectives may be unsafe. In particular I would highlight the following: 1. The modification proposals and their alternatives raise issues associated with discrimination (before/after a date, new/existing, capacity market contracts/non cm contracts, exporting/behind the meter). While the proposers have sought to justify their option, the working group has not evaluated the specific proposals and the potential impact on the wider market arising through the distortions associated with discrimination; introduce significant administrative complexity for suppliers and impact significantly on supplier			outlined in relation to each modification proposal. Furthermore, I am concerned that any views against the applicable objectives may be unsafe. In particular I would highlight the following: 1. The modification proposals and their alternatives raise issues associated with discrimination (before/after a date, new/existing, capacity market contracts/non cm contracts, exporting/behind the meter). While the proposers have sought to justify their option, the working group has not evaluated the specific proposals and the potential impact on the wider market arising through the distortions associated with discrimination; introduce significant administrative complexity for	meet Objective d. (Administrative efficiency)

WG member	CMP264/269 Option voted best	CMP264 vote 3 rationale	CMP269 vote 3 rationale	CMP265/270 Option voted best	CMP265 vote 3 rationale	CMP270 vote 3 rationale
		commercial relationships with customers. These effects have not been assessed fully and we do not have a full understanding of the implications of these changes for the wider electricity market; 3. The modification proposals and their variants introduce further distortions into the electricity market through for example flooring or use of the generation residual for demand customers. It is clear that there is the potential for a significant move away from cost reflectivity in all of the proposals, and I do not believe that this has been well understood by the group; 4. The concentration on developing alternatives has taken away the possibility of properly evaluating the proposals based on evidence and wider consultation given the accelerated timescales;			suppliers and impact significantly on supplier commercial relationships with customers. These effects have not been assessed fully and we do not have a full understanding of the implications of these changes for the wider electricity market; 3. The modification proposals and their variants introduce further distortions into the electricity market through for example flooring or use of the generation residual for demand customers. It is clear that there is the potential for a significant move away from cost reflectivity in all of the proposals, and I do not believe that this has been well understood by the group; 4. The concentration on developing alternatives has	

WG member	CMP264/269 Option voted best	CMP264 vote 3 rationale	CMP269 vote 3 rationale	CMP265/270 Option voted best	CMP265 vote 3 rationale	CMP270 vote 3 rationale
		and 5. The development of options to place in front of the authority is an area of concern. I do not believe that the creation of options is compatible with the CUSC objectives or with the efficiency of the CUSC process.			taken away the possibility of properly evaluating the proposals based on evidence and wider consultation given the accelerated timescales; and 5. The development of options to place in front of the authority is an area of concern. I do not believe that the creation of options is compatible with the CUSC objectives or with the efficiency of the CUSC process.	
John Tindal	WACM 5	Treats all the same Gross demand Residual is more cost reflective Generator residual element better for competition GSP avoidance likely to be more cost reflective 3 year phasing helps implementation		WACM 5	Treats all the same Gross demand Residual is more cost reflective Generator residual element better for competition GSP avoidance likely to be more cost reflective 3 year phasing helps implementation	
Matthew Tucker	WACM10	Halts escalation of demand residual which would otherwise eventually lead to distortions in competition. Treats all DG the same and simplifies administration over the original proposal. Avoids creating winners and losers		WACM10	Halts escalation of demand residual which would otherwise eventually lead to distortions in competition. Treats all DG the same and simplifies administration over the original proposal. Avoids creating winners and	

WG member	CMP264/269 Option voted best	CMP264 vote 3 rationale	CMP269 vote 3 rationale	CMP265/270 Option voted best	CMP265 vote 3 rationale	CMP270 vote 3 rationale
		amongst DG as a result of the proposal.			losers amongst DG as a result of the proposal.	
Joseph Underwood	WACM 3	rom the evidence seen and the given time to review, I believe WACM3 best facilitates the ACOs. Locational and GSP reinforcement costs seems like the most reasonable approximation of the true value for EB. It will therefore better facilitate competition between TG and EG, it will reflect more accurately the true value of EBs and in doing so will reduce the distortion seen through the current excessive EB. I would also like to note that the precedence set under CMP213, the notice for charging changes was one full charging year and therefore under the argument for grandfathering and phasing has not been made in this circumstance and will introduce undue discrimination between generators.		WACM 3	From the evidence seen and the given time to review, I believe WACM3 best facilitates the ACOs. Locational and GSP reinforcement costs seems like the most reasonable approximation of the true value for EB. It will therefore better facilitate competition between TG and EG, it will reflect more accurately the true value of EBs and in doing so will reduce the distortion seen through the current excessive EB. I would also like to note that the precedence set under CMP213, the notice for charging changes was one full charging year and therefore under the argument for grandfathering and phasing has not been made in this circumstance and will introduce undue discrimination between generators.	
Lisa Waters	ABSTAINING	No rating to be provided as no analysis to base a decision on		ABSTAINING	No rating to be provided as no analysis to base a decision on	
Sam Wither	WACM 15	Improves competition, removes discrimination issues of stranding newbuild CM/CfD committed assets from 2014 and 2015 EMR auctions (resulting in savings up to £1.5bn to the end consumer) and improves cost reflectivity with retained locational signals.		WACM 15	Improves competition, removes discrimination issues of stranding newbuild CM/CfD committed assets from 2014 and 2015 EMR auctions (resulting in savings up to £1.5bn to the end consumer) and improves cost reflectivity with retained locational signals.	

* Indicates that the alternate voted

12 Workgroup conclusions

12.1 A number of Workgroup members raised concerns that the accelerated timescales proposed under the updated Terms of Reference may mean that only qualitative and not quantitative detailed analysis could be performed in the timescales given. Whilst analysis was presented on various issues by individual Workgroup members, the Workgroup did not conduct its own analysis or come to a consensus on the evidence presented.

12.2 The Workgroup's Terms of Reference require it to capture its conclusions. Given the nature of these Modifications, Workgroup members were unable to reach conclusions that had the consensus of all members. The key arguments of the workgroup members are summarised in the following paragraphs. It should be noted that these views are only supported by subsets of workgroup members.

Workgroup members who supported stabilisation of charges pending a review and/or grandfathering put forward the following conclusion:

12.3 **Cost reflectivity**. Transmission access charging needs to be as transparent cost reflective and stable/predictable as possible. It is clear that the current arrangements where the locational charge only accounts for about 10% of the allowed transmission revenue and the remaining 90% is allocated into an unexplained residual pot is not satisfactory going forwards. Incorrect pricing signals can lead to sub-optimal investment decisions (either in siting new generation or demand or decisions to retain or close existing generation or demand) and ultimately the costs of suboptimal decisions are reflected in higher costs and ultimately prices for customers. Achieving as cost reflective as possible transmission access pricing is vital to controlling network costs for consumers.

12.4 **Understanding the residual.** Further, the notion that the D-TNUoS charge can be split into the locational element of the charge that is cost-reflective, and the residual charge that represents a charge to recover the “fixed/sunk” costs of the network is entirely unjustified. The locational element of the charge is only designed to signal differences in the cost demand imposes across different locations, not the absolute level of transmission cost that demand imposes. Whilst the total locational charge only accounts for 10% of the allowed transmission revenue, the demand locational charge nets to a £0 recovery. This therefore implies either that there is no capital investment, maintenance or operational costs incurred on the transmission system as a result of demand or, more likely, that this signal is in fact, not cost-reflective.

12.5 Charges to use the transmission system should equally reflect the long run marginal costs incurred or avoided from the connection of demand, embedded generation, and transmission connected generation, which the modifications fail to achieve. While there may be logic in ‘socialising’ specific network costs to all generators and demand users, the working group received no evidence on which specific costs should be included in such an approach and why.

12.6 **Non-discriminatory charging**. Net charging within a GSP (meaning that 1 MW of demand management and 1 MW of embedded generation have the same impact on transmission use and therefore should incur the same charge) appears to be the most cost reflective mechanism for allocating costs within a GSP. The working group evidence shows that a demand user or on-site generator and an embedded generator would face different and therefore discriminatory charging methodologies under the proposed gross charging modifications, despite identical impacts on the network. The work group received no evidence or practical solutions for how these new distortions could be addressed in future. Given the limited analysis undertaken it is likely that there will be further distortions which will create additional unintended consequences. However, it is noted that there are inconsistencies with the current generation charging which should be addressed.

12.7 **Risk to consumers without an evidence-based approach.** Whilst it is self-evident that cost-reflective and non-discriminatory charging is likely to be the most efficient approach, the determination of what is and is not cost reflective should only be based upon analysis and evidence. In the workgroup we have been presented with various pieces of analysis suggesting different costs / values for the use of the transmission system, although notably the proposer and related parties have not provided any evidence on the long run marginal cost impacts of distributed generation. Estimates have also been provided on the risk to security of supply if even a small proportion of the 7.5 GW of embedded generation stops generating at peak demand, and the negative impacts on consumers from higher Capacity Market costs (estimated by Cornwall Energy as a minimum cost of £282m in 2016), higher wholesale power prices, and higher balancing services costs. The work group received no evidence on the cost impacts to suppliers from this change and future necessary interventions, all of which will create significant but un-estimated costs on consumers. Taken together, it is clear that insufficient analysis has been undertaken to the depth suitable to reach a decision on whether the consumer impacts are better than the baseline. In fact, the existing evidence presented to the work group would indicate that these modifications are just as likely to increase as decrease costs to consumers in the short term. It is informative that the vast majority of industry consultation responses responded against these proposed modifications and many indicated a preference for a more thorough, analytical review. Due to the mix of evidence, if action is taken, it should be biased towards a low-risk, low-change approach.

12.8 **Strategic approach is lower-risk.** The benefits of taking a more strategic approach in addressing these related issues are not outweighed by the benefits in implementing a bad solution more quickly. As a result of the current CUSC process alongside Ofgem's open letter the industry is now fully aware of the concerns about transmission charging. Any parties making any investment decision are able to factor this uncertainty into their future investment decisions and it is very difficult to justify grandfathering for any investment made after Ofgem's letter was published.

12.9 **Importance of investor certainty.** Historically, parties have entered into various investments (including CHP, embedded generation and renewable projects) and taken forward looking commitments (15-year capacity market obligations, renewable CfDs etc.) based on the principle that licence exempt generation embedded in the distribution system is charged for its use of the transmission system as negative demand (and the reasonable assumption that this is cost reflective). As noted by a number of consultation respondents, changing this principle, without suitable grandfathering or transitional arrangements, will damage projects potentially reducing security of supply and investor confidence, both of which will ultimately result in higher prices for end users.

Workgroup members who believed an economic case had been made to adjust the residual element of the TNUoS Embedded Benefits put forward the following views:

12.10 Workgroup members supporting reductions in TNUoS Embedded Benefits believed no justification for the current levels had been identified in the Workgroup process. These members felt that the locational tariffs derived from National Grid's transport model reflected the marginal benefit (or cost) of transmission network users, including embedded generators. The members therefore concluded that enduring tariffs for embedded generators should be much closer in value to the tariffs for transmission connected generators in similar geographical locations, because their respective effects on transmission investment costs are essentially the same. Enduring embedded benefits that conferred financial advantage over transmission connected generators would be contrary to the CUSC objectives of cost reflectivity and effective competition.

12.11 The same workgroup members believed their views on TNUoS embedded benefit reform were well grounded in established economic theory. Under non-discriminatory cost reflective conditions, parties aiming to maximise the net benefits of their projects/assets will correctly

account for the impact they have on transmission network costs when making decisions to invest, dispatch, close, compete for contracts etc. All else equal, projects/assets with a lower underlying cost impact on the transmission network will out-compete those with a higher underlying cost impact on the transmission network. This ultimately ensures that consumers pay less for their electricity, because more efficient projects/assets will succeed over less efficient ones when competing against each other. By contrast, non-cost reflective and discriminatory conditions will tend to create "winners" according to who is most favoured by the discrimination. The more discriminatory the conditions, the more market outcomes will move away from a least cost solution, because the discrimination has ever greater potential to distort and reverse underlying cost advantages.

12.12 The same members believe that evidence has been presented to the working group and contained in this report that demonstrated that:

- Flows on the transmission system are identical following the connection of an equal volume of distribution or transmission connected generation at the same location.
- The size of the transmission system (and hence the cost) is effected by the location of the connection point and is independent of the how the generation is connected i.e. distribution and transmission connected generation have the same effect on the transmission system.
- In general a larger transmission system will be needed to accommodate generation if it is connected independently of a locational signal. It is recognised that the current embedded benefit regime does not provide a strong locational signal.
- Demand customers pay an additional premium above the cost required to fund available TNUoS to pay embedded benefits to distribution connected generation

12.13 The group also received a detailed presentation from National Grid on the derivation of the locational element of the TNUoS charge detailing how these costs are derived. All non-locational TO and SO costs are recovered via the residual charge, that represents the balance of costs allowed by Ofgem through the price control. A breakdown of this is publically available.

12.14 The same members opposed WACMs featuring grandfathering of TNUoS rates for similar reasons to the above. TNUoS charges are supposed to be cost reflective and facilitate effective competition. The members believed that allowing certain embedded generators continued access to preferential TNUoS rates for reasons unrelated to their underlying cost impact on the transmission network would be contrary to the CUSC objectives and the interests of consumers. However, to varying degrees, the members were sympathetic to some degree of lag between a decision to reduce TNUoS embedded benefits and the date from which the reductions would apply.

12.15 Workgroup members who believed an economic case had been made felt that the distortions caused by excessive TNUoS embedded benefits are likely to manifest in the following ways:

- Investment decisions are artificially skewed in favour of embedded generation and away from transmission connected generation for reasons unrelated to underlying cost advantages.
- Embedded generation has strong incentives to dispatch over potential TRIAD periods, irrespective of whether they are in a favourable location (from a TNUoS perspective) and irrespective of whether they are in merit in the energy market.
- Embedded generators' ability to out-bid transmission connected generators in the Capacity and ancillary service markets (because of their embedded benefits) means that contracts are likely being allocated to parties out of merit order.

- Innovation in the electricity markets is distorted as market participants are pre-occupied with maximising their embedded benefits instead of focussing on genuine value adding activities that benefit consumers.

Members who believed that insufficient evidence or analysis has been put forward to come to a conclusion identified the following concerns:

12.16 The majority of the Workgroup had concerns that the accelerated timetable for developing the Modifications and proposed alternatives, would not allow for substantive analysis to be undertaken. While a number of parties tried to provide analysis around specific impacts of the Modifications (for example changes in wholesale prices), this was not work undertaken and reviewed by the Workgroup. A number of Workgroup members believed that the effects of the changes could be so far reaching, that it would be beholden on Ofgem to undertake analysis prior to agreeing to any change

12.17 The lack of robust analysis means that many of the potential impacts of each proposal are not quantified, though the report tries to describe the impacts in a qualitative manner. Many Workgroup members had their own view on the direction of travel of each impact and the group tried to capture these.

12.18 It was noted that locational prices send useful signals but that they are very difficult, if not impossible, to respond to due to the wider issues associated with the lack of capacity (both distribution and transmission) where parties are being signalled to connect.

12.19 It was unclear if the Transmission Owner's networks could cope with a dramatic change in the pattern of flows. In addition the Workgroup did not receive views from Distribution Network Owners and were therefore unable to determine if change of flows would impact their networks.

12.20 The Workgroup also noted that the CUSC objectives are more limited than Ofgem's duties. For example, the Workgroup did not analyse changes in the merit order, and thus the way plants will operate depending on the any change approved. Ofgem would have to consider the effect on competition, as required by the CUSC, but also the impact on emission, as required by its wider duties.

In summary the Workgroup agreed that this report be submitted to the CUSC Panel noting that no consensus was reached within the Workgroup.

13 Impact and Assessment

Impact on the CUSC

13.1 Changes to Section 11 and 14 – please refer to section 10 and Volume 1b, 1c and 1d for the legal text changes.

Impact on Greenhouse Gas Emissions

13.2 The workgroup has not assessed the impact on Greenhouse Gas Emissions.

Impact on Core Industry Documents

13.3 None

Impact on other Industry Documents

13.4 There is likely to be an impact on the Balancing and Settlement Code, to provide the required data flows.

(a) In particular P349: Facilitating embedded generation Triad Avoidance Standstill was raised on 4 July, to accompany CMP264, and P348: Provision of gross BM Unit data for TNUoS charging was raised on 1 July to accompany CMP265. ELEXON are involved in the discussion within the CMP264 and CMP265 Workgroups to improve synergies between CMP264/P349 and CMP265/P348.

(b) There may also be consequential changes to the MRA Data Transfer Catalogue (DTC), identified through the related BSC modifications.

Costs

13.5 The Workgroups and consultations for CMP264 and CMP265 were combined; the costs below reflect these two Modifications being progressed together.

Code administration costs	
Resource costs	**£35,393** - 13 Workgroup meetings **£1,960** - Catering
Total Code Administrator costs	**£37,353**

Industry costs (Standard CMP)	
Resource costs	**£306,735** - **13** Workgroup meetings **£139,755**– **2** Consultations (1 Workgroup and 1 Code Administrator) • 13 Workgroup meetings • 26 Workgroup members • 1.5 man days effort per meeting • 1.5 man days effort per consultation response • 77 consultation respondents (47 for Workgroup Consultation; 30 for Original Code Administrator

	Consultation)
Total Industry Costs	**£446,490**

14 Proposed Implementation and Transition

14.1 The Workgroup discussed implementation on a number of occasions particularly in the development of Workgroup alternatives.

14.2 The implementation of any CUSC Modifications is in the gift of the regulator in that its direction will include notice of the required date of implementation. However, implementation can mean different dates depending on the nature of the change.

14.3 Once directed by Ofgem the implementation usually refers to the date that the text of the CUSC itself is changed and becomes the new requirement to which National Grid and CUSC parties must adhere to.

14.4 For National Grid, implementation needs to include sufficient notice of the change in order to set new transmission tariffs. The tariff setting timetable is a licence requirement with draft tariffs published in December and final tariffs at the end of January. There needs to be sufficient notice of the change in order for National Grid to take account of a different charging base in its analysis that takes place prior to these dates.

14.5 Implementation was considered by some to mean the date from which 'new' is defined, however this was kept separate into the detail of the legal text. For parties looking to understand if they are impacted by the change and when this will be a key date.

14.6 A view was expressed that where the Modification is specific to capacity markets agreement holders, implementation could mean the applicable capacity market year but again parties would need to look at the detail of the legal text to understand this.

14.7 Transmission tariffs are currently set in January for the 12 month period commencing the following April. Charges are then billed to Suppliers and Generators from April - March over the course of the year. Implementation could mean the applicable 'triad season' however due to the nature of the charging year it would not be possible to implement from November in any charging year without a impacting bills that are issued from the April of that year.

14.8 The Workgroup discussed the implementation of these modifications as being the first practicable applicable charging year, noting in particular the need for advance notice for the purposes of tariff setting. The group also acknowledged the views from some consultation responses that three year's notice of implementation would allow for sufficient time to update processes and systems for some Suppliers.

14.9 The Workgroup considered that the first practicable implementation date would be the charging year 2018-19. Some of the modifications and alternatives do intend on a later charging year, noting the proposer's original intent for CMP265 of an April 2020 implementation.

15 Code Administrator Consultation Responses

15.1 For **CMP264** 30 responses were received to the Code Administrator Consultation. These responses are detailed in Volume 6 of this report. Overall, fourteen respondents preferred the baseline, with an additional four responding that they preferred the baseline but if a change had to be made the WACM they supported; three supported the Original Proposal; eight supported a variety of WACMs and one respondent did not make clear which was the preferred option.

15.2 For **CMP265** 29 responses were received to the Code Administrator Consultation. These responses are detailed in Volume 6 of this report. Overall, fifteen respondents preferred the baseline, with an additional two responding that they preferred the baseline but if a change had to be made the WACM they supported; three supported the Original Proposal; eight supported a variety of WACMs and one respondent did not make clear which was the preferred option.

15.3 For **CMP270** 11 responses were received to the Code Administrator Consultation. These responses are detailed in Volume 6 of this report. As this Modification is an enabling Modification the information replicated what was voted for CMP264.

15.4 For **CMP270** 11 responses were received to the Code Administrator Consultation. These responses are detailed in Volume 6 of this report. As this Modification is an enabling Modification the information replicated what was voted for CMP265.

15.5 Both Proposers supported their Original Proposals.

15.1 The following table provides an overview of the key themes in responses received. Due to the size of the responses received to the questions please refer to Volume 6.

15.2 The questions asked in the Code Administrator Consultation were:

1. Do you believe that CMP264/CMP265/CMP269/CMP270 better facilitates the Applicable CUSC objectives? Please include your reasoning.
2. Do you support the proposed implementation approach?
3. Do you have any other comments?

Company	Supportive of the original proposals	Comments
ADE	No (for all 4 Modifications)	• Preferred option: WACM 8 (ADE E) for both CMP264 & CMP265 • Raised concerns with the amount of analysis the Workgroup could perform in timescales given • Raised concerns with the length of time to review Code Administrator Consultation and associated volumes and legal text.
Alkane	No (for CMP264 & CMP265)	• Preferred option: WACM 21 for CMP264 • Preferred option: WACM 10 for CMP265 • Raised concerns with the amount of analysis the Workgroup could perform in timescales given • Raised concerns with the length of time to review Code Administrator Consultation and associated volumes and legal

		text. • Support a wider and holistic review to be undertaken by Ofgem
AMP	No (for CMP264 & CMP265)	• Preferred option: WACM 11 for CMP264 • Preferred option: WACM 11 for CMP265 • Raised concerns with the IT system changes required (cost and complexity)
Centrica	No (for CMP264 & CMP265)	• Preferred option: WACM 1 for CMP264 • Preferred option: WACM 1 for CMP265
DRAX	Yes (for all 4 Modifications)	• Addresses the disparity in competition between sub 100MW embedded generators and other generators for CMP264 and CMP265
EDF	Yes for CMP264 & CMP265 (Proposer)	• Addresses the disparity in competition for CMP264 • Addresses the disparity in competition for CMP265 (Proposer)
Eider	No (for CMP264 & CMP265)	• Preferred option: WACM 11 for CMP264 • Preferred option: WACM 11 for CMP265 • Support a wider and holistic review to be undertaken by Ofgem
Engie	No (for CMP264 & CMP265)	• Preferred option: WACM 3 for CMP264 • Preferred option: WACM 3 for CMP265 • Do not support delaying implementation
EON	No (for all 4 Modifications)	• Preferred option: Baseline for CMP264/265 • Raised concerns with the amount of analysis the Workgroup could perform in timescales given • Considers the defect too narrow in scope • Support a wider and holistic review to be undertaken by Ofgem
ESA	No (for CMP264 & CMP265)	• Preferred option: Baseline for CMP264/265 • Raised concerns with the amount of analysis the Workgroup could perform in timescales given • Support a wider and holistic review to be undertaken by Ofgem
FCC	No (for CMP264 & CMP265)	• Preferred option: Baseline for CMP264/265 • Raised concerns with the amount of analysis the Workgroup could perform in timescales given • Support a wider and holistic review to be undertaken by Ofgem
Good Energy	No (for CMP264 & CMP265)	• Preferred option: Baseline for CMP264/265 • Raised concerns with the amount of analysis the Workgroup could perform in timescales given • Support a wider and holistic review to be undertaken by Ofgem
Green Frog	No (for all 4 Modifications)	• Preferred option: WACM 10 for CMP264 • Preferred option: WACM 10 for CMP265 • Considers the defect too narrow in scope • Support a wider and holistic review to be undertaken by Ofgem

Infinis	No (for CMP264 & CMP265)	• Preferred option: Baseline for CMP264/265 • Raised concerns with the amount of analysis the Workgroup could perform in timescales given • Support a wider and holistic review to be undertaken by Ofgem • Considers if this issue is in the Capacity Market that would be the best place to amend rules
OVO	No (for CMP264 & CMP265)	• Preferred option: None but WACM 9 for CMP264 & CMP265 (but only if one had to be implemented) • Support a wider and holistic review to be undertaken by Ofgem
Peakgen	Yes as interim measure for CMP264 and no for CMP265	• Preferred option: Baseline as an interim measure and WACM 19 for CMP264 • Preferred option: Baseline for CMP265 • Raised concerns with the amount of analysis the Workgroup could perform in timescales given • Support a wider and holistic review to be undertaken by Ofgem
REA	No (for all 4 Modifications)	• Preferred option: Baseline for CMP264/265 • Raised concerns with the amount of analysis the Workgroup could perform in timescales given • Support a wider and holistic review to be undertaken by Ofgem
Renewables UK	No (for all 4 Modifications)	• Preferred option: Baseline for CMP264/265 • Raised concerns with the amount of analysis the Workgroup could perform in timescales given • Concerned would introduce different class of parties • Support a wider and holistic review to be undertaken by Ofgem
RES	No (for CMP264 & CMP265)	• Preferred option: Baseline for CMP264/265 • Raised concerns with the amount of analysis the Workgroup could perform in timescales given • Concerned would distort competition in generation • Support a wider and holistic review to be undertaken by Ofgem
RWE Generation	No (for CMP264 & CMP265)	• Preferred option: Baseline for CMP264/265 • Raised concerns with the amount of analysis the Workgroup could perform in timescales given • Support a wider and holistic review to be undertaken by Ofgem • The modification and the alternatives do not address the underlying cost reflectivity of demand charges.
Scottish Power	Yes for CMP264/269 (Proposer) & CMP265/270	• Preferred option: CMP264 original (Proposer) and CMP265 original • Will remove a distortion in competition
Scottish Renewables	No (for CMP264 & CMP265)	• Preferred option: Baseline for CMP264/265 • Raised concerns with the amount of analysis the Workgroup could perform in timescales given • Support a wider and holistic review to be undertaken by Ofgem
Smartest Energy	No for CMP264 (no response for	• Preferred option: Baseline OR WACM 11 for CMP264 (but only if one had to be implemented) • Support a wider and holistic review to be undertaken by Ofgem

	CMP265)	
Solar Trade Association	No (for all 4 Modifications)	• Preferred option: Baseline for all 4 Modifications • Raised concerns with the amount of analysis the Workgroup could perform in timescales given • Raised concerns with the length of time to review Code Administrator Consultation and associated volumes and legal text.
SSE	No (for all 4 Modifications)	• Preferred option: WACMs 1,2,3,4 & 5 for CMP264 and CMP265 • Considers these would better facilitate the CUSC cost reflectivity and effective competition objectives • Do not support delaying implementation
Statkraft	No (for CMP264 & CMP265)	• Preferred option: Baseline • The oobjective of enabling effective competition is undermined by the introduction of an arbitrary distinction between the access to embedded benefits for established and new distributed generators • Support a wider and holistic review to be undertaken by Ofgem
UKPR	No (for CMP264 & CMP265)	• Preferred option: No WACMs or baseline specified but comment that ' UKPR supports changes which enable certainty, good visibility and above all a level' • playing field for the full range of uncommitted future new build generation • Supports reform but with grandfathering to allow for continued investment • Concerned with impact these Modifications would have on stability and raises that Ofgem should look to make a decision ahead of the December 2016 CM auction to allow for stability • Support a wider and holistic review to be undertaken by Ofgem
Vattenfall	No (for CMP264 & CMP265)	• Preferred option: Baseline for CMP264/265 • Raised concerns with the amount of analysis the Workgroup could perform in timescales given • Support a wider and holistic review to be undertaken by Ofgem
Veolia	No (for CMP264 & CMP265)	• Preferred option: Baseline • Both CMP264 and CMP265 introduce an uneven playing field between distribution and transmission connected generation • Raised concerns with the length of time to review Code Administrator Consultation and associated volumes and legal text.
Watt Power	No (for CMP264 & CMP265)	• Preferred option: Baseline OR WACM 8 for CMP264 and WACM 10 for CMP265 (but only if one had to be implemented) • Support a wider and holistic review to be undertaken by Ofgem • Not supportive of the CMP264/269 proposal as the scope of the defect is too narrow

16 Additional Code Administrator Consultation Responses

16.1 An additional Code Administrator Consultation was held for 2WDs (23 – 24 November 2016) as a material typographical error had been identified in the draft legal text for those WACMs that have a 3 year phasing element (WACM 2, WACM 4, WACM 5 and WACM 7). This related to the draft legal text for CMP264 and CMP264 only, with the draft legal text for CMP269 and CMP270 not being impacted.

