

## Contents page for responses to the Code Administrator Consultation Report

The responses received to the Workgroup Consultation Report are listed below with the page references:

	<b>company name that responded to the Workgroup Consultation Report</b>	<b>CMP264</b>	<b>CMP265</b>	<b>CMP269</b>	<b>CMP270</b>
1	ADE	2-8	9-15	16-22	23- 29
2	Alkane	30 – 33	34 – 38	n/a	n/a
3	AMP	39 – 40	41 – 42	n/a	n/a
4	Centrica	43 – 46	47 – 50	n/a	n/a
5	DRAX	51 – 57	58 – 64	65 – 66	67 – 68
6	EDF	69 – 72	73 – 75	76 – 77	78 – 80
7	Eider	81 – 84	85 – 88	n/a	n/a
8	Engie	89 – 93	94 – 98	n/a	n/a
9	EON	99 – 104	105 – 110	111 – 112	113 – 114
10	ESA	115 – 117	118 – 120	n/a	n/a
11	FCC	121 – 123	124 – 126	n/a	n/a
12	Good Energy	127 – 131	132 - 136	n/a	n/a
13	Green Frog	137 – 139	140 – 142	143 – 145	146 – 148
14	Infinis	149 – 151	152 – 154	n/a	n/a
15	OVO	155 – 157	158 – 160	n/a	n/a
16	Peakgen	161 – 165	166 – 167	168 – 169	170 – 171
17	REA	172 – 177	178 – 183	184 – 189	190 – 194
18	Renewable UK	195 – 200	201 – 206	207 – 212	213 – 218
19	RES	219 – 221	222 – 224	n/a	n/a
20	RWE Generation	225 – 226	227 – 228	n/a	n/a
21	Scottish Power	229 – 240	241 – 248	249 – 257	258 – 264
22	Scottish Renewables	265	266	n/a	n/a
23	Smartest Energy	267 – 270	n/a	n/a	n/a
24	Solar Trade Association	271 – 273	274 – 277	278 – 280	281 - 283
25	SSE	284 – 305	306 – 326	327 – 348	349 – 369
26	Statkraft	370 – 374	375 – 378	n/a	n/a
27	UKPR	379 – 382	383	n/a	n/a
28	Vattenfall	384 – 398	399 – 413	n/a	n/a
29	Veolia	414 – 418	419 – 423	n/a	n/a
30	Watt Power	424 – 427	428 - 430	n/a	n/a

## CMP264 'Embedded Generation Triad Avoidance Standstill'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Jonathan Graham, Head of Policy, on behalf of ADE members</i>
<b>Company Name:</b>	<i>The Association for Decentralised Energy</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li> </ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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<b>Q</b>	<b>Question</b>	<b>Response</b>
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Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No. We fully support all of the points made under the work group conclusions by “<i>Workgroup members who supported stabilisation of charges pending a review and/or grandfathering</i>”</p> <p><b>Objective A:</b> 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. It will create a system where a demand users and distributed generators will face entirely different price signals from network charges about where to site and face different charging methodologies rates imposing the same costs on the system. No solution to these distortions and discrimination has been proposed or are foreseeable.</p> <p><b>Objective B:</b> Insufficient analysis was undertaken regarding the long run marginal cost of distributed generation and whether this is reflected by the current locational charge. We fully agree with the work group conclusion that the determination of what is and is not cost reflective should only be based upon analysis and evidence, and that no evidence provided by the proposer and related parties on the long run marginal cost impacts of distributed generation. However, 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 unestimated 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.</p> <p>The timescales for consideration of these proposals, set by Ofgem and agreed by the CUSC Panel, has prevented a more considered, more methodological, more holistic solution, backed up by evidence, from being considered,</p>

Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>In lieu of a full review of available analysis, ADE E 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. We would further note that Cornwall Energy's analysis is the only quantitative evidence provided to the work group on the long run marginal cost avoided by distributed generation. Due to the rushed timescales of this work group and the existence of conflicting analysis, it is right for the CUSC Panel and the Regulator to take a low-risk approach in considering any change</p> <p><b>Objective C:</b> 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. 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 and needs to be addressed if the changing nature of the transmission network assets is to be taken accounted for in the CUSC methodology.</p> <p><b>Objective D:</b> The proposal and all of the alternatives apply discrimination between different users does not comply with Directive 2009/72/EC.</p> <p><b>Objective E:</b> 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 costs and inefficiencies for both suppliers and small generators, none of which were considered by the work group. Further action will be required to address the demand residual, meaning this modification will require repeated interventions, each change creating new implementation costs which could have been avoided with a more holistic approach.</p>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>The proposed legal text is a reasonable approach in finding a practical way to implement these proposals.</p> <p>However, we would state that the 10 working days allowed under this consultation is insufficient for any stakeholder, especially smaller stakeholders without dedicated regulatory teams, to consider the proposed implementation approaches for 41 alternatives across both CMP264 and CMP265, set out in more than 5,300 pages of consultation and legal text.</p> <p>Therefore the CUSC Panel and the Regulator are at significant risk of implementing a proposed approach which will result in unintended consequences and require additional modifications to fix, significant market errors and increased market uncertainty.</p> <p>We also have concerns that all of the implementation proposals rely on distorting the TNUoS charging methodology by implementing a 'distributed generation tariff', which would be set a different methodology to that used for all other demand users. The aim of the CUSC is to set a neutral methodology which applies equally to all users, and the implementation of the 'distributed generation tariff' under the proposal and all the alternatives breaks with this neutral, non-discriminatory approach.</p> <p>We would further note that if any proposal or alternative is implemented, they should be implemented on long-term timescales, to set out a clear market transition for generators, demand users and suppliers. Any parties making any investment decision would be aware of this decision and therefore a more considered implementation date of 2020 should be considered.</p> <p>If the CUSC Panel and the Regulator prefer to implement a grandfathered approach as envisioned by CMP264, we would recommend instead implementing alternative ADE C. Under this alternative, the new generation cut-off would be pushed back to June 2019, but generation which receives new contracts under the CM or CfD regimes would be ineligible to access the embedded benefit. This alternative would protect under-construction generation while prohibiting new entrants from accessing the benefit.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>We do not think the CMP264/CMP265 work group met any reasonable test for considered, evidence-based approaches to the proposed changes, and there seems to be genuine concern from across the energy industry – including some transmission generators – that such a significant change could take place on so little consideration, review or independent evidence.</p> <p>The vast majority of industry consultation responses responded against these proposed modifications and many indicated a preference for a more thorough, analytical review.</p> <p>The current CUSC process is not delivering the kind of change that is currently needed in response to major market developments, and is not able to take a whole system view of individual CUSC changes. We continue to state that the correct step is for an independent, holistic review, set to clear parameters and a clear timetable, to secure an agreed pathway for reform, delivered in stages.</p> <p>The result of these proposals has been to create significant uncertainty at a time when security of supply concerns are looming larger. Large volumes of older generation is either closing or is not available to the market, and there are increased risk to supply from French interconnectors. Added uncertainty for distributed generators only exacerbates the risk of consumer detriment from power shortages and substantially more volatile power prices. Ofgem needs to quickly provide confidence to the distributed generation industry such that investments can take place to mitigate consumers from some of these effects.</p> <p>If the CUSC Panel and the Regulator do feel that immediate action and that they plan to implement one of the relevant alternatives, then we would argue that the rushed process and the existence of conflicting evidence should create significant concern of taking a decision which swings against consumer interest and causes irreparable harm to the energy and industrial manufacturing sectors, as well as to security of supply. We would argue these risks should require a course of least harm while a more thorough independent industry review of the evidence on the appropriate strategic pathway can be undertaken. Such an approach would be best implemented through ADE E, which is based on quantitative</p>

Q	Question	Response
3	<b>Do you have any other comments?</b>	quantitative evidence and would apply to all generators equally, reducing the market distortions envisioned under a number of other alternatives.

## CUSC Code Administrator Consultation Response Proforma

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Jonathan Graham, Head of Policy, on behalf of ADE members</i>
<b>Company Name:</b>	<i>The Association for Decentralised Energy</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any</li> </ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
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Q	Question	Response
1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No. We fully support all of the points made under the work group conclusions by “<i>Workgroup members who supported stabilisation of charges pending a review and/or grandfathering</i>”</p> <p><b>Objective A:</b> 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. It will create a system where a demand users and distributed generators will face entirely different price signals from network charges about where to site and face different charging methodologies rates imposing the same costs on the system. No solution to these distortions and discrimination has been proposed or are foreseeable.</p> <p><b>Objective B:</b> Insufficient analysis was undertaken regarding the long run marginal cost of distributed generation and whether this is reflected by the current locational charge. We fully agree with the work group conclusion that the determination of what is and is not cost reflective should only be based upon analysis and evidence, and that no evidence provided by the proposer and related parties on the long run marginal cost impacts of distributed generation. However, 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 unestimated 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.</p> <p>The timescales for consideration of these proposals, set by Ofgem and agreed by the CUSC Panel, has prevented a more considered, more methodological, more holistic solution, backed up by evidence, from being considered,</p>

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1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>In lieu of a full review of available analysis, ADE E 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. We would further note that Cornwall Energy's analysis is the only quantitative evidence provided to the work group on the long run marginal cost avoided by distributed generation. Due to the rushed timescales of this work group and the existence of conflicting analysis, it is right for the CUSC Panel and the Regulator to take a low-risk approach in considering any change</p> <p><b>Objective C:</b> 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. 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 and needs to be addressed if the changing nature of the transmission network assets is to be taken accounted for in the CUSC methodology.</p> <p><b>Objective D:</b> The proposal and all of the alternatives apply discrimination between different users does not comply with Directive 2009/72/EC.</p> <p><b>Objective E:</b> 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 costs and inefficiencies for both suppliers and small generators, none of which were considered by the work group. Further action will be required to address the demand residual, meaning this modification will require repeated interventions, each change creating new implementation costs which could have been avoided with a more holistic approach.</p>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>The proposed legal text is a reasonable approach in finding a practical way to implement these proposals.</p> <p>However, we would state that the 10 working days allowed under this consultation is insufficient for any stakeholder, especially smaller stakeholders without dedicated regulatory teams, to consider the proposed implementation approaches for 41 alternatives across both CMP264 and CMP265, set out in more than 5,300 pages of consultation and legal text.</p> <p>Therefore the CUSC Panel and the Regulator are at significant risk of implementing a proposed approach which will result in unintended consequences and require additional modifications to fix, significant market errors and increased market uncertainty.</p> <p>We also have concerns that all of the implementation proposals rely on distorting the TNUoS charging methodology by implementing a 'distributed generation tariff', which would be set a different methodology to that used for all other demand users. The aim of the CUSC is to set a neutral methodology which applies equally to all users, and the implementation of the 'distributed generation tariff' under the proposal and all the alternatives breaks with this neutral, non-discriminatory approach.</p> <p>We would further note that if any proposal or alternative is implemented, they should be implemented on long-term timescales, to set out a clear market transition for generators, demand users and suppliers. Any parties making any investment decision would be aware of this decision and therefore a more considered implementation date of 2020 should be considered.</p>

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3	<p><b>Do you have any other comments?</b></p>	<p>We do not think the CMP264/CMP265 work group met any reasonable test for considered, evidence-based approaches to the proposed changes, and there seems to be genuine concern from across the energy industry – including some transmission generators – that such a significant change could take place on so little consideration, review or independent evidence.</p> <p>The vast majority of industry consultation responses responded against these proposed modifications and many indicated a preference for a more thorough, analytical review.</p> <p>The current CUSC process is not delivering the kind of change that is currently needed in response to major market developments, and is not able to take a whole system view of individual CUSC changes. We continue to state that the correct step is for an independent, holistic review, set to clear parameters and a clear timetable, to secure an agreed pathway for reform, delivered in stages.</p> <p>The result of these proposals has been to create significant uncertainty at a time when security of supply concerns are looming larger. Large volumes of older generation is either closing or is not available to the market, and there are increased risk to supply from French interconnectors. Added uncertainty for distributed generators only exacerbates the risk of consumer detriment from power shortages and substantially more volatile power prices. Ofgem needs to quickly provide confidence to the distributed generation industry such that investments can take place to mitigate consumers from some of these effects.</p> <p>If the CUSC Panel and the Regulator do feel that immediate action and that they plan to implement one of the relevant alternatives, then we would argue that the rushed process and the existence of conflicting evidence should create significant concern of taking a decision which swings against consumer interest and causes irreparable harm to the energy and industrial manufacturing sectors, as well as to security of supply. We would argue these risks should require a course of least harm while a more thorough independent industry review of the evidence on the appropriate strategic pathway can be undertaken. Such an approach would be best implemented through ADE E, which is based on quantitative</p>

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3	<b>Do you have any other comments?</b>	quantitative evidence and would apply to all generators equally, reducing the market distortions envisioned under a number of other alternatives.

## CUSC Code Administrator Consultation Response Proforma

### CMP269 'Potential consequential changes to the CUSC as a result of CMP264'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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<b>Respondent:</b>	<i>Jonathan Graham, Head of Policy, on behalf of ADE members</i>
<b>Company Name:</b>	<i>The Association for Decentralised Energy</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li></ul>

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<b>Q</b>	<b>Question</b>	<b>Response</b>
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Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No. We fully support all of the points made under the work group conclusions by “<i>Workgroup members who supported stabilisation of charges pending a review and/or grandfathering</i>”</p> <p><b>Objective A:</b> 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. It will create a system where a demand users and distributed generators will face entirely different price signals from network charges about where to site and face different charging methodologies rates imposing the same costs on the system. No solution to these distortions and discrimination has been proposed or are foreseeable.</p> <p><b>Objective B:</b> Insufficient analysis was undertaken regarding the long run marginal cost of distributed generation and whether this is reflected by the current locational charge. We fully agree with the work group conclusion that the determination of what is and is not cost reflective should only be based upon analysis and evidence, and that no evidence provided by the proposer and related parties on the long run marginal cost impacts of distributed generation. However, 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 unestimated 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.</p> <p>The timescales for consideration of these proposals, set by Ofgem and agreed by the CUSC Panel, has prevented a more considered, more methodological, more holistic solution, backed up by evidence, from being considered.</p>

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1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>In lieu of a full review of available analysis, ADE E 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. We would further note that Cornwall Energy's analysis is the only quantitative evidence provided to the work group on the long run marginal cost avoided by distributed generation. Due to the rushed timescales of this work group and the existence of conflicting analysis, it is right for the CUSC Panel and the Regulator to take a low-risk approach in considering any change</p> <p><b>Objective C:</b> 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. 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 and needs to be addressed if the changing nature of the transmission network assets is to be taken accounted for in the CUSC methodology.</p> <p><b>Objective D:</b> The proposal and all of the alternatives apply discrimination between different users does not comply with Directive 2009/72/EC.</p> <p><b>Objective E:</b> 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 costs and inefficiencies for both suppliers and small generators, none of which were considered by the work group. Further action will be required to address the demand residual, meaning this modification will require repeated interventions, each change creating new implementation costs which could have been avoided with a more holistic approach.</p>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>The proposed legal text is a reasonable approach in finding a practical way to implement these proposals.</p> <p>However, we would state that the 10 working days allowed under this consultation is insufficient for any stakeholder, especially smaller stakeholders without dedicated regulatory teams, to consider the proposed implementation approaches for 41 alternatives across both CMP264 and CMP265, set out in more than 5,300 pages of consultation and legal text.</p> <p>Therefore the CUSC Panel and the Regulator are at significant risk of implementing a proposed approach which will result in unintended consequences and require additional modifications to fix, significant market errors and increased market uncertainty.</p> <p>We also have concerns that all of the implementation proposals rely on distorting the TNUoS charging methodology by implementing a 'distributed generation tariff', which would be set a different methodology to that used for all other demand users. The aim of the CUSC is to set a neutral methodology which applies equally to all users, and the implementation of the 'distributed generation tariff' under the proposal and all the alternatives breaks with this neutral, non-discriminatory approach.</p> <p>We would further note that if any proposal or alternative is implemented, they should be implemented on long-term timescales, to set out a clear market transition for generators, demand users and suppliers. Any parties making any investment decision would be aware of this decision and therefore a more considered implementation date of 2020 should be considered.</p> <p>If the CUSC Panel and the Regulator prefer to implement a grandfathered approach as envisioned by CMP264, we would recommend instead implementing alternative ADE C. Under this alternative, the new generation cut-off would be pushed back to June 2019, but generation which receives new contracts under the CM or CfD regimes would be ineligible to access the embedded benefit. This alternative would protect under-construction generation while prohibiting new entrants from accessing the benefit.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>We do not think the CMP264/CMP265 work group met any reasonable test for considered, evidence-based approaches to the proposed changes, and there seems to be genuine concern from across the energy industry – including some transmission generators – that such a significant change could take place on so little consideration, review or independent evidence.</p> <p>The vast majority of industry consultation responses responded against these proposed modifications and many indicated a preference for a more thorough, analytical review.</p> <p>The current CUSC process is not delivering the kind of change that is currently needed in response to major market developments, and is not able to take a whole system view of individual CUSC changes. We continue to state that the correct step is for an independent, holistic review, set to clear parameters and a clear timetable, to secure an agreed pathway for reform, delivered in stages.</p> <p>The result of these proposals has been to create significant uncertainty at a time when security of supply concerns are looming larger. Large volumes of older generation is either closing or is not available to the market, and there are increased risk to supply from French interconnectors. Added uncertainty for distributed generators only exacerbates the risk of consumer detriment from power shortages and substantially more volatile power prices. Ofgem needs to quickly provide confidence to the distributed generation industry such that investments can take place to mitigate consumers from some of these effects.</p> <p>If the CUSC Panel and the Regulator do feel that immediate action and that they plan to implement one of the relevant alternatives, then we would argue that the rushed process and the existence of conflicting evidence should create significant concern of taking a decision which swings against consumer interest and causes irreparable harm to the energy and industrial manufacturing sectors, as well as to security of supply. We would argue these risks should require a course of least harm while a more thorough independent industry review of the evidence on the appropriate strategic pathway can be undertaken. Such an approach would be best implemented through ADE E, which is based on quantitative</p>

Q	Question	Response
3	<b>Do you have any other comments?</b>	quantitative evidence and would apply to all generators equally, reducing the market distortions envisioned under a number of other alternatives.