16.2 Three responses were received to the Consultation. Two respondents confirmed that the amendment to the draft legal text for phasing, in the named WACMs, was correct. The other respondent, whilst also confirming that the amendments were correct, raised the concern that having to issue a second consultation was symptomatic to the concerns raised in the first Code Administrator Consultation in relation to the inadequate time industry had been given to fully assess the impact of the wide range of WACMs.

16.3 The questions asked in the Code Administrator Consultation were: "Do you agree with the amendments made to the draft legal text for WACM 2, WACM 4, WACM 5 or WACM 7 and do you have any comments in relation to the amendments made for WACM 2, WACM 4, WACM 5 or WACM 7?"

Company	Response
EDF	Yes, the amendment to the draft legal text for phasing in the named WACMs is correct.
Good Energy	Although the amendments to the draft legal texts appear consistent with the aims of the WACMS, we believe the need for this consultation, particularly with such a short timescale to respond, is symptomatic of the way this modification process has been carried out. In spite of the modification not being granted 'Urgent' status, timescales for this modification have been too short to allow code signatories adequate time to fully assess the impact of the wide range of WACMs. This means it is not possible for due diligence to be sufficiently carried out in assuring that any of the WACMs offer a level of benefit reflective of the costs and benefits that embedded generators bring to the system **(objective b)**. This leads to significant risk of unintended consequences which may result in undermining investment in the industry – this would clearly lead to reduced competition **(objective a)** in the wholesale market. This comes at a time when energy security is of significant concern. It is clear that any modification which could have such a profound effect on cost reflectivity, competition, and energy security, should be taken only with sufficient time to fully assess all impacts.
SSE	Yes, we agree that the stated amendments should be applied to the legal text for WACM2,

	WACM4, WACM5 and WACM7. It is clear that the inconsistency within the draft legal text was simply a typographical error which should be corrected. The correction of this typographical error will ensure that the legal text accurately represents the intension of the appropriate WACMs as understood by the Workgroup and as described in the Modification Report as supported by the following: 1. The intent within the Modification report is very clear. 2. There was a very clear understanding of the intent of the phasing feature among the Workgroup members and among the Legal Text Sub-group members where the application of phasing was discussed in detail. 3. Earlier versions of draft legal text which were developed and commented on in detail by the Legal Text Sub-group and subsequently presented to the Workgroup did already reflect this text which is proposed by this amendment. There are no contingent implications for Workgroup votes or consultation responses which have already been provided.

17 CUSC Panel View

17.1 The CUSC Panel met on 25 November 2016 and voted on the Original Proposals and the Workgroup Alternative CUSC Modifications. The Panel view was split.

17.2 At the CUSC Modifications Panel meeting on 25 November 2016 the Panel voted on CMP264, CMP265, CMP269 and CMP270 Originals and WACMs against the Applicable CUSC Objectives.

CUSC Panel recommendation

17.3 At the CUSC Modifications Panel meeting on 25 November 2016 the Panel voted on CMP264, CMP265, CMP269 and CMP270 Originals and WACMs against the Applicable CUSC Objectives.

For CMP264/CMP269:

17.4 The Panel voted on CMP264 and CMP269 against the Applicable CUSC Objectives. For Vote 1, the Panel agreed by majority that WACM1, WACM2, WACM3, WACM4, WACM5, WACM6, and WACM7 were all better than the Baseline. In summary for Vote 1 (better than the Baseline), the Panel voted as follows;

17.5 Eight Panel members considered that WACM1 and WACM3 were better than the baseline.

17.6 Seven of the Panel members considered that WACM2, WACM4, WACM5 were better than the baseline.

17.7 Five Panel members considered that WACM6 and WACM7 were better than the baseline.

17.8 Three Panel members considered that the Original Proposal was better than the baseline.

17.9 Two Panel members considered that WACM19 was better than the baseline.

17.10 One Panel member (not the same Panel member for each WACM) considered that WACMs 8 to 18, 22 and 23 were better than the baseline.

17.11 No Panel members considered WACM20 and WACM21 as better than the baseline.

17.12 For Vote 2, most Panel members considered WACM3 as the best option receiving four votes. This was followed by three Panel members considering WACM5 as being the best option. One Panel member considered WACM7 as being the best option and Panel member abstained from voting.

For CMP265/270

17.13 The Panel voted on CMP265 and CMP270 against the Applicable CUSC Objectives. For vote 1, the Panel agreed by majority that WACM1, WACM2, WACM3, WACM4, WACM5, WACM6, and WACM7 were all better than the Baseline. In summary for Vote 1 (better than the Baseline), the Panel voted as follows;

17.14 Seven Panel members considered that WACM1 and WACM3 were better than the baseline.

17.15 Six Panel members considered that WACM2, WACM4, WACM5 were better than the baseline.

17.16 Five Panel members considered that WACM6 and WACM7 were better than the baseline.

17.17 Three Panel members considered that the Original Proposal was better than the baseline.

17.18 One Panel member (the same Panel member for each WACM) considered that WACMs 8 to 10 and 12 to 17 were better than the baseline.

17.19 No Panel members considered WACM11 and WACM18 as better than the baseline.

17.20 For Vote 2, the Panel's view was split as to which option was the best. Most votes went to WACM3 and WACM5 as by being the best receiving three votes each. The Original and WACM7 received one voted each one Panel member abstained from voting.

17.21 The Panel view was split for CMP264/CMP269 and CMP265/CMP270.

CMP264/CMP269

Vote 1 - Does the original or one of the WACMs facilitate the objectives better than the Baseline?

James Anderson

CMP264								CMP269					
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)
Original	Y	Y	Y	-		Y		Original	-	Y	-	Y	Y
WACM 1	Y	Y	Y	-	-	Y		WACM 1	-	Y	-	Y	Y
WACM 2	Y	Y	Y	-	-	Y		WACM 2	-	Y	-	Y	Y
WACM 3	Y	Y	Y	-	-	Y		WACM 3	-	Y	-	Y	Y
WACM 4	Y	Y	Y	-	-	Y		WACM 4	-	Y	-	Y	Y
WACM 5	Y	Y	Y	-	-	Y		WACM 5	-	Y	-	Y	Y

WACM 6	Y	Y	Y	-	-	Y		WACM 6	-	Y	-	Y	Y
WACM 7	Y	Y	Y	-	-	Y		WACM 7	-	Y	-	Y	Y
WACM 8	N	N	-	-	-	N		WACM 8	-	N	-	-	N
WACM 9	N	N	-	-	-	N		WACM 9	-	N	-	-	N
WACM 10	N	N	-	-	-	N		WACM 10	-	N	-	-	N
WACM 11	N	N	-	-	-	N		WACM 11	-	N	-	-	N
WACM 12	N	N	-	-	-	N		WACM 12	-	N	-	-	N
WACM 13	N	N	-	-	-	N		WACM 13	-	N	-	-	N
WACM 14	N	N	-	-	-	N		WACM 14	-	N	-	-	N
WACM 15	N	N	-	-	-	N		WACM 15	-	N	-	-	N
WACM 16	N	N	-	-	-	N		WACM 16	-	N	-	-	N
WACM 17	N	N	-	-	-	N		WACM 17	-	N	-	-	N
WACM 18	N	N	-	-	-	N		WACM 18	-	N	-	-	N
WACM 19	Y	Y	Y	-	-	Y		WACM 19	-	Y	-	Y	Y
WACM 20	N	N	-	-	-	N		WACM 20	-	N	-	-	N
WACM 21	N	N	-	-	-	N		WACM 21	-	N	-	-	N
WACM	Y	Y	Y	-	-	Y		WACM 22	-	Y	-	Y	Y

22												
WACM 23	N	N	-	-	-	N	WACM 23	-	N	-	-	N
Voting statement: Overall the CMP264 Original Proposal will better meet the Applicable Charging Objectives (ACOs) than the current baseline. CMP264 will remove a distortion in competition between investing in embedded and transmission connected generation by removing a non-cost reflective payment from embedded generation. This will help ensure fair competition in the Capacity Mechanism (CM) and better facilitates ACO (a), competition. CMP264 will better facilitate ACO (b) by removing a non-cost reflective payment currently realised by embedded generators. Developments in the transmission system have resulted in a significant increase in the residual element of the demand TNUoS tariff which is significantly in excess of any avoided costs of transmission investment from connecting to the distribution system. By addressing which generators can access the demand residual as an embedded benefit, the Original Proposal removes a distortion to investment in new generation plant, should significantly reduce the impact of payment of embedded benefits on consumers and better facilitates ACO (c). CMP264 is neutral against ACOs (d) and (e). The CMP264 WACMs have been assessed against the following criteria: Implementation CMP264 was originally proposed as a short-term measure to remove a major distortion to competition while Ofgem conducted a wider review of transmission charging arrangements including embedded benefits and implemented an enduring solution. Although Ofgem has indicated that it will not be conducting such a review, urgent action is still required to address distortion in competition, in particular in the CM. The current level of unjustified Triad avoidance benefit requires implementation of a solution without undue delay to minimise impact on consumers and ensure such benefits are not factored into current CM bids. Any WACMs which seek to delay implementation beyond the							Voting statement: Overall CMP269 will better facilitate the Applicable CUSC Objectives (ACOs) than the current baseline. The CMP269 Original Proposal will mitigate the effects of the lack of a level playing field between investing in distribution and transmission connected generation during the period until an enduring solution can be implemented. It will therefore better facilitate competition ACO (b). By facilitating the delivery of the aims of CMP264 if approved, CMP269 will better facilitate ACO (d). CMP269 is neutral against ACOs (a) and (c). The same criteria applied in assessing the merits of the CMP264 WACMs have been used in assessing the CMP269 Alternatives and overall WACM 3 best facilitates the ACOs.					

earliest practicable date therefore facilitate the ACOs less well. Grandfathering Ofgem stated in their Open Letter that grandfathering of existing arrangements for certain users would introduce discrimination; introduce additional complexity; and negatively affect potential future savings to consumers. Grandfathering will also perpetuate existing distortions to competition. Therefore WACMs which seek to grandfather embedded benefits on an enduring basis will not better facilitate ACOs (a) and (b). Applicability The CMP264 Original Proposal is intended to address only the issue of distortion to competition in future in generation investment and affects only generators commissioned after 30.06.17. WACMs which introduce more cost-reflective Triad avoidance benefits for all embedded generators will deliver increased benefits for consumers from an earlier date; are potentially less discriminatory between different classes of generator and may be easier to implement in terms of changes to suppliers' systems than alternatives which distinguish between different classes of embedded generator (old/new, CM contract holders or not). Therefore WACMs which continue to provide a cost-reflective locational signal based upon the demand locational element and include an amount based upon avoided GSP investment (last assessed at £1.62/kW) will better meet the ACOs. The WACM which best meets these criteria is WACM3.		

Bob Brown

CMP264								CMP269						
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)
Original	Abstaining							Original	Abstaining				
WACM 1								WACM 1					

WACM 2			WACM 2	
WACM 3			WACM 3	
WACM 4			WACM 4	
WACM 5			WACM 5	
WACM 6			WACM 6	
WACM 7			WACM 7	
WACM 8			WACM 8	
WACM 9			WACM 9	
WACM 10			WACM 10	
WACM 11			WACM 11	
WACM 12			WACM 12	
WACM 13			WACM 13	
WACM 14			WACM 14	
WACM 15			WACM 15	
WACM 16			WACM 16	
WACM 17			WACM 17	
WACM 18			WACM 18	
WACM 19			WACM 19	
WACM 20			WACM 20	
WACM 21			WACM 21	
WACM 22			WACM 22	
WACM 23			WACM 23	

Voting Statement:

I would like to thank the Code Administrator, workgroup members and the industry for producing the reports against challenging timescales.
The report and industry responses do appear to confirm that there is a defect in the present arrangements in that some elements of transmission charging, particularly the demand charge residual, are not fully cost reflective resulting in the encouragement of inefficient behaviour and detriment to consumers.
Various proposals are put forward as potential solutions covering a whole spectrum of suggested changes and I note that the report highlights that there was insufficient time available to fully analyse the impacts of the proposed solutions on consumers. This does make it difficult for me to take a reasonable and robust view of the various proposals, so in answering the question “are any of the proposals or alternatives better than the baseline, or which is the best” I feel it appropriate to abstain.
The statement by Ofgem that it intends to conduct a regulatory impact assessment provides significant comfort that the proposals will receive thorough consideration against a wide set of criteria in a transparent manner, including the impact on consumers, before any final decision is taken
I do have comments on some of the issues highlighted in the reports:
Strategic view of TNUoS charging
I am sympathetic to the responses in the report suggesting that as well as addressing the defect associated with the demand charge residual there are wider questions that need to be asked about TNUoS charging methodology. Technologies and business models are evolving rapidly and although there is an urgent need to address the demand charge residual there is also a wider need to ensure that *network* charging arrangements, i.e. both transmission and distribution, are providing coherent, efficient and economic signals to the market and investors, in order to deliver optimum benefits to consumers.
Leaving matters to industry self-governance will deliver change, but that may not be the optimum route when many of the innovators are new to industry codes or may not even be code signatories. There are hundreds of millions of pounds at stake here, both for investors and consumers, and there are many well-funded established industry parties who have an interest in the outcome of any changes.
So, in addition to addressing the demand charge residual I would like to encourage Ofgem to conduct a holistic review of network charging and also go further in working with BEIS to set strategic direction for industry codes to ensure that changes to rules happen more nimbly and coherently.
Transition arrangements in the reports
Some proposals include grandfathering. Without full assessment of the impacts, e.g. on security of supply, it is difficult to see the justification for grandfathering as it entails passing risks almost entirely from investors to consumers.
I agree that some form of phasing in the implementation may be appropriate but, when a decision is taken, the time it takes for consumers to enjoy the benefits of resolving this defect should not be unduly prolonged.

Kyle Martin

CMP264								CMP269					
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)
Original	Does not	Does not	Neutral	Neutral	Neutral	No		Original	Neutral	Does not	Neutral	Neutral	No
WACM 1	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 1	Neutral	Better	Neutral	Neutral	Yes
WACM 2	Better	Better	Neutral	Neutral	Does not	Yes		WACM 2	Neutral	Better	Neutral	Neutral	Yes
WACM 3	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 3	Neutral	Better	Neutral	Neutral	Yes
WACM 4	Better	Better	Neutral	Neutral	Does not	Yes		WACM 4	Neutral	Better	Neutral	Neutral	Yes
WACM 5	Better	Better	Neutral	Neutral	Does not	Yes		WACM 5	Neutral	Better	Neutral	Neutral	Yes
WACM 6	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 6	Neutral	Better	Neutral	Neutral	Yes
WACM 7	Better	Better	Neutral	Neutral	Does not	Yes		WACM 7	Neutral	Better	Neutral	Neutral	Yes
WACM 8	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 8	Neutral	Better	Neutral	Neutral	Yes
WACM 9	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 9	Neutral	Better	Neutral	Neutral	Yes
WACM 10	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 10	Neutral	Better	Neutral	Neutral	Yes
WACM 11	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 11	Neutral	Better	Neutral	Neutral	Yes
WACM 12	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 12	Neutral	Better	Neutral	Neutral	Yes
WACM 13	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 13	Neutral	Better	Neutral	Neutral	Yes
WACM 14	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 14	Neutral	Better	Neutral	Neutral	Yes
WACM 15	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 15	Neutral	Better	Neutral	Neutral	Yes
WACM 16	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 16	Neutral	Better	Neutral	Neutral	Yes
WACM 17	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 17	Neutral	Better	Neutral	Neutral	Yes

WACM 18	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 18	Neutral	Better	Neutral	Neutral	Yes
WACM 19	Does not	Does not	Neutral	Neutral	Neutral	No		WACM 19	Neutral	Does not	Neutral	Neutral	No
WACM 20	Does not	Does not	Neutral	Neutral	Neutral	No		WACM 20	Neutral	Does not	Neutral	Neutral	No
WACM 21	Does not	Does not	Neutral	Neutral	Neutral	No		WACM 21	Neutral	Does not	Neutral	Neutral	No
WACM 22	Does not	Does not	Neutral	Neutral	Neutral	No		WACM 22	Neutral	Does not	Neutral	Neutral	No
WACM 23	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 23	Neutral	Better	Neutral	Neutral	Yes
Voting Statement: We are currently operating under a charging model designed for a Transmission and Distribution system that is far from what we predict to be required in the future. Indeed the model is already changing with cracks appearing in relation to embedded benefits, triad avoidance, connections and ancillary services. With the increase of distributed generation already on the wires today we are seeing behavioural changes across the network. I am supportive of an economic and efficient electricity network charging regime with a level playing field for transmission and distribution connected generation as well as demand. The current charging arrangements are extremely complicated and if left unchanged, it is likely that any distortions between transmission and distribution connected generation as well as different types of technology will widen. I note that decisions already made (such as the amount to procure in previous Capacity Market auctions) will have included assumptions on the level of peak demand based on the current regime. There is a concern that the complexity and volume of charging and policy interactions are causing distortions both to transmission and distribution connected generation. Addressing the issues holistically is necessary to ensure that the distortions do not manifest themselves in other areas of the electricity system, as failure to do so could result in ever higher costs faced by GB consumers. There may be specific issues which can be addressed with more urgency than could otherwise be delivered within a wide ranging review, however, ensuring that all issues are taken forward holistically is important to ensure other parties are not unfairly discriminated against. This will help to deliver a charging methodology which is cost-reflective, transparent, stable and predictable, and fair. In any future charging regime, due consideration must be given to the balance between creating appropriate price signals to trigger investment and behavioural change, and the need to protect consumers that may not be in a position to respond to such price signals. Dependent on the nature of the changes proposed, transitional arrangements may need to be considered, where projects that have reached final investment decisions or that have already been built based on either long standing charging principles or policy decisions.								Voting Statement: No text provided					

It is clear that changes to embedded benefits will impact not only charging but also multiple other policies which interact with TNUoS charges and these interactions should be carefully considered when determining on this modification.

objective A of the CUSC.

- It is clear that CMP264 risks undermining investor confidence, leading to decreased competition in the generation market in addition to increasing cost of capital for investors.
- CMP264 also introduces discriminatory arrangements leading to perverse incentives encouraging economically inefficient investment in private distribution networks to create behind-the–meter arrangements. Such generators generally do not participate in the wholesale market. This could lead to reduced numbers of participants in the wholesale market, leading to a reduction in both competition and market liquidity.
- CMP264 and the majority of the WACMs do, however, improve the cost reflectivity of charging arrangements against the baseline between distribution and transmission connected generation, therefore, increasing competition between generation.
- None of the options seem to have had sufficient time to analysis the true value of embedded generation.

objective B of the CUSC.

- The commissioning date of a generation facility has little or no impact on the costs or benefits it brings to the transmission system. It is therefore inappropriate to discriminate by commissioning date in the way set out in CMP264. Therefore, the original and WACM 19 – 22 which apply grandfathering on commissioning date only do not better meet the CUSC objectives B.
- The original CMP264 proposal (plus WACM19+22) frames new embedded generation as offering no benefit in terms of cost saving to the transmission network – this is clearly not the case. It is not possible to verify a cost-reflective level of payment without extensive analysis - something which is not possible given the accelerated timescales of this modification process.
- The grandfathering principle is important and has been used across government schemes (including the Renewable Obligation) to protect investor confidence and should be considered relevant in changes to the CUSC which represent a step change in charging – Therefore I support WACMs 12 – 18 and WACM 23

I also support the use of phasing to reduce the impact on industry even though this will further increase complexity.

Fundamentally a wider review of charging is needed to facilitate identification of appropriate charging arrangements to ensure the interdependencies between distribution and transmission connected generation as well as demand is considered holistically.	

Garth Graham

CMP264								CMP269						
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)
Original	No	No	Neutral	Neutral	Neutral	No		Original	Neutral	No	Neutral	Neutral	No
WACM 1	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 1	Neutral	Yes	Neutral	Neutral	Yes
WACM 2	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 2	Neutral	Yes	Neutral	Neutral	Yes
WACM 3	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 3	Neutral	Yes	Neutral	Neutral	Yes
WACM 4	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 4	Neutral	Yes	Neutral	Neutral	Yes
WACM 5	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 5	Neutral	Yes	Neutral	Neutral	Yes
WACM 6	No	No	Neutral	Neutral	Neutral	No		WACM 6	Neutral	No	Neutral	Neutral	No
WACM 7	No	No	Neutral	Neutral	Neutral	No		WACM 7	Neutral	No	Neutral	Neutral	No
WACM 8	No	No	Neutral	Neutral	Neutral	No		WACM 8	Neutral	No	Neutral	Neutral	No
WACM 9	No	No	Neutral	Neutral	Neutral	No		WACM 9	Neutral	No	Neutral	Neutral	No
WACM 10	No	No	Neutral	Neutral	Neutral	No		WACM 10	Neutral	No	Neutral	Neutral	No
WACM 11	No	No	Neutral	Neutral	Neutral	No		WACM 11	Neutral	No	Neutral	Neutral	No
WACM 12	No	No	Neutral	Neutral	Neutral	No		WACM 12	Neutral	No	Neutral	Neutral	No
WACM 13	No	No	Neutral	Neutral	Neutral	No		WACM 13	Neutral	No	Neutral	Neutral	No

WACM 14	No	No	Neutral	Neutral	Neutral	No		WACM 14	Neutral	No	Neutral	Neutral	No
WACM 15	No	No	Neutral	Neutral	Neutral	No		WACM 15	Neutral	No	Neutral	Neutral	No
WACM 16	No	No	Neutral	Neutral	Neutral	No		WACM 16	Neutral	No	Neutral	Neutral	No
WACM 17	No	No	Neutral	Neutral	Neutral	No		WACM 17	Neutral	No	Neutral	Neutral	No
WACM 18	No	No	Neutral	Neutral	Neutral	No		WACM 18	Neutral	No	Neutral	Neutral	No
WACM 19	No	No	Neutral	Neutral	Neutral	No		WACM 19	Neutral	No	Neutral	Neutral	No
WACM 20	No	No	Neutral	Neutral	Neutral	No		WACM 20	Neutral	No	Neutral	Neutral	No
WACM 21	No	No	Neutral	Neutral	Neutral	No		WACM 21	Neutral	No	Neutral	Neutral	No
WACM 22	No	No	Neutral	Neutral	Neutral	No		WACM 22	Neutral	No	Neutral	Neutral	No
WACM 23	No	No	Neutral	Neutral	Neutral	No		WACM 23	Neutral	No	Neutral	Neutral	No

Voting Statement:

It is clear from reading the extensive documentation that this suite of Modifications (CMP264/CMP269) (CMP265/CMP270) revolve, at their core, around the various constituent parts (themselves often having 'sub' elements) that either individually or (by way of numerous permutations) collectively do or do not better facilitate the Applicable CUSC Objectives. This comes through, for example, when examining the 427 pages of responses to the Code Administrator Consultation as well as the consultation document itself.

In setting out my views I know I cannot do justice (in a few words here) to the comprehensive arguments that have been documented over some 5,700 pages (of which over 1,000 pages were stakeholder responses to the two separate consultations and another 1,500+ pages of Workgroup members voting).

Looking at the main constituent parts; namely, grandfathering and the value of £'X'; my views are as follows.

In terms of **grandfathering** I was struck by the depth and variety of arguments made for and against it. However, I was persuade, overall, of the argument that as TNUoS is an annually evolving item that reflects variations in a number of items (including TO revenues, network innovation etc.,) that to freeze them for some (or many) parties would be wholly unjustified as it would lead to non-cost reflective charges. This would especially be the case where it was frozen for many years (as the non-cost reflectivity in year 1 would accumulate in year 2 and so on).

Therefore any proposal which had a grandfather element within it would not, in my view, better facilitate Applicable Objective (a), nor would it be better facilitate Applicable Objective (b) as non-cost reflective charging is detrimental to competition. In terms of the other Applicable Objectives (c-e) it is neutral.

In passing I note the comments in paragraph 8.9:-

"*Some of the Proposers of alternatives considered that grandfathering should be incorporated to protect existing investor commitments that were generally made on the assumption of higher triads and could safe-guard against rising cost of capital that may be borne by consumers. Furthermore without grandfathering this may lead to plant closure and security of supply issues….*".

Parties who have invested on the basis of a particular charging regime have, over time, been subject to seismic changes; for example with the introduction of ICRP in the early 90s, the introduction of the NETA changes in 2001, the application of the NETA arrangements to Scotland in 2005 etc., etc.. Investors made commitments prior to those changes and will have been impacted. Parties who make a commercial investment should do so on the understanding of where their revenue stream(s) come from and what, if anything, can impact on that revenue stream. The argument that change should not be taken forward in order to '*protect existing investor commitments*' is often deployed, but, as history has shown; from canal owners to railways , rail freight to road freight, sea travel to air travel, post to email; they tend not to prevail in the end as it amounts to a revenue guarantee for some which undermines both innovation and the market, both of which are to the detriment of customers. Furthermore it could also amount to a moral hazard scenario in terms of parties not planning for the possible risks to their revenue and, instead, relying on an unrealistic expectation that they should be immune to any negative change(s) (but them still being able to access any positive change(s)?).

In terms of plant closure and security of supply, I note that circa 5GW of generation closed or retired from the GB electricity market in 2015. If there was concern around security of supply then presumably this would have been the case for those 5GW of plants as well?

In terms of the **value of £'X'** it seems to me that whilst arguments for it have been forthcoming, they seem to be (at the heart of it) more about maintaining as close to (or exceeding) the existing amount paid. Indeed some go further by, for example, linking it to RPI (as shown by Tables 7 and 8).

Arguments that link the value of £'X' to known variables; namely the Generation Residual and / or the Avoided GSP Investment; have clear advantages in terms of being more cost reflective and better for competition as they are linked to elements of the TNUoS methodology that can be / is avoided which leads to lower cost(s) .

Therefore any proposal which has a Generation Residual element within it would, in my view, better facilitate Applicable Objective (a) in terms of beneficial to competition. In terms of the other Applicable Objectives (b-e) it is neutral.

Furthermore, any proposal which has the Avoided GSP Investment element within it would, in my view, better facilitate Applicable Objective (b) and would better facilitate Applicable Objective (a) as cost reflective charging is beneficial to competition. In terms of the other Applicable Objectives (c-e) it is neutral.

However, in stark contrast, any proposal which had a value of £'X' which had other elements (of those listed in Tables 7 and 8 on pages 29-30) that went beyond either the Generation Residual and / or the Avoided GSP Investment would <u>not</u>, in my view, better facilitate Applicable Objective (b), nor would it be better facilitate Applicable Objective (a) as non-cost reflective charging is detrimental to competition. In terms of the other Applicable Objectives (c-e) it is neutral.

The Workgroup conclusions set out in Section 12 of the report is summarised into three broad 'collections' of views. Having read these, my views accord with the broad 'collection' of those Workgroup members who believed an economic case had been made to adjust the residual element of the TNUoS Embedded Benefits (see paragraphs 12.10-12.15).

Overall, I believe that WACMs 1, 2, 3, 4 and 5 are both better that the baseline and better than the Original(s) in terms of Applicable Objectives (a) and (b) for the high level reasons set out above and for the more comprehensive reasoning provided by consultation respondents and Workgroup members in their voting statements. In terms of the other Applicable Objectives (c-e) it is neutral.

Nikki Jamieson

	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)
Original	N	N	N	N	N	N		Original	N	N	N	N	N
WACM 1	Y	Y	N	N	Y	Y		WACM 1	N	Y	N	Y	Y
WACM 2	Y	Y	N	N	Y	Y		WACM 2	N	Y	N	Y	Y
WACM 3	Y	Y	N	N	Y	Y		WACM 3	N	Y	N	Y	Y
WACM 4	Y	Y	N	N	Y	Y		WACM 4	N	Y	N	Y	Y
WACM 5	Y	Y	N	N	Y	Y		WACM 5	N	Y	N	Y	Y
WACM 6	Y	Y	N	N	Y	Y		WACM 6	N	Y	N	Y	Y
WACM 7	Y	Y	N	N	Y	Y		WACM 7	N	Y	N	Y	Y
WACM 8	N	Y	N	N	Y	N		WACM 8	N	N	N	Y	N
WACM 9	N	Y	N	N	Y	N		WACM 9	N	N	N	Y	N
WACM 10	N	Y	N	N	Y	N		WACM 10	N	N	N	Y	N
WACM 11	N	Y	N	N	Y	N		WACM 11	N	N	N	Y	N
WACM 12	N	N	N	N	N	N		WACM 12	N	N	N	N	N
WACM 13	N	N	N	N	N	N		WACM 13	N	N	N	N	N
WACM 14	N	N	N	N	N	N		WACM 14	N	N	N	N	N
WACM 15	N	N	N	N	N	N		WACM 15	N	N	N	N	N
WACM 16	N	N	N	N	N	N		WACM 16	N	N	N	N	N
WACM 17	N	N	N	N	N	N		WACM 17	N	N	N	N	N
WACM 18	N	N	N	N	N	N		WACM 18	N	N	N	N	N
WACM 19	N	N	N	N	N	N		WACM 19	N	N	N	N	N
WACM 20	N	N	N	N	N	N		WACM 20	N	N	N	N	N
WACM 21	N	N	N	N	N	N		WACM 21	N	N	N	N	N
WACM 22	N	N	N	N	N	N		WACM 22	N	N	N	N	N
WACM 23	N	N	N	N	N	N		WACM 23	N	N	N	N	N

Voting Statement: The introduction of a single embedded export tariff for all embedded generators removes the non-cost reflective demand residual and not discriminate between embedded generators. The introduction of a methodology that appropriately recognises the value of embedded generation increases the cost reflectivity of transmission charging.		Voting Statement: The introduction of a single embedded export tariff for all embedded generators removes the non-cost reflective demand residual and not discriminate between embedded generators. The introduction of a methodology that appropriately recognises the value of embedded generation increases the cost reflectivity of transmission charging.

Paul Jones

CMP264								CMP269					
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)
Original	Y	Neutral	Neutral	Neutral	N	Y		Original	Neutral	Y	Neutral	N	Y
WACM 1	Y	Y	Neutral	Neutral	Neutral	Y		WACM 1	Y	Y	Neutral	Neutral	Y
WACM 2	Y	Y	Neutral	Neutral	Neutral	Y		WACM 2	Y	Y	Neutral	Neutral	Y
WACM 3	Y	Y	Neutral	Neutral	Neutral	Y		WACM 3	Y	Y	Neutral	Neutral	Y
WACM 4	Y	Y	Neutral	Neutral	Neutral	Y		WACM 4	Y	Y	Neutral	Neutral	Y
WACM 5	Y	Y	Neutral	Neutral	Neutral	Y		WACM 5	Y	Y	Neutral	Neutral	Y
WACM 6	Y	Y	Neutral	Neutral	Neutral	Y		WACM 6	Y	Y	Neutral	Neutral	Y
WACM 7	Y	Y	Neutral	Neutral	Neutral	Y		WACM 7	Y	Y	Neutral	Neutral	Y

WACM 8	N	N	Neutral	Neutral	Neutral	N		WACM 8	N	N	Neutral	Neutral	N
WACM 9	N	N	Neutral	Neutral	Neutral	N		WACM 9	N	N	Neutral	Neutral	N
WACM 10	N	N	Neutral	Neutral	Neutral	N		WACM 10	N	N	Neutral	Neutral	N
WACM 11	Neutral	N	Neutral	Neutral	Neutral	N		WACM 11	N	Neutral	Neutral	Neutral	N
WACM 12	N	N	Neutral	Neutral	N	N		WACM 12	N	N	Neutral	N	N
WACM 13	N	N	Neutral	Neutral	N	N		WACM 13	N	N	Neutral	N	N
WACM 14	N	N	Neutral	Neutral	N	N		WACM 14	N	N	Neutral	N	N
WACM 15	N	N	Neutral	Neutral	N	N		WACM 15	N	N	Neutral	N	N
WACM 16	N	N	Neutral	Neutral	N	N		WACM 16	N	N	Neutral	N	N
WACM 17	N	N	Neutral	Neutral	N	N		WACM 17	N	N	Neutral	N	N
WACM 18	N	N	Neutral	Neutral	N	N		WACM 18	N	N	Neutral	N	N
WACM 19	N	N	Neutral	Neutral	N	N		WACM 19	N	N	Neutral	N	N
WACM 20	N	N	Neutral	Neutral	N	N		WACM 20	N	N	Neutral	N	N
WACM 21	N	N	Neutral	Neutral	N	N		WACM 21	N	N	Neutral	N	N
WACM 22	N	N	Neutral	Neutral	N	N		WACM 22	N	N	Neutral	N	N
WACM 23	N	N	Neutral	Neutral	N	N		WACM 23	N	N	Neutral	N	N
Voting Statement: Options which remove the residual from net charging, remove discriminatory charging towards embedded generation, better promoting competition and improving cost reflectivity. Adding the generation residual charge undermines this to some extent as it doesn't reflect the impact that embedded generation has on the network, but helps resolve potential issues of discrimination between transmission and embedded generation. The avoided GSP investment is the only embedded benefit which was demonstrated to exist under National Grid's analysis for the review of charging for embedded generation in 2013/4 and its inclusion would improve cost reflectivity. Phasing has some benefit in allowing a more								Voting Statement: Options which remove the residual from net charging, remove discriminatory charging towards embedded generation, better promoting competition and improving cost reflectivity. Adding the generation residual charge undermines this to some extent as it doesn't reflect the impact that embedded generation has on the network, but helps resolve potential issues of discrimination between transmission and embedded generation. The avoided GSP investment is the only embedded benefit which was demonstrated to exist under National Grid's analysis for the review of charging for embedded					

gradual transition to new arrangements, but also prevents the benefits from being realised sooner, which in this instance is more important given the potential impact on customers. Adding the inverse of the lowest locational signal is not more cost reflective, as it has no relation to the impact that embedded generation has on the transmission system. Freezing the embedded benefit for all or a subset of embedded generation is not more cost reflective and just creates a different sort of discrimination and therefore distortion to competition. This equally applies to grandfathering on the basis of awarded CM and CfD contracts. Whilst understanding concerns about the impact this could have on investor confidence, similarly investments are being undermined by the distortion in the present charging regime. Such grandfathering would provide certainty of charges and revenues which other CM contracted generation do not benefit from, which would be discriminatory. Grandfathering is also less efficient administratively, as special arrangements are needed to track, charge and bill stations eligible for grandfathering by exception.	generation in 2013/4 and its inclusion would improve cost reflectivity. Phasing has some benefit in allowing a more gradual transition to new arrangements, but also prevents the benefits from being realised sooner, which in this instance is more important given the potential impact on customers. Adding the inverse of the lowest locational signal is not more cost reflective, as it has no relation to the impact that embedded generation has on the transmission system. Freezing the embedded benefit for all or a subset of embedded generation is not more cost reflective and just creates a different sort of discrimination and therefore distortion to competition. This equally applies to grandfathering on the basis of awarded CM and CfD contracts. Whilst understanding concerns about the impact this could have on investor confidence, similarly investments are being undermined by the distortion in the present charging regime. Such grandfathering would provide certainty of charges and revenues which other CM contracted generation do not benefit from, which would be discriminatory. Grandfathering is also less efficient administratively, as special arrangements are needed to track, charge and bill stations eligible for grandfathering by exception.

Simon Lord

CMP264								CMP269						
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)
Original	No	No	No	No	No	No		Original	No	No	No	No	No
WACM 1	Yes	Yes	Yes	Yes	Yes	Yes		WACM 1	Yes	Yes	Yes	Yes	Yes
WACM 2	No	No	No	No	No	No		WACM 2	No	No	No	No	No
WACM 3	Yes	Yes	Yes	Yes	Yes	Yes		WACM 3	Yes	Yes	Yes	Yes	Yes

WACM 4	No	No	No	No	No	No		WACM 4	No	No	No	No	No
WACM 5	No	No	No	No	No	No		WACM 5	No	No	No	No	No
WACM 6	No	No	No	No	No	No		WACM 6	No	No	No	No	No
WACM 7	No	No	No	No	No	No		WACM 7	No	No	No	No	No
WACM 8	No	No	No	No	No	No		WACM 8	No	No	No	No	No
WACM 9	No	No	No	No	No	No		WACM 9	No	No	No	No	No
WACM 10	No	No	No	No	No	No		WACM 10	No	No	No	No	No
WACM 11	No	No	No	No	No	No		WACM 11	No	No	No	No	No
WACM 12	No	No	No	No	No	No		WACM 12	No	No	No	No	No
WACM 13	No	No	No	No	No	No		WACM 13	No	No	No	No	No
WACM 14	No	No	No	No	No	No		WACM 14	No	No	No	No	No
WACM 15	No	No	No	No	No	No		WACM 15	No	No	No	No	No
WACM 16	No	No	No	No	No	No		WACM 16	No	No	No	No	No
WACM 17	No	No	No	No	No	No		WACM 17	No	No	No	No	No
WACM 18	No	No	No	No	No	No		WACM 18	No	No	No	No	No
WACM 19	No	No	No	No	No	No		WACM 19	No	No	No	No	No
WACM 20	No	No	No	No	No	No		WACM 20	No	No	No	No	No
WACM 21	No	No	No	No	No	No		WACM 21	No	No	No	No	No
WACM 22	No	No	No	No	No	No		WACM 22	No	No	No	No	No
WACM 23	No	No	No	No	No	No		WACM 23	No	No	No	No	No

Voting statement:

Evidence has been presented that there is only a marginal difference between the cost/benefit to the transmission system of the connection of distributed generation and transmission connected generation at the same location. My preferred option WACM 3 (and to a large extent WACM 1) advocate an embedded benefit of a fixed charge of ~£1.62 (the avoided Grid Supply Point reinforcement cost) plus the locational it is seen as cost reflective and I support this proposal. All other proposals suffer from one or more of the following defect that means they fail to meet the CUSC objectives.

1) Implementation of a fixed tariff that contains a high residual element via the CUSC As has been demonstrated to in the working group report, there is only a marginal difference between the cost to the transmission system uses of the connection of distributed generation and transmission connected generation at the same location. Thus proposals that advocate an embedded benefit fixed charge of more than ~£1.62 (the avoided Grid Supply Point reinforcement cost) plus the locational charge are not better than the baseline as it codified an embedded benefit that is not cost reflective.

2) Grandfathering Proposals that grandfather some or all of the historic embedded benefit to a sub-set of distribution connected generation for a number of years will result in a distortion in the market for energy and balancing services. Grandfathered generators will effectively receive funding from TNUoS customers to cover a significant proportion of the fixed costs associated with the capital investment for their assets. This will allow this class of generation to offer power and ancillary serves at much lower rates than would otherwise be the case. Ultimately this will lead to increased cost to consumers as more efficient and cost effective options fail to materialise or withdraw from the market. Thus all option that propose grandfathering are worse than the baseline/original.

3) Delayed implementation beyond April 2018 The System Operator has not presented any evidence of an operational need for delayed implementation and non-appears in the report. All option that delay implementation beyond that requited to implement the solution will simple result in increased cost to consumers.

Cem Suleyman

CMP264								CMP269					
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)
Original	No	No	Neutral	Neutral	No	No		Original	Neutral	No	Neutral	No	No
WACM 1	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 1	Neutral	Yes	Neutral	Yes	Yes
WACM 2	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 2	Neutral	Yes	Neutral	Yes	Yes
WACM 3	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 3	Neutral	Yes	Neutral	Yes	Yes

WACM 4	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 4	Neutral	Yes	Neutral	Yes	Yes
WACM 5	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 5	Neutral	Yes	Neutral	Yes	Yes
WACM 6	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 6	Neutral	Yes	Neutral	Yes	Yes
WACM 7	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 7	Neutral	Yes	Neutral	Yes	Yes
WACM 8	No	No	Neutral	Neutral	Neutral	No		WACM 8	Neutral	No	Neutral	No	No
WACM 9	No	No	Neutral	Neutral	Neutral	No		WACM 9	Neutral	No	Neutral	No	No
WACM 10	No	No	Neutral	Neutral	Neutral	No		WACM 10	Neutral	No	Neutral	No	No
WACM 11	No	No	Neutral	Neutral	Neutral	No		WACM 11	Neutral	No	Neutral	No	No
WACM 12	No	No	Neutral	Neutral	No	No		WACM 12	Neutral	No	Neutral	No	No
WACM 13	No	No	Neutral	Neutral	No	No		WACM 13	Neutral	No	Neutral	No	No
WACM 14	No	No	Neutral	Neutral	No	No		WACM 14	Neutral	No	Neutral	No	No
WACM 15	No	No	Neutral	Neutral	No	No		WACM 15	Neutral	No	Neutral	No	No
WACM 16	No	No	Neutral	Neutral	No	No		WACM 16	Neutral	No	Neutral	No	No
WACM 17	No	No	Neutral	Neutral	No	No		WACM 17	Neutral	No	Neutral	No	No
WACM 18	No	No	Neutral	Neutral	No	No		WACM 18	Neutral	No	Neutral	No	No
WACM 19	No	No	Neutral	Neutral	No	No		WACM 19	Neutral	No	Neutral	No	No
WACM 20	No	No	Neutral	Neutral	No	No		WACM 20	Neutral	No	Neutral	No	No
WACM 21	No	No	Neutral	Neutral	No	No		WACM 21	Neutral	No	Neutral	No	No
WACM 22	No	No	Neutral	Neutral	No	No		WACM 22	Neutral	No	Neutral	No	No
WACM 23	No	No	Neutral	Neutral	No	No		WACM 23	Neutral	No	Neutral	No	No

Voting statement:
CMP264

Many consultation respondents believe that a wider review of the network changing arrangements is preferable to CMP264. Whilst I am sympathetic to this view, I am required to assess the merits of CMP264 against the ACOs relative to the current baseline. This is the basis for my assessment below. Wider process issues such as the best way to initiate policy change is an issue for regulators.

The Baseline

Net charging under the current baseline which gives rise to embedded benefits is not cost reflective. The vast majority of the Triad benefit is derived from the Demand Residual Tariff. The costs recovered from this tariff represent the fixed costs of the transmission network. As such, these costs cannot be offset by the connection and operation of distributed generation. Therefore it is not cost reflective for the Demand Residual Tariff to be subject to net charging. The lack of cost reflectivity results in a significant distortion of competition in generation dispatch and investment. Moreover, consumers pay a premium for the privilege of connecting embedded generation whilst not receiving the commensurate offset in the cost of transmission.

ACO (b)

As stated above, the Demand Residual Tariff cannot be considered to be a cost reflective embedded benefit. Analysis undertaken with the Full Transport and Tariff Model demonstrates that regardless of whether generation is connected to the transmission or distribution network there is a similar impact on the transmission network. As such the Demand Locational Tariff broadly reflects the incremental costs or benefits of embedded generation to the transmission network. This evidence substantiates the use of the Demand Locational Tariff as an embedded benefit.

In addition, convincing evidence has been presented to justify the use of a fixed embedded benefit based on the average avoided cost of GSP reinforcement. Moreover, with the Generation Residual Tariff expected to go negative in the near future, it is sensible for the Generation Residual Tariff (when the value is negative) to be an embedded benefit. This will ensure that both transmission and distribution connected generation in GB compete on a level playing field with other EU generators.

All options with at least one of the above features is more cost reflective than the Baseline and thus better facilitates ACO (b). However, it should be noted that WACMs 6 and 7 provide an arbitrary uplift to the Demand Locational Tariff. As such both these options only slightly better facilitate ACO (b), whereas WACMs 1, 2, 3, 4 and 5 perform materially better against this Objective.

ACO (a)

Effective cost reflective signals better facilitate effective competition and thus maximise allocative efficiency. As WACMs 1-7 better facilitate ACO (b) they as a result also better facilitate ACO (a) by promoting effective competition (although noting that WACMs 6 and 7 do this to a materially lesser extent).

WACM 10

This essentially results in a freeze in the level of embedded benefits. This option does not meaningfully attempt to create a more cost reflective signal and as such does not better facilitate ACO (b) and as a consequence ACO (a).

Offshore cost removal

Whilst WACM 11 does go a small way in reducing the fixed cost element of the embedded benefit, the change is too insignificant to be considered to meaningfully better facilitate ACO (b) (and consequently ACO (a)).

Grandfathering and investor confidence

Those options which grandfather the current arrangements for certain existing and soon to be existing embedded generation have not been justified. These options are the Original and WACMs 12-23. These options maintain non-cost reflective charges for certain assets and thus distort effective competition. Therefore these options do not better facilitate ACOs (a) and (b). Moreover, grandfathering of the current charging arrangements will promote inefficiency in the administration of the system charging method and therefore do not better facilitate ACO (e).

The argument that a failure to grandfather the current arrangements will result in a reduction in investor confidence is spurious. No competent investor will have expected the current charging arrangements to continue in perpetuity. Therefore to grandfather the current arrangements will provide a windfall gain to these market participants.

Cornwall Energy Analysis

A number of options incorporate embedded benefit values based on analysis undertaken by Cornwall Energy. However, the values calculated are flawed and significantly overestimate the benefit provided by embedded generation in terms of its potential to offset transmission network costs. These values cannot be considered to be cost reflective. Specifically, the Cornwall Energy analysis:

- Fails to appreciate that as the vast majority of the costs of transmission are fixed there is little opportunity to offset transmission costs by connecting embedded generation
- Double counts a number of costs which are already accounted for in the Locational Tariff element
- Produces an average figure when the costs examined vary widely depending on location

Therefore all options incorporating values produced by Cornwall Energy do not better facilitate ACOs (a) and (b). These are WACMs 8, 9, 16, 17 and 23.