## CUSC Code Administrator Consultation Response Proforma

### CMP270 'Potential consequential changes to the CUSC as a result of CMP265'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Jonathan Graham, Head of Policy, on behalf of ADE members</i>
<b>Company Name:</b>	<i>The Association for Decentralised Energy</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li> </ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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<b>Q</b>	<b>Question</b>	<b>Response</b>
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Q	Question	Response
1	<p><b>Do you believe that CMP270 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No. We fully support all of the points made under the work group conclusions by “<i>Workgroup members who supported stabilisation of charges pending a review and/or grandfathering</i>”</p> <p><b>Objective A:</b> 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. It will create a system where a demand users and distributed generators will face entirely different price signals from network charges about where to site and face different charging methodologies rates imposing the same costs on the system. No solution to these distortions and discrimination has been proposed or are foreseeable.</p> <p><b>Objective B:</b> Insufficient analysis was undertaken regarding the long run marginal cost of distributed generation and whether this is reflected by the current locational charge. We fully agree with the work group conclusion that the determination of what is and is not cost reflective should only be based upon analysis and evidence, and that no evidence provided by the proposer and related parties on the long run marginal cost impacts of distributed generation. However, 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 unestimated 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.</p> <p>The timescales for consideration of these proposals, set by Ofgem and agreed by the CUSC Panel, has prevented a more considered, more methodological, more holistic solution, backed up by evidence, from being considered.</p>

Q	Question	Response
1	<p><b>Do you believe that CMP270 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>In lieu of a full review of available analysis, ADE E 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. We would further note that Cornwall Energy's analysis is the only quantitative evidence provided to the work group on the long run marginal cost avoided by distributed generation. Due to the rushed timescales of this work group and the existence of conflicting analysis, it is right for the CUSC Panel and the Regulator to take a low-risk approach in considering any change</p> <p><b>Objective C:</b> 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. 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 and needs to be addressed if the changing nature of the transmission network assets is to be taken accounted for in the CUSC methodology.</p> <p><b>Objective D:</b> The proposal and all of the alternatives apply discrimination between different users does not comply with Directive 2009/72/EC.</p> <p><b>Objective E:</b> 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 costs and inefficiencies for both suppliers and small generators, none of which were considered by the work group. Further action will be required to address the demand residual, meaning this modification will require repeated interventions, each change creating new implementation costs which could have been avoided with a more holistic approach.</p>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>The proposed legal text is a reasonable approach in finding a practical way to implement these proposals.</p> <p>However, we would state that the 10 working days allowed under this consultation is insufficient for any stakeholder, especially smaller stakeholders without dedicated regulatory teams, to consider the proposed implementation approaches for 41 alternatives across both CMP264 and CMP265, set out in more than 5,300 pages of consultation and legal text.</p> <p>Therefore the CUSC Panel and the Regulator are at significant risk of implementing a proposed approach which will result in unintended consequences and require additional modifications to fix, significant market errors and increased market uncertainty.</p> <p>We also have concerns that all of the implementation proposals rely on distorting the TNUoS charging methodology by implementing a 'distributed generation tariff', which would be set a different methodology to that used for all other demand users. The aim of the CUSC is to set a neutral methodology which applies equally to all users, and the implementation of the 'distributed generation tariff' under the proposal and all the alternatives breaks with this neutral, non-discriminatory approach.</p> <p>We would further note that if any proposal or alternative is implemented, they should be implemented on long-term timescales, to set out a clear market transition for generators, demand users and suppliers. Any parties making any investment decision would be aware of this decision and therefore a more considered implementation date of 2020 should be considered.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>We do not think the CMP264/CMP265 work group met any reasonable test for considered, evidence-based approaches to the proposed changes, and there seems to be genuine concern from across the energy industry – including some transmission generators – that such a significant change could take place on so little consideration, review or independent evidence.</p> <p>The vast majority of industry consultation responses responded against these proposed modifications and many indicated a preference for a more thorough, analytical review.</p> <p>The current CUSC process is not delivering the kind of change that is currently needed in response to major market developments, and is not able to take a whole system view of individual CUSC changes. We continue to state that the correct step is for an independent, holistic review, set to clear parameters and a clear timetable, to secure an agreed pathway for reform, delivered in stages.</p> <p>The result of these proposals has been to create significant uncertainty at a time when security of supply concerns are looming larger. Large volumes of older generation is either closing or is not available to the market, and there are increased risk to supply from French interconnectors. Added uncertainty for distributed generators only exacerbates the risk of consumer detriment from power shortages and substantially more volatile power prices. Ofgem needs to quickly provide confidence to the distributed generation industry such that investments can take place to mitigate consumers from some of these effects.</p> <p>If the CUSC Panel and the Regulator do feel that immediate action and that they plan to implement one of the relevant alternatives, then we would argue that the rushed process and the existence of conflicting evidence should create significant concern of taking a decision which swings against consumer interest and causes irreparable harm to the energy and industrial manufacturing sectors, as well as to security of supply. We would argue these risks should require a course of least harm while a more thorough independent industry review of the evidence on the appropriate strategic pathway can be undertaken. Such an approach would be best implemented through ADE E, which is based on quantitative</p>

Q	Question	Response
3	<b>Do you have any other comments?</b>	quantitative evidence and would apply to all generators equally, reducing the market distortions envisioned under a number of other alternatives.

## CMP264 'Embedded Generation Triad Avoidance Standstill'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	John Harmer/Paul Jenkinson
<b>Company Name:</b>	Alkane Energy Limited 01623 827927
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li> </ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>Our vote for WACM21 as the outcome that, of all options available, best facilitates the CUSC objectives overall, included our rationale for reaching this conclusion.</p> <p>We also would support WACM 10, which is the least discriminatory between all forms of demand reduction or embedded generation which analysis showed had the same impact on the transmission system. We would also support WACM15. We think all sunk investment in embedded generation should be equally treated, and it was not clear cut that just those with CM/CfD commitments should be protected by grandfathering, but we do see this approach has some merit. For the long term the principle of sending an unmodified undistorted locational signal had most logic.</p> <p>We have particular concerns about WACM3 and similar variations which we note (and was confirmed in the Workgroup meetings) would lead to discrimination IN FAVOUR of transmission connected generation over time owing to the impact of the negative generator residual, alongside the favourable market access to longer term peak prices. Whilst Ofgem has expressed some concern over the negative generator residual, there is no concrete plan still less a timetable to address this. (We note Ofgem has pointed to its concerns about embedded benefits being expressed in 2007, yet it has taken 9 years for these concerns to materialise in the form of these CUSC mods.)</p>

Q	Question	Response
2	<b>Do you support the proposed implementation approach?</b>	<p>We were present at Workgroup discussions where the complexity of metering and systems changes were discussed, at times at some length.</p> <p>Our experience with the Capacity Market to date and specifically the central IT and supplier systems which we have to utilise is that they are cumbersome and inflexible and any change is likely to be expensive and time consuming to implement. We have concerns that ALL WACMs and the Original Proposal require tagging of meters and a significant volume of new data to be collected and used. We think the cost and inefficiency of the implementation processes that will be required, which has been raised by some Workgroup members but not examined in detail, has been materially underestimated.</p> <p>We welcome the consensus recognition, including by the proposer of CMP264, that change cannot realistically be implemented before the 2018/19 charging year.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>Alkane's position has been set out during Workgroup sessions, in the prior consultation and in the voting rationale. This has not changed.</p> <p>We are disturbed by the use of the CUSC process to force through a change that has such material impacts on the businesses of those that are not CUSC signatories. We feel our unfamiliarity with the process, our lack of resources, and ultimately the lack of representation on the CUSC Panel of anyone who is facing directly today the market as a small generator, has placed us at an unfair disadvantage in influencing the outcome. Our participation in what we have found to be an overly bureaucratic and inefficient process has in retrospect been a poor use of our limited resources.</p> <p>We would continue to press Ofgem for a holistic Significant Code Review that would take into account and properly and fully analyse ALL the factors that affect the competitive position of small embedded generators with large transmission connected generators, specifically including market access to fair value long term peak prices that support financing in the way that the Triad revenue has done historically. Triads have been understood by the investment community and have provided a sufficiently stable and secure foundational revenue stream to deliver new flexible response capacity to the UK generation market. Whilst we and our peer companies accept the upward direction of the forecasted Triad payments is inappropriate and unsustainable, this attempt to artificially ring fence the problem as something that can be fixed in isolation via the CUSC appears inevitably to lead to a sub-optimal outcome and a potential hiatus in new capacity delivery at the very time that the UK needs it.</p> <p>Finally we would like to thank the Chair of the Workgroup and the National Grid staff who supported her through this process. Our criticism of the process is in no way to be interpreted as criticism of those who sought to operate it and who throughout behaved with patience and total professionalism.</p>

## CUSC Code Administrator Consultation Response Proforma

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	John Harmer/Paul Jenkinson
<b>Company Name:</b>	Alkane Energy Limited 01623 827927
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any</li></ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
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Q	Question	Response
1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No.</p> <p>As we have previously stated we believe the definition of the defect is totally inappropriate and blatantly discriminatory. It targets only one effect of Triad embedded benefit: its impact on the Capacity Market (CM). CMP265 would allow the excessive benefit, which all acknowledge will arise and increase over time to unacceptably high levels unless something is changed, to flow through unchecked to “behind the meter” and intermittent renewable generation, including the portfolio of the proposer! Its intent is to dissuade and likely remove competition from future capacity market auctions AND potentially could lead to termination of existing commitments in 2014 and 2015 CM auctions. These commitments were made in good faith on the basis that the existing Triad regime had been examined two years earlier and deemed acceptable, if not ideal. In our view CMP265 amounts to retrospective discriminatory change and a deliberate attempt to undermine a segment of the competition, so increasing Capacity Market prices to the commercial benefit of the proposer and the detriment of consumers. We would wish to highlight the analysis by UK Power Reserve that demonstrates this point.</p> <p>Of the two mods we feel CMP264 represents by far the better starting point.</p> <p>In our voting we supported WACM 10, which of those on offer was the least discriminatory, particularly between all forms of demand reduction or embedded generation which analysis showed had the same impact on the transmission system. This structure could continue indefinitely, and certainly for the duration of a wider Ofgem review.</p> <p>Our second preference was WACM15. Our rationale was that all sunk investment in embedded generation should be equally treated, and it was not clear cut that just those with CM/CfD commitments should be protected by grandfathering. For the long term the principle of sending an unmodified undistorted locational signal had most logic.</p> <p>We have particular concerns about WACM3 and similar variations which we note (and was confirmed in the Workgroup meetings) would lead to discrimination IN FAVOUR of transmission connected generation over time owing to the impact of the negative generator residual, alongside the favourable market access to longer term peak prices. Whilst Ofgem has expressed some concern over the negative generator residual, there is no concrete plan still less a timetable to address this. (We note Ofgem has pointed to its concerns about embedded benefits being expressed in 2007, yet it has taken 9 years for these concerns to materialise in the form of these CUSC mods.)</p>

Q	Question	Response
2	<b>Do you support the proposed implementation approach?</b>	<p>We were present at Workgroup discussions where the complexity of metering and systems changes were discussed, at times at some length.</p> <p>Our experience with the Capacity Market to date and specifically the central IT and supplier systems which we have to utilise is that they are cumbersome and inflexible and any change is likely to be expensive and time consuming to implement. We have concerns that ALL WACMs and the Original Proposal require tagging of meters and a significant volume of new data to be collected and used. We think the cost and inefficiency of the implementation processes that will be required, which has been raised by some Workgroup members but not examined in detail, has been materially underestimated.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>Alkane's position has been set out during Workgroup sessions, in the prior consultation and in the voting rationale. This has not changed.</p> <p>We are disturbed by the use of the CUSC process to force through a change that has such material impacts on the businesses of those that are not CUSC signatories. We feel our unfamiliarity with the process, our lack of resources, and ultimately the lack of representation on the CUSC Panel of anyone who is facing directly today the market as a small generator, has placed us at an unfair disadvantage in influencing the outcome. Our participation in what we have found to be an overly bureaucratic and inefficient process has in retrospect been a poor use of our limited resources.</p> <p>We would continue to press Ofgem for a holistic Significant Code Review that would take into account and properly and fully analyse ALL the factors that affect the competitive position of small embedded generators with large transmission connected generators, specifically including market access to fair value long term peak prices that support financing in the way that the Triad revenue has done historically. Triads have been understood by the investment community and have provided a sufficiently stable and secure foundational revenue stream to deliver new flexible response capacity to the UK generation market. Whilst we and our peer companies accept the upward direction of the forecasted Triad payments is inappropriate and unsustainable, this attempt to artificially ring fence the problem as something that can be fixed in isolation via the CUSC appears inevitably to lead to a sub-optimal outcome and a potential hiatus in new capacity delivery at the very time that the UK needs it.</p> <p>Finally we would like to thank the Chair of the Workgroup and the National Grid staff who supported her through this process. Our criticism of the process is in no way to be interpreted as criticism of those who sought to operate it and who throughout behaved with patience and total professionalism.</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP264 and CMP265

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Depak Lal</i>
<b>Company Name:</b>	<i>AMP PLC</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>With reference to the Applicable CUSC objectives:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <p>a) (i) We believe that the proposal under WACM 11 maintains the best of the existing competitive market arrangements and at the same time it manages the problems arising from the unintended consequences of spirally demand TNUoS charges associated with the investment in new off-shore transmission. (ii) WACM 11 is consistent with established historic principles on the treatment of embedded generators. If those principles are incorrect, as suggested by modifications 264 and 265, then it begs the question as to when and how those principles ceased to be appropriate. To be clear, we do not believe Capacity Market issues indicated in Mod. 265 should be dealt with under Transmission issues. (iii) In addition, WACM 11 in its original form treats behind the meter and DSR equally with embedded generation. This is in contrast to the original modifications. The modifications 264 and 265 as proposed will create competitive market distortions in respect of the treatment of the various DNO connected players.</p> <p>b) WACM11 is consistent with the historic principles on charging. The modifications 264 and 265 strongly suggest that the historic principles are wrong.</p>

	<p>c) WACM11 specifically deals with the recent changes in the investment in new transmission infrastructure and the unintended consequences arising. The original modifications 264 and 265 only address the consequential symptoms arising from the developments in the transmission system.</p> <p>d) WACM 11 complies with the Electricity Regulations.</p> <p>e) WACM 11 is largely consistent with the existing charging methodology, particularly in its original form, It is cheap and quick to implement because it attempts to continue with existing arrangements where practical. Modifications 264 and 265 will require significant systems changes.</p>
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Q	Question	Response
1	<b>Do you believe that CMP264 and 265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b>	No. The reasoning is provided above. They create competitive market distortions without address the underlying problem.
2	<b>Do you support the proposed implementation approach?</b>	No. The reasoning is provided above. In addition, the proposals will require significant investment in systems changes both at the central systems level as well as client systems. Different assets will be treated differently.
3	<b>Do you have any other comments?</b>	Modifications 264 and 265 undermine established historic principles on the treatment of demand side players. They address the symptoms of perceived market problems rather than the underlying issue, creating new competitive market distortions.

## CUSC Code Administrator Consultation Response Proforma

### CMP264 and CMP265

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Depak Lal</i>
<b>Company Name:</b>	<i>AMP PLC</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>With reference to the Applicable CUSC objectives:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <p>a) (i) We believe that the proposal under WACM 11 maintains the best of the existing competitive market arrangements and at the same time it manages the problems arising from the unintended consequences of spirally demand TNUoS charges associated with the investment in new off-shore transmission. (ii) WACM 11 is consistent with established historic principles on the treatment of embedded generators. If those principles are incorrect, as suggested by modifications 264 and 265, then it begs the question as to when and how those principles ceased to be appropriate. To be clear, we do not believe Capacity Market issues indicated in Mod. 265 should be dealt with under Transmission issues. (iii) In addition, WACM 11 in its original form treats behind the meter and DSR equally with embedded generation. This is in contrast to the original modifications. The modifications 264 and 265 as proposed will create competitive market distortions in respect of the treatment of the various DNO connected players.</p> <p>b) WACM11 is consistent with the historic principles on charging. The modifications 264 and 265 strongly suggest that the historic principles are wrong.</p>

	<p>c) WACM11 specifically deals with the recent changes in the investment in new transmission infrastructure and the unintended consequences arising. The original modifications 264 and 265 only address the consequential symptoms arising from the developments in the transmission system.</p> <p>d) WACM 11 complies with the Electricity Regulations.</p> <p>e) WACM 11 is largely consistent with the existing charging methodology, particularly in its original form, It is cheap and quick to implement because it attempts to continue with existing arrangements where practical. Modifications 264 and 265 will require significant systems changes.</p>
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Q	Question	Response
1	<b>Do you believe that CMP264 and 265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b>	No. The reasoning is provided above. They create competitive market distortions without address the underlying problem.
2	<b>Do you support the proposed implementation approach?</b>	No. The reasoning is provided above. In addition, the proposals will require significant investment in systems changes both at the central systems level as well as client systems. Different assets will be treated differently.
3	<b>Do you have any other comments?</b>	Modifications 264 and 265 undermine established historic principles on the treatment of demand side players. They address the symptoms of perceived market problems rather than the underlying issue, creating new competitive market distortions.