Implementation

Implementation timescales should provide notice of at least one full charging year. Phasing is unnecessary.

Best Option

The most cost reflective option is WACM 5 for the reasons noted above. As such this best facilitates ACOs (a) and (b). The use of phasing is unnecessary and ideally should be avoided to maximise the benefits of the change. However, the use of phasing does not sufficiently detract from the merits of the proposal and as such I still consider this to be the best option presented.

Other points raised

A number of similar points were raised in the consultation responses. Below is my assessment of the most common points made in favour of the status quo or negligible change ahead of a wider charging review.

Security of supply

Many respondents suggested that security of supply would be threatened by the removal of embedded benefits. In particular there would be a risk to security of supply at the winter peak. If there is any risk to security of supply this is more likely to occur at the summer minimum rather than the winter peak when there is a lack of synchronous generation, response and reactive capability. Therefore such concerns are little more than hyperbole.

Behind the meter generation and demand response

It has been suggested that a number of the options will result in discriminatory treatment between distributed generation and behind the meter generation & demand response. Whilst there is some merit in this argument, this possible new form of discrimination is unlikely to result in a detrimental impact of anyway near the same magnitude as exists with the current arrangements.

Incremental costs vs. fixed costs

A number of respondents suggested that as only 10% of total costs of transmission are recovered through the locational element that this means there is a defect with the current arrangements. Whilst this argument is not relevant to the question of whether the current Triad benefit is cost reflective or not, it appears to be entirely consistent that only a minority of the total costs of transmission are recovered through the locational element. This is because the vast majority of the costs of the network are fixed and do not vary with changes in output.

Access to peak prices

Some respondents suggested that as embedded generation does not have access to peak wholesale prices, the Triad benefit acts as a substitute and to remove this will discriminate against embedded generation. However, whilst this has no bearing on the assessment of whether the current Triad benefit is cost reflective, the fact that embedded generation has a number of options available to access peak wholesale prices e.g. a BEGA, this argument is not valid.

Paul Mott

CMP264								CMP269					
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)
Original	Yes	Yes	Yes	Neutral	Neutral	Yes		Original	Neutral	Yes	Neutral	Neutral	Yes
WACM 1	Yes	Yes	Yes	Neutral	Neutral	Yes		WACM 1	Neutral	Yes	Neutral	Neutral	Yes
WACM 2	Yes	Yes	Yes	Neutral	Neutral	Yes		WACM 2	Neutral	No	Neutral	Neutral	No

WACM 3	Yes	Yes	Yes	Neutral	Neutral	Yes		WACM 3	Neutral	Yes	Neutral	Neutral	Yes
WACM 4	Yes	Yes	Yes	Neutral	Neutral	Yes		WACM 4	Neutral	No	Neutral	Neutral	No
WACM 5	Yes	Yes	Yes	Neutral	Neutral	Yes		WACM 5	Neutral	No	Neutral	Neutral	No
WACM 6	No	No	No	Neutral	Neutral	No		WACM 6	Neutral	No	Neutral	Neutral	No
WACM 7	No	No	No	Neutral	Neutral	No		WACM 7	Neutral	No	Neutral	Neutral	No
WACM 8	No	No	No	Neutral	Neutral	No		WACM 8	Neutral	No	Neutral	Neutral	No
WACM 9	No	No	No	Neutral	Neutral	No		WACM 9	Neutral	No	Neutral	Neutral	No
WACM 10	No	No	No	Neutral	Neutral	No		WACM 10	Neutral	No	Neutral	Neutral	No
WACM 11	No	No	No	Neutral	Neutral	No		WACM 11	Neutral	No	Neutral	Neutral	No
WACM 12	No	No	No	Neutral	Neutral	No		WACM 12	Neutral	No	Neutral	Neutral	No
WACM 13	No	No	No	Neutral	Neutral	No		WACM 13	Neutral	No	Neutral	Neutral	No
WACM 14	No	No	No	Neutral	Neutral	No		WACM 14	Neutral	No	Neutral	Neutral	No
WACM 15	No	No	No	Neutral	Neutral	No		WACM 15	Neutral	No	Neutral	Neutral	No
WACM 16	No	No	No	Neutral	Neutral	No		WACM 16	Neutral	No	Neutral	Neutral	No
WACM 17	No	No	No	Neutral	Neutral	No		WACM 17	Neutral	No	Neutral	Neutral	No
WACM 18	No	No	No	Neutral	Neutral	No		WACM 18	Neutral	No	Neutral	Neutral	No
WACM 19	Yes	Yes	Yes	Neutral	Neutral	Yes		WACM 19	Neutral	Yes	Neutral	Neutral	Yes
WACM 20	No	No	No	Neutral	Neutral	No		WACM 20	Neutral	No	Neutral	Neutral	No
WACM 21	No	No	No	Neutral	Neutral	No		WACM 21	Neutral	No	Neutral	Neutral	No
WACM 22	No	No	No	Neutral	Neutral	No		WACM 22	Neutral	No	Neutral	Neutral	No
WACM 23	No	No	No	Neutral	Neutral	No		WACM 23	Neutral	No	Neutral	Neutral	No
Voting Statement: Uniper A (WACM 3) uses grid's figure for avoided GSP cost for the true benefit “X”. Lacking phasing or								Voting Statement: Uniper A uses grid's figure for avoided GSP cost for the true benefit “X”. Lacking phasing or					

grandfathering, giving good benefit – best overall – and the lack of grandfathering also slightly eases administration/implementation of this option. I see no rationale for flooring, though, as the locational charge and how it is applied, is supposed to be cost-reflective and its application should just be put right if it were established to be not cost-reflective. The Original modification is also better than baseline, and would better facilitate competition between transmission-connected and embedded generators in the Capacity Market. It would remove an artificial distortion that does not reflect the costs of the transmission business and currently gives extra value to embedded generators, as there is no logic to netting-off the output of embedded generators from HH demand as far as the demand residual charge element is concerned. However, the original addresses the distortion incompletely, as grandfathering is distortive and causes extra consumer costs. As to WACM1, Centrica B, this does also better facilitate the CUSC main and charging objectives, overall, assessed against the CMP264 (269) statement of defect; I understand Centrica's reasoning as the proposer of this WACM for generation residual as the retained benefit on the basis of comparability with transmission-connected I can see no justification for using the lowest locational value in a WACM as the enduring benefit – this creates an arbitrary ongoing distortion, removing consumer benefit. The figures in other WACMs for enduring grandfathered benefits are not justified, and remove consumer benefits. There is no rationale for WACMs that exempt CM/CFD-holding EGs contracted in 2014 or in 2015, and these variants delay consumer benefits and defer fairer competition. Phasing defers consumer benefit to such a degree that some of the WACMs with it in, where there other flaws too (grandfathering, or lowest locational value as enduring benefit), are not net-beneficial. However, some of the phased WACMs are net-beneficial overall assessed against the CMP264 (269) statement of defect where other of their features work well (this is true of WACMs 2, 4, 5). WACM11 is highly tangential to CMP264's statement of defect: the statement of defect isn't about allocation of offshore costs. WACM19 has the pre-June-2017-commissioned generators receive a reduced EB of £45.33/kW + RPI; this is better than CMP264 original, as the grandfathering is less material: this DOES better facilitate the CUSC main and charging objectives, overall, assessed against the CMP264 statement of defect. There have been, I think, more than 30 meetings on this matter including quite a number of workgroup meetings, legal text sub-group meetings of the workgroup, the two previous CUSC panels at which CMP264/5 were business, and the related BSC P348/9 meetings; I estimate a total of 35 meetings since spring, which represents a very thorough process, coming on top of previous work to review embedded benefits, such as the 2013 grid-led workgroup, seems quite comprehensive.		grandfathering, giving good benefit – best overall – and the lack of grandfathering also slightly eases administration/implementation of this option. I see no rationale for flooring, though, as the locational charge and how it is applied, is supposed to be cost-reflective and its application should just be put right if it were established to be not cost-reflective. Generally the only relevant CUSC main objective is b, competition, with all variants both good and bad being neutral against the other CUSC main (non-charging) objectives; my voting statement for CMP264 elucidates further the decision as to which of CMP269's many WACMs do and don't better facilitate the CUSC main objectives.

Vote 2 – CMP264/CMP269 Which option is the best?

Panel Member	BEST Option?
James Anderson	**WACM 3**
Bob Brown	**Abstaining**
Kyle Martin	**WACM 5**
Garth Graham	**WACM 5**
Nikki Jamieson	**WACM 7**
Paul Jones	**WACM 3**
Simon Lord	**WACM 3**
Cem Suleyman	**WACM 5**
Paul Mott	**WACM 3**

17.22 This section relates to the votes for CMP265 and CMP270.

CMP265/CMP270

Vote 1 - Does the original or one of the WACMs facilitate the objectives better than the Baseline?

James Anderson

CMP265								CMP270						
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)	

Original	Y	Y	Y	-	-	Y		Original	-	Y	-	Y	Y	
WACM 1	Y	Y	Y	-	-	Y		WACM 1	-	Y	-	Y	Y	
WACM 2	Y	Y	Y	-	-	Y		WACM 2	-	Y	-	Y	Y	
WACM 3	Y	Y	Y	-	-	Y		WACM 3	-	Y	-	Y	Y	
WACM 4	Y	Y	Y	-	-	Y		WACM 4	-	Y	-	Y	Y	
WACM 5	Y	Y	Y	-	-	Y		WACM 5	-	Y	-	Y	Y	
WACM 6	Y	Y	Y	-	-	Y		WACM 6	-	Y	-	Y	Y	
WACM 7	Y	Y	Y	-	-	Y		WACM 7	-	Y	-	Y	Y	
WACM 8	N	N	-	-	-	N		WACM 8	-	N	-	-	N	
WACM 9	N	N	-	-	-	N		WACM 9	-	N	-	-	N	
WACM 10	N	N	-	-	-	N		WACM 10	-	N	-	-	N	
WACM 11	N	N	-	-	-	N		WACM 11	-	N	-	-	N	
WACM 12	N	N	-	-	-	N		WACM 12	-	N	-	-	N	
WACM 13	N	N	-	-	-	N		WACM 13	-	N	-	-	N	
WACM 14	N	N	-	-	-	N		WACM 14	-	N	-	-	N	
WACM 15	N	N	-	-	-	N		WACM 15	-	N	-	-	N	
WACM 16	N	N	-	-	-	N		WACM 16	-	N	-	-	N	
WACM 17	N	N	-	-	-	N		WACM 17	-	N	-	-	N	
WACM 18	N	N	-	-	-	N		WACM 18	-	N	-	-	N	
Voting Statement: Overall the CMP265 Original Proposal will better meet the Applicable Charging Objectives (ACOs) than the current baseline. CMP265 will remove a distortion in competition between investing in embedded or								Voting Statement: Overall CMP270 will better facilitate the Applicable CUSC Objectives (ACOs) than the current baseline. The CMP270 Original Proposal will mitigate the effects of the lack of a level						

transmission connected generation, in particular in connection with the Capacity Mechanism (CM), by removing a non-cost reflective payment from embedded generation. CMP265 therefore better facilitates ACO (a) competition. CMP265 will better facilitate ACO (b) by removing a non-cost reflective payment currently realised by embedded generators. Developments in the transmission system, in particular the increase in the capacity of embedded generation connected and the significant increase in the residual element of the demand TNUoS tariff, have resulted in payments to embedded generators which significantly exceed the value of any savings in investment in the transmission system which arise from connecting that generation at a distribution level. By addressing which generators can access the residual element of the demand TNUoS tariff as an embedded benefit, CMP265 significantly reduces the impact on consumers and better facilitates ACO (c). CMP265 is neutral against ACOs (d) and (e). The CMP265 WACMs have been assessed against the following criteria: Implementation CMP265 should be implemented at the earliest practicable date to minimise distortion in forthcoming CM auctions. Embedded generators who are able to access significant Triad avoidance benefits in the period until the proposed implementation date of 1 April 2020 may be able to factor these revenues into CM bids thus distorting competition. If CMP265 was to be approved for implementation later than 2018/19 then additional, urgent action such as that proposed by CMP264 would be required to prevent such a distortion in competition. Grandfathering Ofgem stated in their Open Letter that grandfathering of existing arrangements for certain users would introduce discrimination; introduce additional complexity; and negatively affect potential future savings to consumers. Grandfathering will also perpetuate existing distortions to competition. Therefore WACMs which seek to grandfather embedded benefits on an enduring basis will not better facilitate ACOs (a) and (b).		playing field between investing in distribution and transmission connected generation by removing a non-cost reflective payment which is currently only available to embedded generators. It will therefore better facilitate competition ACO (b). By facilitating the delivery of the aims of CMP265 if approved, CMP270 will better facilitate ACO (d). CMP270 is neutral against ACOs (a) and (c). The same criteria applied in assessing the merits of the CMP265 WACMs have been used in assessing the CMP270 Alternatives and overall WACM 3 best facilitates the ACOs.

Applicability The CMP265 Original Proposal is intended to address only the issue of distortion to competition in future in generation investment and affects only generators who secure CM contracts. WACMs which introduce more cost-reflective Triad avoidance benefits for all embedded generators will deliver increased benefits for consumers from an earlier date; are potentially less discriminatory between different classes of generator and may be easier to implement in terms of changes to suppliers' systems than alternatives which distinguish between different classes of embedded generator (CM contract holders or not). Therefore WACMs which continue to provide a cost-reflective locational signal based upon the demand locational element and include an amount based upon avoided GSP investment (last assessed at £1.62/kW) will better meet the ACOs. The Alternative which best meets these criteria is WACM 3.		

Bob Brown

CMP265								CMP270						
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)
Original	Abstaining							Original	Abstaining				
WACM 1								WACM 1					
WACM 2								WACM 2					

WACM 3			WACM 3	
WACM 4			WACM 4	
WACM 5			WACM 5	
WACM 6			WACM 6	
WACM 7			WACM 7	
WACM 8			WACM 8	
WACM 9			WACM 9	
WACM 10			WACM 10	
WACM 11			WACM 11	
WACM 12			WACM 12	
WACM 13			WACM 13	
WACM 14			WACM 14	
WACM 15			WACM 15	
WACM 16			WACM 16	
WACM 17			WACM 17	
WACM 18			WACM 18	

Voting Statement:

I would like to thank the Code Administrator, workgroup members and the industry for producing the reports against challenging timescales.
The report and industry responses do appear to confirm that there is a defect in the present arrangements in that some elements of transmission charging, particularly the demand charge residual, are not fully cost reflective resulting in the encouragement of inefficient behaviour and detriment to consumers.
Various proposals are put forward as potential solutions covering a whole spectrum of suggested changes and I note that the report highlights that there was insufficient time available to fully analyse the impacts of the proposed solutions on consumers. This does make it difficult for me to take a reasonable and robust

view of the various proposals, so in answering the question “are any of the proposals or alternatives better than the baseline, or which is the best” I feel it appropriate to abstain.
The statement by Ofgem that it intends to conduct a regulatory impact assessment provides significant comfort that the proposals will receive thorough consideration against a wide set of criteria in a transparent manner, including the impact on consumers, before any final decision is taken
I do have comments on some of the issues highlighted in the reports:
Strategic view of TNUoS charging
I am sympathetic to the responses in the report suggesting that as well as addressing the defect associated with the demand charge residual there are wider questions that need to be asked about TNUoS charging methodology. Technologies and business models are evolving rapidly and although there is an urgent need to address the demand charge residual there is also a wider need to ensure that *network* charging arrangements, i.e. both transmission and distribution, are providing coherent, efficient and economic signals to the market and investors, in order to deliver optimum benefits to consumers.
Leaving matters to industry self-governance will deliver change, but that may not be the optimum route when many of the innovators are new to industry codes or may not even be code signatories. There are hundreds of millions of pounds at stake here, both for investors and consumers, and there are many well-funded established industry parties who have an interest in the outcome of any changes.
So, in addition to addressing the demand charge residual I would like to encourage Ofgem to conduct a holistic review of network charging and also go further in working with BEIS to set strategic direction for industry codes to ensure that changes to rules happen more nimbly and coherently.
Transition arrangements in the reports
Some proposals include grandfathering. Without full assessment of the impacts, e.g. on security of supply, it is difficult to see the justification for grandfathering as it entails passing risks almost entirely from investors to consumers.
I agree that some form of phasing in the implementation may be appropriate but, when a decision is taken, the time it takes for consumers to enjoy the benefits of resolving this defect should not be unduly prolonged.

Kyle Martin

CMP265								CMP270					
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)
Original	Does not	Does not	Neutral	Neutral	Neutral	No		Original	Neutral	Does not	Neutral	Neutral	No

WACM 1	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 1	Neutral	Better	Neutral	Neutral	Yes
WACM 2	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 2	Neutral	Better	Neutral	Neutral	Yes
WACM 3	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 3	Neutral	Better	Neutral	Neutral	Yes
WACM 4	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 4	Neutral	Better	Neutral	Neutral	Yes
WACM 5	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 5	Neutral	Better	Neutral	Neutral	Yes
WACM 6	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 6	Neutral	Better	Neutral	Neutral	Yes
WACM 7	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 7	Neutral	Better	Neutral	Neutral	Yes
WACM 8	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 8	Neutral	Better	Neutral	Neutral	Yes
WACM 9	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 9	Neutral	Better	Neutral	Neutral	Yes
WACM 10	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 10	Neutral	Better	Neutral	Neutral	Yes
WACM 11	Does not	Does not	Neutral	Neutral	Neutral	no		WACM 11	Neutral	Does not	Neutral	Neutral	No
WACM 12	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 12	Neutral	Better	Neutral	Neutral	Yes
WACM 13	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 13	Neutral	Better	Neutral	Neutral	Yes
WACM 14	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 14	Neutral	Better	Neutral	Neutral	Yes
WACM 15	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 15	Neutral	Better	Neutral	Neutral	Yes
WACM 16	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 16	Neutral	Better	Neutral	Neutral	Yes
WACM 17	Better	Better	Neutral	Neutral	Neutral	Yes		WACM 17	Neutral	Better	Neutral	Neutral	Yes
WACM 18	Does not	Does not	Neutral	Neutral	Neutral	no		WACM 18	Neutral	Does not	Neutral	Neutral	No
Voting Statement: We are currently operating under a charging model designed for a Transmission and Distribution system that is far from what we predict to be required in the future. Indeed the model is already changing with cracks appearing in relation to embedded benefits, triad avoidance, connections and ancillary services. With the increase of distributed generation already on the wires today we are seeing behavioural changes across the network. I am supportive of an economic and efficient electricity network charging regime with a level playing field for transmission								Voting Statement: No text provided.					

and distribution connected generation as well as demand. The current charging arrangements are extremely complicated and if left unchanged, it is likely that any distortions between transmission and distribution connected generation as well as different types of technology will widen. I note that decisions already made (such as the amount to procure in previous Capacity Market auctions) will have included assumptions on the level of peak demand based on the current regime. There is a concern that the complexity and volume of charging and policy interactions are causing distortions both to transmission and distribution connected generation. Addressing the issues holistically is necessary to ensure that the distortions do not manifest themselves in other areas of the electricity system, as failure to do so could result in ever higher costs faced by GB consumers. There may be specific issues which can be addressed with more urgency than could otherwise be delivered within a wide ranging review, however, ensuring that all issues are taken forward holistically is important to ensure other parties are not unfairly discriminated against. This will help to deliver a charging methodology which is cost-reflective, transparent, stable and predictable, and fair. In any future charging regime, due consideration must be given to the balance between creating appropriate price signals to trigger investment and behavioural change, and the need to protect consumers that may not be in a position to respond to such price signals. Dependent on the nature of the changes proposed, transitional arrangements may need to be considered, where projects that have reached final investment decisions or that have already been built based on either long standing charging principles or policy decisions. It is clear that changes to embedded benefits will impact not only charging but also multiple other policies which interact with TNUoS charges and these interactions should be carefully considered when determining on this modification. objective A of the CUSC. - It is clear that CMP265 risks undermining investor confidence, leading to decreased competition in the generation market in addition to increasing cost of capital for investors. - CMP265 and the majority of the WACMs do, however, improve the cost reflectivity of charging arrangements against the baseline between distribution and transmission connected generation, therefore, increasing competition. - None of the options seem to have had sufficient time to analysis the true value of embedded generation. objective B of the CUSC. - The holding of a Capacity Market (CM) contract has no impact on the costs or benefits that a generator brings to the transmission system. It is, therefore, inappropriate to discriminate between generators in this way. - It is not possible to verify a cost-reflective level of payment without extensive analysis - something which is not		

possible given the accelerated timescales of this modification process. - All the WACMs (Except those that relate to £0 generator value and demand residual with offshore costs removed) do, however, improve the cost reflectivity of charging arrangements against the baseline between distribution and transmission connected generation, therefore, increasing competition. Fundamentally a wider review of charging is needed to facilitate identification of appropriate charging arrangements to ensure the interdependencies between distribution and transmission connected generation as well as demand is considered holistically.		

Garth Graham

CMP265								CMP270						
									Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)	
Original	No	No	Neutral	Neutral	Neutral	No		Original	Neutral	No	Neutral	Neutral	No	
WACM 1	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 1	Neutral	Yes	Neutral	Neutral	Yes	
WACM 2	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 2	Neutral	Yes	Neutral	Neutral	Yes	
WACM 3	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 3	Neutral	Yes	Neutral	Neutral	Yes	
WACM 4	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 4	Neutral	Yes	Neutral	Neutral	Yes	
WACM 5	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 5	Neutral	Yes	Neutral	Neutral	Yes	
WACM 6	No	No	Neutral	Neutral	Neutral	No		WACM 6	Neutral	No	Neutral	Neutral	No	
WACM 7	No	No	Neutral	Neutral	Neutral	No		WACM 7	Neutral	No	Neutral	Neutral	No	

WACM 8	No	No	Neutral	Neutral	Neutral	No		WACM 8	Neutral	No	Neutral	Neutral	No	
WACM 9	No	No	Neutral	Neutral	Neutral	No		WACM 9	Neutral	No	Neutral	Neutral	No	
WACM 10	No	No	Neutral	Neutral	Neutral	No		WACM 10	Neutral	No	Neutral	Neutral	No	
WACM 11	No	No	Neutral	Neutral	Neutral	No		WACM 11	Neutral	No	Neutral	Neutral	No	
WACM 12	No	No	Neutral	Neutral	Neutral	No		WACM 12	Neutral	No	Neutral	Neutral	No	
WACM 13	No	No	Neutral	Neutral	Neutral	No		WACM 13	Neutral	No	Neutral	Neutral	No	
WACM 14	No	No	Neutral	Neutral	Neutral	No		WACM 14	Neutral	No	Neutral	Neutral	No	
WACM 15	No	No	Neutral	Neutral	Neutral	No		WACM 15	Neutral	No	Neutral	Neutral	No	
WACM 16	No	No	Neutral	Neutral	Neutral	No		WACM 16	Neutral	No	Neutral	Neutral	No	
WACM 17	No	No	Neutral	Neutral	Neutral	No		WACM 17	Neutral	No	Neutral	Neutral	No	
WACM 18	No	No	Neutral	Neutral	Neutral	No		WACM 18	Neutral	No	Neutral	Neutral	No	

Voting Statement:

CMP265 and CMP270 Panel Voting

It is clear from reading the extensive documentation that this suite of Modifications (CMP265/CMP270) revolve, at their core, around the various constituent parts (themselves often having ‘sub’ elements) that either individually or (by way of numerous permutations) collectively do or do not better facilitate the Applicable CUSC Objectives. This comes through, for example, when examining the 427 pages of responses to the Code Administrator Consultation as well as the consultation document itself.

In setting out my views I know I cannot do justice (in a few words here) to the comprehensive arguments that have been documented over some 5,700 pages (of which over 1,000 pages were stakeholder responses to the two separate consultations and another 1,500+ pages of Workgroup members voting).

Looking at the main constituent parts; namely, grandfathering and the value of £’X’; my views are as follows.

In terms of grandfathering I was struck by the depth and variety of arguments made for and against it. However, I was persuade, overall, of the argument that as TNUoS is an

Voting Statement: (no text provided)

annually evolving item that reflects variations in a number of items (including TO revenues, network innovation etc.,) that to freeze them for some (or many) parties would be wholly unjustified as it would lead to non-cost reflective charges. This would especially be the case where it was frozen for many years (as the non-cost reflectivity in year 1 would accumulate in year 2 and so on).

Therefore any proposal which had a grandfather element within it would not, in my view, better facilitate Applicable Objective (a), nor would it be better facilitate Applicable Objective (b) as non-cost reflective charging is detrimental to competition. In terms of the other Applicable Objectives (c-e) it is neutral.

In passing I note the comments in paragraph 8.9:-

"Some of the Proposers of alternatives considered that grandfathering should be incorporated to protect existing investor commitments that were generally made on the assumption of higher triads and could safe-guard against rising cost of capital that may be borne by consumers. Furthermore without grandfathering this may lead to plant closure and security of supply issues….".

Parties who have invested on the basis of a particular charging regime have, over time, been subject to seismic changes; for example with the introduction of ICRP in the early 90s, the introduction of the NETA changes in 2001, the application of the NETA arrangements to Scotland in 2005 etc., etc.. Investors made commitments prior to those changes and will have been impacted. Parties who make a commercial investment should do so on the understanding of where their revenue stream(s) come from and what, if anything, can impact on that revenue stream. The argument that change should not be taken forward in order to 'protect existing investor commitments' is often deployed, but, as history has shown; from canal owners to railways , rail freight to road freight, sea travel to air travel, post to email; they tend not to prevail in the end as it amounts to a revenue guarantee for some which undermines both innovation and the market, both of which are to the detriment of customers. Furthermore it could also amount to a moral hazard scenario in terms of parties not planning for the possible risks to their revenue and, instead, relying on an unrealistic expectation that they should be immune to any negative change(s) (but them still being able to access any positive change(s)?).

In terms of plant closure and security of supply, I note that circa 5GW of generation closed or retired from the GB electricity market in 2015. If there was concern around security of supply then presumably this would have been the case for those 5GW of plants as well? In terms of the value of £'X' it seems to me that whilst arguments for it have been forthcoming, they seem to be (at the heart of it) more about maintaining as close to (or exceeding) the existing amount paid. Indeed some go further by, for example, linking it to RPI (as shown by Tables 7 and 8). Arguments that link the value of £'X' to known variables; namely the Generation Residual and / or the Avoided GSP Investment; have clear advantages in terms of being more cost reflective and better for competition as they are linked to elements of the TNUoS methodology that can be / is avoided which leads to lower cost(s) . Therefore any proposal which has a Generation Residual element within it would, in my view, better facilitate Applicable Objective (a) in terms of beneficial to competition. In terms of the other Applicable Objectives (b-e) it is neutral. Furthermore, any proposal which has the Avoided GSP Investment element within it would, in my view, better facilitate Applicable Objective (b) and would better facilitate Applicable Objective (a) as cost reflective charging is beneficial to competition. In terms of the other Applicable Objectives (c-e) it is neutral. However, in stark contrast, any proposal which had a value of £'X' which had other elements (of those listed in Tables 7 and 8 on pages 29-30) that went beyond either the Generation Residual and / or the Avoided GSP Investment would not, in my view, better facilitate Applicable Objective (b), nor would it be better facilitate Applicable Objective (a) as non-cost reflective charging is detrimental to competition. In terms of the other Applicable Objectives (c-e) it is neutral. The Workgroup conclusions set out in Section 12 of the report is summarised into three broad 'collections' of views. Having read these, my views accord with the broad 'collection' of those Workgroup members who believed an economic case had been made to adjust the residual element of the TNUoS Embedded Benefits (see paragraphs 12.10-12.15). Overall, I believe that WACMs 1, 2, 3, 4 and 5 are both better that the baseline and		

better than the Original(s) in terms of Applicable Objectives (a) and (b) for the high level reasons set out above and for the more comprehensive reasoning provided by consultation respondents and Workgroup members in their voting statements. In terms of the other Applicable Objectives (c-e) it is neutral.	

Nikki Jamieson

	CMP265							CMP270				
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)		Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)
Original	N	N	N	N	N	N	Original	N	N	N	N	N
WACM 1	Y	Y	N	N	Y	Y	WACM 1	N	Y	N	Y	Y
WACM 2	Y	Y	N	N	Y	Y	WACM 2	N	Y	N	Y	Y
WACM 3	Y	Y	N	N	Y	Y	WACM 3	N	Y	N	Y	Y
WACM 4	Y	Y	N	N	Y	Y	WACM 4	N	Y	N	Y	Y
WACM 5	Y	Y	N	N	Y	Y	WACM 5	N	Y	N	Y	Y
WACM 6	Y	Y	N	N	Y	Y	WACM 6	N	Y	N	Y	Y
WACM 7	Y	Y	N	N	Y	Y	WACM 7	N	Y	N	Y	Y
WACM 8	N	Y	N	N	Y	N	WACM 8	N	N	N	Y	N
WACM 9	N	Y	N	N	Y	N	WACM 9	N	N	N	Y	N
WACM 10	N	Y	N	N	Y	N	WACM 10	N	N	N	Y	N
WACM 11	N	Y	N	N	Y	N	WACM 11	N	N	N	Y	N
WACM 12	N	N	N	N	N	N	WACM 12	N	N	N	N	N
WACM 13	N	N	N	N	N	N	WACM 13	N	N	N	N	N
WACM 14	N	N	N	N	N	N	WACM 14	N	N	N	N	N
WACM 15	N	N	N	N	N	N	WACM 15	N	N	N	N	N
WACM 16	N	N	N	N	N	N	WACM 16	N	N	N	N	N
WACM 17	N	N	N	N	N	N	WACM 17	N	N	N	N	N
WACM 18	N	N	N	N	N	N	WACM 18	N	N	N	N	N

Voting Statement: The introduction of a single embedded export tariff for all embedded generators removes the non-cost reflective demand residual and not discriminate between embedded generators. The introduction of a methodology that appropriately recognises the value of embedded generation increases the cost reflectivity of transmission charging.		Voting Statement: The introduction of a single embedded export tariff for all embedded generators removes the non-cost reflective demand residual and not discriminate between embedded generators. The introduction of a methodology that appropriately recognises the value of embedded generation increases the cost reflectivity of transmission charging.

Paul Jones

CMP265								CMP270						
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)	
Original	Y	Neutral	Neutral	Neutral	N	Y		Original	Neutral	Y	Neutral	N	Y	
WACM 1	Y	Y	Neutral	Neutral	Neutral	Y		WACM 1	Y	Y	Neutral	Neutral	Y	
WACM 2	Y	Y	Neutral	Neutral	Neutral	Y		WACM 2	Y	Y	Neutral	Neutral	Y	
WACM 3	Y	Y	Neutral	Neutral	Neutral	Y		WACM 3	Y	Y	Neutral	Neutral	Y	
WACM 4	Y	Y	Neutral	Neutral	Neutral	Y		WACM 4	Y	Y	Neutral	Neutral	Y	
WACM 5	Y	Y	Neutral	Neutral	Neutral	Y		WACM 5	Y	Y	Neutral	Neutral	Y	
WACM 6	Y	Y	Neutral	Neutral	Neutral	Y		WACM 6	Y	Y	Neutral	Neutral	Y	
WACM 7	Y	Y	Neutral	Neutral	Neutral	Y		WACM 7	Y	Y	Neutral	Neutral	Y	
WACM 8	N	N	Neutral	Neutral	Neutral	N		WACM 8	N	N	Neutral	Neutral	N	
WACM 9	N	N	Neutral	Neutral	Neutral	N		WACM 9	N	N	Neutral	Neutral	N	
WACM 10	N	N	Neutral	Neutral	Neutral	N		WACM 10	N	N	Neutral	Neutral	N	

WACM 11	Neutral	N	Neutral	Neutral	Neutral	N		WACM 11	N	Neutral	Neutral	Neutral	N	
WACM 12	N	N	Neutral	Neutral	N	N		WACM 12	N	N	Neutral	N	N	
WACM 13	N	N	Neutral	Neutral	N	N		WACM 13	N	N	Neutral	N	N	
WACM 14	N	N	Neutral	Neutral	N	N		WACM 14	N	N	Neutral	N	N	
WACM 15	N	N	Neutral	Neutral	N	N		WACM 15	N	N	Neutral	N	N	
WACM 16	N	N	Neutral	Neutral	N	N		WACM 16	N	N	Neutral	N	N	
WACM 17	N	N	Neutral	Neutral	N	N		WACM 17	N	N	Neutral	N	N	
WACM 18	N	N	Neutral	Neutral	N	N		WACM 18	N	N	Neutral	N	N	

Voting Statement:
Options which remove the residual from net charging, remove discriminatory charging towards embedded generation, better promoting competition and improving cost reflectivity. Adding the generation residual charge undermines this to some extent as it doesn't reflect the impact that embedded generation has on the network, but helps resolve potential issues of discrimination between transmission and embedded generation. The avoided GSP investment is the only embedded benefit which was demonstrated to exist under National Grid's analysis for the review of charging for embedded generation in 2013/4 and its inclusion would improve cost reflectivity. Phasing has some benefit in allowing a more gradual transition to new arrangements, but also prevents the benefits from being realised sooner, which in this instance is more important given the potential impact on customers. Adding the inverse of the lowest locational signal is not more cost reflective, as it has no relation to the impact that embedded generation has on the transmission system. Freezing the embedded benefit for all or a subset of embedded generation is not more cost reflective and just creates a different sort of discrimination and therefore distortion to competition. This equally applies to grandfathering on the basis of awarded CM and CfD contracts. Whilst understanding concerns about the impact this could have on investor confidence, similarly investments are being undermined by the distortion in the present charging regime. Such grandfathering would provide certainty of charges and revenues which

Voting Statement:
Options which remove the residual from net charging, remove discriminatory charging towards embedded generation, better promoting competition and improving cost reflectivity. Adding the generation residual charge undermines this to some extent as it doesn't reflect the impact that embedded generation has on the network, but helps resolve potential issues of discrimination between transmission and embedded generation. The avoided GSP investment is the only embedded benefit which was demonstrated to exist under National Grid's analysis for the review of charging for embedded generation in 2013/4 and its inclusion would improve cost reflectivity. Phasing has some benefit in allowing a more gradual transition to new arrangements, but also prevents the benefits from being realised sooner, which in this instance is more important given the potential impact on customers. Adding the inverse of the lowest locational signal is not more cost reflective, as it has no relation to the impact that embedded generation has on the transmission system. Freezing the embedded benefit for all or a subset of embedded generation is not more cost reflective and just creates a different sort of discrimination and therefore distortion to competition. This equally applies to grandfathering on the basis of awarded CM and CfD contracts. Whilst understanding concerns about the impact this could have on investor confidence, similarly investments are being undermined by the distortion in the present

other CM contracted generation do not benefit from, which would be discriminatory. Grandfathering is also less efficient administratively, as special arrangements are needed to track, charge and bill stations eligible for grandfathering by exception.	charging regime. Such grandfathering would provide certainty of charges and revenues which other CM contracted generation do not benefit from, which would be discriminatory. Grandfathering is also less efficient administratively, as special arrangements are needed to track, charge and bill stations eligible for grandfathering by exception.

Simon Lord

CMP265								CMP270						
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)
Original	No	No	No	No	No	No		Original	No	No	No	No	No
WACM 1	Yes	Yes	Yes	Yes	Yes	Yes		WACM 1	Yes	Yes	Yes	Yes	Yes
WACM 2	No	No	No	No	No	No		WACM 2	No	No	No	No	No
WACM 3	Yes	Yes	Yes	Yes	Yes	Yes		WACM 3	Yes	Yes	Yes	Yes	Yes
WACM 4	No	No	No	No	No	No		WACM 4	No	No	No	No	No
WACM 5	No	No	No	No	No	No		WACM 5	No	No	No	No	No
WACM 6	No	No	No	No	No	No		WACM 6	No	No	No	No	No
WACM 7	No	No	No	No	No	No		WACM 7	No	No	No	No	No
WACM 8	No	No	No	No	No	No		WACM 8	No	No	No	No	No
WACM 9	No	No	No	No	No	No		WACM 9	No	No	No	No	No
WACM 10	No	No	No	No	No	No		WACM 10	No	No	No	No	No

WACM 11	No	No	No	No	No	No		WACM 11	No	No	No	No	No
WACM 12	No	No	No	No	No	No		WACM 12	No	No	No	No	No
WACM 13	No	No	No	No	No	No		WACM 13	No	No	No	No	No
WACM 14	No	No	No	No	No	No		WACM 14	No	No	No	No	No
WACM 15	No	No	No	No	No	No		WACM 15	No	No	No	No	No
WACM 16	No	No	No	No	No	No		WACM 16	No	No	No	No	No
WACM 17	No	No	No	No	No	No		WACM 17	No	No	No	No	No
WACM 18	No	No	No	No	No	No		WACM 18	No	No	No	No	No

Voting Statement:
Evidence has been presented that there is only a marginal difference between the cost/benefit to the transmission system of the connection of distributed generation and transmission connected generation at the same location. My preferred option WACM 3 (and to a large extent WACM 1) advocate an embedded benefit of a fixed charge of ~£1.62 (the avoided Grid Supply Point reinforcement cost) plus the locational it is seen as cost reflective and I support this proposal. All other proposals suffer from one or more of the following defect that means they fail to meet the CUSC objectives.
1) Implementation of a fixed tariff that contains a high residual element via the CUSC As has been demonstrated to in the working group report, there is only a marginal difference between the cost to the transmission system uses of the connection of distributed generation and transmission connected generation at the same location. Thus proposals that advocate an embedded benefit fixed charge of more than ~£1.62 (the avoided Grid Supply Point reinforcement cost) plus the locational charge are not better than the baseline as it codified an embedded benefit that is not cost reflective.

2) Grandfathering Proposals that grandfather some or all of the historic embedded benefit to a sub-set of distribution connected generation for a number of years will result in a distortion in the market for energy and balancing services. Grandfathered generators will effectively receive funding from TNUoS customers to cover a significant proportion of the fixed costs

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associated with the capital investment for their assets. This will allow this class of generation to offer power and ancillary serves at much lower rates than would otherwise be the case. Ultimately this will lead to increased cost to consumers as more efficient and cost effective options fail to materialise or withdraw from the market. Thus all option that propose grandfathering are worse than the baseline/original. 3) Delayed implementation beyond April 2018 The System Operator has not presented any evidence of an operational need for delayed implementation and non-appears in the report. All option that delay implementation beyond that requited to implement the solution will simple result in increased cost to consumers.	number of years will result in a distortion in the market for energy and balancing services. Grandfathered generators will effectively receive funding from TNUoS customers to cover a significant proportion of the fixed costs associated with the capital investment for their assets. This will allow this class of generation to offer power and ancillary serves at much lower rates than would otherwise be the case. Ultimately this will lead to increased cost to consumers as more efficient and cost effective options fail to materialise or withdraw from the market. Thus all option that propose grandfathering are worse than the baseline/original. 3) Delayed implementation beyond April 2018 The System Operator has not presented any evidence of an operational need for delayed implementation and non-appears in the report. All option that delay implementation beyond that requited to implement the solution will simple result in increased cost to consumers.

Cem Suleyman

CMP265								CMP270					
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)
Original	No	No	Neutral	Neutral	No	No		Original	Neutral	No	Neutral	No	No
WACM 1	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 1	Neutral	Yes	Neutral	Yes	Yes
WACM 2	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 2	Neutral	Yes	Neutral	Yes	Yes
WACM 3	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 3	Neutral	Yes	Neutral	Yes	Yes

WACM 4	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 4	Neutral	Yes	Neutral	Yes	Yes
WACM 5	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 5	Neutral	Yes	Neutral	Yes	Yes
WACM 6	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 6	Neutral	Yes	Neutral	Yes	Yes
WACM 7	Yes	Yes	Neutral	Neutral	Neutral	Yes		WACM 7	Neutral	Yes	Neutral	Yes	Yes
WACM 8	No	No	Neutral	Neutral	Neutral	No		WACM 8	Neutral	No	Neutral	Neutral	No
WACM 9	No	No	Neutral	Neutral	Neutral	No		WACM 9	Neutral	No	Neutral	Neutral	No
WACM 10	No	No	Neutral	Neutral	Neutral	No		WACM 10	Neutral	No	Neutral	Neutral	No
WACM 11	No	No	Neutral	Neutral	Neutral	No		WACM 11	Neutral	No	Neutral	Neutral	No
WACM 12	No	No	Neutral	Neutral	No	No		WACM 12	Neutral	No	Neutral	No	No
WACM 13	No	No	Neutral	Neutral	No	No		WACM 13	Neutral	No	Neutral	No	No
WACM 14	No	No	Neutral	Neutral	No	No		WACM 14	Neutral	No	Neutral	No	No
WACM 15	No	No	Neutral	Neutral	No	No		WACM 15	Neutral	No	Neutral	No	No
WACM 16	No	No	Neutral	Neutral	No	No		WACM 16	Neutral	No	Neutral	No	No
WACM 17	No	No	Neutral	Neutral	No	No		WACM 17	Neutral	No	Neutral	No	No
WACM 18	No	No	Neutral	Neutral	No	No		WACM 18	Neutral	No	Neutral	No	No

Voting Statement:
Many consultation respondents believe that a wider review of the network changing arrangements is preferable to CMP265. Whilst I am sympathetic to this view, I am required to assess the merits of CMP265 against the ACOs relative to the current baseline. This is the basis for my assessment below. Wider process issues such as the best way to initiate policy change is an issue for regulators.

<u>The Baseline</u>

Net charging under the current baseline which gives rise to embedded benefits is not cost reflective. The vast majority of the Triad benefit is derived from the Demand Residual Tariff. The costs recovered from this tariff represent the fixed costs of the transmission network. As such, these costs cannot be offset by the connection and operation of distributed generation.

Voting Statement:
CMP270 is essentially a facilitating Modification for CMP265. As such, I believe that CMP270 options WACMs 1-7 better facilitate the ACOs by enabling the relevant CMP265 options. WACM 5 is therefore also the best.

Therefore it is not cost reflective for the Demand Residual Tariff to be subject to net charging. The lack of cost reflectivity results in a significant distortion of competition in generation dispatch and investment. Moreover, consumers pay a premium for the privilege of connecting embedded generation whilst not receiving the commensurate offset in the cost of transmission.

ACO (b)

As stated above, the Demand Residual Tariff cannot be considered to be a cost reflective embedded benefit. Analysis undertaken with the Full Transport and Tariff Model demonstrates that regardless of whether generation is connected to the transmission or distribution network there is a similar impact on the transmission network. As such the Demand Locational Tariff broadly reflects the incremental costs or benefits of embedded generation to the transmission network. This evidence substantiates the use of the Demand Locational Tariff as an embedded benefit.

In addition, convincing evidence has been presented to justify the use of a fixed embedded benefit based on the average avoided cost of GSP reinforcement. Moreover, with the Generation Residual Tariff expected to go negative in the near future, it is sensible for the Generation Residual Tariff (when the value is negative) to be an embedded benefit. This will ensure that both transmission and distribution connected generation in GB compete on a level playing field with other EU generators.

All options with at least one of the above features is more cost reflective than the Baseline and thus better facilitates ACO (b). However, it should be noted that WACMs 6 and 7 provide an arbitrary uplift to the Demand Locational Tariff. As such both these options only slightly better facilitate ACO (b), whereas WACMs 1, 2, 3, 4 and 5 perform materially better against this Objective.

ACO (a)

Effective cost reflective signals better facilitate effective competition and thus maximise allocative efficiency. As WACMs 1-7 better facilitate ACO (b) they as a result also better facilitate ACO (a) by promoting effective competition (although noting that WACMs 6 and 7 do this to a materially lesser extent).

The Original

A defect currently exists within the TNUoS charging arrangements as described above. Therefore to only restrict the embedded benefit to CMUs is illogical. The Original does not

meaningfully attempt to create a more cost reflective signal and as such does not better facilitate ACOs (b) and (a).

WACM 10

This essentially results in a freeze in the level of embedded benefits. This option does not meaningfully attempt to create a more cost reflective signal and as such does not better facilitate ACO (b) and as a consequence ACO (a).

Offshore cost removal

Whilst WACM 11 does go a small way in reducing the fixed cost element of the embedded benefit, the change is too insignificant to be considered to meaningfully better facilitate ACO (b) (and consequently ACO (a)).

Grandfathering and investor confidence

Those options which grandfather the current arrangements for certain existing and soon to be existing embedded generation have not been justified. These options are WACMs 12-18. These options maintain non-cost reflective charges for certain assets and thus distort effective competition. Therefore these options do not better facilitate ACOs (a) and (b). Moreover, grandfathering of the current charging arrangements will promote inefficiency in the administration of the system charging method and therefore do not better facilitate ACO (e).

The argument that a failure to grandfather the current arrangements will result in a reduction in investor confidence is spurious. No competent investor will have expected the current charging arrangements to continue in perpetuity. Therefore to grandfather the current arrangements will provide a windfall gain to these market participants.

Cornwall Energy Analysis

A number of options incorporate embedded benefit values based on analysis undertaken by Cornwall Energy. However, the values calculated are flawed and significantly overestimate the benefit provided by embedded generation in terms of its potential to offset transmission network costs. These values cannot be considered to be cost reflective. Specifically, the Cornwall Energy analysis:

- Fails to appreciate that as the vast majority of the costs of transmission are fixed there is little opportunity to offset transmission costs by connecting embedded generation

- Double counts a number of costs which are already accounted for in the Locational Tariff element
- Produces an average figure when the costs examined vary widely depending on location

Therefore all options incorporating values produced by Cornwall Energy do not better facilitate ACOs (a) and (b). These are WACMs 8, 9, 16 and 17.

Implementation

Implementation timescales should provide notice of at least one full charging year. Phasing is unnecessary.

Best Option

The most cost reflective option is WACM 5 for the reasons noted above. As such this best facilitates ACOs (a) and (b). The use of phasing is unnecessary and ideally should be avoided to maximise the benefits of the change. However, the use of phasing does not sufficiently detract from the merits of the proposal and as such I still consider this to be the best option presented.

Other points raised

A number of the similar points were raised in the consultation responses. Below is my assessment of the most common points made in favour of the status quo or negligible change ahead of a wider charging review.

Security of supply

Many respondents suggested that security of supply would be threatened by the removal of embedded benefits. In particular there would be a risk to security of supply at the winter peak. If there is any risk to security of supply this is more likely to occur at the summer minimum rather than the winter peak when there is a lack of synchronous generation, response and reactive capability. Therefore such concerns are little more than hyperbole.

Behind the meter generation and demand response

It has been suggested that a number of the options will result in discriminatory treatment between distributed generation and behind the meter generation & demand response. Whilst there is some merit in this argument, this possible new form of discrimination is unlikely to result in a detrimental impact of anyway near the same magnitude as exists with the current

arrangements.

Incremental costs vs. fixed costs

A number of respondents suggested that as only 10% of total costs of transmission are recovered through the locational element that this means there is a defect with the current arrangements. Whilst this argument is not relevant to the question of whether the current Triad benefit is cost reflective or not, it appears to be entirely consistent that only a minority of the total costs of transmission are recovered through the locational element. This is because the vast majority of the costs of the network are fixed and do not vary with changes in output.

Access to peak prices

Some respondents suggested that as embedded generation does not have access to peak wholesale prices, the Triad benefit acts as a substitute and to remove this will discriminate against embedded generation. However, whilst this has no bearing on the assessment of whether the current Triad benefit is cost reflective, the fact that embedded generation has a number of options available to access peak wholesale prices e.g. a BEGA, this argument is not valid.

Paul Mott

CMP265								CMP270						
	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)			Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)
Original	Yes	Yes	Yes	Neutral	Neutral	Yes		Original	Neutral	Yes	Neutral	Neutral	Yes
WACM 1	No	No	No	Neutral	Neutral	No		WACM 1	Neutral	No	Neutral	Neutral	No
WACM 2	No	No	No	Neutral	Neutral	No		WACM 2	Neutral	No	Neutral	Neutral	No
WACM 3	No	No	No	Neutral	Neutral	No		WACM 3	Neutral	No	Neutral	Neutral	No

WACM 4	No	No	No	Neutral	Neutral	No		WACM 4	Neutral	No	Neutral	Neutral	No
WACM 5	No	No	No	Neutral	Neutral	No		WACM 5	Neutral	No	Neutral	Neutral	No
WACM 6	No	No	No	Neutral	Neutral	No		WACM 6	Neutral	No	Neutral	Neutral	No
WACM 7	No	No	No	Neutral	Neutral	No		WACM 7	Neutral	No	Neutral	Neutral	No
WACM 8	No	No	No	Neutral	Neutral	No		WACM 8	Neutral	No	Neutral	Neutral	No
WACM 9	No	No	No	Neutral	Neutral	No		WACM 9	Neutral	No	Neutral	Neutral	No
WACM 10	No	No	No	Neutral	Neutral	No		WACM 10	Neutral	No	Neutral	Neutral	No
WACM 11	No	No	No	Neutral	Neutral	No		WACM 11	Neutral	No	Neutral	Neutral	No
WACM 12	No	No	No	Neutral	Neutral	No		WACM 12	Neutral	No	Neutral	Neutral	No
WACM 13	No	No	No	Neutral	Neutral	No		WACM 13	Neutral	No	Neutral	Neutral	No
WACM 14	No	No	No	Neutral	Neutral	No		WACM 14	Neutral	No	Neutral	Neutral	No
WACM 15	No	No	No	Neutral	Neutral	No		WACM 15	Neutral	No	Neutral	Neutral	No
WACM 16	No	No	No	Neutral	Neutral	No		WACM 16	Neutral	No	Neutral	Neutral	No
WACM 17	No	No	No	Neutral	Neutral	No		WACM 17	Neutral	No	Neutral	Neutral	No
WACM 18	No	No	No	Neutral	Neutral	No		WACM 18	Neutral	No	Neutral	Neutral	No
Voting Statement: Statement of defect of CMP265 is to address a distortion in the CM. The original variant of this mod does exactly that, none of its WACMs does as they all affect other plant too, thus inaccurately meeting the statement of defect for CMP265. Against its own statement of defect, it is excellent.								Voting Statement: Statement of defect of CMP270 is to address a distortion in the CM. This mod does exactly that, none of the WACMs does as they all affect other plant too, thus less accurately meeting the statement of defect. Against its own statement of defect, it is excellent.					