## CMP264 ‘Embedded Generation Triad Avoidance Standstill’

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Tim Collins, <a href="mailto:tim.collins1@centrica.com">tim.collins1@centrica.com</a>, 07789 577609</i>
<b>Company Name:</b>	<i>Centrica</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li> </ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b>	Please see response below (text box not able to accommodate the full text)
2	<b>Do you support the proposed implementation approach?</b>	<p>We agree that the earliest practicable implementation date for CMP264 is 2018/19, but this has the potential to be tight given the system and process changes required.</p> <p>We favour the proposed implementation approach to WACM1 (Ofgem decision ASAP, implementation April 2020). This combination will give clarity to the market as soon as practicable, whilst respecting the CM's four-year-ahead price commitment cycle and allowing plenty of time for orderly implementation, including any consequential changes to the Balancing and Settlement Code and market participants' systems and processes.</p>
3	<b>Do you have any other comments?</b>	No.

Response to Question 1:

No, we do not believe CMP264 better facilitates the applicable CUSC objectives. However, we do believe WACM1 better facilitates the CUSC objectives.

**Specific comments on CMP264**

On applicable objective (a), we recognise the status quo is contrary to effective competition in generation. This is because an embedded generator in a given location is treated much more favourably than a transmission connected generator in the same location, even though their respective effects on transmission network flows (and therefore transmission investment costs) are the same. The status quo is therefore unjustified.

Despite our concerns with the status quo, we believe CMP264 would create new and unjustified distortions between “grandfathered” and “non-grandfathered” embedded generators. Moreover, the effective continuation of status quo embedded TNUoS benefits for grandfathered embedded generation would leave the competitive distortion between transmission connected and grandfathered embedded generation unaddressed.

On applicable objective (b), we have concerns about the non-cost reflectivity of CMP264, because it will result in generators having the same effect on transmission network flows (and therefore transmission investment costs) facing materially different charges (according to whether they are transmission connected, grandfathered embedded or non-grandfathered embedded). Whilst we agree that the status quo is not cost reflective, we do not believe CMP264 enhances cost reflectivity.

We also have concerns about CMP264’s performance against applicable objective (e). We believe defining and enforcing criteria for what qualifies as a “grandfathered” embedded generator will introduce further complexity to the codes and increase the risk of tariff calculation errors, incorrect classification of “grandfathered” embedded generators etc.

### **Comments on our preferred solution, WACM1**

The solution to the current distortions in transmission charging should broadly create equivalence between transmission and distribution connected generation. This is the best way to facilitate applicable objective (a), effective competition in generation.

Under the status quo, locational tariffs for transmission and distribution connected generation are already similar and the method for their derivation (i.e. incremental cost calculations based on modelled incremental flows) is exactly the same. WACM1 therefore retains the status quo locational tariff calculation and addresses the profound and unjustified difference in the residual tariff elements for transmission and distribution connected generation. This is achieved by creating an explicit TNUoS tariff for exports to the distribution network and requiring that the residual element of that tariff is set at the same level as the residual applying to transmission connected generation. The overall tariff faced by embedded generation would be subject to a zero collar, to prevent possible perverse incentives for embedded generation in certain locations to curtail their output at times of high electricity demand.

WACM1 does not seek to sub-divide embedded generation into “grandfathered” and “non-grandfathered” categories, as there is no justification on cost reflectivity or competition grounds for making such a distinction. Grandfathering would also increase administrative complexity and the risk of error in tariff calculations. WACM1 therefore outperforms all alternatives featuring grandfathering against applicable objectives (a), (b) and (e).

We recognise WACM1 would have significant financial effects on some parties, some of whom have taken on Capacity Obligations in the years 2019/20 and 2020/21. It has been suggested that these parties may face challenging project economics, to the extent they assumed TNUoS embedded benefits would endure when calculating their Capacity Market (CM) bids. Whilst we reject the view that these parties should be exempt from cost reflective reforms to their transmission charges, we accept the case for delayed implementation of WACM1, in recognition of the four-year-ahead price commitments participants must make in the CM. We therefore propose WACM1 is implemented in April 2020. We believe consumers will ultimately benefit from a regulatory principle that structural reforms to TNUoS charges should align with the CM price commitment cycle. Applying this principle will avoid the need for TNUoS risk premia in participants' future CM bids, reducing long run CM costs to consumers.

## CUSC Code Administrator Consultation Response Proforma

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Tim Collins, <a href="mailto:tim.collins1@centrica.com">tim.collins1@centrica.com</a>, 07789 577609</i>
<b>Company Name:</b>	<i>Centrica</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any</li></ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b>	Please refer to response below (text box not able to accommodate the full text)
2	<b>Do you support the proposed implementation approach?</b>	<p>We agree that the CMP265 proposer's suggested implementation date of April 2020 is reasonable, although we do not support the substance of the CMP265 proposal.</p> <p>We favour the proposed implementation approach to WACM1 (i.e. Ofgem decision ASAP, implementation April 2020). This combination will give clarity to the market as soon as practicable, whilst respecting the CM's four-year-ahead price commitment cycle and allowing plenty of time for orderly implementation, including any consequential changes to the Balancing and Settlement Code and market participants' systems and processes.</p>
3	<b>Do you have any other comments?</b>	No.

Response to Question 1

No, we do not believe CMP265 better facilitates the applicable CUSC objectives. However, we do believe WACM1 better facilitates the CUSC objectives.

**Specific comments on CMP265**

On applicable objective (a), we recognise the status quo is contrary to effective competition in generation. This is because an embedded generator in a given location is treated much more favourably than a transmission connected generator in the same location, even though their respective effects on transmission network flows (and therefore transmission investment costs) are the same. The status quo is therefore unjustified.

Despite our concerns with the status quo, we believe CMP265 would create new and unjustified distortions between embedded generators with a Capacity Market (CM) agreement and embedded generators without a CM agreement. Moreover, the effective continuation of status quo embedded benefits for embedded generators outside the CM would continue to confer undue competitive advantage over transmission connected generators. This is simply a reflection of the high and rising value of status quo TNUoS embedded benefits, which are likely to exceed long run average CM payments in value. More broadly, we are concerned that CMP265 wrongly conflates receipt of TNUoS embedded benefits with non-participation in the CM. TNUoS embedded benefits are unjustified in their own right, but CMP265 implies they are justifiable provided an embedded generator opts out of the CM. We disagree with this apparent premise.

On applicable objective (b), we have concerns about the non-cost reflectivity of CMP265, because it will result in generators having the same effect on transmission network flows (and therefore transmission investment costs) facing materially different charges (according to whether they are transmission connected, embedded with a CM agreement or embedded without a CM agreement). Whilst we agree that the status quo is not cost reflective, we do not believe CMP265 enhances cost reflectivity.

We also have concerns about CMP265's performance against applicable objective (e). We believe creating unnecessary sub categories of embedded generation (i.e. CM and non-CM) and corresponding tariffs for each sub-category will introduce further complexity to the codes and increase the risk of tariff calculation errors.

### **Comments on our preferred solution, WACM1**

The solution to the current distortions in transmission charging should broadly create equivalence between transmission and distribution connected generation, irrespective of extraneous factors such as CM participation. This is the best way to facilitate applicable objective (a), effective competition in generation.

Under the status quo, locational tariffs for transmission and distribution connected generation are already similar and the method for their derivation (i.e. incremental cost calculations based on modelled incremental flows) is exactly the same. WACM1 therefore retains the status quo locational tariff calculation and addresses the profound and unjustified difference in the residual tariff elements for transmission and distribution connected generation. This is achieved by creating an explicit TNUoS tariff for exports to the distribution network and requiring that the residual element of that tariff is set at the same level as the residual applying to transmission connected generation. The overall tariff faced by embedded generation is subject to a zero collar, to prevent possible perverse incentives for embedded generation in certain locations to curtail their output at times of high electricity demand.

WACM1 does not seek to sub-divide embedded generation into extraneous categories (CM and non-CM in the case of CMP265, grandfathered and non-grandfathered in the case of some alternatives) as there is no justification on cost reflectivity or competition grounds for making such distinctions. Creating subcategories also increases administrative complexity and the risk of errors in tariff calculations. WACM1 therefore outperforms all alternatives that sub-categorise embedded generation when considered against applicable objectives (a), (b) and (e).

We recognise WACM1 would have significant financial effects on some parties, some of whom have taken on Capacity Obligations in the years 2019/20 and 2020/21. It has been suggested that these parties may face challenging project economics, to the extent they assumed TNUoS embedded benefits would endure when calculating their Capacity Market (CM) bids. Whilst we reject the view that these parties should be exempt from cost reflective reforms to their transmission charges, we accept the case for delayed implementation of WACM1, in recognition of the four-year-ahead price commitments participants must make in the CM. We therefore propose WACM1 is implemented in April 2020. We believe consumers will ultimately benefit from a regulatory principle that structural reforms to TNUoS charges should align with the CM price commitment cycle. Applying this principle will avoid the need for TNUoS risk premia in participants' future CM bids, reducing long run CM costs to consumers.

## CUSC Code Administrator Consultation Response Proforma

### CMP264 'Embedded Generation Triad Avoidance Standstill'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Joe Underwood – Joseph.Underwood@drax.com</i>
<b>Company Name:</b>	<i>Drax</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li></ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
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1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>Yes.</p> <p>CMP264 addresses the disparity in competition between sub 100MW embedded generators and other generators. This is caused by the excessive competitive advantage arising from Embedded Benefits (EBs), mainly due to the increasing and non-cost reflective demand residual tariff. The Original Proposal, and the WACMs that reduce the EB to below the current value, will place generators on a more level playing field. This will better facilitate competition.</p> <p>A rough approximation for the EB, as noted in paragraph 2.3.14 in the workgroup report, is the Total Allowable Revenue divided by Net Demand. The increasing level of connected Embedded Generation (EG) on the distribution network (effectively acting as negative demand) has resulted in a decrease in the Net Demand (the denominator), thereby increasing the value of the EB. This detrimental feedback mechanism encourages further new build EG, regardless of the impact on the local or wider system. This discernible increase in EG, fuelled by the EB, is impacting the way in which the transmission system is developed and operated. As such, CMP264 will better facilitate ACO (c) with respect to the baseline.</p> <p>The level of the EB is forecast to rise above £70/kW by 2020. We believe that the true benefit that EG contributes to the wider system is far less than c.£45/kW (as currently valued). Therefore the reducing the EB in line with its true value will better facilitate Applicable CUSC Objective (b) by ensuring a better reflection of actual costs (benefits).</p> <p>We consider the Original Proposal, and most WACMs, to better facilitate the Applicable CUSC Objectives with regards to the baseline. However, there are a number of WACMs that include aspects that hinder competition.</p> <p><u>Grandfathering</u></p> <p>Given the current charging arrangements contain no rights, a prudent investor should not have expected the level of embedded benefits to remain (never mind rise) when making its investment decision. To apply grandfathering to the charging arrangements in relation to EB will create moral hazard, rewarding inefficient investment decisions and entrenching ineffective competition. It is also discriminatory, given this has not been the model favoured for similar charging related changes since the inception of the charging regime.</p>
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#### Phasing/delayed implementation

As stated in our answer to question 2 below, the precedent for charging changes (such as those seen in CMP213) has generally been one full charging year. Therefore we consider that if the Authority makes a decision before 1 April 2017, then the proposal should be implemented on 1 April 2018. The argument for later implementation has not been sufficiently made. In addition, those WACMs that act to phase or delay the implementation further only delay the move to a more cost reflective arrangement without adequate justification.

Further, a number of WACMs are based on a ~£32/kW value. This was originally proposed in the ADE Report prepared by Cornwall Energy. The basis of the figure was:

- *Avoided cost of transmission investment to connect transmission generation, valued at ~£18/kW on average:* It should be noted that this value varies significantly by location, therefore the proposed average does not reflect the true costs imposed by the EG. More fundamentally, the EG is not going to offset the total cost since much of the total cost is fixed i.e. does not vary with changes in embedded generation entry and exit.
- *Long-run demand related costs, with the assumption that most demand related transmission costs are fixed in the short-run, yet cost savings can be made by reducing demand in the long-run:* The report states EG should receive long-term savings, estimated to be £13.8/kW, in the form of a benefit as they are long-term assets. However, the calculation method is omitted, therefore cannot be tested/challenged. In any case, we believe this argument is spurious – the TNUoS charge/payment is made on an annual basis and it cannot be said whether the embedded generator will still be connected/operational in the long run.

We would like to highlight the evaluation of the Triad benefit estimate made by one workgroup member in their voting proforma:

*“These numbers are based on the flawed assumption that the values of avoided transmission investments is the full cost of the investment. The correct assumption is that the avoided transmission investment relates only to the locational element, as the majority of the cost (substations transformers etc.) would be required irrespective of location. As has been demonstrated to the working group using the full transport and tariff model there is no difference between the cost to the transmission system uses of the connection of distributed generation and transmission connected generation. Thus to allocate the full*

*cost of an investments to embedded benefit is logically inconsistent and far from cost reflective. Transmission and distribution connected generation are treated equally under the connection policy with respect to the transmission system. The principle difference is that transmission connected generation needs to fund and provide all infrastructure to connected to the 400 kV system whereas distribution connected generation does not. In summary, this proposal has a flawed understanding of ICRP methodology and allocates the full investment cost to all embedded generation ignoring the locational effect (by granting the £20.12 additional benefit even to areas where there is a negative locational charge thus negating the signal) and also ignoring the fact the embedded and transmission connected generation have the same effect on the transmission system and should thus see the same signal. The ICRP methodology delivers a locational signal with non-locational element being picked up in the residual charge.”*

We agree with this analysis and thereby question the validity of the analysis backing the WACMs that are based upon the figures quoted in the Cornwall Energy report.

We concur with the analysis provided in the workgroup report that evidences the true value of EB to be the avoided GSP investment plus the locational charge.

#### Magnitude of lowest locational value

Whilst these options correctly apply the locational Demand TNUoS tariff as an embedded benefit, a leap of logic has then been added to the final calculation of the embedded benefit. Locational Demand TNUoS tariffs vary between Zones. Values in zones can be both positive and negative. The Magnitude of lowest locational value results in providing all of the Demand TNUoS zones (except the zone with the largest negative value) with an inflated embedded benefit. No justification has been provided for this approach. If it is accepted that the locational Demand TNUoS tariff is broadly cost reflective, there is then no justification for increasing the vast majority of the embedded benefits, in some cases quite materially as well.

Separately, we consider that while the Peak locational Demand TNUoS tariff is probably complementary to the current Triad method, the current Triad method is unlikely to correspond well to the Year Round locational Demand TNUoS tariff. However, we accept that such a change to the Triad method is out of scope of this modification. Nevertheless, we would expect this issue to be considered further as part of a wider charging review.

Q	Question	Response
		<p>On reflection of the above, we consider those WACMs that are applied to all EG types equally i.e. future, new and (older) existing, CMUs and Non-CMUs etc. and have an implementation date of April 2018 (assuming a decision is made before April 2017) to best facilitate the Applicable CUSC Objectives. In particular, we consider WACM3 to best facilitate the Applicable CUSC Objectives.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>The general precedent set for charging changes (such as those seen in CMP213) is one full charging year, in line with trading/cost pass-through timescales. Therefore we consider that if the Authority makes a decision before 1<sup>st</sup> April 2017, then the proposal should be implemented the following April.</p>
3	<p><b>Do you have any other comments?</b></p>	<p>Not at this time.</p>

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Joe Underwood – Joseph.Underwood@drax.com</i>
<b>Company Name:</b>	<i>Drax</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> </ul>

	<p>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. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
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1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>Yes.</p> <p>CMP265 addresses the disparity in competition between sub 100MW embedded generators and other generators. This is caused by the excessive competitive advantage arising from Embedded Benefits (EBs), mainly due to the increasing and non-cost reflective demand residual tariff. The Original Proposal, and the WACMs that reduce the EB to below the current value, will place generators on a more level playing field. This will better facilitate competition.</p> <p>A rough approximation for the EB, as noted in paragraph 2.3.14 in the workgroup report, is the Total Allowable Revenue divided by Net Demand. The increasing level of connected Embedded Generation (EG) on the distribution network (effectively acting as negative demand) has resulted in a decrease in the Net Demand (the denominator), thereby increasing the value of the EB. This detrimental feedback mechanism encourages further new build EG, regardless of the impact on the local or wider system. This discernible increase in EG, fuelled by the EB, is impacting the way in which the transmission system is developed and operated. As such, CMP265 will better facilitate ACO (c) with respect to the baseline.</p> <p>The level of the EB is forecast to rise above £70/kW by 2020. We believe that the true benefit that EG contributes to the wider system is far less than c.£45/kW (as currently valued). Therefore the reducing the EB in line with its true value will better facilitate Applicable CUSC Objective (b) by ensuring a better reflection of actual costs (benefits).</p> <p>We consider the Original Proposal, and most WACMs, to better facilitate the Applicable CUSC Objectives with regards to the baseline. However, there are a number of WACMs that include aspects that hinder competition.</p> <p><u>Grandfathering</u></p> <p>Given the current charging arrangements contain no rights, a prudent investor should not have expected the level of embedded benefits to remain (never mind rise) when making its investment decision. To apply grandfathering to the charging arrangements in relation to EB will create moral hazard, rewarding inefficient investment decisions and entrenching ineffective competition. It is also discriminatory, given this has not been the model favoured for similar charging related changes since the inception of the charging regime.</p>
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#### Phasing/delayed implementation

As stated in our answer to question 2 below, the precedent for charging changes (such as those seen in CMP213) has generally been one full charging year. Therefore we consider that if the Authority makes a decision before 1 April 2017, then the proposal should be implemented on 1 April 2018. The argument for later implementation has not been sufficiently made. In addition, those WACMs that act to phase or delay the implementation further only delay the move to a more cost reflective arrangement without adequate justification.

Further, a number of WACMs are based on a ~£32/kW value. This was originally proposed in the ADE Report prepared by Cornwall Energy. The basis of the figure was:

- *Avoided cost of transmission investment to connect transmission generation, valued at ~£18/kW on average:* It should be noted that this value varies significantly by location, therefore the proposed average does not reflect the true costs imposed by the EG. More fundamentally, the EG is not going to offset the total cost since much of the total cost is fixed i.e. does not vary with changes in embedded generation entry and exit.
- *Long-run demand related costs, with the assumption that most demand related transmission costs are fixed in the short-run, yet cost savings can be made by reducing demand in the long-run:* The report states EG should receive long-term savings, estimated to be £13.8/kW, in the form of a benefit as they are long-term assets. However, the calculation method is omitted, therefore cannot be tested/challenged. In any case, we believe this argument is spurious – the TNUoS charge/payment is made on an annual basis and it cannot be said whether the embedded generator will still be connected/operational in the long run.

We would like to highlight the evaluation of the Triad benefit estimate made by one workgroup member in their voting proforma:

*“These numbers are based on the flawed assumption that the values of avoided transmission investments is the full cost of the investment. The correct assumption is that the avoided transmission investment relates only to the locational element, as the majority of the cost (substations transformers etc.) would be required irrespective of location. As has been demonstrated to the working group using the full transport and tariff model there is no difference between the cost to the transmission system uses of the connection of distributed generation and transmission connected generation. Thus to allocate the full*

*cost of an investments to embedded benefit is logically inconsistent and far from cost reflective. Transmission and distribution connected generation are treated equally under the connection policy with respect to the transmission system. The principle difference is that transmission connected generation needs to fund and provide all infrastructure to connected to the 400 kV system whereas distribution connected generation does not. In summary, this proposal has a flawed understanding of ICRP methodology and allocates the full investment cost to all embedded generation ignoring the locational effect (by granting the £20.12 additional benefit even to areas where there is a negative locational charge thus negating the signal) and also ignoring the fact the embedded and transmission connected generation have the same effect on the transmission system and should thus see the same signal. The ICRP methodology delivers a locational signal with non-locational element being picked up in the residual charge.”*

We agree with this analysis and thereby question the validity of the analysis backing the WACMs that are based upon the figures quoted in the Cornwall Energy report.

We concur with the analysis provided in the workgroup report that evidences the true value of EB to be the avoided GSP investment plus the locational charge.

#### Magnitude of lowest locational value

Whilst these options correctly apply the locational Demand TNUoS tariff as an embedded benefit, a leap of logic has then been added to the final calculation of the embedded benefit. Locational Demand TNUoS tariffs vary between Zones. Values in zones can be both positive and negative. The Magnitude of lowest locational value results in providing all of the Demand TNUoS zones (except the zone with the largest negative value) with an inflated embedded benefit. No justification has been provided for this approach. If it is accepted that the locational Demand TNUoS tariff is broadly cost reflective, there is then no justification for increasing the vast majority of the embedded benefits, in some cases quite materially as well.

Separately, we consider that while the Peak locational Demand TNUoS tariff is probably complementary to the current Triad method, the current Triad method is unlikely to correspond well to the Year Round locational Demand TNUoS tariff. However, we accept that such a change to the Triad method is out of scope of this modification. Nevertheless, we would expect this issue to be considered further as part of a wider charging review.

Q	Question	Response
		<p>On reflection of the above, we consider those WACMs that are applied to all EG types equally i.e. future, new and (older) existing, CMUs and Non-CMUs etc. and have an implementation date of April 2018 (assuming a decision is made before April 2017) to best facilitate the Applicable CUSC Objectives. In particular, we consider WACM3 to best facilitate the Applicable CUSC Objectives.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>The general precedent set for charging changes (such as those seen in CMP213) is one full charging year, in line with trading/cost pass-through timescales. Therefore we consider that if the Authority makes a decision before 1<sup>st</sup> April 2017, then the proposal should be implemented the following April.</p>
3	<p><b>Do you have any other comments?</b></p>	<p>Not at this time.</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP269 'Potential consequential changes to the CUSC as a result of CMP264'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Joe Underwood – Joseph.Underwood@drax.com</i>
<b>Company Name:</b>	<i>Drax</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Standard CUSC Objectives</b></p> <ul style="list-style-type: none"><li>a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License</li><li>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</li><li>c) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency</li><li>d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)</li></ul>

Q	Question	Response
1	<b>Do you believe that CMP269 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b>	Yes This modification enables change relevant to CMP264. As a result those options under CMP264 which better meet the ACOs will mean that the related option under CMP269 also better meet the Applicable CUSC Objectives.
2	<b>Do you support the proposed implementation approach?</b>	Yes
3	<b>Do you have any other comments?</b>	No

## CUSC Code Administrator Consultation Response Proforma

### CMP270 'Potential consequential changes to the CUSC as a result of CMP265'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

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These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Joe Underwood – Joseph.Underwood@drax.com</i>
<b>Company Name:</b>	<i>Drax</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Standard CUSC Objectives</b></p> <ul style="list-style-type: none"><li>a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License</li><li>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</li><li>c) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency</li><li>d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)</li></ul>

Q	Question	Response
1	<b>Do you believe that CMP270 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b>	Yes This modification enables change relevant to CMP265. As a result those options under CMP265 which better meet the ACOs will mean that the related option under CMP270 also better meet the Applicable CUSC Objectives.
2	<b>Do you support the proposed implementation approach?</b>	Yes
3	<b>Do you have any other comments?</b>	No

## CMP264 ‘Embedded Generation Triad Avoidance Standstill’

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

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These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	Paul Mott
<b>Company Name:</b>	EDF Energy
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li> </ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
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Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>Yes. Current arrangements are materially distorting investment decisions and outcomes both in the Capacity Market and in competition between generators more widely. The distortion arises from allowing the demand residual charge to be an embedded benefit; the present arrangements over-reward embedded generation of fewer than 100 MW, distorting investment decisions and competition, leading to inefficient outcomes and increased consumer costs.</p> <p>Transmission charging arrangements should be cost-reflective; the locational charge elements are cost-reflective, but when applied to demand, they happen to lead to almost no net collection of revenue. Network charges must recover the network companies' allowed revenues which has led to the need for a growing demand residual charge element which scales up the cost reflective element to recover allowed revenues. The residual scaling element, which was £11/kW in 2005/6, is presently £45/kW, and is going to be £72/kW by 2020. The effect of the current arrangements is that the demand residual charge element is available to smaller embedded generators as a credit, this credit representing an extra income stream to them not available to larger embedded generators of above 100 MW in size, or to transmission-connected generators (which in Scotland, may be as small as 22 MW).</p> <p>This represents a distortion <u>even between different-sized embedded generators</u>. The market design that gives rise to the TNUoS embedded benefit distortion also means that market entry actually increases the value of the supernormal profit (as total costs must be recovered from a lower net demand base). This positive feedback loop is another reason the distortion has grown in materiality and should now be addressed, as otherwise it will continue to grow.</p> <p>CMP264 better facilitates (than baseline) charging objective a, effective competition – but only to a small extent, because we believe that the “grandfathering” that is inherent in CMP264, as between plant that commissioned before and after June 2017, is probably distortive of competition and hard to justify in this case, so this is a slight drawback of CMP264 compared to some of its WACMs. CMP264 also slightly better facilitates charging objective b, cost-reflectivity. CMP264 also slightly better facilitates charging objective c, because 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 – the charging distortion to which both CMP264 and CMP265 relate, may have been a contributory factor to that.</p> <p>CMP264 is neutral as to charging objective d, on Europe, and slightly worse than neutral as to the new objective e, promoting efficiency in the implementation and administration of the system charging methodology, due to the need to maintain records on pre- and post-June-2017 commissioned plant.</p> <p>As to the WACMs, about which this question doesn't explicitly ask, those with more “grandfathering” either in terms of plant categories, or in terms of more retained benefits for all plant, would seem to be ineffective or less effective, as they are more likely to be distortive as between different categories of plant, and will remove consumer benefits. Our workgroup representative's vote conveyed detailed views against each WACM.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>Yes, we note that the Workgroup considered that the first practicable implementation date would be the charging year 2018-19 – and agree. The implementation date is clearly something that Ofgem can choose</p>

Q	Question	Response
3	Do you have any other comments?	No

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	Paul Mott
<b>Company Name:</b>	EDF Energy
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any</li> </ul>

relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1

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

1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>Yes. Current arrangements are materially distorting investment decisions and outcomes in the Capacity Market. The distortion arises from allowing the demand residual charge to be an embedded benefit; the present arrangements over-reward embedded generation, distorting investment decisions and leading to inefficient outcomes, particularly in the Capacity Market.</p> <p>Transmission charging arrangements should be cost-reflective; the locational charge elements are cost-reflective, but when applied to demand, they happen to lead to almost no net collection of revenue. Network charges must recover the network companies' allowed revenues which has led to the need for a growing demand residual charge element which scales up the cost reflective element to recover allowed revenues. The residual scaling element, which was £11/kW in 2005/6, is presently £45/kW, and is going to be £72/kW by 2020. The effect of the current arrangements is that the demand residual charge element is available to smaller embedded generators as a credit, this credit representing an extra income stream to them not available to larger embedded generators of above 100 MW in size, or to transmission-connected generators (which in Scotland, may be as small as 22 MW).</p> <p>This represents a distortion even between different-sized embedded generators. The market design that gives rise to the TNUoS embedded benefit distortion also means that market entry actually increases the value of the supernormal profit (as total costs must be recovered from a lower net demand base). This positive feedback loop is another reason the distortion has grown in materiality and should now be addressed, as otherwise it will continue to grow.</p> <p>The charging objectives that, in relation to CMP265's statement of defect, are better taken forward by CMP265 Original than baseline, are (a) (facilitation of effective competition), (b) (charges which reflect .... costs), (c) charges to ... properly take account of the developments in transmission licensees' transmission businesses. However, (d) (Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency) does not appear relevant. The relevance of the new charging objective (e) (promoting efficiency in the implementation and administration of the system charging methodology) is not clear either – a neutral effect.</p> <p>Since the statement of defect for CMP265 is put in terms of addressing a distortion in the CM, we do not consider that any of the alternatives (WACMs) to CMP265 address the defect as directly as the original, as they also affect other generation that is not in the CM. Some of them are also raised as WACMs to CMP264/269, against which some, have more merit; we comment on this separately in our CMP264 response.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>Yes; we note that the Workgroup considered that the first practicable implementation date would be the charging year 2018-19 – and agree. Our original proposal suggested implementation from April 2020, but our representative at the workgroup has made it clear that we are open to earlier implementation than then – the implementation date is clearly something that Ofgem can choose; April 2018 would be OK.</p>
3	<p><b>Do you have any other comments?</b></p>	<p>No</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP269 'Potential consequential changes to the CUSC as a result of CMP264'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	Paul Mott
<b>Company Name:</b>	EDF Energy
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Standard CUSC Objectives</b></p> <ul style="list-style-type: none"><li>a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License</li><li>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</li><li>c) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency</li><li>d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)</li></ul>

Q	Question	Response
1	<p><b>Do you believe that CMP269 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>Yes. Current arrangements are materially distorting investment decisions and outcomes in the Capacity Market and in competition between generators more widely. The distortion arises from allowing the demand residual charge to be an embedded benefit; the present arrangements over-reward embedded generation, distorting investment decisions and leading to inefficient outcomes, particularly in the Capacity Market but also in the wider market.</p> <p>Transmission charging arrangements should be cost-reflective; the locational charge elements are cost-reflective, but when applied to demand, they happen to lead to almost no net collection of revenue. Network charges must recover the network companies' allowed revenues which has led to the need for a growing demand residual charge element which scales up the cost reflective element to recover allowed revenues. The residual scaling element, which was £11/kW in 2005/6, is presently £45/kW, and is going to be £72/kW by 2020. The effect of the current arrangements is that the demand residual charge element is available to smaller embedded generators as a credit, this credit representing an extra income stream to them not available to larger embedded generators of above 100 MW in size, or to transmission-connected generators (which in Scotland, may be as small as 22 MW).</p> <p>This represents a distortion even between different-sized embedded generators. The market design that gives rise to the TNUoS embedded benefit distortion also means that market entry actually increases the value of the supernormal profit (as total costs must be recovered from a lower net demand base). This positive feedback loop is another reason the distortion has grown in materiality and should now be addressed, as otherwise it will continue to grow.</p> <p>The CUSC main objective that, in relation to CMP264's/269's statement of defect, is better taken forward by CMP264/269 Original than baseline, is (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.</p> <p>As to the WACMs, about which this question doesn't explicitly ask, those with more "grandfathering" either in terms of plant categories, or in terms of more retained benefits for all plant, would seem to be ineffective or less effective, as they are more likely to be distortive as between different categories of plant, and will remove consumer benefits. Our workgroup representative's vote conveyed detailed views against each WACM.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>Yes</p>
3	<p><b>Do you have any other comments?</b></p>	<p>No</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP270 'Potential consequential changes to the CUSC as a result of CMP265'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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<b>Respondent:</b>	Paul Mott
<b>Company Name:</b>	EDF Energy
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Standard CUSC Objectives</b></p> <ul style="list-style-type: none"><li>a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License</li><li>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</li><li>c) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency</li><li>d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)</li></ul>

Q	Question	Response
1	<p><b>Do you believe that CMP270 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>Yes. Current arrangements are materially distorting investment decisions and outcomes in the Capacity Market. The distortion arises from allowing the demand residual charge to be an embedded benefit; the present arrangements over-reward embedded generation, distorting investment decisions and leading to inefficient outcomes, particularly in the Capacity Market.</p> <p>Transmission charging arrangements should be cost-reflective; the locational charge elements are cost-reflective, but when applied to demand, they happen to lead to almost no net collection of revenue. Network charges must recover the network companies' allowed revenues which has led to the need for a growing demand residual charge element which scales up the cost reflective element to recover allowed revenues. The residual scaling element, which was £11/kW in 2005/6, is presently £45/kW, and is going to be £72/kW by 2020. The effect of the current arrangements is that the demand residual charge element is available to smaller embedded generators as a credit, this credit representing an extra income stream to them not available to larger embedded generators of above 100 MW in size, or to transmission-connected generators (which in Scotland, may be as small as 22 MW).</p> <p>This represents a distortion even between different-sized embedded generators. The market design that gives rise to the TNUoS embedded benefit distortion also means that market entry actually increases the value of the supernormal profit (as total costs must be recovered from a lower net demand base). This positive feedback loop is another reason the distortion has grown in materiality and should now be addressed, as otherwise it will continue to grow.</p> <p>The CUSC main objective that, in relation to CMP265's/270's statement of defect, is better taken forward by CMP265/270 Original than baseline, is (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</p> <p>Since the statement of defect for CMP265/270 is put in terms of addressing a distortion in the CM, we do not consider that any of the alternatives (WACMs) to CMP265/270 efficiently address the defect, as they also affect other generation that is not in the CM. Some of them are also raised as WACMs to CMP264/269, against which some, have more merit; we comment on this separately in our CMP264 response.</p>

Q	Question	Response
2	<b>Do you support the proposed implementation approach?</b>	Yes; we note that the Workgroup considered that the first practicable implementation date would be the charging year 2018-19 – and agree. Our original proposal suggested implementation from April 2020, but our representative at the workgroup has made it clear that we are open to earlier implementation than then – the implementation date is clearly something that Ofgem can choose; April 2018 would be OK.
3	<b>Do you have any other comments?</b>	

## CMP264 ‘Embedded Generation Triad Avoidance Standstill’

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	Michael Davies – Director
<b>Company Name:</b>	Eider Reserve Power Limited
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li> </ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
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Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>We believe that WACM11 is alone in better facilitating the Applicable CUSC objectives. We do not believe that any of the original or the other WACM proposals better facilitates the Applicable CUSC objectives. Our reasoning is as follows:</p> <p>In the case of WACM11 it has identified one aspect of costs in the form of transmission costs triggered by offshore wind generation, reflected in embedded benefits, which is clearly inappropriate. By its removal, embedded generators will no longer benefit from this element which will better facilitate competition. There is no element of grandfathering or similar in this proposal although it does create a difference in treatment for behind the meter generation which is difficult to avoid. As a stand-alone modification we view it as having considerable merit.</p> <p>In the case of the original and other WACMs it is our view that all suffer to a greater or lesser extent from similar problems that fail to meet the Charging CUSC Objectives. In particular the proposals create distinctly different treatments for different classes of parties on the system. There will be differences in treatment between embedded generation, behind the meter generation, new and old generation and demand reduction activities (Triad avoidance and wider Demand Side Response activities). Charges are created that are not cost reflective and it is especially disappointing that the Workgroup was unable to undertake a detailed, or even superficial, evaluation of costs in the very limited time given to it by Ofgem in which to reach a decision. In applying benefits differently to different market participants who have the same effect on the transmission system these proposals are discriminatory and contravene Article 12 of Directive 2009/72/EC.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>No we do not support the proposed implementation approach and indeed there is insufficient clarity in our view on the implementation approach. The extremely limited time provided by Ofgem to consider these major proposals has had a very detrimental effect on the resultant recommendations.</p>

Q	Question	Response
3	<b>Do you have any other comments?</b>	<p>The approach to considering these fundamental changes to the charging regime has been totally inappropriate. The limited time given to consideration of the proposals has meant the essential economic analysis to underlie any recommendations has not been done. Much more major market distortions than any that may exist within the embedded benefit world, most notably in transmission charging and the move towards positive payments caused by the impact of offshore generators in the residual have been ignored. The market is crying out for a holistic review by the regulator of charging at both the transmission and distribution level and also at their interface.</p>

### **CMP265 ‘Gross charging of TNUoS for HH demand where Embedded Generation is in the Capacity Market’**

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	Michael Davies, Director
<b>Company Name:</b>	Eider Reserve Power Limited
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any</li> </ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
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Q	Question	Response
1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>We believe that WACM11 is alone in better facilitating the Applicable CUSC objectives. We do not believe that any of the original or the other WACM proposals better facilitates the Applicable CUSC objectives. Our reasoning is as follows:</p> <p>In the case of WACM11 it has identified one aspect of costs in the form of transmission costs triggered by offshore wind generation, reflected in embedded benefits, which is clearly inappropriate. By its removal, embedded generators will no longer benefit from this element which will better facilitate competition. There is no element of grandfathering or similar in this proposal although it does create a difference in treatment for behind the meter generation which is difficult to avoid. As a stand-alone modification we view it as having considerable merit.</p> <p>In the case of the original and other WACMs it is our view that all suffer to a greater or lesser extent from similar problems that fail to meet the Charging CUSC Objectives. In particular the proposals create distinctly different treatments for different classes of parties on the system. There will be differences in treatment between embedded generation, behind the meter generation, new and old generation and demand reduction activities (Triad avoidance and wider Demand Side Response activities). Charges are created that are not cost reflective and it is especially disappointing that the Workgroup was unable to undertake a detailed, or even superficial, evaluation of costs in the very limited time given to it by Ofgem in which to reach a decision. In applying benefits differently to different market participants who have the same effect on the transmission system these proposals are discriminatory and contravene Article 12 of Directive 2009/72/EC.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>No we do not support the proposed implementation approach and indeed there is insufficient clarity in our view on the implementation approach. The extremely limited time provided by Ofgem to consider these major proposals has had a very detrimental effect on the resultant recommendations.</p>

Q	Question	Response
3	<b>Do you have any other comments?</b>	<p>The approach to considering these fundamental changes to the charging regime has been totally inappropriate. The limited time given to consideration of the proposals has meant the essential economic analysis to underlie any recommendations has not been done. Much more major market distortions than any that may exist within the embedded benefit world, most notably in transmission charging and the move towards positive payments caused by the impact of offshore generators in the residual have been ignored. The market is crying out for a holistic review by the regulator of charging at both the transmission and distribution level and also at their interface.</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP264 'Embedded Generation Triad Avoidance Standstill'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<b>Simon Lord</b>  <a href="mailto:simon.lord@engie.com">simon.lord@engie.com</a>
<b>Company Name:</b>	
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are: ....