Vote 2 – CMP265/CMP270 Which option is the best?

Panel Member	BEST Option?
James Anderson	**WACM 3**
Bob Brown	**Abstaining**
Kyle Martin	**WACM 5**
Garth Graham	**WACM 5**
Nikki Jamieson	**WACM 7**
Paul Jones	**WACM 3**
Simon Lord	**WACM 3**
Cem Suleyman	**WACM 5**
Paul Mott	**Original**

Annex 1 – CUSC Proposal forms for CMP264, CMP265, CMP269 and CMP270

CUSC Modification Proposal Form (for Charging Methodology Proposals) CMPXXX

nationalgrid

Connection and Use of System Code (CUSC)

Title of the CUSC Modification Proposal

Embedded Generation Triad Avoidance Standstill proposal – Changes to the Transport and Tariff Model and billing arrangements to remove the netting of output from New Embedded Generators until Ofgem has completed its consideration of the current electricity transmission Charging Arrangements (and any review which ensues) and any resulting changes have been fully implemented.

Submission Date

17 May 2016

Description of the Issue or Defect that the CUSC Modification Proposal seeks to address

The registration of embedded generators to a Supplier BM Unit can result in a reduction in TNUoS charges payable by the supplier. The embedded generators do not pay generation transmission charges and may receive a significant benefit from the supplier whose TNUoS charges they reduce – "Triad avoidance".

Due to increasing volume of embedded generation output and the growth in the Transmission Owner Allowed Revenues and other monies recoverable through TNUoS, the likely value of Triad avoidance for embedded generators has increased significantly, and under the current charging arrangements is forecast by National Grid Electricity Transmission ("NGET") to continue to grow. If Triad avoidance (and the future increases) were cost-reflective in terms of the transmission reinforcement avoided by reducing flows from the transmission system to meet demand, then the current arrangements would be in the interest of consumers. However, whilst analysis[1] by NGET suggests that some transmission investment is avoided by such reductions in flows, the savings appear to be around twenty times too small to justify current Triad avoidance values. In that work, NGET determined that the average cost saving was £1.62/kW/year in 2013/14 money, whilst a current estimate[2] of the average value that an embedded generator would receive from Triad avoidance in 2018/19 is around £45/kW/year[3]. Moreover, the results from 5 out of the 18 schemes that were assessed showed cost savings of less than 50p/kW/year.

The existence of large non-cost reflective Triad avoidance values is likely to distort investment decisions by favouring small generation units over large ones that may be more efficient. This could cause more efficient investments which do not benefit from Triad avoidance to be abandoned or deferred while less effective ones, which do so benefit, go ahead. This would increase total system costs, which is likely to lead to higher costs for consumers. Cost reflective charges would lead to better investment decisions and lower costs for consumers.

Ofgem is currently considering these issues[4] and implementation of any resulting changes, eg through a Significant Code Review (SCR), is likely to take some time. In the meantime, distortions to investment could take place based on the current non-cost reflective signals, in part due to Triad avoidance income received during the period of the review. This is likely to lead to inefficient investment in the generation fleet and, over time, higher costs for customers. This risk can be mitigated by suspending access to Triad avoidance for New Embedded Generators until Ofgem's consideration of the current electricity transmission Charging Arrangements (and any review which may ensue) has been completed and any resulting changes have been fully implemented.

This is a proportionate response since current indications are that Triad avoidance values exceed the cost reflective level by a factor of around 20. It follows that temporarily setting them to zero for new embedded generators is likely to be closer to the cost reflective outcome, and more likely to be efficient for consumers, than allowing the current situation to sustain pending Ofgem's consideration of the issues (including any review which may ensue) and implementation of any more comprehensive changes.

[1] National Grid, Review of the Embedded (Distributed) Generation Benefit arising from transmission charges, 20 December 2013.
[2] National Grid outlook January 28th 2015 (http://www2.nationalgrid.com/UK/Industry-information/System-charges/Electricity-transmission/Approval-conditions/Condition-5/)
[3] The current value of Triad management is £30/kW/year, but this is forecast to rise by around £15/kW/year by 2018/19. This estimate excludes the three least lucrative geographical areas - the locational signal may mean that these areas are not targeted by developers.
4 As recently announced by DECC and highlighted in Ofgem's Forward Work Programme 2016-17 paras 2.17 to 2.19

Description of the CUSC Modification Proposal

This modification aims to limit the detriment from the continuing lack of a level playing field between new embedded generators and other generation plant, by suspending access to Triad avoidance for New Embedded Generators until Ofgem has completed its consideration of the issues (including any review which may ensue) and fully implemented any resulting changes.

New Embedded Generator is defined as any half hourly metered embedded generation unit commissioned after 30 June 2017.

Commissioned is defined as having an MPAN registered and having commenced generation.

The suspension is achieved by removing the netting of output from New Embedded Generators when calculating their demand volumes for use in the setting of tariffs for suppliers in the Transport and Tariff model and for actual billing. As the supplier would no longer benefit from netting the output from these generators there will be no "Triad avoidance" to share with the embedded generator.

It is intended that the changes to the charging methodology made by this modification will be temporary and that no enduring difference of treatment between new and existing generation will be created. Accordingly, the provisions of this modification that change the charging methodology will cease to have effect on the "disapplication date, being the date when Ofgem confirms that it has completed its consideration of the issues (and any review which may ensue) and any resulting changes have been fully implemented.

A BSC amendment would amend the metering data reports to provide the information needed in order to remove the netting for all embedded generators commissioned after 30 June 2017.

Impact on the CUSC

Changes will be required to Section 14 of the CUSC (Part 2 The Statement of the Use of System Charging Methodology) including, but not necessarily limited to the following:

Tariff Setting

Changes are required to Section 14.15 (Derivation of the Transmission Network Use of System Tariff) to ensure that total User forecast Metered Triad Demand provided by Users and used to set TNUoS tariffs does not net any output from New Embedded Generation.

Billing & Reconciliation

The basis of Demand Charges should be amended to ensure that output from any New Embedded Generators is not netted from Triad demand in the Supplier forecasts used for monthly billing or in the reconciliation process to actual outturn charges.

Do you believe the CUSC Modification Proposal will have a material impact on Greenhouse Gas Emissions? Yes / No

You can find guidance on the treatment of carbon costs and evaluation of the greenhouse gas emissions on the Ofgem's website:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=196&refer=Licensing/IndCodes/Governance

We believe that this Proposal is likely to help reduce greenhouse gas emissions. This is as a result of the creation of a level playing field between small embedded generation and larger transmission connected generation. We believe that this is likely to lead to the deployment of more efficient plant which may lead to a corresponding reduction in the emission of greenhouse gasses.

Impact on Core Industry Documentation. Please tick the relevant boxes and provide any supporting information

BSC ☒

Grid Code ☐

STC ☐

Other ☐
(please specify)

This is an optional section. You should select any Codes or state Industry Documents which may be affected by this Proposal and, where possible, how they will be affected.

The data used in the calculation of Triad demand and chargeable supplier demand volumes is calculated under the Balancing & Settlement Code (BSC) and changes will be required to the BSC to enable the identification of meter data from New Embedded Generators. This meter data should then be excluded when generating the data flows used for TNUoS billing. A separate BSC Issue will be raised to consider the potential changes required from this CUSC modification.

For the avoidance of doubt, metered output from embedded generators will still be netted from Supplier's demand volumes for the purposes of imbalance settlement under the BSC.

Urgency Recommended: Yes / No

No.

Justification for Urgency Recommendation

If you have answered yes above, please describe why this Modification should be treated as Urgent. An Urgent Modification Proposal should be linked to an imminent issue or a current issue that if not urgently addressed may cause:

a) *A significant commercial impact on parties, consumers or other stakeholder(s); or*
b) *A significant impact on the safety and security of the electricity and/or has systems; or*
c) *A party to be in breach of any relevant legal requirements.*

You can find the full urgency criteria on the Ofgem's website:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=213&refer=Licensing/IndCodes/Governance

Self-Governance Recommended: Yes / No

No.

Justification for Self-Governance Recommendation

If you have answered yes above, please describe why this Modification should be treated as Self-Governance.

A Modification Proposal may be considered Self-governance where it is unlikely to have a material effect on:

- *Existing or future electricity customers;*
- *Competition in generation or supply;*
- *The operation of the transmission system;*
- *Security of Supply;*
- *Governance of the CUSC*

- *And it is unlikely to discriminate against different classes of CUSC Parties.*

Should this CUSC Modification Proposal be considered exempt from any ongoing Significant Code Reviews?

Please justify whether this modification should be exempt from any Significant Code Review (SCR) undertaken by Ofgem. You can find guidance on the launch and conduct of SCRs on Ofgem's website, along with details of any current SCRs at: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=197&refer=Licensing/IndCodes/Governance. For further information on whether this Proposal may interact with any ongoing SCRs, please contact the Panel Secretary.

Yes. We are not aware of any current Significant Code Review (SCR) whose scope overlaps with the scope of this modification. If Ofgem opens an SCR which includes embedded generation Triad avoidance, this modification should be considered exempt because of its temporary/transitional nature.

Impact on Computer Systems and Processes used by CUSC Parties:

Suppliers will need to amend their internal systems to exclude the output from New Embedded Generators when preparing demand forecasts as required under S14 of the CUSC and when validating TNUoS bills received from National Grid.

Details of any Related Modification to Other Industry Codes

A BSC Modification will be required to provide the necessary data to facilitate this charging proposal. We shall raise a BSC Issue for consideration.

Justification for CUSC Modification Proposal with Reference to Applicable CUSC Objectives for Charging:

Please tick the relevant boxes and provide justification for each of the Charging Methodologies affected.

Use of System Charging Methodology

☒ (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.

☐ (d) compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency.
These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1.

Objective (d) refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy Regulators (ACER).

Full justification:

Charging Objective (a)

This modification will mitigate the effects of the current lack of a level playing field between investing in embedded generators and transmission connected (and large embedded) generators during the period of Ofgem's review, thus better facilitating competition in the generation and supply of electricity.

Charging Objective (b)
Given the low levels of actual cost savings realised through the Triad management schemes, the suspensory action would ensure that, in respect of New Embedded Generators during the period of Ofgem's review, charges would better reflect costs.

Charging Objective (c)

Developments in the transmission system have led to an increase in Triad values, thus increasing the distortions created by embedded generation Triad avoidance to an unsustainable level. This modification mitigates the effect of this by temporarily removing distortion of investment decisions until Ofgem has completed its consideration of the issues (including any review which may ensue) and fully implemented any resulting changes.

Charging Objective (d)

The proposer believes that the proposal is neutral against applicable charging objective (d).

Connection Charging Methodology

☐ (a) that compliance with the connection 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 connection 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 connection charging methodology, as far as is reasonably practicable, properly takes account of the developments in transmission licensees' transmission businesses;

☐ (d) in addition, the objective, in so far as consistent with sub-paragraphs (a) above, of facilitating competition in the carrying out of works for connection to the national electricity transmission system.

☐ (e) compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency.
These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1.

Objective (e) refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy Regulators (ACER).

Full justification:

The Proposal does not impact on the Connection Charging Methodology

Additional details

Details of Proposer: (Organisation Name)	ScottishPower Energy Management Limited
Capacity in which the CUSC Modification Proposal is being proposed: (i.e. CUSC Party, BSC Party or "National Consumer Council")	CUSC Party
Details of Proposer's Representative: Name: Organisation: Telephone Number: Email Address:	 Rupert Steele Director of Regulation, ScottishPower 0141 614 2012 Rupert.Steele@ScottishPower.com
Details of Representative's Alternate: Name: Organisation: Telephone Number: Email Address:	 James Anderson ScottishPower Energy Management Limited 0141 614 3006 James.Anderson@ScottishPower.com
Attachments (Yes/No): **If Yes, Title and No. of pages of each Attachment:**	No

Contact Us

If you have any questions or need any advice on how to fill in this form please contact the Panel Secretary:

E-mail cusc.team@nationalgrid.com

Phone: 01926 653606

For examples of recent CUSC Modifications Proposals that have been raised please visit the National Grid Website at http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/Current/

Submitting the Proposal

Once you have completed this form, please return to the Panel Secretary, either by email to jade.clarke@nationalgrid.com copied to cusc.team@nationalgrid.com, or by post to:

Jade Clarke
CUSC Modifications Panel Secretary, TNS
National Grid Electricity Transmission plc
National Grid House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

If no more information is required, we will contact you with a Modification Proposal number and the date the Proposal will be considered by the Panel. If, in the opinion of the Panel Secretary, the form fails to provide the information required in the CUSC, the Proposal can be rejected. You will be informed of the rejection and the Panel will discuss the issue at the next meeting. The Panel can reverse the Panel Secretary's decision and if this happens the Panel Secretary will inform you.

CUSC Modification Proposal Form (for Charging Methodology Proposals) CMP265

nationalgrid

Connection and Use of System Code (CUSC)

Title of the CUSC Modification Proposal

Gross charging of TNUoS for HH demand where embedded generation is in Capacity Market

Submission Date

19 May 2016

Description of the Issue or Defect that the CUSC Modification Proposal seeks to address

It is important that costs are allocated fairly as the generation mix evolves. The current TNUoS arrangements will distort the development of an economic generation mix and transmission system, distort the capacity market and continue to provide a cross subsidy between customer groups.

There is a pressing issue related to the next capacity market tender (December 2016) which means that this modification is narrow and focussed to allow the modification to be considered and determined in advance of this auction. We recognise that further changes may be needed to the TNUoS arrangements which are important but less urgent. Ofgem are likely to reach a conclusion on further charging reforms in summer 2016 and further reforms will also be a focus of National Grid's planned charging review.

Specifically, half hourly metered (HH) demand for TNUoS purposes is currently charged net of embedded generation. The existing CUSC sets this out as follows: "*Netting off within a BM Unit : 14.17.15 The output of generators and Distribution Interconnectors registered as part of a Supplier BM Unit will have already been accounted for in the Supplier BM Unit demand figures upon which The Company Transmission Network Use of System Demand charges are based*."

This Net demand charging means that embedded generation is being treated as negative demand for HH TNUoS demand charging purposes. The TNUoS charge can be considered as being made up of two elements :

1. A locational element reflecting the unit cost of transmission investment at a point on the GB system. At a simplified level the locational elements for generation and demand users can be considered broadly equal and opposite. Through its netting, an embedded generator can be considered to have an implicit value equal but opposite to the demand signal, and therefore equivalent to the signal received by a transmission connected generator. Given this, netting off the volume is reasonable..

2. A residual element added on a capacity basis (£/kW, irrespective of location) to ensure

TNUoS charges recover the correct revenue. This element does not reflect cost and is worth around £40/kW.

Charging demand on a net basis means that some of the gross HH demand will not pay the residual, and neither will the embedded generation that nets off that demand.

The effect of the net demand charging basis is thus that the value of the demand residual charge element is credited to the embedded generation, where there is an association with an embedded generator as part of that Supplier's portfolio in that GSP group. This is not cost-reflective, as there is no logical reason for that credit, which is growing, to be given.

Netting-off the output of embedded generation for the purpose of calculating these HH demand charges, is causing a distortion in the generation market; to the extent that they run at times of triad, embedded generators are given an artificial advantage over others, which among other effects, distorts the outcome of the capacity market tenders.

This is most strongly apparent for controllable embedded generators that run at peak times due to the structure of the TNUoS charge. These generators are most likely to secure the majority of the avoided residual charge. It is these controllable embedded generators that are also competing in the Capacity Market and run at similar times. Correcting this defect needs to be addressed urgently in advance of the next CM auction (December 2016).

The defect therefore lies in this unwarranted distortion of capacity market tenders. The charging treatment of these generators is not reasonably reflecting transmission network costs and therefore fails against the objectives of the charging methodology. The implication of this is that it distorts competition in generation.

Description of the CUSC Modification Proposal

It is proposed that half hourly demand residual TNUoS charges on each Supplier in the relevant GSP Group, should be levied according to gross half hourly metered demand, without the volume from embedded generation that is in the capacity mechanism being netted-off. The scope of the modification is limited to only embedded generation with capacity market contracts. Volume associated with embedded generation that does not have capacity market contracts will continue to be netted.

It is proposed that half hourly demand locational TNUoS charges on each Supplier in the relevant GSP Group, should still be levied in relation to the net demand, i.e. with embedded generation being netted-off as at present to enable this cost reflective signal to be maintained.

As to the implementation timescale, we do not propose "grandfathering" which has not been an approach taken to charging modifications (it adds complexity and dilutes the effect of a change). We propose that this change would take effect from 1 April 2020, for all such generators. It is likely that a new data flow is needed to Grid to facilitate this; we are proposing to raise a BSC Modification to ensure that this flow exists. This is a significant modification proposal and a lead time of several charging years before the proposed change takes effect seems sensible to allow parties time to adjust, recognising that some future investments have not been made yet. The next capacity market auction (for winter 2020/21) takes place in

December.

Impact on the CUSC (This is an optional section)

To be identified at workgroup. New section 11 definitions are likely to be needed; parts of section 14 are likely to need amendment.

Do you believe the CUSC Modification Proposal will have a material impact on Greenhouse Gas Emissions? Yes / No

Nothing quantified.

Impact on Core Industry Documentation. Please tick the relevant boxes and provide any supporting information

BSC **Yes**

Grid Code ☐

STC ☐

Other ☐
(please specify)

This is an optional section. You should select any Codes or state Industry Documents which may be affected by this Proposal and, where possible, how they will be affected.

Urgency Recommended: Yes

Yes.

Justification for Urgency Recommendation

This Modification Proposal is linked to an imminent issue or a current issue that if not urgently addressed may cause a significant commercial impact on parties, consumers or other stakeholder(s). The next capacity market auction (for winter 2020/21) takes place in December; the present arrangements give an artificial advantage to embedded generators, distorting the capacity market. We therefore propose a full but expedited process that ensures that the issues are carefully considered by industry and workgroup, but that the modification proposal reaches Ofgem for decision in September.

Urgency criteria show on the Ofgem's website at :
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=213&refer=Licensing/IndCodes/Governance

Self-Governance Recommended: No

No

Justification for Self-Governance Recommendation

A Modification Proposal may be considered Self-governance where it is unlikely to have a material effect on :

- *Existing or future electricity customers;*
- *Competition in generation or supply;*
- *The operation of the transmission system;*
- *Security of Supply;*
- *Governance of the CUSC*
- *And it is unlikely to discriminate against different classes of CUSC Parties.*

Should this CUSC Modification Proposal be considered exempt from any ongoing Significant Code Reviews?

Yes, there are no relevant SCRs

Impact on Computer Systems and Processes used by CUSC Parties:

This is an optional section. Include a list of any relevant Computer Systems and Computer Processes which may be affected by this Proposal, and where possible, how they will be affected.

Details of any Related Modification to Other Industry Codes

We will be raising a relevant BSC modification to ensure the necessary data flows are available to National Grid.

Justification for CUSC Modification Proposal with Reference to Applicable CUSC Objectives for Charging:

Please tick the relevant boxes and provide justification for each of the Charging Methodologies affected.

Use of System Charging Methodology

Yes (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;

Yes (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);

Yes (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.

No (d) compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency.
These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1.

Objective (c) refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy Regulators (ACER).

Full justification:

The modification would better facilitate competition between transmission-connected and embedded generators with particular reference to the Capacity Market. It would remove an artificial distortion that does not reflect the costs of the transmission business and currently gives extra value to embedded generators. The present arrangements are not cost-reflective as there is no logic to netting-off the output of embedded generators from HH demand as far as the demand residual charge element is concerned. As to developments in transmission licensees' transmission businesses – there has been a marked growth in the amount of embedded generation impacting the ways the system is developed and operated – this distortion may have been a contributory factor to that.

Additional details

Details of Proposer: (Organisation Name)	Paul Mott
Capacity in which the CUSC Modification Proposal is being proposed: (i.e. CUSC Party, BSC Party or "National Consumer Council")	CUSC Party
Details of Proposer's Representative: Name: Organisation: Telephone Number: Email Address:	 Paul Mott, EDF Energy, 02031262314 paul.mott@edfenergy.com
Details of Representative's Alternate: Name: Organisation: Telephone Number: Email Address:	 Mark Cox EDF Energy 07967151272 Mark.cox@edfenergy.com
Attachments (No): **If Yes, Title and No. of pages of each Attachment:**	

CUSC Modification Proposal Form CMP269

nationalgrid

Connection and Use of System Code (CUSC)

Title of the CUSC Modification Proposal

Potential consequential changes to the CUSC as a result of CMP264

Submission Date

19 August 2016

Description of the Issue or Defect that the CUSC Modification Proposal seeks to address

In May 2016, CMP264 (Embedded Generation Triad Avoidance Standstill proposal – Changes to the Transport and Tariff Model and billing arrangements to remove the netting of output from New Embedded
Generators until Ofgem has completed its consideration of the current electricity transmission Charging Arrangements (and any review which ensues) and any resulting changes have been fully implemented' was raised by Scottish Power.

As part of the Workgroup analysis, the Workgroup identified that whilst this was a charging modification (which if approved would require change to aspects of section 14 - Charging Methodologies of the CUSC) there are in fact some references outside section 14 of the CUSC that would require change should CMP264 be approved.

However these could not be addressed via CMP264 as it is a charging modification seeking to amend Section 14 of the CUSC and therefore will be assessed against the Applicable Charging Objectives. Any modifications to the CUSC outside of Section 14 – Charging Methodologies are assessed against the CUSC Objectives (not Charging).

Consequently this modification has been raised to detail the required changes to Section 3 and Section 11 of the CUSC. It is suggested that this Modification is amalgamated with CMP264, and the detailed CUSC changes be taken forward should CMP264 be approved.

Description of the CUSC Modification Proposal

Changes to Section 14 (Charging Methodologies) under CMP264 will make changes to the charging methodology to calculate demand tariffs and embedded benefits on the basis of structures proposed under the original and any WACMs.

However, changes will also be required to Section 3 (Use of System) and Section 11 (Interpretation and Definitions). The full details of the legal text changes for CMP264 have not yet been prepared by the workgroup (and they are intending to hold a subgroup to do so, after

the workgroup consultation closes), however, based on discussions at the workgroup we would expect changes to the other sections are as follows:

Section 3: changes will be required to reflect any change in the structure of tariffs in Section 14, and to ensure obligations on suppliers and the Company in terms of data for forecasting and billing are aligned to those required in order to set tariffs.

Section 11: the proposal will require new definitions such as New Embedded Generation (i.e. those who qualify for a different value of embedded benefit under the CMP264 Original) [Capacity Market Embedded Generation (i.e. those who embedded generators who hold a capacity market agreement)] in order for these terms to be in Section 14 and Section 11 of the CUSC consistently.

Changes to other sections (other than 14, 3 and 11) may also be required for consistency but none have been identified to date.

The expectation of the CMP264 Workgroup is that the discussion relating to the solution for the obligations (in Section 3) and definitions (in Section 11) have and will continue to take place under the CMP264 Workgroup and that this new modification proposal is a procedural device to enable the legal text changes to sections of the CUSC not covered by the use of system charging objectives.

Impact on the CUSC

Changes will be required for sections 14, 3 and 11 and there may be other changes required for consistency but none have been identified to date.

Should CMP264 be approved, a number of changes would be required to reflect the CMP264 Proposal or any alternative proposals agreed by the CMP264 Workgroup.

The amendments required are to be developed by the CMP264 Workgroup and depending on whether the Proposer changes its Original Proposal or any alternatives are agreed, the Workgroup may consider with Code Administrator's advice whether any other parts of the CUSC need amendment.