Q	Question	Response
1	<b>Do you believe that CMP264 better facilitates the App. CUSC objectives?</b>	We do not support the original but do support WACM-1 and <b>WACM-3</b> as detailed below with <b>WACM-3</b> being our preferred option. Further details and reasoning are set out below.
2	<b>Do you support the proposed implementation approach?</b>	We only support an implementation approach that will see the removal of a significant proportion of the residual benefit from embedded generators from <b>1<sup>st</sup> April 2018</b> this will give 12 month implementation time to allow system changes that are minimal for our supported options (WACM-1 and <b>WACM-3</b> ).
3	<b>Do you have any other comments?</b>	<p>We support WACM-1 and <b>WACM-3</b> and do not support either the originals or any other alternatives. <b>WACM-3</b> is our preferred option.</p> <p><b>WACM-1</b> Evidence has been provided in the report that has demonstrated that 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. We support this proposal based on cost reflective principles as it will treat transmission and embedded generation connecting at the same location on a similar basis. Adding the generation residual to the embedded tariff seems a pragmatic approach although it does bring in an element of charging recovery as opposed to cost relative charges to the tariff.</p> <p><b>WACM-3</b> <b>Evidence have been present that using the full transport and tariff model 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. This proposal 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.</b></p>

We provide general comments below on our view on the embedded benefit issue as well as specific comments relating to three specific issues that leads us not to support the majority of alternatives and the original as they contain one or more of these elements.

1. **Implementation of a fixed tariff that contains a high residual element via the CUSC**
2. **Grandfathering**
3. **Delayed implementation beyond April 2018**

Alternatives that contain these elements do not meet the relevant CUSC objectives. The only alternatives we support are WACM-1 and **WACM-3**

**We support a reductions in TNUoS Embedded Benefits and believed no justification for the current levels had been identified in the Workgroup process.**

1. We believe that the locational tariffs derived from National Grid's transport model reflected the marginal benefit (or cost) of transmission network users, including embedded generators. We 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.
2. The views on TNUoS embedded benefit reform are 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.
3. Evidence has been presented 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 location 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 TNUoS to pay embedded benefits to distribution connected generation
4. We are opposed to grandfathering of TNUoS rates for similar reasons to the above. TNUoS charges are supposed to be cost reflective and facilitate effective competition. We 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.
5. 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.

#### **Further details why including a high residual fixed charge in the CUSC is not appropriate**

The CUSC baseline contains no reference to any codified netted embedded benefits but rather simply charges supplier demand at a £/kw rate based on Triad output. Any proposal that explicitly codifies a value of embedded benefit moves the CUSC from a position of being not cognisant of the issue to a position of consolidating some or all of the netting benefit into the Code and hence confirming that the benefit meets the appropriate charging objectives.

However, to codify and therefore accept the netting regime meets the charging objectives is in fact worse than the current baseline which does not include the regime and therefore has no view on whether the regime meets the charging objectives.

Secondly, if due to circumstances the values of the netting benefit reduces to below the codified value, the benefit would remain at the codified rate this is not better than the baseline/original.

Thirdly, as has been demonstrated to in the working group report 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. 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 and original proposal as the proposed charge is not cost reflective.

#### **Further details on reasons grandfathering in not appropriate**

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.

Generation that does not benefit from grandfathering arrangements and transmission connected generation (that does not receive embedded benefits) will need to include a proportion of the fixed costs in the price that they offer energy and/or balancing services this will make this class of generation relatively uneconomic. The consequence of this are that it will stifle completion in new markets where there is a need to develop flexibility and dynamic services by allowing grandfathered generation to undercut the economics of all other type of generation. Ultimately this will lead to increased cost to consumers as more efficient and cost effective options fail to materialise or withdraw from the market. This is especially concerning with balancing services where the market depth is a relative small at a few thousand MW. Thus all option that propose grandfathering are worse than the baseline/original.

#### **Further reasons why delay or a staged implementation is not appropriate.**

Options that gradually/delay a move from the current arrangements to the new solution of a number of years are not cost reflective during the intervening years. The System Operator has not presented

any evidence of an operational need for this to the working group during any of the meetings and discussion that have taken place.

Given that there has been no evidence presented by the SO of a need to have a gradually reduction in the benefits, these options will simple result in increased cost to consumers without an operational need and a delay a reduction in consumers bills. All alternatives have at least 12 month implementation time and Ofgem can delay this to an appropriate point in time. Thus any alternative that codifies a gradual or a delayed move to a more cost reflective solution without any evidence that it will result in system security issues is not better than the baseline/original.

## CUSC Code Administrator Consultation Response Proforma

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

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<b>Respondent:</b>	<b>Simon Lord</b>  <a href="mailto:simon.lord@engie.com">simon.lord@engie.com</a>
<b>Company Name:</b>	
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are: ....

Q	Question	Response
1	<b>Do you believe that CMP265 better facilitates the App. CUSC objectives?</b>	We do not support the original but do support WACM-1 and <b>WACM-3</b> as detailed below with <b>WACM-3</b> being our preferred option. Further details and reasoning are set out below.
2	<b>Do you support the proposed implementation approach?</b>	We only support an implementation approach that will see the removal of a significant proportion of the residual benefit from embedded generators from <b>1<sup>st</sup> April 2018</b> this will give 12 month implementation time to allow system changes that are minimal for our supported options (WACM-1 and <b>WACM-3</b> ).
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Thirdly, as has been demonstrated to in the working group report 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. 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 and original proposal as the proposed charge is not cost reflective.

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any evidence of an operational need for this to the working group during any of the meetings and discussion that have taken place.

Given that there has been no evidence presented by the SO of a need to have a gradually reduction in the benefits, these options will simple result in increased cost to consumers without an operational need and a delay a reduction in consumers bills. All alternatives have at least 12 month implementation time and Ofgem can delay this to an appropriate point in time. Thus any alternative that codifies a gradual or a delayed move to a more cost reflective solution without any evidence that it will result in system security issues is not better than the baseline/original.

## CUSC Code Administrator Consultation Response Proforma

### CMP264 'Embedded Generation Triad Avoidance Standstill'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Laurence Barrett</i> <a href="mailto:Laurence.barrett@eon-uk.com">Laurence.barrett@eon-uk.com</a>
<b>Company Name:</b>	<i>E.ON</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any</li></ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>E.ON recognises that the forecasted level of Triad avoidance benefit may overstate the transmission costs avoided by using embedded generation in the future. However, without thorough analysis which attempts to quantify the true value of embedded generation in this context, we do not believe that CMP264 can be justified as better meeting the CUSC objectives.</p> <p>CMP264 attempts to address the proposed defect (to the extent that one exists) by creating a discrimination between existing embedded generators (i.e. those that commissioned prior to June 2017) and new embedded generators. This does not facilitate effective competition in the generation and supply of electricity and hence cannot better meet CUSC Charging objective (a). This could result in inefficient outcomes for customers, particularly when considering the impact on the capacity mechanism.</p> <p>CMP264 does not better meet CUSC Charging objective (b) as it does not attempt to ensure that charges reflect the true cost of embedded generators on the transmission system. It states that the current Triad avoidance benefit is not cost reflective, but no evidence has been provided to suggest that removing this for some embedded generators and not others would be more cost reflective.</p> <p>The lack of analysis means that CMP264 cannot be said to be based upon developments in the transmission licencees' transmission businesses and therefore does not better meet CUSC Charging objective (c).</p>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>Without prejudice to our view that CMP264 cannot be justified without further analysis, we believe that if it were to be implemented, the cut-off date for new embedded generation should be 1<sup>st</sup> October 2019. This would allow embedded generators who entered previous Capacity Auctions in good faith to meet their contractual milestones and commitments in good time and still qualify for the Triad avoidance benefit. Equally, such a date would also allow investments which were not based upon Capacity Agreements, but upon other revenues streams, to continue on a non-discriminatory basis.</p> <p>We also note that the system changes for all suppliers required as a result of CMP264 would mean that it is highly unlikely that this could be implemented prior to the TNUoS charging year beginning in April 2018. Indeed in the interests of promoting retail competition, it is essential that all suppliers are able to resource appropriately, especially given the large number of change projects that are already ongoing to meet regulatory requirements. Therefore, E.ON believes that no changes should be implemented prior to April 2019.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>E.ON believes that embedded benefits for embedded generators should reflect the short and long term costs that have been or will be avoided by installing those generators. We do not accept or support Ofgem’s provisional view that the current locational TNUoS charge for demand is cost reflective and that the residual charge for demand is not.</p> <p>The locational charge for demand is defined within the CUSC as recovering the capital investment, maintenance or operational costs incurred on the transmission system as a result of demand. However, currently the locational charge for demand recovers £0. This therefore implies there are no costs associated with demand, or more likely, that this signal is in fact, not cost-reflective. More broadly, the total locational charge including the locational charge for generation, only accounts for about 10% of the allowed transmission revenue, with the remaining 90% allocated into the residual charge. This appears at odds with the suggestion that only the locational charge is cost-reflective. Evidently, the current locational charge signals differences in the costs demand imposes across different locations, not the absolute level of transmission costs that demand imposes. Addressing this issue, which CMP264 does not seek to do, would fundamentally change the balance in revenue recovery between the locational charge and the residual charge.</p> <p>As highlighted above, the majority of the revenue is recovered from the TNUoS residual charge. However, transmission connected generators currently have their charges capped under EU regulation (838/2010) at €2.50/MWh. As the allowed revenues have increased (and are forecast to increase further in the future, in part driven by escalating OFTO costs as offshore wind continues to grow), this cap has resulted in transmission connected generators paying for smaller and smaller proportions of the allowed revenues. This has manifested itself in very small (and potential forecasted negative) generation residual charge with the subsequent effect of significantly increasing the residual charge for demand. It is this effect that drives the majority of the Triad avoidance benefit over which Ofgem expressed the greatest concern. Given the interlinked nature of the various elements of TNUoS charge, it is not a sensible approach to seek to address one element on its own, as is the case for CMP264, as this is highly likely to lead to unintended consequences and new distortions.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>E.ON has repeatedly expressed its concerns that the accelerated CUSC process is not appropriate to explore an issue of this magnitude. The scope of the process is too narrow and there has not been sufficient time to explore the issue comprehensively, using robust analysis and an evidence-based approach. Knee-jerk reactions to deal with a perceived issue in a rushed fashion, without thorough analysis to explore the true cost-reflectivity of the locational and demand charges and the impact of one on the other will not be robust and have the potential to exacerbate the uncertainty that this process has created and create new distortions.</p> <p>TNUoS charging needs to be cost-reflective, but also stable/predictable in order to allow for efficient investment. The current process has already introduced significant uncertainty for generators, both existing and new. Such a level of uncertainty will either deter investment or increase the costs associated with investment, either outcome unpalatable at a time when security of supply on the system is very tight. As has been seen recently, assumptions that were thought to be robust (such as a reliance on importing through continental interconnectors to ensure security of supply) can rapidly result in changes to the system – at such a time, certainty for investors is key.</p> <p>Therefore, E.ON believes a more strategic approach would be more prudent and lower risk, by conducting a thorough and robust review and implementing any resulting changes through an appropriate transition. The current approach of CMP264 does not achieve this outcome (the proposal was itself only intended on being a temporary solution until a more enduring and robust one was determined) and could result in continued uncertainty as future modification proposals are raised (we have already seen two new modifications in this area, CMP271 &amp; CMP274) to address the new problems created by CMP264, or as a result of legal challenge to any potential outcome. This could have real consequences, not just for standalone embedded generators who may decide to close or reassess investment plans, but also for wider industry which uses embedded generation in its processes (for example combined heat and power).</p>

Q	Question	Response
3	<b>Do you have any other comments?</b>	E.ON believes that such an approach can only be achieved through a thorough and independent review, using appropriate analysis to supply evidence and justifications for any required changes. We believe this would be best achieved through a Significant Code Review, led by Ofgem. A more targeted review, which some have suggested, on the other hand does not look at all of the issues in the round, and therefore risks unintended consequences and distortion to the market which is not in the interests of customers.

## CUSC Code Administrator Consultation Response Proforma

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

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These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Laurence Barrett</i> <a href="mailto:Laurence.barrett@eon-uk.com">Laurence.barrett@eon-uk.com</a>
<b>Company Name:</b>	<i>E.ON</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li></ul>

	<ul style="list-style-type: none"><li>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. License under Standard Condition C10, paragraph 1</li><li>e) Promoting efficiency in the implementation and administration of the system charging methodology</li></ul>
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Q	Question	Response
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Q	Question	Response
1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>E.ON recognises that the forecasted level of Triad avoidance benefit may overstate the transmission costs avoided by using embedded generation in the future. However, without thorough analysis which attempts to quantify the true value of embedded generation in this context, we do not believe that CMP265 can be justified as better meeting the CUSC objectives.</p> <p>CMP265 attempts to address the proposed defect (to the extent that one exists) by creating discrimination between embedded generators that have capacity mechanism contracts and those that do not. E.ON believes that embedded generation can both help to deliver security of supply as well as delivers cost savings to the transmission network and therefore should be rewarded appropriately for both through receiving cost-reflective embedded benefits as well the opportunity to participate in the capacity mechanism. CMP265 prohibits this which does not facilitate effective competition in the generation and supply of electricity and hence cannot better meet CUSC Charging objective (a). This could result in inefficient outcomes for customers, particularly when considering the impact on the capacity mechanism.</p> <p>CMP265 does not better meet CUSC Charging objective (b) as it does not attempt to ensure that charges reflect the true cost of embedded generators on the transmission system. It implies that the current Triad avoidance benefit is cost reflective for embedded generators who do not have a CM agreement, but not cost-reflective for those that do. This appears contradictory when the impact on the transmission system is the same. No evidence has been provided to suggest that removing the Triad avoidance benefit for some embedded generators and not others would be more cost reflective.</p> <p>The lack of analysis means that CMP265 cannot be said to be based upon developments in the transmission licencees' transmission businesses and therefore does not better meet CUSC Charging objective (c).</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>Without prejudice to our view that CMP265 cannot be justified without further analysis, we support the proposed implementation date.</p> <p>The implementation date if April 2020 gives sufficient time for suppliers and other stakeholders to make the necessary changes in their billing and administration systems.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>E.ON believes that embedded benefits for embedded generators should reflect the short and long term costs that have been or will be avoided by installing those generators. We do not accept or support Ofgem’s provisional view that the current locational TNUoS charge for demand is cost reflective and that the residual charge for demand is not.</p> <p>The locational charge for demand is defined within the CUSC as recovering the capital investment, maintenance or operational costs incurred on the transmission system as a result of demand. However, currently the locational charge for demand recovers £0. This therefore implies there are no costs associated with demand, or more likely, that this signal is in fact, not cost-reflective. More broadly, the total locational charge including the locational charge for generation, only accounts for about 10% of the allowed transmission revenue, with the remaining 90% allocated into the residual charge. This appears at odds with the suggestion that only the locational charge is cost-reflective. Evidently, the current locational charge signals differences in the costs demand imposes across different locations, not the absolute level of transmission costs that demand imposes. Addressing this issue, which CMP265 does not seek to do, would fundamentally change the balance in revenue recovery between the locational charge and the residual charge.</p> <p>As highlighted above, the majority of the revenue is recovered from the TNUoS residual charge. However, transmission connected generators currently have their charges capped under EU regulation (838/2010) at €2.50/MWh. As the allowed revenues have increased (and are forecast to increase further in the future, in part driven by escalating OFTO costs as offshore wind continues to grow), this cap has resulted in transmission connected generators paying for smaller and smaller proportions of the allowed revenues. This has manifested itself in very small (and potential forecasted negative) generation residual charge with the subsequent effect of significantly increasing the residual charge for demand. It is this effect that drives the majority of the Triad avoidance benefit over which Ofgem expressed the greatest concern. Given the interlinked nature of the various elements of TNUoS charge, it is not a sensible approach to seek to address one element on its own, as is the case for CMP265, as this is highly likely to lead to unintended consequences and new distortions.</p>

Q	Question	Response
		<p>E.ON has repeatedly expressed its concerns that the accelerated CUSC process is not appropriate to explore an issue of this magnitude. The scope of the process is too narrow and there has not been sufficient time to explore the issue comprehensively, using robust analysis and an evidence-based approach. Knee-jerk reactions to deal with a perceived issue in a rushed fashion, without thorough analysis to explore the true cost-reflectivity of the locational and demand charges and the impact of one on the other will not be robust and have the potential to exacerbate the uncertainty that this process has created and create new distortions.</p> <p>TNUoS charging needs to be cost-reflective, but also stable/predictable in order to allow for efficient investment. The current process has already introduced significant uncertainty for generators, both existing and new. Such a level of uncertainty will either deter investment or increase the costs associated with investment, either outcome unpalatable at a time when security of supply on the system is very tight. As has been seen recently, assumptions that were thought to be robust (such as a reliance on importing through continental interconnectors to ensure security of supply) can rapidly result in changes to the system – at such a time, certainty for investors is key.</p> <p>Therefore, E.ON believes a more strategic approach would be more prudent and lower risk, by conducting a thorough and robust review and implementing any resulting changes through an appropriate transition. The current approach of CMP265 does not achieve this outcome and could result in continued uncertainty as future modification proposals are raised (we have already seen two new modifications in this area, CMP271 &amp; CMP274) to address the new problems created by CMP265, or as a result of legal challenge to any potential outcome. This could have real consequences, not just for standalone embedded generators who may decide to close or reassess investment plans, but also for wider industry which uses embedded generation in its processes (for example combined heat and power).</p>

Q	Question	Response
		<p>E.ON believes that such an approach can only be achieved through a thorough and independent review, using appropriate analysis to supply evidence and justifications for any required changes. We believe this would be best achieved through a Significant Code Review, led by Ofgem. A more targeted review, which some have suggested, on the other hand does not look at all of the issues in the round, and therefore risks unintended consequences and distortion to the market which is not in the interests of customers.</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP269 'Potential consequential changes to the CUSC as a result of CMP264'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Laurence Barrett</i> <a href="mailto:Laurence.barrett@eon-uk.com">Laurence.barrett@eon-uk.com</a>
<b>Company Name:</b>	<i>E.ON</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Standard CUSC Objectives</b>  a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License  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  d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)

Q	Question	Response
1	<p><b>Do you believe that CMP269 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>CMP269 is only required if CMP264 or one of its WACMs is approved and implemented. E.ON does not believe that CMP264 better meets the CUSC objectives and therefore it should not be implemented. In such circumstances, CMP269 would not better meet the CUSC objectives.</p> <p>However, without prejudice to our view on CMP264, should it be implemented, then E.ON believes that CMP269 would better meet the CUSC objectives.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>Implementation of CMP269 needs to align to the implementation of CMP264, should this be taken forward.</p>
3	<p><b>Do you have any other comments?</b></p>	

## CUSC Code Administrator Consultation Response Proforma

### CMP270 'Potential consequential changes to the CUSC as a result of CMP265'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

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These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Laurence Barrett</i> <a href="mailto:Laurence.barrett@eon-uk.com">Laurence.barrett@eon-uk.com</a>
<b>Company Name:</b>	<i>E.ON</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Standard CUSC Objectives</b>  a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License  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  d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)

Q	Question	Response
1	<p><b>Do you believe that CMP270 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>CMP270 is only required if CMP265 or one of its WACMs is approved and implemented. E.ON does not believe that CMP265 better meets the CUSC objectives and therefore it should not be implemented. In such circumstances, CMP270 would not better meet the CUSC objectives.</p> <p>However, without prejudice to our view on CMP265, should it be implemented, then E.ON believes that CMP270 would better meet the CUSC objectives.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>Implementation of CMP270 needs to align to the implementation of CMP265, should this be taken forward.</p>
3	<p><b>Do you have any other comments?</b></p>	

## CMP264 ‘Embedded Generation Triad Avoidance Standstill’

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Libby Forrest (l-forrest@esauk.org)</i>
<b>Company Name:</b>	<i>Environmental Services Association</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li> </ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No. We agree with the conclusions reached by the workgroup members who supported stabilisation of charges pending a review and/or grandfathering (<i>Volume 1a Workgroup report for code administrator consultation</i>, pp.68-9).</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>In principle ESA prefers a grandfathering approach. Making changes that affect existing contracts would be damaging to investor confidence.</p> <p>ESA also recommends that more consideration should be given to a split implementation approach which recognises the differences between intermittent and baseload embedded generation, taking account of the large scale, long term investments made by the waste industry.</p> <p>However, we are concerned that proposed blanket changes will inadvertently disincentivise and disadvantage baseload, low carbon and renewable generators. Differences between types of embedded generation must be taken into account.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>The consultation period far too short given the size of the document, the number of alternatives to assess, and the complexity of the issues.</p> <p>We are concerned that the CUSC proposal will have unintended consequences that have not been fully explored or assessed. Rushed proposals could cause significant harm to distributed generators, with serious consequences for local authorities and waste management.</p> <p>The impact of removing or significantly reducing embedded benefits on the waste industry will have the following consequences that have not yet been addressed:</p> <ul style="list-style-type: none"> <li>• Increased EfW gate fees will largely be taken on by local authorities which are already struggling financially.</li> <li>• Landfill gas sites could be forced to close utilisation schemes early.</li> <li>• Financial viability of AD facilities would be put at risk, hindering important Government plans to encourage greater food waste collection and utilisation.</li> <li>• Investor confidence will take a hit. A stable and sensible charging regime is essential for the industry to attract much-needed investment to deliver a circular economy in the UK.</li> </ul> <p>Given the severe consequences for distributed generators, local authorities and UK waste management, a full impact assessment is essential. We therefore call for a holistic, systematic review that takes full account of cross-industry and business implications.</p>

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<b>Company Name:</b>	<i>Environmental Services Association</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any</li></ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No. We agree with the conclusions reached by the workgroup members who supported stabilisation of charges pending a review and/or grandfathering (<i>Volume 1a Workgroup report for code administrator consultation</i>, pp.68-9).</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>FCC strongly supports a review to be undertaken before any changes or implementation that could prejudicially affect the financing of its energy facilities. In principle should change occur FCC prefers a grandfathering approach. Making changes that affect existing contracts would be damaging to the current financial standing of its operations and investor confidence.</p> <p>FCC also recommends that more consideration should be given to a split implementation approach which recognises the differences between intermittent and baseload embedded generation, taking account of the large scale, long term investments made by FCC in its Energy From Waste Facilities. However, FCC are concerned that proposed blanket changes will inadvertently dis-incentivise and disadvantage it's baseload, low carbon and renewable generation from Energy From Waste. Differences between types of embedded generation must be taken into account.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>The consultation period is far too short given the size of the document, the number of alternatives to assess, and the complexity of the issues and would benefit from a complete review of embedded benefits with consultation on the findings of that review.</p> <p>FCC are concerned that the CUSC proposal will have unintended consequences that have not been fully explored or assessed. Rushed proposals could cause significant harm to the financial security of our EfW operations, with serious consequences for local authorities and waste management.</p> <p>The impact of removing or significantly reducing embedded benefits on our operating facilities will have the following consequences that have not yet been addressed:</p> <ul style="list-style-type: none"> <li>• Increased EfW gate fees will largely be taken on by local authorities which are already struggling financially.</li> <li>• Investor confidence will be severely undermined placing the security of future EfW projects in jeopardy.</li> </ul> <p>Given the severe consequences for distributed generators, local authorities and UK waste management, a full impact assessment is essential. We therefore call for a holistic, systematic review that takes full account of cross-industry and business implications.</p>

## CUSC Code Administrator Consultation Response Proforma

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Steve.brown@fccenvironment.co.uk</i>
<b>Company Name:</b>	<i>FCC Environment UK Ltd</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any</li></ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No. We agree with the conclusions reached by the workgroup members who supported stabilisation of charges pending a review and/or grandfathering (<i>Volume 1a Workgroup report for code administrator consultation</i>, pp.68-9).</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>FCC strongly supports a review to be undertaken before any changes or implementation that could prejudicially affect the financing of its energy facilities. In principle should change occur FCC prefers a grandfathering approach. Making changes that affect existing contracts would be damaging to the current financial standing of its operations and investor confidence.</p> <p>FCC also recommends that more consideration should be given to a split implementation approach which recognises the differences between intermittent and baseload embedded generation, taking account of the large scale, long term investments made by FCC in its Energy From Waste Facilities. However, FCC are concerned that proposed blanket changes will inadvertently dis-incentivise and disadvantage it's baseload, low carbon and renewable generation from Energy From Waste. Differences between types of embedded generation must be taken into account.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>The consultation period is far too short given the size of the document, the number of alternatives to assess, and the complexity of the issues and would benefit from a complete review of embedded benefits with consultation on the findings of that review.</p> <p>FCC are concerned that the CUSC proposal will have unintended consequences that have not been fully explored or assessed. Rushed proposals could cause significant harm to the financial security of our EfW operations, with serious consequences for local authorities and waste management.</p> <p>The impact of removing or significantly reducing embedded benefits on our operating facilities will have the following consequences that have not yet been addressed:</p> <ul style="list-style-type: none"> <li>• Increased EfW gate fees will largely be taken on by local authorities which are already struggling financially.</li> <li>• Investor confidence will be severely undermined placing the security of future EfW projects in jeopardy.</li> </ul> <p>Given the severe consequences for distributed generators, local authorities and UK waste management, a full impact assessment is essential. We therefore call for a holistic, systematic review that takes full account of cross-industry and business implications.</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP264 'Embedded Generation Triad Avoidance Standstill'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Tom Steward, Wholesale Regulatory Officer</i> <i>Tom.Steward@GoodEnergy.co.uk</i>
<b>Company Name:</b>	<i>Please insert Company Name</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any</li> </ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
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Q	Question	Response
1	<p>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</p>	<p>It is evident that the original proposal and each of the WACMs undermine <b>objective A</b> of the CUSC.</p> <ul style="list-style-type: none"> <li>- 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.</li> <li>- 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.</li> <li>- This is also likely to significantly increase barriers to entry to the smaller generation market, again reducing competition going forward.</li> </ul> <p>It is evident that the original proposal and each of the WACMs undermine <b>objective B</b> of the CUSC.</p> <ul style="list-style-type: none"> <li>- 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.</li> <li>- The original CMP264 proposal 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 research and analysis, something which is not possible given the accelerated timescales of this modification process.</li> <li>- It is evident that any modification which changes the level of TNUoS embedded benefit, without also seeking to change TNUoS demand charges, are a departure from the cost-reflective objective of the code. This is because embedded generation has an effect on the transmission system equivalent to negative demand. This modification specifically states that consideration of the wider transmission charging methodology lies out of scope and therefore de facto is unsupportive of the objectives of the CUSC.</li> </ul> <p>It is clear that the Original proposal and each of the WACMs are not supportive of <b>objective C</b> of the CUSC.</p> <ul style="list-style-type: none"> <li>- As outlined in the proposal documentation this change may lead to significant systems and procedural change for National Grid. Should OFGEM's final decision on the future of the TNUoS charging regime not align with CMP264, there are likely then to be significant abortive costs to be borne by the industry. System changes are also likely to be required for suppliers in order to accommodate the passing through of different embedded benefits to generators which are identical, except for their commissioning date.</li> </ul>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>We have significant concerns regarding the currently proposed implementation approach for CMP264. Firstly we share the concerns of a number of industry respondents, and members of the workgroup, that the short timescale for considering this modification does not allow for appropriate levels of analysis and scrutiny of the cost assumptions, and the impacts that any chosen changes will have. The drive to produce a quick answer, without sufficient care being taken to ensure that it is the <i>right</i> answer, introduces significant risk to an industry – undermining investor confidence and potentially leading to the introduction of increased risk premia in pricing. Whilst we are mindful of the perceived need to act quickly in the face of rising triad payments, the case has not been made that a quick, underdeveloped modification which is likely to cause a number of unintended consequences is preferable to the present methodology.</p> <p>We also have concerns regarding the absence of a disapplication date for the modification. This modification has been framed as an interim arrangement; however the absence of a disapplication date runs the risk of it becoming an enduring arrangement if for any reason a full review of the charging methodology is not forthcoming. The argument set out in the Code Administrator Consultation Document suggesting that too long a disapplication date effectively makes the modification ‘meaningless’ is entirely spurious. All modifications approved by Ofgem are equally open to revision by future modifications, irrespective of disapplication date.</p>

Q	Question	Response
3	Do you have any other comments?	<p>We have a number of additional concerns relating to modification proposal CMP264.</p> <ol style="list-style-type: none"> <li>1. It is clear that following the initial consultation and the deliberations of the workgroup that no clear consensus view has been reached regarding which, if any, of the options explored in CMP264 offers the best solution under the objectives of the code. The one consensus that <i>does</i> appear to have emerged however is the need for a comprehensive review of the charging regime to take account of the full range of embedded benefits, impacts on other codes, and disparities in connection charges between transmission and distribution connected generators. This is the only route to ensure that an appropriate enduring solution can be delivered, backed by the appropriate analysis to ensure that charges and payments are fully reflective of the costs and benefits that generators bring to the system.</li> <li>2. The triad signal is highly effective in driving generator behaviour, helping to reduce pressure on the transmission system at types of high system stress. It is reasonable to assert that significant reductions in triad payments, weakening the economic signal to generate, would lead to commensurate reductions in triad avoidance behaviour. This presents a very significant risk to system security – substantially increasing the risk of brownouts or blackouts.</li> <li>3. Embedded generation offers much-needed flexibility to the electricity system. This flexibility is absolutely crucial for supporting the current energy system, and the transition to a low-carbon energy system which is likely to feature significantly increased levels of variable renewable generation. CMP264 risks undermining the investment case for new flexible generation capacity which will be essential in supporting the energy transition.</li> <li>4. Similarly to point 3, CMP264 creates significant uncertainty which forms a barrier to entry for innovative new industry participants with pioneering business models and technologies. These firms are likely to prove crucial in enabling the energy system to deliver value in the future years.</li> <li>5. As set out above, insufficient time has been given to considering this modification proposal to establish a cost-reflective level for triad benefit. Whilst it is possible that freezing triad levels at the current level as an interim arrangement may also not produce a cost-reflective outcome, this does so with reduced risk to investor confidence, and system security.</li> <li>6. It is essential that consideration is not limited to the impact on generators with CM/CfD contracts; the impact on generators with RO and FiT based PPAs must also be considered.</li> </ol>

## CUSC Code Administrator Consultation Response Proforma

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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<b>Respondent:</b>	<i>Tom Steward, Wholesale Regulatory Officer</i> <i>Tom.Steward@GoodEnergy.co.uk</i>
<b>Company Name:</b>	<i>Good Energy</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Charging CUSC Objectives</b>  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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license 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

	<p>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. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
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Q	Question	Response
1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>It is evident that the original proposal and all of the WACMs undermine <b>objective A</b> of the CUSC.</p> <ul style="list-style-type: none"> <li>- 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.</li> <li>- Removal of embedded benefits for Capacity Market participants is likely to lead to a number of generators not participating in the Capacity Market auction – leading to a reduced level of competition in the auction.</li> </ul> <p>It is clear that the original proposal and all of the WACMs undermine <b>objective B</b> of the CUSC.</p> <ul style="list-style-type: none"> <li>- 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 research and analysis, something which is not possible given the accelerated timescales of this modification process.</li> <li>- The original CMP265 proposal frames embedded generation with CM contracts as offering no benefit in terms of cost saving to the transmission network – this is clearly not the case, and therefore such a modification would not be cost reflective. It is not possible to verify a cost-reflective level of payment without extensive research and analysis, something which is not possible given the accelerated timescales of this modification process.</li> </ul> <p>It is evident that the original proposal and all of the WACMs are not supportive of <b>objective C</b> of the CUSC.</p> <ul style="list-style-type: none"> <li>- Any changes that are made which are not consistent with OFGEM's final decision on the future of the TNUoS charging regime risk leading to industry participants facing significant abortive costs – particularly relating to development of new systems to accommodate passing through different embedded benefits to generators which are identical, save for their possession of a capacity market contract.</li> </ul>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>We have significant concerns regarding the currently proposed implementation approach for CMP265. Firstly we share the concerns of members of the workgroup and a number of industry respondents, that the short timescales for this modification do not allow appropriate levels of analysis and scrutiny of the cost assumptions to be undertaken, and the impacts that any chosen changes will have. The drive to produce a quick answer, without sufficient care being taken to ensure that it is the <i>right</i> answer, introduces significant risk to an industry – undermining investor confidence and potentially leading to the introduction of increased risk premia in pricing. Whilst we are mindful of the perceived need to act quickly in the face of rising triad payments, the case has not been made that a quick, underdeveloped modification which is likely to cause a number of unintended consequences, is preferable to the present methodology.</p> <p>Secondly, there is a lack of clarity regarding if a generator with a CM contract for a CM year that has yet to begin, will be eligible for embedded benefits or not – this could drastically undermine the investment case for embedded generators – particularly those participating in the T-4 auctions.</p> <p>Finally it is not clear how the industry will manage the changing status of generators who may switch often from having CM contracts, and not having CM contracts – depending if they win or lose T-1 auctions. There is no clarity regarding the systems that will be put in place to ensure that this changing status is effectively reflected in settlement.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>We have a number of additional concerns relating to modification proposal CMP265.</p> <ol style="list-style-type: none"> <li>1. It is clear that following the initial consultation and the deliberations of the workgroup that no clear consensus view has been reached regarding which, if any, of the options explored in CMP265 offers the best solution under the objectives of the code. The one consensus that <i>does</i> appear to have emerged however is the need for a comprehensive review of the charging regime to take account of the full range of embedded benefits, impacts on other codes, and disparities in connection charges between transmission and distribution connected generators. This is the only route to ensure that an appropriate enduring solution can be delivered, backed by the appropriate analysis to ensure that charges and payments are fully reflective of the costs and benefits that generators bring to the system.</li> <li>2. The triad signal is highly effective in driving generator behaviour, helping to reduce pressure on the transmission system at types of system stress. Given that generators with CM contracts are only penalised if not generating when a system stress event is declared, it is not clear that the weakened economic signal to run will not lead to reduced system security – substantially increasing the risk of brownouts or blackouts.</li> <li>3. Embedded generation offers much-needed flexibility to the electricity system. This flexibility is absolutely crucial for supporting the transition to a low-carbon energy system, which is likely to feature significantly increased levels of variable renewable generation. CMP265 reduces the investment case for new flexible generation capacity which will be essential in supporting the energy transition.</li> <li>4. Similarly, CMP265 creates significant uncertainty which forms a barrier to entry for innovative new industry participants with pioneering business models and technologies. These firms are likely to prove crucial in enabling the energy system to deliver value in the future years.</li> <li>5. As set out above, insufficient time has been given to considering this modification proposal to establish a cost-reflective level for triad benefit. Whilst it is possible that freezing triad levels at the current level as an interim arrangement may also not produce a cost-reflective outcome, this does so with reduced risk to investor confidence, and system security.</li> <li>6. It is spurious to suggest that removing triad benefit for CM participants will deliver lower prices for consumers, given that this will likely lead to a raising of the CM auction clearing price – which is also levied from customer bills. The objective of the modification is transparently to raise the price of the CM – this will also raise costs to consumers.</li> <li>7. This change will lead to increased administrative costs for suppliers which will now be required to monitor the ongoing status of all generators with which they hold a PPA, to monitor the appropriate level of embedded benefit to be paid.</li> </ol>