Do you believe the CUSC Modification Proposal will have a material impact on Greenhouse Gas Emissions? Yes / No

No

Impact on Core Industry Documentation. Please tick the relevant boxes and provide any supporting information

BSC ☐

Grid Code ☐

STC ☐

Other ☐
(please specify)

There may be an impact on the BSC but this may potentially be covered via CMP264.

Urgency Recommended: Yes / No

No

Justification for Urgency Recommendation

n/a

Self-Governance Recommended: Yes / No

No

Justification for Self-Governance Recommendation

n/a

Should this CUSC Modification Proposal be considered exempt from any ongoing Significant Code Reviews?

There are no relevant SCRs in process.

Impact on Computer Systems and Processes used by CUSC Parties:

No impact

Details of any Related Modification to Other Industry Codes

CMP264 '**Embedded Generation Triad Avoidance Standstill** proposal – Changes to the Transport and Tariff Model and billing arrangements to remove the netting of output from New Embedded
Generators until Ofgem has completed its consideration of the current electricity transmission Charging Arrangements (and any review which ensues) and any resulting changes have been fully implemented'

Justification for CUSC Modification Proposal with Reference to Applicable CUSC Objectives:
This section is mandatory. You should detail why this Proposal better facilitates the Applicable CUSC Objectives compared to the current baseline. Please note that one or more Objective must be justified. **Please tick the relevant boxes and provide justification:** ☒ (a) the efficient discharge by The Company of the obligations imposed upon it by the Act and the Transmission Licence ☒ (b) facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity. ☒ (c) compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1. Objective (c) was added in November 2011. This refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy Regulators (ACER).

Additional details

Details of Proposer: (Organisation Name)	Scottish Power Energy Management Limited
Capacity in which the CUSC Modification Proposal is being proposed: (i.e. CUSC Party, BSC Party or "National Consumer Council")	CUSC Party
Details of Proposer's Representative: Name: Organisation: Telephone Number: Email Address:	 Rupert Steele Director of Regulation, Scottish Power 0141 614 2012 **Rupert.Steele@ScottishPower.com**
Details of Representative's Alternate: Name: Organisation: Telephone Number: Email Address:	James Anderson Scottish Power Energy Management Limited 0141 614 3006 James.Anderson@ScottishPower.com
Attachments (Yes/No): **If Yes, Title and No. of pages of each Attachment:**	

Contact Us

If you have any questions or need any advice on how to fill in this form please contact the Panel Secretary:

E-mail cusc.team@nationalgrid.com

Phone: 01926 654028

For examples of recent CUSC Modifications Proposals that have been raised please visit the National Grid Website at http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/Current/

Submitting the Proposal

Once you have completed this form, please return to the Panel Secretary, either by email to heena.chauhan@nationalgrid.com and copied to cusc.team@nationalgrid.com, or by post to:

Heena Chauhan
CUSC Modifications Panel Secretary,
National Grid Electricity Transmission plc
National Grid House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

If no more information is required, we will contact you with a Modification Proposal number and the date the Proposal will be considered by the Panel. If, in the opinion of the Panel Secretary, the form fails to provide the information required in the CUSC, the Proposal can be rejected. You will be informed of the rejection and the Panel will discuss the issue at the next meeting. The Panel can reverse the Panel Secretary's decision and if this happens the Panel Secretary will inform you.

CUSC Modification Proposal Form CMP270

nationalgrid

Connection and Use of System Code (CUSC)

Title of the CUSC Modification Proposal

Potential consequential changes to the CUSC as a result of CMP265

Submission Date

19 August 2016

Description of the Issue or Defect that the CUSC Modification Proposal seeks to address

In May 2016, CMP265 (Gross charging of TNUoS for HH demand where embedded generation is in the Capacity Market) was raised by EDF Energy.

As part of the Workgroup analysis, the Workgroup identified that whilst this was a charging modification (which if approved would require change to aspects of section 14 - Charging Methodologies of the CUSC) there are in fact some references outside section 14 of the CUSC that would require change should CMP265 be approved.

However these could not be addressed via CMP265 as it is a charging modification seeking to amend Section 14 of the CUSC and therefore will be assessed against the Applicable Charging Objectives. Any modifications to the CUSC outside of Section 14 – Charging Methodologies are assessed against the CUSC Objectives (not Charging).

Consequently this modification has been raised to detail the required changes to Section 3 and Section 11 of the CUSC. It is suggested that this Modification is amalgamated with CMP265, and the detailed CUSC changes be taken forward should CMP265 be approved.

Description of the CUSC Modification Proposal

Changes to Section 14 (Charging Methodologies) under CMP265 will make changes to the charging methodology to calculate demand tariffs and embedded benefits on the basis of structures proposed under the original and any WACMs.

However, changes will also be required to Section 3 (Use of System) and Section 11 (Interpretation and Definitions). The full details of the legal text changes for CMP265 have not yet been prepared by the workgroup (and they are intending to hold a subgroup to do so, after the workgroup consultation closes), however, based on discussions at the workgroup we would expect changes to the other sections are as follows:

Section 3: changes will be required to reflect any change in the structure of tariffs in Section 14,

and to ensure obligations on suppliers and the Company in terms of data for forecasting and billing are aligned to those required in order to set tariffs.

Section 11: the proposal will require new definitions such as New Embedded Generation (i.e. those who qualify for a different value of embedded benefit under the CMP265 Original) [Capacity Market Embedded Generation (i.e. those who embedded generators who hold a capacity market agreement)] in order for these terms to be in Section 14 and Section 11 of the CUSC consistently.

Changes to other sections (other than 14, 3 and 11) may also be required for consistency, but none have been identified to date.

The expectation of the CMP265 Workgroup is that the discussion relating to the solution for the obligations (in Section 3) and definitions (in Section 11) have and will continue to take place under the CMP265 Workgroup and that this new modification proposal is a procedural device to enable the legal text changes to sections of the CUSC not covered by the use of system charging objectives.

Impact on the CUSC

Changes will be required for sections 14, 3 and 11 and there may be other changes required for consistency but none have been identified to date.

Should CMP265 be approved, a number of changes would be required to reflect the CMP265 Proposal or any alternative proposals agreed by the CMP265 Workgroup.

The amendments required are to be developed by the CMP265 Workgroup and depending on whether the Proposer changes its Original Proposal or any alternatives are agreed, the Workgroup may consider with Code Administrator's advice whether any other parts of the CUSC need amendment.

Do you believe the CUSC Modification Proposal will have a material impact on Greenhouse Gas Emissions? Yes / No

No

Impact on Core Industry Documentation. Please tick the relevant boxes and provide any supporting information

BSC ☐

Grid Code ☐

STC ☐

Other ☐
(please specify)

There may be an impact on the BSC but this may potentially be covered via CMP265.

Urgency Recommended: Yes / No

No

Justification for Urgency Recommendation

n/a

Self-Governance Recommended: Yes / No

No

Justification for Self-Governance Recommendation

n/a

Should this CUSC Modification Proposal be considered exempt from any ongoing Significant Code Reviews?

There are no relevant SCRs in process.

Impact on Computer Systems and Processes used by CUSC Parties:

No impact

Details of any Related Modification to Other Industry Codes

CMP265 'Gross charging of TNUoS for HH demand where embedded generation is in the Capacity Market'

Justification for CUSC Modification Proposal with Reference to Applicable CUSC Objectives:

This section is mandatory. You should detail why this Proposal better facilitates the Applicable CUSC Objectives compared to the current baseline. Please note that one or more Objective must be justified.

Please tick the relevant boxes and provide justification:

☒ (a) the efficient discharge by The Company of the obligations imposed upon it by the Act

and the Transmission Licence

☒ (b) facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity.

☒ (c) compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency.
These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1.

Objective (c) was added in November 2011. This refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy Regulators (ACER)

Additional details

Details of Proposer: (Organisation Name)	Paul Mott
Capacity in which the CUSC Modification Proposal is being proposed: (i.e. CUSC Party, BSC Party or "National Consumer Council")	CUSC Party
Details of Proposer's Representative: Name: Organisation: Telephone Number: Email Address:	Paul Mott, EDF Energy, 02031262314 paul.mott@edfenergy.com
Details of Representative's Alternate: Name: Organisation: Telephone Number: Email Address:	Mark Cox EDF Energy 07967151272 Mark.cox@edfenergy.com
Attachments (Yes/No): **If Yes, Title and No. of pages of each Attachment:**	

Contact Us

If you have any questions or need any advice on how to fill in this form please contact the Panel Secretary:

E-mail cusc.team@nationalgrid.com

Phone: 01926 654028

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Submitting the Proposal

Once you have completed this form, please return to the Panel Secretary, either by email to heena.chauhan@nationalgrid.com and copied to cusc.team@nationalgrid.com, or by post to:

Heena Chauhan
CUSC Modifications Panel Secretary,
National Grid Electricity Transmission plc
National Grid House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

If no more information is required, we will contact you with a Modification Proposal number and the date the Proposal will be considered by the Panel. If, in the opinion of the Panel Secretary, the form fails to provide the information required in the CUSC, the Proposal can be rejected. You will be informed of the rejection and the Panel will discuss the issue at the next meeting. The Panel can reverse the Panel Secretary's decision and if this happens the Panel Secretary will inform you.

Annex 2 – CMP264, CMP265, CMP269 and CMP270 Terms of Reference

nationalgrid

Workgroup Terms of Reference and Membership

TERMS OF REFERENCE FOR CMP 264 WORKSHOP

CMP264 seeks to change the Transport and Tariff Model and billing arrangements to remove the netting of output from New Embedded Generators until Ofgem has completed its consideration of the current electricity transmission Charging Arrangements (and any review which ensues) and any resulting changes have been fully implemented.

Responsibilities

1. The Workgroup is responsible for assisting the CUSC Modifications Panel in the evaluation of CUSC Modification Proposal **CMP264 Embedded Generation Triad Avoidance Standstill** tabled by Scottish Power at the Modifications Panel meeting on 27 May 2016.

2. The proposal must be evaluated to consider whether it better facilitates achievement of the Applicable CUSC Objectives. These can be summarised as follows:

Use of System Charging Methodology

(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;

(d) compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1.).

(e)Promoting efficiency in the implementation and administration of the system charging methodology

3. It should be noted that additional provisions apply where it is proposed to modify the CUSC Modification provisions, and generally reference should be made to the Transmission Licence for the full definition of the term.

Scope of work

4. The Workgroup must consider the issues raised by the Modification Proposal and consider if the proposal identified better facilitates achievement of the Applicable CUSC Objectives.

5. In addition to the overriding requirement of paragraph 4, the Workgroup shall consider and report on the following specific issues:

a) The Workgroup should consider whether, on the balance of probabilities, the current level of embedded generation triad avoidance benefit significantly exceeds the actual avoided transmission investment cost, whether this causes a distortion in competition, and whether the proposed temporary removal of such benefits (pending the outcome and implementation of Ofgem's considerations) would better meet the code objectives.
b) The Workgroup should not attempt to resolve the issue of what the most appropriate charging arrangements should be on an enduring basis, as this will be the subject of Ofgem's considerations. .
c) The Workgroup should consider the definition of and criteria for the "disapplication date" in the proposed solution, i.e. the date on which the modification would cease to have effect.
d) The Workgroup should consider whether the Workgroup's conclusions would be materially impacted by the length of time between implementation and the "disapplication date".
e) The Workgroup should consider consumer impacts resulting from the proposal.
f) Consider any link to the Balancing and Settlement Code with particular focus on timescales of any changes.
g) Consider any link to EMR Settlements metering with particular focus on timescales of any changes.

6. The Workgroup is responsible for the formulation and evaluation of any Workgroup Alternative CUSC Modifications (WACMs) arising from Group discussions which would, as compared with the Modification Proposal or the current version of the CUSC, better facilitate achieving the Applicable CUSC Objectives in relation to the issue or defect identified.

7. The Workgroup should become conversant with the definition of Workgroup Alternative CUSC Modification which appears in Section 11 (Interpretation and Definitions) of the CUSC. The definition entitles the Group and/or an individual member of the Workgroup to put forward a WACM if the member(s) genuinely believes the WACM would better facilitate the achievement of the Applicable CUSC Objectives, as compared with the Modification Proposal or the current version of the CUSC. The extent of the support for the Modification Proposal or any WACM arising from the Workgroup's discussions should be clearly described in the final Workgroup Report to the CUSC Modifications Panel.

8. Workgroup members should be mindful of efficiency and propose the fewest number of WACMs possible.

9. All proposed WACMs should include the Proposer(s)'s details within the final Workgroup report, for the avoidance of doubt this includes WACMs which are proposed by the entire Workgroup or subset of members.

10. There is an obligation on the Workgroup to undertake a period of Consultation in accordance with CUSC 8.20. The Workgroup Consultation period shall be for a period of **15 working days** as determined by the Modifications Panel.

11. Following the Consultation period the Workgroup is required to consider all responses including any WG Consultation Alternative Requests. In undertaking an assessment of any WG Consultation Alternative Request, the Workgroup should consider whether it better facilitates the Applicable CUSC Objectives than the current version of the CUSC.

As appropriate, the Workgroup will be required to undertake any further analysis and update the original Modification Proposal and/or WACMs. All responses including any WG Consultation Alternative Requests shall be included within the final report including a summary of the Workgroup's deliberations and conclusions. The report should make it clear where and why the Workgroup chairman has exercised his right under the CUSC to progress a WG Consultation Alternative Request or a WACM against the majority views of Workgroup members. It should also be explicitly stated where, under these circumstances, the Workgroup chairman is employed by the same organisation who submitted the WG Consultation Alternative Request.

12. The Workgroup is to submit its final report to the Modifications Panel Secretary on **20 October 2016** for circulation to Panel Members. The final report conclusions will be presented to the CUSC Modifications Panel meeting on **23 November 2016**.

Membership

13. It is recommended that the Workgroup has the following members:

Role	Name	Representing
Chairman	Louise Schmitz	National Grid
National Grid Representative	Paul Wakeley/Rob Marshall	National Grid
Industry Representatives	Rupert Steele	Scottish Power (Proposer)
	James Anderson	Scottish Power
	Paul Mott	EDF
	John Tindal	SSE
	Andy Pace	Cornwall Energy
	Sam Wither	UK Power Reserve
	Christopher Granby	Infinis
	Bill Reed	RWE Supply & Trading
	Lars Weber	Neas Energy
	Michael Davis	Eider Reserve Power
	Joe Underwood	Drax Power
	Simon Lord	Engie

	Tim Collins Lisa Waters Graz McDonald Jonathan Graham Stephen Davies Matthew Tucker Mark Draper Guy Phillips John Harmer Fruzina Kemenes Kirsten Gardner	Centrica Waters Wye Greenfrog Power The ADE EON Welsh Power Peakgen Uniper Alkane Innogy Renewables & Npower Stag Energy
Authority Representatives	Donald Smith/Dena Barasi/Dominic Green	OFGEM
Technical secretary	Caroline Wright	National Grid
Observers	Kate Dooley Nick Rubin/Talia Addy/John Lucas Bruno Menu Depak Lal	Energy UK ELEXON Lime Jump AMP Plc

NB: A Workgroup must comprise at least 5 members (who may be Panel Members). The roles identified with an asterisk in the table above contribute toward the required quorum, determined in accordance with paragraph 14 below.

14. The chairman of the Workgroup and the Modifications Panel Chairman must agree a number that will be quorum for each Workgroup meeting. The agreed figure for CMP264 is that at least 5 Workgroup members must participate in a meeting for quorum to be met.

15. A vote is to take place by all eligible Workgroup members on the Modification Proposal and each WACM. The vote shall be decided by simple majority of those present at the meeting at which the vote takes place (whether in person or by teleconference). The Workgroup chairman shall not have a vote, casting or otherwise]. There may be up to three rounds of voting, as follows:

- Vote 1: whether each proposal better facilitates the Applicable CUSC Objectives;
- Vote 2: where one or more WACMs exist, whether each WACM better facilitates the Applicable CUSC Objectives than the original Modification Proposal*;*
- Vote 3: which option is considered to BEST facilitate achievement of the Applicable CUSC Objectives. For the avoidance of doubt, this vote should include the existing CUSC baseline as an option.

The results from the vote and the reasons for such voting shall be recorded in the Workgroup report in as much detail as practicable.

16. It is expected that Workgroup members would only abstain from voting under limited circumstances, for example where a member feels that a proposal has

been insufficiently developed. Where a member has such concerns, they should raise these with the Workgroup chairman at the earliest possible opportunity and certainly before the Workgroup vote takes place. Where abstention occurs, the reason should be recorded in the Workgroup report.

17. Workgroup members or their appointed alternate are required to attend a minimum of 50% of the Workgroup meetings to be eligible to participate in the Workgroup vote.

18. The Technical Secretary shall keep an Attendance Record for the Workgroup meetings and circulate the Attendance Record with the Action Notes after each meeting. This will be attached to the final Workgroup report.

19. The Workgroup membership can be amended from time to time by the CUSC Modifications Panel.

Appendix 1

Proposed CMP264 Revised Timetable

17 May 2016	CUSC Modification Proposal submitted
27 May 2016	CUSC Modification tabled at Panel meeting
31 May 2016	Request for Workgroup members (5 Working days)
14 June 2016	Workgroup meeting 1
21 June 2016	Workgroup meeting 2
4 July 2016	Workgroup meeting 3
11 July 2016	Workgroup Meeting 4
27 July 2016	Workgroup Meeting 5 (teleconference)
~~18 July 2016~~ 29 July 2016	Workgroup Consultation issued ~~(15 Working days)~~ (17 Working Days)
11 August 2016	Workgroup meeting 6
~~8 August 2016~~ 24 August 2016	Deadline for responses
30 August 2016	Workgroup meeting 7 **(WG review Consultation Reponses)**
~~15 or 16 August 2016~~ 1 September 2016	Workgroup meeting 8 (WG to agree options for WACMs)
7 September 2016	Workgroup meeting 9 (WG cont. of WACM options)
12 September 2016	Workgroup meeting 10 (WG cont. of WACM options)
19 September 2016	Workgroup meeting 11 (WG WACM vote)
5 October 2016	Workgroup meeting 12 (WG vote)
~~18 August 2016~~ ~~22 September 2016~~ 20 October 2016	Workgroup report issued to CUSC Panel
~~26 August 2016~~ ~~30 September 2016~~ 25 October 2016	Special CUSC Panel meeting to discuss Workgroup Report

~~30 August 2016~~ ~~3 October 2016~~ 25 October 2016	Code Administrator Consultation issued (~~10~~ 8 Working days)
~~13 September 2016~~ ~~17 October 2016~~ 4 November 2016	Deadline for responses

~~15 September 2016~~ ~~20 October 2016~~ 10 November 2016	Draft FMR published for industry comment (~~5~~ 2 Working days)
~~22 September 2016~~ ~~24 October 2016~~ 15 November 2016	Deadline for comments
~~23 September 2016~~ ~~20 October 2016~~ 17 November 2016	Draft FMR circulated to Panel
~~30 September 2016~~ ~~28 October 2016~~ 23 November 2016	Special CUSC Panel Recommendation vote
~~5 October 2016~~ ~~1 November 2016~~ 23 November 2016	FMR circulated for Panel comment (~~3~~2 Working days)
~~10 October 2016~~ ~~3 November 2016~~ 25 November 2016	Deadline for Panel comment
~~12 October 2016~~ ~~4 November 2016~~ 28 November 2016	Final report sent to Authority for decision
~~26 October 2016~~ ~~18 November 2016~~ 12 December 2016	Indicative Authority Decision due (10 Working days)
2 November 2016 ~~25 November 2016~~ 19 December 2016	Implementation date (5 Working days later)

nationalgrid

Workgroup Terms of Reference and Membership

TERMS OF REFERENCE FOR CMP265 WORKSHOP

CMP265 seeks to address the issue that half hourly metered (HH) demand for TNUoS purposes is currently charged net of embedded generation.

Responsibilities

1. The Workgroup is responsible for assisting the CUSC Modifications Panel in the evaluation of CUSC Modification Proposal **CMP265 'Gross charging of TNUoS for HH demand where embedded generation is in Capacity Market'** tabled by EDF Energy at the Modifications Panel meeting on 27 May 2016.

2. The proposal must be evaluated to consider whether it better facilitates achievement of the Applicable CUSC Objectives. These can be summarised as follows:

   Use of System Charging Methodology

   (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.

   - (d) compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1.).

3. It should be noted that additional provisions apply where it is proposed to modify the CUSC Modification provisions, and generally reference should be made to the Transmission Licence for the full definition of the term.

Scope of work

4. The Workgroup must consider the issues raised by the Modification Proposal and consider if the proposal identified better facilitates achievement of the Applicable CUSC Objectives.

5. In addition to the overriding requirement of paragraph 4, the Workgroup shall consider and report on the following specific issues:

   a) This Workgroup should not focus on transmissions generator in negative zones.
   b) The Workgroup should not look to amend the existing Capacity Mechanism.
   c) The Workgroup should consider all Embedded Generation with Capacity Market contracts directly or indirectly.
   d) The Workgroup should consider consumer impacts resulting from the proposal.
   e) The Workgroup should consider whether, on the balance of probabilities, the current level of embedded generation triad avoidance benefit significantly exceeds the actual avoided transmission investment cost, whether this causes a distortion in competition, and whether the removal of such benefits (pending the outcome and implementation of Ofgem's considerations) would better meet the code objectives.
   f) Consider any link to the Balancing and Settlement Code with particular focus on timescales of any changes.
   g) Consider any link to EMR Settlements metering with particular focus on timescales of any changes.

6. The Workgroup is responsible for the formulation and evaluation of any Workgroup Alternative CUSC Modifications (WACMs) arising from Group discussions which would, as compared with the Modification Proposal or the current version of the CUSC, better facilitate achieving the Applicable CUSC Objectives in relation to the issue or defect identified.

7. The Workgroup should become conversant with the definition of Workgroup Alternative CUSC Modification which appears in Section 11 (Interpretation and Definitions) of the CUSC. The definition entitles the Group and/or an individual member of the Workgroup to put forward a WACM if the member(s) genuinely believes the WACM would better facilitate the achievement of the Applicable CUSC Objectives, as compared with the Modification Proposal or the current version of the CUSC. The extent of the support for the Modification Proposal or any WACM arising from the Workgroup's discussions should be clearly described in the final Workgroup Report to the CUSC Modifications Panel.

8. Workgroup members should be mindful of efficiency and propose the fewest number of WACMs possible.

9. All proposed WACMs should include the Proposer(s)'s details within the final Workgroup report, for the avoidance of doubt this includes WACMs which are proposed by the entire Workgroup or subset of members.

10. There is an obligation on the Workgroup to undertake a period of Consultation in accordance with CUSC 8.20. The Workgroup Consultation period shall be for a period of **15 working days** as determined by the Modifications Panel.

11. Following the Consultation period the Workgroup is required to consider all responses including any WG Consultation Alternative Requests. In undertaking an assessment of any WG Consultation Alternative Request, the Workgroup should consider whether it better facilitates the Applicable CUSC Objectives than the current version of the CUSC.

As appropriate, the Workgroup will be required to undertake any further analysis and update the original Modification Proposal and/or WACMs. All responses including any WG Consultation Alternative Requests shall be included within the final report including a summary of the Workgroup's deliberations and conclusions. The report should make it clear where and why the Workgroup chairman has exercised his right under the CUSC to progress a WG Consultation Alternative Request or a WACM against the majority views of Workgroup members. It should also be explicitly stated where, under these circumstances, the Workgroup chairman is employed by the same organisation who submitted the WG Consultation Alternative Request.

12. The Workgroup is to submit its final report to the Modifications Panel Secretary on **20 October 2016** for circulation to Panel Members. The final report conclusions will be presented to the CUSC Modifications Panel meeting on **23 November 2016**.

Membership

13. It is recommended that the Workgroup has the following members

Role	Name	Representing
Chairman	Louise Schmitz	National Grid
National Grid Representative	Paul Wakeley/Rob Marshall	National Grid
Industry Representatives	Rupert Steele	Scottish Power (Proposer)
	James Anderson	Scottish Power
	Paul Mott	EDF
	John Tindal	SSE
	Andy Pace	Cornwall Energy
	Sam Wither	UK Power Reserve
	Christopher Granby	Infinis
	Bill Reed	RWE Supply & Trading
	Lars Weber	Neas Energy
	Michael Davis	Eider Reserve Power
	Joe Underwood	Drax Power
	Simon Lord	Engie
	Tim Collins	Centrica
	Lisa Waters	Waters Wye
	Graz McDonald	Greenfrog Power
	Jonathan Graham	The ADE
	Stephen Davies	EON
	Matthew Tucker	Welsh Power
	Mark Draper	Peakgen
	Guy Phillips	Uniper

	John Harmer Fruzina Kemenes Kirsten Gardner	Alkane Innogy Renewables & Npower Stag Energy
Authority Representatives	Donald Smith/Dena Barasi/Dominic Green	OFGEM
Technical secretary	Caroline Wright	National Grid
Observers	Kate Dooley Nick Rubin/Talia Addy/John Lucas Bruno Menu Depak Lal	Energy UK ELEXON Lime Jump AMP Plc

NB: A Workgroup must comprise at least 5 members (who may be Panel Members). The roles identified with an asterisk in the table above contribute toward the required quorum, determined in accordance with paragraph 14 below.