## CMP264 'Embedded Generation Triad Avoidance Standstill'

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<b>Respondent:</b>	<i>Graz Macdonald</i> <i>Graz@greenfrogpower.co.uk</i>
<b>Company Name:</b>	<i>Green Frog Power Ltd</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any</li> </ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP264 Original proposal, or any potential alternatives for change that you wish to suggest, better facilitates the Applicable CUSC Objectives?</b></p>	<p>Green Frog have provided extensive comments on the original proposal within the workgroup and in the consultation as well as in direct correspondence with Ofgem.</p> <p>We have stated clearly and consistently that we do not believe that the original proposal better facilitates the applicable CUSC objectives. Our position remains unchanged despite extensive unproven and unverified assertions by other parties.</p> <p>We think that the Green Frog WACM (to fix the demand residual at £45.33/kW) addresses the only aspect of the proposed defect that is clear and agreed by the whole workgroup – that the spiralling of the residual is unsustainable and likely to lead to undesirable distortions.</p> <p>The Green Frog WACM has the additional attribute of avoiding the arbitrary and potentially damaging discrimination integral to the original modifications.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>We support the implementation of the Green Frog WACM in a sensible timeframe. We are led to believe that the required system and BSC changes will for the Green Frog WACM will be relatively straightforward.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>Green Frog are very disappointed with the lack of time that was given the workgroup to conduct the necessary (extensive) impact analysis that would enable informed and fact-based discourse.</p> <p>We think that security of supply is critical and of particular concern over the next few years. We think that it would be imprudent to apply dramatic changes based on clearly self-interested assertions made by larger generators without the benefit of studying the impacts on the market participants and consumers.</p> <p>Where analysis has been provided (by us), it demonstrates significantly negative consequences for consumers due to higher electricity market prices, higher capacity market prices, and a increased risk to security of supply!</p> <p>In addition to the serious concerns regarding the negative consumer welfare effects of reduced security of supply and higher prices in the short and medium term, the impact on consumers over the longer term is no less concerning.</p> <p>Undermining the reliability and trustworthiness of the regulatory regime would have very serious and far-reaching implications – beyond the electricity industry. Hundreds of billions of Pounds of energy infrastructure investment is required over the next decade, and is put at risk from these proposals.</p> <p>This Mod has the potential to undermine the investment cases of the very investors that have actually been building the assets in GB, at the very time that they are most needed. This could destabilise the investment climate across the industry, including for the larger players that have proposed this short-sighted change proposal.</p> <p>They too would need to factor increased regulatory risk premiums into their investment cases. This will result in less investment, less diversity of investment sources, and higher prices for consumers over the long term.</p> <p>To finish, we think it is absolutely critical that a full, robust, impartial, macro and microeconomic and electricity systems analysis is completed and peer reviewed before any radical changes are approved.</p>

## CUSC Code Administrator Consultation Response Proforma

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

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<b>Respondent:</b>	<i>Graz Macdonald</i> <i>Graz@greenfrogpower.co.uk</i>
<b>Company Name:</b>	<i>Green Frog Power Ltd</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Charging CUSC Objectives</b>  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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license 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

	<p>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. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP265 Original proposal, or any potential alternatives for change that you wish to suggest, better facilitates the Applicable CUSC Objectives?</b></p>	<p>Green Frog have provided extensive comments on the original proposal within the workgroup and in the consultation as well as in direct correspondence with Ofgem.</p> <p>We have stated clearly and consistently that we do not believe that the original proposal better facilitates the applicable CUSC objectives. Our position remains unchanged despite extensive unproven and unverified assertions by other parties.</p> <p>We think that the Green Frog WACM (to fix the demand residual at £45.33/kW) addresses the only aspect of the proposed defect that is clear and agreed by the whole workgroup – that the spiralling of the residual is unsustainable and likely to lead to undesirable distortions.</p> <p>The Green Frog WACM has the additional attribute of avoiding the arbitrary and potentially damaging discrimination integral to the original modifications.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>We support the implementation of the Green Frog WACM in a sensible timeframe. We are led to believe that the required system and BSC changes will for the Green Frog WACM will be relatively straightforward.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>Green Frog are very disappointed with the lack of time that was given the workgroup to conduct the necessary (extensive) impact analysis that would enable informed and fact-based discourse.</p> <p>We think that security of supply is critical and of particular concern over the next few years. We think that it would be imprudent to apply dramatic changes based on clearly self-interested assertions made by larger generators without the benefit of studying the impacts on the market participants and consumers.</p> <p>Where analysis has been provided (by us), it demonstrates significantly negative consequences for consumers due to higher electricity market prices, higher capacity market prices, and a increased risk to security of supply!</p> <p>In addition to the serious concerns regarding the negative consumer welfare effects of reduced security of supply and higher prices in the short and medium term, the impact on consumers over the longer term is no less concerning.</p> <p>Undermining the reliability and trustworthiness of the regulatory regime would have very serious and far-reaching implications – beyond the electricity industry. Hundreds of billions of Pounds of energy infrastructure investment is required over the next decade, and is put at risk from these proposals.</p> <p>This Mod has the potential to undermine the investment cases of the very investors that have actually been building the assets in GB, at the very time that they are most needed. This could destabilise the investment climate across the industry, including for the larger players that have proposed this short-sighted change proposal.</p> <p>They too would need to factor increased regulatory risk premiums into their investment cases. This will result in less investment, less diversity of investment sources, and higher prices for consumers over the long term.</p> <p>To finish, we think it is absolutely critical that a full, robust, impartial, macro and microeconomic and electricity systems analysis is completed and peer reviewed before any radical changes are approved.</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP269 'Potential consequential changes to the CUSC as a result of CMP264'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Graz Macdonald</i> <i>Graz@greenfrogpower.co.uk</i>
<b>Company Name:</b>	<i>Green Frog Power Ltd</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any</li></ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP269 Original proposal, or any potential alternatives for change that you wish to suggest, better facilitates the Applicable CUSC Objectives?</b></p>	<p>Green Frog have provided extensive comments on the original proposal within the workgroup and in the consultation as well as in direct correspondence with Ofgem.</p> <p>We have stated clearly and consistently that we do not believe that the original proposal better facilitates the applicable CUSC objectives. Our position remains unchanged despite extensive unproven and unverified assertions by other parties.</p> <p>We think that the Green Frog WACM (to fix the demand residual at £45.33/kW) addresses the only aspect of the proposed defect that is clear and agreed by the whole workgroup – that the spiralling of the residual is unsustainable and likely to lead to undesirable distortions.</p> <p>The Green Frog WACM has the additional attribute of avoiding the arbitrary and potentially damaging discrimination integral to the original modifications.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>We support the implementation of the Green Frog WACM in a sensible timeframe. We are led to believe that the required system and BSC changes will for the Green Frog WACM will be relatively straightforward.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>Green Frog are very disappointed with the lack of time that was given the workgroup to conduct the necessary (extensive) impact analysis that would enable informed and fact-based discourse.</p> <p>We think that security of supply is critical and of particular concern over the next few years. We think that it would be imprudent to apply dramatic changes based on clearly self-interested assertions made by larger generators without the benefit of studying the impacts on the market participants and consumers.</p> <p>Where analysis has been provided (by us), it demonstrates significantly negative consequences for consumers due to higher electricity market prices, higher capacity market prices, and a increased risk to security of supply!</p> <p>In addition to the serious concerns regarding the negative consumer welfare effects of reduced security of supply and higher prices in the short and medium term, the impact on consumers over the longer term is no less concerning.</p> <p>Undermining the reliability and trustworthiness of the regulatory regime would have very serious and far-reaching implications – beyond the electricity industry. Hundreds of billions of Pounds of energy infrastructure investment is required over the next decade, and is put at risk from these proposals.</p> <p>This Mod has the potential to undermine the investment cases of the very investors that have actually been building the assets in GB, at the very time that they are most needed. This could destabilise the investment climate across the industry, including for the larger players that have proposed this short-sighted change proposal.</p> <p>They too would need to factor increased regulatory risk premiums into their investment cases. This will result in less investment, less diversity of investment sources, and higher prices for consumers over the long term.</p> <p>To finish, we think it is absolutely critical that a full, robust, impartial, macro and microeconomic and electricity systems analysis is completed and peer reviewed before any radical changes are approved.</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP270 'Potential consequential changes to the CUSC as a result of CMP265'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Graz Macdonald</i> <i>Graz@greenfrogpower.co.uk</i>
<b>Company Name:</b>	<i>Green Frog Power Ltd</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any</li></ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP270 Original proposal, or any potential alternatives for change that you wish to suggest, better facilitates the Applicable CUSC Objectives?</b></p>	<p>Green Frog have provided extensive comments on the original proposal within the workgroup and in the consultation as well as in direct correspondence with Ofgem.</p> <p>We have stated clearly and consistently that we do not believe that the original proposal better facilitates the applicable CUSC objectives. Our position remains unchanged despite extensive unproven and unverified assertions by other parties.</p> <p>We think that the Green Frog WACM (to fix the demand residual at £45.33/kW) addresses the only aspect of the proposed defect that is clear and agreed by the whole workgroup – that the spiralling of the residual is unsustainable and likely to lead to undesirable distortions.</p> <p>The Green Frog WACM has the additional attribute of avoiding the arbitrary and potentially damaging discrimination integral to the original modifications.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>We support the implementation of the Green Frog WACM in a sensible timeframe. We are led to believe that the required system and BSC changes will for the Green Frog WACM will be relatively straightforward.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>Green Frog are very disappointed with the lack of time that was given the workgroup to conduct the necessary (extensive) impact analysis that would enable informed and fact-based discourse.</p> <p>We think that security of supply is critical and of particular concern over the next few years. We think that it would be imprudent to apply dramatic changes based on clearly self-interested assertions made by larger generators without the benefit of studying the impacts on the market participants and consumers.</p> <p>Where analysis has been provided (by us), it demonstrates significantly negative consequences for consumers due to higher electricity market prices, higher capacity market prices, and a increased risk to security of supply!</p> <p>In addition to the serious concerns regarding the negative consumer welfare effects of reduced security of supply and higher prices in the short and medium term, the impact on consumers over the longer term is no less concerning.</p> <p>Undermining the reliability and trustworthiness of the regulatory regime would have very serious and far-reaching implications – beyond the electricity industry. Hundreds of billions of Pounds of energy infrastructure investment is required over the next decade, and is put at risk from these proposals.</p> <p>This Mod has the potential to undermine the investment cases of the very investors that have actually been building the assets in GB, at the very time that they are most needed. This could destabilise the investment climate across the industry, including for the larger players that have proposed this short-sighted change proposal.</p> <p>They too would need to factor increased regulatory risk premiums into their investment cases. This will result in less investment, less diversity of investment sources, and higher prices for consumers over the long term.</p> <p>To finish, we think it is absolutely critical that a full, robust, impartial, macro and microeconomic and electricity systems analysis is completed and peer reviewed before any radical changes are approved.</p>

### CMP264 ‘Embedded Generation Triad Avoidance Standstill’

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	Steven Hardman – (01604) 662450
<b>Company Name:</b>	Infinis plc
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li> </ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b>	<p>We do not believe that CMP264 better facilitates any of the CUSC objectives. We have several reasons for this:</p> <ul style="list-style-type: none"> <li>• We do not believe that the proposer has actually highlighted a problem with the CUSC. We believe that they have highlighted an issue with the Capacity Market. Any problems with the CM should be dealt with by modifying the appropriate rules.</li> <li>• We believe that it is discriminatory as it treats various generators within the same class differently. In short we are opposed to grandfathering in this case</li> <li>• We do not believe that workgroup has carried out any meaningful analysis to establish if any of the proposals are better than the current baseline</li> <li>• We do not that the workgroup was given adequate time or resources to fully comprehend or study this subject.</li> </ul>
2	<b>Do you support the proposed implementation approach?</b>	<p>We do not supposed the proposed implementation plan for the simple reason that the workgroup do not appear to have formulated a coherent implementation plan. It is still unclear how this modification would interact with the necessary changes to the BSC and no assessment has been done as to whether the changes are feasible.</p> <p>The proposers original also does not really elaborate on implementation as such we are unable to support the proposed implementation plan.</p>

Q	Question	Response
3	<b>Do you have any other comments?</b>	<p>We believe that this modification and the way it has been rushed through are not reflective of the way that a CUSC workgroup should operate. There has been a lack of clarity, a needlessly fast timetable, far too many meetings in a short time period and a generally chaotic approach to this modification.</p> <p>With this in mind and coupled with the lack of support for either the original CMP264 proposal or any of the WACMs we would urge the CUSC panel to recommend that this proposal is either withdrawn or rejected by Ofgem.</p>

## CUSC Code Administrator Consultation Response Proforma

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

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These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	Steven Hardman – (01604) 662450
<b>Company Name:</b>	Infinis plc
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any</li></ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>We do not believe that CMP265 better facilitates any of the CUSC objectives. We have several reasons for this:</p> <ul style="list-style-type: none"> <li>• We do not believe that the proposer has actually highlighted a problem with the CUSC. We believe that they have highlighted a perceived issue with the Capacity Market. Any problems with the CM should be dealt with by modifying the appropriate rules.</li> <li>• We believe that it is discriminatory as it treats various generators within the same class differently. There is no rationale for treating generators who have capacity market contracts any differently from those who do not.</li> <li>• We do not believe that workgroup has carried out any meaningful analysis to establish if any of the proposals are better than the current baseline</li> </ul> <p>We do not that the workgroup was given adequate time or resources to fully comprehend or study this subject</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>We do not supposed the proposed implementation plan for the simple reason that the workgroup do not appear to have formulated a coherent implementation plan. It is still unclear how this modification would interact with the necessary changes to the BSC and no assessment has been done as to whether the changes are feasible.</p> <p>The proposers original also does not really elaborate on implementation as such we are unable to support the proposed implementation plan.</p>

Q	Question	Response
3	<b>Do you have any other comments?</b>	<p>As with CMP264 we believe that workgroup has progressed with undue haste leading to a generally chaotic timetable. Meeting have been rushed, analysis has been shallow or non-existent and not enough time has been spent to allow workgroup members to make a truly objective judgement. Again due to the lack of clear support for the proposal or any of the alternatives we would strongly urge the panel and Ofgem to reject these modifications and direct industry to come up with more robust proposals.</p>

## CMP264 'Embedded Generation Triad Avoidance Standstill'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

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These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	Cian Fitzgerald (0203 697 6381)
<b>Company Name:</b>	OVO Energy
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li> </ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>Based on the evidence put forward, OVO believes it is impossible to say for certain whether CMP 264 better facilitates the applicable CUSC objectives. The number of alternative WACMs also makes it very difficult to establish the optimum means of addressing the current issues with embedded benefits.</p> <p>For this reason OVO's preference is to support WACM 9 (and WACM 9 to CMP 264) both of which seek to maintain some level of triad benefit for embedded generators, until a full review of the level of embedded benefits arising from transmission charging rules can be undertaken by Ofgem and/or the wider industry.</p> <p>OVO therefore supports WACM 9 to CMP 264 (and WACM 9 to CMP 265)</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>OVO is in favour of WACM 9 to CMP 264. WACM 9 has been chosen in order to facilitate a holistic review of transmission charging over the course of the next two years. OVO believes that such a review would ensure that any long term changes to the current regime are well grounded in evidence and analysis. Determining a rigorous value for the cost reflective level of embedded benefits in future is also likely to take time, therefore we believe that the proposed implementation date of WACM 9 is sufficient to accommodate such a review.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>OVO do not agree that a modification to the CUSC is the appropriate means of solving the current issues with the level of TNUoS benefit embedded generators are receiving. It seems apparent to OVO that both the original proposal and workgroup alternatives will significantly alter the commercial incentives for generators of all sizes far into the future. Given the potential implications such a change in incentives may have on the achievement of the three goals of energy policy, namely energy security, affordability and sustainability, OVO believes that it is necessary to conduct a more holistic review of transmission charging.</p> <p>OVO is also not satisfied that the impact on energy customers of either the original proposal or workgroup alternatives has been well researched and is sufficiently understood. OVO therefore believes that a holistic review is necessary to fully understand the impact of this change proposal on energy customers.</p>