14. The chairman of the Workgroup and the Modifications Panel Chairman must agree a number that will be quorum for each Workgroup meeting. The agreed figure for CMP265 is that at least 5 Workgroup members must participate in a meeting for quorum to be met.

15. A vote is to take place by all eligible Workgroup members on the Modification Proposal and each WACM. The vote shall be decided by simple majority of those present at the meeting at which the vote takes place (whether in person or by teleconference). The Workgroup chairman shall not have a vote, casting or otherwise]. There may be up to three rounds of voting, as follows:

- Vote 1: whether each proposal better facilitates the Applicable CUSC Objectives;
- Vote 2: where one or more WACMs exist, whether each WACM better facilitates the Applicable CUSC Objectives than the original Modification Proposal*;*
- Vote 3: which option is considered to BEST facilitate achievement of the Applicable CUSC Objectives. For the avoidance of doubt, this vote should include the existing CUSC baseline as an option.

The results from the vote and the reasons for such voting shall be recorded in the Workgroup report in as much detail as practicable.

16. It is expected that Workgroup members would only abstain from voting under limited circumstances, for example where a member feels that a proposal has been insufficiently developed. Where a member has such concerns, they should raise these with the Workgroup chairman at the earliest possible opportunity and certainly before the Workgroup vote takes place. Where abstention occurs, the reason should be recorded in the Workgroup report.

17. Workgroup members or their appointed alternate are required to attend a minimum of 50% of the Workgroup meetings to be eligible to participate in the Workgroup vote.

18. The Technical Secretary shall keep an Attendance Record for the Workgroup meetings and circulate the Attendance Record with the Action Notes after each meeting. This will be attached to the final Workgroup report.

19. The Workgroup membership can be amended from time to time by the CUSC Modifications Panel.

Appendix 1

Proposed CMP265 Revised Timetable

17 May 2016	CUSC Modification Proposal submitted
27 May 2016	CUSC Modification tabled at Panel meeting
31 May 2016	Request for Workgroup members (5 Working days)
14 June 2016	Workgroup meeting 1
21 June 2016	Workgroup meeting 2
4 July 2016	Workgroup meeting 3
11 July 2016	Workgroup Meeting 4
27 July 2016	Workgroup Meeting 5 (teleconference)
~~18 July 2016~~ 29 July 2016	Workgroup Consultation issued ~~(15 Working days)~~ (17 Working Days)
11 August 2016	Workgroup meeting 6
~~8 August 2016~~ 24 August 2016	Deadline for responses
30 August 2016	Workgroup meeting 7 **(WG review Consultation Reponses)**
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7 September 2016	Workgroup meeting 9 (WG cont. of WACM options)
12 September 2016	Workgroup meeting 10 (WG cont. of WACM options)
19 September 2016	Workgroup meeting 11 (WG WACM vote)
5 October 2016	Workgroup meeting 12 (WG vote)
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~~30 August 2016~~ ~~3 October 2016~~ 25 October 2016	Code Administrator Consultation issued (~~10~~ 8 Working days)
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10 November 2016	
~~22 September 2016~~ ~~24 October 2016~~ 15 November 2016	Deadline for comments
~~23 September 2016~~ ~~20 October 2016~~ 17 November 2016	Draft FMR circulated to Panel
~~30 September 2016~~ ~~28 October 2016~~ 23 November 2016	Special CUSC Panel Recommendation vote
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~~10 October 2016~~ ~~3 November 2016~~ 25 November 2016	Deadline for Panel comment
~~12 October 2016~~ ~~4 November 2016~~ 28 November 2016	Final report sent to Authority for decision
~~26 October 2016~~ ~~18 November 2016~~ 12 December 2016	Indicative Authority Decision due (10 Working days)
2 November 2016 ~~25 November 2016~~ 19 December 2016	Implementation date (5 Working days later)

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Workgroup Terms of Reference and Membership

TERMS OF REFERENCE FOR CMP 269 WORKSHOP

CMP269 aims for the CMP264 Workgroup to address a number of consequential changes required to non-charging sections of the CUSC to reflect the CMP264 Proposal or any alternative proposals agreed by the CMP264 Workgroup.

Responsibilities

1. The Workgroup is responsible for assisting the CUSC Modifications Panel in the evaluation of CUSC Modification Proposal **CMP269 'Potential consequential changes to the CUSC as a result of CMP264'** tabled by Scottish Power at the Modifications Panel meeting on 26 August 2016.

2. The proposal must be evaluated to consider whether it better facilitates achievement of the Applicable CUSC Objectives. These can be summarised as follows:

Standard CUSC Objectives

(a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission Licence;

(b) Facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity;

(c) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency.

Scope of work

3. The Workgroup must consider the issues raised by the Modification Proposal and consider if the proposal identified better facilitates achievement of the Applicable CUSC Objectives.

4. In addition to the overriding requirement of paragraph 4, the Workgroup shall consider and report on the following specific issues:

a)
b)
c)

5. The Workgroup is responsible for the formulation and evaluation of any Workgroup Alternative CUSC Modifications (WACMs) arising from Group discussions which would, as compared with the Modification Proposal or the current version of the CUSC, better facilitate achieving the Applicable CUSC Objectives in relation to the issue or defect identified.

6. The Workgroup should become conversant with the definition of Workgroup Alternative CUSC Modification which appears in Section 11 (Interpretation and Definitions) of the CUSC. The definition entitles the Group and/or an individual member of the Workgroup to put forward a WACM if the member(s) genuinely believes the WACM would better facilitate the achievement of the Applicable CUSC Objectives, as compared with the Modification Proposal or the current version of the CUSC. The extent of the support for the Modification Proposal or any WACM arising from the Workgroup's discussions should be clearly described in the final Workgroup Report to the CUSC Modifications Panel.

7. Workgroup members should be mindful of efficiency and propose the fewest number of WACMs possible.

8. All proposed WACMs should include the Proposer(s)'s details within the final Workgroup report, for the avoidance of doubt this includes WACMs which are proposed by the entire Workgroup or subset of members.

9. There is an obligation on the Workgroup to undertake a period of Consultation in accordance with CUSC 8.20. The Workgroup Consultation period shall be for a period of **XX working days** as determined by the Modifications Panel.

10. Following the Consultation period the Workgroup is required to consider all responses including any WG Consultation Alternative Requests. In undertaking an assessment of any WG Consultation Alternative Request, the Workgroup should consider whether it better facilitates the Applicable CUSC Objectives than the current version of the CUSC.

    As appropriate, the Workgroup will be required to undertake any further analysis and update the original Modification Proposal and/or WACMs. All responses including any WG Consultation Alternative Requests shall be included within the final report including a summary of the Workgroup's deliberations and conclusions. The report should make it clear where and why the Workgroup chairman has exercised his right under the CUSC to progress a WG Consultation Alternative Request or a WACM against the majority views of Workgroup members. It should also be explicitly stated where, under these circumstances, the Workgroup chairman is employed by the same organisation who submitted the WG Consultation Alternative Request.

11. The Workgroup is to submit its final report to the Modifications Panel Secretary on **xx xxx 2016** for circulation to Panel Members. The final report conclusions will be presented to the CUSC Modifications Panel meeting on **xx xxx 2016**

Membership

12. It is recommended that the Workgroup has the same membership as CMP264.

NB: A Workgroup must comprise at least 5 members (who may be Panel Members). The roles identified with an asterisk in the table above contribute toward the required quorum, determined in accordance with paragraph 14 below.

13. The chairman of the Workgroup and the Modifications Panel Chairman must agree a number that will be quorum for each Workgroup meeting. The agreed figure for CMP269 is that at least 5 Workgroup members must participate in a meeting for quorum to be met.

14. A vote is to take place by all eligible Workgroup members on the Modification Proposal and each WACM. The vote shall be decided by simple majority of those present at the meeting at which the vote takes place (whether in person or by teleconference). The Workgroup chairman shall not have a vote, casting or otherwise]. There may be up to three rounds of voting, as follows:

- Vote 1: whether each proposal better facilitates the Applicable CUSC Objectives;
- Vote 2: where one or more WACMs exist, whether each WACM better facilitates the Applicable CUSC Objectives than the original Modification Proposal*;*
- Vote 3: which option is considered to BEST facilitate achievement of the Applicable CUSC Objectives. For the avoidance of doubt, this vote should include the existing CUSC baseline as an option.

The results from the vote and the reasons for such voting shall be recorded in the Workgroup report in as much detail as practicable.

15. It is expected that Workgroup members would only abstain from voting under limited circumstances, for example where a member feels that a proposal has been insufficiently developed. Where a member has such concerns, they should raise these with the Workgroup chairman at the earliest possible opportunity and certainly before the Workgroup vote takes place. Where abstention occurs, the reason should be recorded in the Workgroup report.

16. Workgroup members or their appointed alternate are required to attend a minimum of 50% of the Workgroup meetings to be eligible to participate in the Workgroup vote.

17. The Technical Secretary shall keep an Attendance Record for the Workgroup meetings and circulate the Attendance Record with the Action Notes after each meeting. This will be attached to the final Workgroup report.

18. The Workgroup membership can be amended from time to time by the CUSC Modifications Panel.

Appendix 1

1 September 2016	Workgroup meeting 8 (WG to agree options for WACMs)
7 September 2016	Workgroup meeting 9 (WG cont. of WACM options)
12 September 2016	Workgroup meeting 10 (WG cont. of WACM options)
19 September 2016	Workgroup meeting 11 (WG WACM vote)
5 October 2016	Workgroup meeting 12 (WG vote)
20 October 2016	Workgroup report issued to CUSC Panel
25 October 2016	Special CUSC Panel meeting to discuss Workgroup Report

25 October 2016	Code Administrator Consultation issued (~~10~~ 8 Working days)
4 November 2016	Deadline for responses
10 November 2016	Draft FMR published for industry comment (~~5~~ 2 Working days)
15 November 2016	Deadline for comments
17 November 2016	Draft FMR circulated to Panel
23 November 2016	Special CUSC Panel Recommendation vote
23 November 2016	FMR circulated for Panel comment (~~3~~2 Working days)
25 November 2016	Deadline for Panel comment
28 November 2016	Final report sent to Authority for decision
12 December 2016	Indicative Authority Decision due (10 Working days)
19 December 2016	Implementation date (5 Working days later)

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Workgroup Terms of Reference and Membership

TERMS OF REFERENCE FOR CMP 270 WORKSHOP

CMP270 aims for the CMP265 Workgroup to address a number of consequential changes required to non-charging sections of the CUSC to reflect the CMP265 Proposal or any alternative proposals agreed by the CMP265 Workgroup.

Responsibilities

1. The Workgroup is responsible for assisting the CUSC Modifications Panel in the evaluation of CUSC Modification Proposal **CMP270 'Potential consequential changes to the CUSC as a result of CMP265'** tabled by EDF Energy at the Modifications Panel meeting on 26 August 2016.

2. The proposal must be evaluated to consider whether it better facilitates achievement of the Applicable CUSC Objectives. These can be summarised as follows:

Standard CUSC Objectives

(a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission Licence;

(b) Facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity;

(c) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency.

Scope of work

3. The Workgroup must consider the issues raised by the Modification Proposal and consider if the proposal identified better facilitates achievement of the Applicable CUSC Objectives.

4. In addition to the overriding requirement of paragraph 4, the Workgroup shall consider and report on the following specific issues:

a)
b)
c)

5. The Workgroup is responsible for the formulation and evaluation of any Workgroup Alternative CUSC Modifications (WACMs) arising from Group discussions which would, as compared with the Modification Proposal or the current version of the CUSC, better facilitate achieving the Applicable CUSC Objectives in relation to the issue or defect identified.

6. The Workgroup should become conversant with the definition of Workgroup Alternative CUSC Modification which appears in Section 11 (Interpretation and Definitions) of the CUSC. The definition entitles the Group and/or an individual member of the Workgroup to put forward a WACM if the member(s) genuinely believes the WACM would better facilitate the achievement of the Applicable CUSC Objectives, as compared with the Modification Proposal or the current version of the CUSC. The extent of the support for the Modification Proposal or any WACM arising from the Workgroup's discussions should be clearly described in the final Workgroup Report to the CUSC Modifications Panel.

7. Workgroup members should be mindful of efficiency and propose the fewest number of WACMs possible.

8. All proposed WACMs should include the Proposer(s)'s details within the final Workgroup report, for the avoidance of doubt this includes WACMs which are proposed by the entire Workgroup or subset of members.

9. There is an obligation on the Workgroup to undertake a period of Consultation in accordance with CUSC 8.20. The Workgroup Consultation period shall be for a period of **xx working days** as determined by the Modifications Panel.

10. Following the Consultation period the Workgroup is required to consider all responses including any WG Consultation Alternative Requests. In undertaking an assessment of any WG Consultation Alternative Request, the Workgroup should consider whether it better facilitates the Applicable CUSC Objectives than the current version of the CUSC.

    As appropriate, the Workgroup will be required to undertake any further analysis and update the original Modification Proposal and/or WACMs. All responses including any WG Consultation Alternative Requests shall be included within the final report including a summary of the Workgroup's deliberations and conclusions. The report should make it clear where and why the Workgroup chairman has exercised his right under the CUSC to progress a WG Consultation Alternative Request or a WACM against the majority views of Workgroup members. It should also be explicitly stated where, under these circumstances, the Workgroup chairman is employed by the same organisation who submitted the WG Consultation Alternative Request.

11. The Workgroup is to submit its final report to the Modifications Panel Secretary on **xx xxx 2016** for circulation to Panel Members. The final report conclusions will be presented to the CUSC Modifications Panel meeting on **xx xxx 2016**.

Membership

12. It is recommended that the Workgroup has the following members as CMP265.

NB: A Workgroup must comprise at least 5 members (who may be Panel Members). The roles identified with an asterisk in the table above contribute toward the required quorum, determined in accordance with paragraph 14 below.

13. The chairman of the Workgroup and the Modifications Panel Chairman must agree a number that will be quorum for each Workgroup meeting. The agreed figure for CMP270 is that at least 5 Workgroup members must participate in a meeting for quorum to be met.

14. A vote is to take place by all eligible Workgroup members on the Modification Proposal and each WACM. The vote shall be decided by simple majority of those present at the meeting at which the vote takes place (whether in person or by teleconference). The Workgroup chairman shall not have a vote, casting or otherwise]. There may be up to three rounds of voting, as follows:

- Vote 1: whether each proposal better facilitates the Applicable CUSC Objectives;
- Vote 2: where one or more WACMs exist, whether each WACM better facilitates the Applicable CUSC Objectives than the original Modification Proposal*;*
- Vote 3: which option is considered to BEST facilitate achievement of the Applicable CUSC Objectives. For the avoidance of doubt, this vote should include the existing CUSC baseline as an option.

The results from the vote and the reasons for such voting shall be recorded in the Workgroup report in as much detail as practicable.

15. It is expected that Workgroup members would only abstain from voting under limited circumstances, for example where a member feels that a proposal has been insufficiently developed. Where a member has such concerns, they should raise these with the Workgroup chairman at the earliest possible opportunity and certainly before the Workgroup vote takes place. Where abstention occurs, the reason should be recorded in the Workgroup report.

16. Workgroup members or their appointed alternate are required to attend a minimum of 50% of the Workgroup meetings to be eligible to participate in the Workgroup vote.

17. The Technical Secretary shall keep an Attendance Record for the Workgroup meetings and circulate the Attendance Record with the Action Notes after each meeting. This will be attached to the final Workgroup report.

18. The Workgroup membership can be amended from time to time by the CUSC Modifications Panel.

Appendix 1

1 September 2016	Workgroup meeting 8 (WG to agree options for WACMs)
7 September 2016	Workgroup meeting 9 (WG cont. of WACM options)
12 September 2016	Workgroup meeting 10 (WG cont. of WACM options)
19 September 2016	Workgroup meeting 11 (WG WACM vote)
5 October 2016	Workgroup meeting 12 (WG vote)
20 October 2016	Workgroup report issued to CUSC Panel
25 October 2016	Special CUSC Panel meeting to discuss Workgroup Report

25 October 2016	Code Administrator Consultation issued (~~10~~ 8 Working days)
4 November 2016	Deadline for responses
10 November 2016	Draft FMR published for industry comment (~~5~~ 2 Working days)
15 November 2016	Deadline for comments
17 November 2016	Draft FMR circulated to Panel
23 November 2016	Special CUSC Panel Recommendation vote
23 November 2016	FMR circulated for Panel comment (~~3~~2 Working days)
25 November 2016	Deadline for Panel comment
28 November 2016	Final report sent to Authority for decision
12 December 2016	Indicative Authority Decision due (10 Working days)
19 December 2016	Implementation date (5 Working days later)

Annex 3– Workgroup attendance register

A – Attended
X – Absent
O – Alternate
D – Dial-in

Name	Organisation	Role	13/06/16 CMP 265 14/06/16 CMP 264	21/06/16	04/07/16	11/07/16	28/07/16 (t-conf)	11/8/16	30/8/16	1/9/16	7/9/16	12/9/16	15/9/16	19/9/16	5/10/16
Louise Schmitz	National Grid	Chair	A	A	A	A	AD	A	A	A	A	A	A	X	A
John Martin	National Grid	Chair (alternate)	X	X	X	X	X	X	X	X	X	X	X	A	X
Ryan Place	National Grid	Technical Secretary	A	X	X	X	X	X	X	X	X	X	X	X	X
Caroline Wright	National Grid		A	A	A	X	A	A	A	A	A	A	A	A	A
Heena Chauhan	National Grid		X	X	X	A	X	X	X	X	X	X	X	X	X
Paul Wakeley	National Grid	National Grid Rep	A	A	A	A	A	A	A	A	X	X	X	X	X
Rob Marshall	National Grid	National Grid Rep	X	X	X	X	X	X	A	A	A	A	A	A	A
John Harmer	Alkane	Workgroup member	A	AD	A	A	AD	A	A	A	A	A	A	A	A
Tim Collins	Centrica	Workgroup member	X	A	A	A	AD	A	A	A	A	A/D	A	A	A

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George Moran	Centrica	Workgroup alternate	X	X	X	X	X	X	X	X	X	X	X	X	X
Andy Pace	Cornwall Energy	Workgroup member	A	A	X	A	AD	A	X	A	A/D	A/D	A	A	A/D
Tim Dixon	Cornwall Energy	Workgroup alternate	X	X	AO	X	X	X	X	X	X	X	X	X	X
Tom Edwards	Cornwall Energy	Workgroup alternate	X	X	X	X	X	X	A	X	X	X	X	X	X
Joseph Underwood	Drax Power	Workgroup member	A	A	A	A	AD	A	A	A	X	X	X	X	A
Paul Mott	EDF Energy	CMP265 Proposer	X	A	A	A	AD	A	A	A	A	A	A	A	A
Mark Cox	EDF Energy	Workgroup alternate	AO	X	X	X	X	X	X	X	X	X	X	X	X
Natasha Ranatunga	EDF Energy	Workgroup alternate	AD	X	X	X	X	X	X	X	X	X	X	X	X
Michael Davies	Eider Reserve Power	Workgroup member	A	A	A	AD	X	A	A	A	A	A	A	A	X
Nicholas Rubin	ELEXON	Observer	X	X	A	A	AD	A	A	A/D	X	X	A/D	X	X
John Lucas	ELEXON	Observer	X	A	X	X	X	X	X	X	A	X	X	X	X
Talia Addy	ELEXON	Observer	X	A	X	X	X	X	X	X	X	X	X	X	X

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Kate Dooley	Energy UK	Observer	AD	X	AD	X	X	X	X	X	X	X	X	X	X
Simon Lord	Engie	Workgroup member	A	A	A	A	A	A	A	A	A	A	A	A	A
Stephen Davies	EON	Workgroup member	A	X	A	X	X	X	A	A	A	X	X	A	X
Laurence Barrett	EON	Workgroup alternate	X	X	X	X	X	A	X	X	X	A	A	A	A
Brian Tilley	EON	Workgroup alternate	X	X	X	AO	X	X	X	X	X	X	X	X	X
Graz MacDonald	Greenfrog Power	Workgroup member	A	A	A	AD	AD	X	A	A	A	A/D	A/D	A/D	X
Mark Jones	Greenfrog Power	Workgroup alternate	X	X	X	X	X	X	X	X	X	A	A	X	X
Jeremy Taylor	Greenfrog Power	Workgroup alternate	X	X	X	X	X	X	X	X	X	X	X	A	A
Christopher Granby	Infinis	Workgroup member	A	A	X	A	X	X	X	X	X	A	X	A	A
Anthony Collet	Infinis	Workgroup alternate	X	X	X	X	X	X	X	A	X	X	X	X	X
Jon Crouch	Infinis	Workgroup alternate	X	X	X	X	X	X	X	X	A/D	X	X	X	X
Mick Collister	Infinis	Workgroup alternate	X	X	X	X	X	X	A	X	X	X	X	X	X

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Lucas Lilja	Intergen	Observer	X	AD	X	X	AD	X	X	X	X	X	X	X	X
Bruno Menu	Lime Jump	Observer	X	X	X	X	X	X	X	X	X	X	X	X	X
Lars Weber	NEAS Energy	Workgroup member	A	A	A	A	X	A	A	A/D	X	X	X	X	X
Dominic Green	Ofgem	Observer	AD	A	A	X	AD	X	A	A	A	A	X	A	A
Dena Barasi	Ofgem	Observer	X	X	X	X	X	A	X	X	A	X	A/D	X	X
Jon Fairchild	Peakgen	Workgroup alternate	A	X	X	X	X	X	X	X	X	X	X	X	X
Mark Draper	Peakgen	Workgroup Member	X	AO	AO	AO	AD	A	A	X	X	X	X	X	X
Nick Sillito	Peakgen	Workgroup alternate	X	X	X	X	X	X	X	A	A	A	A	A	A
Bill Reed	RWE Supply and Trading	Workgroup member	A	A	A	A	AD	A	A	A	A	A	A	A	A
Fruzina Kemenes	Innogy Renewables and npower	Workgroup member	X	AO	AO	X	AD	A	A	X	X	A/D	A	A	A
Herdial Dosanjh	Npower	Workgroup alternate	X	X	X	X	X	X	X	A	X	X	X	X	X

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George Douthwaite	RWE Npower	Workgroup alternate	X	X	X	AO	AD	X	X	X	A/D	A	X	X	X
James Anderson	Scottish Power	Workgroup member	X	A	A	X	AD	A	A	A	A	A	A	A	A
Richard Sweet	Scottish Power	Workgroup alternate	A	X	X	X	X	X	X	X	X	A	A	X	X
Rupert Steele	Scottish Power	CMP264 Proposer	AO	X	X	AO	X	A	X	X	X	X	X	X	X
John Tindal	SSE	Workgroup member	A	A	A	X	AD	A	A	A	A	A	A	A	A
Gareth Graham	SSE	Workgroup alternate	X	X	X	AO	X	X	X	X	X	X	X	X	X
Kirsten Gardner	Stag Energy	Workgroup member	A	A	AD	A	AD	A	A/D	A/D	A	A/D	A/D	A	X
Adam Heffill	Stag Energy	Workgroup alternate	X	X	X	X	X	X	X	X	X	X	X	X	A
Jonathan Graham	The ADE	Workgroup member	A	X	A	A	AD	A	A	A	A	A	A	A	A
Tim Rotheray	The ADE	Workgroup alternate	X	AO	X	X	X	X	X	X	X	X	X	X	X
Sam Wither	UK Power Reserve	Workgroup member	A	X	X	A	AD	A	A/D	A	A	A	A	A	A

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Ian Tanner	UK Power Reserve	Workgroup alternate	AO	A/D	A/D	AD	AD	X	X	X	X	X	X	X	X
Guy Phillips	Unipe r	Workgroup member	A	A	A	AD	X	A	X	X	X	A	X	X	X
Paul Jones	Unipe r	Workgroup alternate	X	X	X	X	AD	X	A	A	A	A	A/D	A	A
Lisa Waters	Waters Wye	Workgroup member	A	A	A	X	X	A	A	A	A	X	A/D	X	A
Matthew Tucker	Welsh Power	Workgroup member	A	A	A	A	X	A	A	A	A	A	A	A	A