## CUSC Code Administrator Consultation Response Proforma

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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<b>Respondent:</b>	Cian Fitzgerald (0203 697 6381)
<b>Company Name:</b>	OVO Energy
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any</li></ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>Based on the evidence put forward, OVO believes it is impossible to say for certain whether CMP 265 better facilitates the applicable CUSC objectives. The number of alternative WACMs also makes it very difficult to establish the optimum means of addressing the current issues with embedded benefits.</p> <p>For this reason OVO's preference is to support WACM 9 (and WACM 9 to CMP 264) both of which seek to maintain some level of triad benefit for embedded generators, until a full review of the level of embedded benefits arising from transmission charging rules can be undertaken by Ofgem and/or the wider industry.</p> <p>OVO therefore supports WACM 9 to CMP 265 (and WACM 9 to CMP 264)</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>OVO is in favour of WACM 9 to CMP 265. WACM 9 has been chosen in order to facilitate a holistic review of transmission charging over the course of the next two years. OVO believes that such a review would ensure that any long term changes to the current regime are well grounded in evidence and analysis. Determining a rigorous value for the cost reflective level of embedded benefits in future is also likely to take time, therefore we believe that the proposed implementation date of WACM 9 is sufficient to accommodate such a review.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>OVO do not agree that a modification to the CUSC is the appropriate means of solving the current issues with the level of TNUoS benefit embedded generators are receiving. It seems apparent to OVO that both the original proposal and workgroup alternatives will significantly alter the commercial incentives for generators of all sizes far into the future. Given the potential implications such a change in incentives may have on the achievement of the three goals of energy policy, namely energy security, affordability and sustainability, OVO believes that it is necessary to conduct a more holistic review of transmission charging.</p> <p>OVO is also not satisfied that the impact on energy customers of either the original proposal or workgroup alternatives has been well researched and is sufficiently understood. OVO therefore believes that a holistic review is necessary to fully understand the impact of this change proposal on energy customers.</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP264 'Embedded Generation Triad Avoidance Standstill'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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<b>Respondent:</b>	<i>Mark Draper</i> <i>mdraper@peakgen.com</i>
<b>Company Name:</b>	<i>PeakGen Power Ltd</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any</li></ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
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Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>We are supportive of CMP 264 (although we believe that WACM 19 is a better solution).</p> <p>In coming to this view, we note that significant concerns have been raised about the validity of the current TNUoS charging methodology. Whilst these concerns have not been satisfactorily proven or dismissed, there is a substantial number of proposed new generation developments and ahead of committing to these projects (either from a financial or a security of supply point of view) it is prudent to ensure that, in terms of the cost of transmission access, they are facing the correct charge. For this reason, we are supportive of CMP 264 as an <u>interim solution</u>. This would provide sufficient time to either validate the current charging regime or develop a replacement regime.</p> <p>Adopting such a proposal would maintain the current methodology for all existing transmission connected parties (be they transmission connected generation or suppliers potentially with embedded generation) and will give the investors in existing plant the certainty to continue to maintain and operate this plant. Where new generation is committed to, ahead of competing the charging review, the developers of such projects must be confident that their project is economically robust against variations in TNUoS charging. This process naturally favours incumbents and we believe is justified in that the regret spend of keeping an asset beyond its economic life is considerably less than the cost of stranded assets and the associated loss of investor confidence – and we draw this point to the Panel’s attention.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>In the restricted time available we believe that the proposed implementation approach looks reasonable, however it will clearly impact a number of parties’ systems, most notably suppliers.</p> <p>It may offer a lower cost to industry (and therefore customers) if we were able to move straight from the current situation to a robust solution without an interim phase.</p> <p>A view on the balance of costs of the interim solution and timescales to deliver a more robust solution needs to be taken, balanced against an expectation of how many new projects will go ahead until the transmission charging methodology is clear.</p>
3	<p><b>Do you have any other comments?</b></p>	<p>Please see response below as text box can’t accommodate full text</p>

### Question 3

As part of the CUSC modification process a number of WACMs were developed that propose more permanent solutions for transmission charging. Whilst there may be validity in some of these proposals, the assessment of the WACMs was undertaken in very compressed timelines. The restricted scope of the process also meant that other WACMs were simply out of scope and have not been properly considered. We conclude insufficient assessment has been undertaken to support implementation of any of these proposals at this stage.

We would hope as part of this process a holistic review of charging is undertaken (as proposed in National Grid's open letter of 20 October 2016) rather than rely on individual companies to submit CUSC modification proposals (not all of whom are CUSC parties), and many market participants may not have in house expertise in transmission charging.

In support of our comments relating to the limited scope of the current process, we highlight below some of the issues that we believe have not been properly assessed in the workgroup process to date:

- i. It has been asserted that the flows that 1MW of embedded and transmission connected generation cause on the transmission system are identical and should therefore face the same charge. Whilst the flows are identical, this comment ignores the fact that the transmission system is designed to be able to meet security of supply under outage conditions where circuits and/or generation units may be unavailable. The design of a grid to securely supply a 500 MW demand group containing a single 500 MW generator (which would have to be robust to the unavailability of 500 MW of generation) would be very different (*and much more onerous*) to one containing ten 50 MW generators where the system would only have to cope with the unavailability of one or two 50 MW generators.
- ii. It is often asserted that the locational element of the demand charge is the only cost reflective element, and therefore this is the only benefit that embedded generation (and by implication demand side management) brings to the system. The locational element of the transmission charge shows only the relevant rankings of different connection points, and it does not recover the total cost of the transmission system. This can be illustrated by showing that the total revenue from demand locational charge is always zero (other than some small rounding issues). It is not plausible that the total cost of a grid to supply all the demand on the system is zero.
- iii. The amount of the residual charge is set by the allowed revenue less the total locational charge recovered from generation and demand. Because the amount of revenue collected from generation is fixed and the locational charge from demand is zero, the current charging arrangements do not have enough flexibility to properly recover the costs of the transmission system – any change in the allowed revenue ends up in the residual charge. This appears to be a flaw in the current charging design that has not been addressed by this process;
- iv. Given the similar impacts that small scale embedded generation and demand have on the system, if the triad charge avoided by embedded generation is wrong, then the charges faced by demand customers also appear to be wrong. Given the larger number of demand customers compared to embedded generation this would appear to be a major issue to solve;
- v. Under the current charging regime, the amount of revenue collected by the locational charge is determined by the *expansion constant* (a number that represents the annualised cost to transport 1 MW by 1 km). Increasing the expansion constant increases the recovery from the locational charge and reduces the residual charge. The

value of the expansion constant represents an idealised system (where every circuit is fully used for every year of its 40-year life), and appears not to reflect the reality of the current transmission system. The appropriate value for the expansion constant should form part of a transmission charging review;

- vi. It is asserted that embedded generation simply increases the cost of the transmission system to other users. This is because the transmission system owners' allowed revenue is currently paid by net demand and the transmission tariff is set as the allowed revenue divided by net demand. Increasing the amount of embedded generation reduces the net demand and therefore the charge per kilowatt increases. However, this argument assumes that the transmission system allowed revenue remains constant, and this is not the case. As the transmission system needs to meet less net demand, less transmission infrastructure is required and this will feed through the regulatory process in a reduced allowed revenue for the transmission owner, offsetting the reducing charging base. Currently we see a rising cost of the transmission system as the costs of connecting remote generation dominate.

## CUSC Code Administrator Consultation Response Proforma

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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<b>Respondent:</b>	<i>Mark Draper</i> <i>mdraper@peakgen.com</i>
<b>Company Name:</b>	<i>PeakGen Power Ltd</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Charging CUSC Objectives</b>  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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license 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

	<p>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. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b>	No, CMP 265 does not meet the applicable CUSC objectives. CMP 265 would impose a different transmission on otherwise identical generators subject to if they hold a capacity market agreement or not, and clearly fails to meet objective B. Discriminatory charging for transmission access does not facilitate competition and therefore fails to meet objective A.
2	<b>Do you support the proposed implementation approach?</b>	In the restricted time available we believe that the proposed implementation approach looks reasonable, although it will clearly impact a number of parties' systems, most notably suppliers.
3	<b>Do you have any other comments?</b>	Please refer to our comments submitted with CMP 264

## CUSC Code Administrator Consultation Response Proforma

### CMP269 'Potential consequential changes to the CUSC as a result of CMP264'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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<b>Company Name:</b>	<i>PeakGen Power Ltd</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Standard CUSC Objectives</b>  a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License  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  d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)

Q	Question	Response
1	<p><b>Do you believe that CMP269 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>We support CMP 269 <i>only if CMP 264 was approved.</i></p> <p>Subject to the approval of CMP 264, CMP 269 meets CUSC objective D, efficiency in implementation.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>Please see comments on CMP 264</p>
3	<p><b>Do you have any other comments?</b></p>	<p>Please see comments on CMP 264</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP270 'Potential consequential changes to the CUSC as a result of CMP265'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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<b>Company Name:</b>	<i>PeakGen Power Ltd</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Standard CUSC Objectives</b>  a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License  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  d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)

Q	Question	Response
1	<p><b>Do you believe that CMP270 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>We support CMP 270 <i>only if CMP 265 was approved.</i></p> <p>Subject to the approval of CMP 265, CMP 270 meets CUSC objected D, efficiency in implementation.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>Please see comments on CMP 265</p>
3	<p><b>Do you have any other comments?</b></p>	<p>Please see comments on CMP 264</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP264 'Embedded Generation Triad Avoidance Standstill'

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<b>Respondent:</b>	<i>Please insert your name and contact details (phone number or email address)</i>
<b>Company Name:</b>	<i>Please insert Company Name</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any</li> </ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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<b>Q</b>	<b>Question</b>	<b>Response</b>
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Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>We <b>do not believe</b> this is the case, for the reasons set out below:</p> <p><b>Objective A:</b> This proposal and all of the alternatives apply different charging methodologies for different demand users and create new distortions between different types of generation (CM and non-CM; exported and on-site) and between generation and demand reduction. It will create a system where a demand user and a distributed generator will face entirely different price signals from network charges about where to locate and be charged different rates despite imposing the same costs on the system. No solution to these distortions and discrimination has been proposed or are foreseeable as a result of the different proposed modifications.</p> <p><b>Objective B:</b> Insufficient analysis was undertaken regarding the long run marginal cost of distributed generation and whether this is reflected by the current locational charge. We fully agree with the work group conclusion that the determination of what is and is not cost reflective should only be based upon analysis and evidence, and that no evidence provided by the proposer and related parties on the long run marginal cost impacts of distributed generation. However, 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 business as usual.</p> <p>Regarding the specific proposals made, our view is that 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.</p> <p>The proposal and all of the alternatives apply discrimination between different users does not comply with Directive 2009/72/EC.</p> <p>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.</p>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p><b>Objective C:</b> 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. 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 and needs to be addressed if the changing nature of the transmission network assets is to be taken accounted for in the CUSC methodology.</p> <p><b>Objective D:</b> The proposal and all of the alternatives apply discrimination between different users does not comply with Directive 2009/72/EC.</p> <p><b>Objective E:</b> 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 costs and inefficiencies for both suppliers and small generators, none of which were considered by the work group. Further action will be required to address the demand residual, meaning this modification will apply costs which could be avoided through a different approach.</p> <p>The proposed implementation takes a reasonable approach in finding a practical way to implement these proposals. We do have concerns however that all of the implementation proposals rely on distorting the TNUoS charging methodology by implementing a ‘distributed generation tariff’, which would be set using a completely different methodology to that used for all other demand users. The aim of the CUSC is to set a neutral methodology which applies equally to all users, and the implementation of the ‘distributed generation tariff’ indicates that the proposal and all of the alternatives break with this neutral approach.</p> <p>out in more than 5,300 pages of consultation and legal text.</p> <p>Therefore the CUSC Panel and the Regulator are at significant risk of implementing a proposed approach which</p>

Q	Question	Response
		<p><b>We would strongly object that the 10 working days allowed under this consultation is insufficient for any stakeholder, especially smaller stakeholders without dedicated regulatory teams, to consider the proposed implementation approaches for 41 alternatives across both CMP264 and CMP265, set out in more than 5,300 pages of consultation and legal text.</b></p> <p>Therefore the CUSC Panel and the Regulator are at significant risk of implementing a proposed approach which will result in unintended consequences and require additional modifications to fix, significant market errors and increased market uncertainty.</p> <p>We would further note that if any proposal or alternative is implemented, they should be implemented on long-term timescales, to set out a clear market transition for generators, demand users and suppliers. Any parties making any investment decision would be aware of this decision and therefore a more appropriate implementation date of 2020 should be adopted.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>The vast majority of industry responses to the earlier consultation were overwhelmingly against these proposed modifications.</p> <p>Industry has consistently communicated the need for a more thorough, holistic review.</p> <p>In addition, we do not think the work group met any reasonable test for considered, evidence-based approaches to the proposed changes, and there is genuine concern from across the energy industry – including some transmission generators – that such a significant change could take place on so little consideration, review or independent evidence.</p> <p>The current CUSC process is not delivering the kind of change that is currently needed in response to major market developments, and is not able to take a whole system view of individual CUSC changes. We continue to state that the correct step is for an independent, holistic review, set to clear parameters and a clear timetable, to secure an agreed pathway for reform, delivered in stages.</p> <p>Long term certainty and consistency is essential for successful energy policy and the delivery of the significantly greater capacity the UK requires in the coming years and this process has led to huge questions and uncertainties in the market.</p>

## CUSC Code Administrator Consultation Response Proforma

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

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<b>Company Name:</b>	<i>Please insert Company Name</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li></ul>

	<p>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. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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<b>Q</b>	<b>Question</b>	<b>Response</b>
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Q	Question	Response
1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>We <b>do not believe</b> this is the case, for the reasons set out below:</p> <p><b>Objective A:</b> This proposal and all of the alternatives apply different charging methodologies for different demand users and create new distortions between different types of generation (CM and non-CM; exported and on-site) and between generation and demand reduction. It will create a system where a demand user and a distributed generator will face entirely different price signals from network charges about where to locate and be charged different rates despite imposing the same costs on the system. No solution to these distortions and discrimination has been proposed or are foreseeable as a result of the different proposed modifications.</p> <p><b>Objective B:</b> Insufficient analysis was undertaken regarding the long run marginal cost of distributed generation and whether this is reflected by the current locational charge. We fully agree with the work group conclusion that the determination of what is and is not cost reflective should only be based upon analysis and evidence, and that no evidence provided by the proposer and related parties on the long run marginal cost impacts of distributed generation. However, 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 business as usual.</p> <p>Regarding the specific proposals made, our view is that 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.</p> <p>The proposal and all of the alternatives apply discrimination between different users does not comply with Directive 2009/72/EC.</p> <p>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.</p>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p><b>Objective C:</b> 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. 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 and needs to be addressed if the changing nature of the transmission network assets is to be taken accounted for in the CUSC methodology.</p> <p><b>Objective D:</b> The proposal and all of the alternatives apply discrimination between different users does not comply with Directive 2009/72/EC.</p> <p><b>Objective E:</b> 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 costs and inefficiencies for both suppliers and small generators, none of which were considered by the work group. Further action will be required to address the demand residual, meaning this modification will apply costs which could be avoided through a different approach.</p> <p>The proposed implementation takes a reasonable approach in finding a practical way to implement these proposals. We do have concerns however that all of the implementation proposals rely on distorting the TNUoS charging methodology by implementing a ‘distributed generation tariff’, which would be set using a completely different methodology to that used for all other demand users. The aim of the CUSC is to set a neutral methodology which applies equally to all users, and the implementation of the ‘distributed generation tariff’ indicates that the proposal and all of the alternatives break with this neutral approach.</p> <p>out in more than 5,300 pages of consultation and legal text.</p> <p>Therefore the CUSC Panel and the Regulator are at significant risk of implementing a proposed approach which</p>

Q	Question	Response
		<p><b>We would strongly object that the 10 working days allowed under this consultation is insufficient for any stakeholder, especially smaller stakeholders without dedicated regulatory teams, to consider the proposed implementation approaches for 41 alternatives across both CMP264 and CMP265, set out in more than 5,300 pages of consultation and legal text.</b></p> <p>Therefore the CUSC Panel and the Regulator are at significant risk of implementing a proposed approach which will result in unintended consequences and require additional modifications to fix, significant market errors and increased market uncertainty.</p> <p>We would further note that if any proposal or alternative is implemented, they should be implemented on long-term timescales, to set out a clear market transition for generators, demand users and suppliers. Any parties making any investment decision would be aware of this decision and therefore a more appropriate implementation date of 2020 should be adopted.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>The vast majority of industry responses to the earlier consultation were overwhelmingly against these proposed modifications.</p> <p>Industry has consistently communicated the need for a more thorough, holistic review.</p> <p>In addition, we do not think the work group met any reasonable test for considered, evidence-based approaches to the proposed changes, and there is genuine concern from across the energy industry – including some transmission generators – that such a significant change could take place on so little consideration, review or independent evidence.</p> <p>The current CUSC process is not delivering the kind of change that is currently needed in response to major market developments, and is not able to take a whole system view of individual CUSC changes. We continue to state that the correct step is for an independent, holistic review, set to clear parameters and a clear timetable, to secure an agreed pathway for reform, delivered in stages.</p> <p>Long term certainty and consistency is essential for successful energy policy and the delivery of the significantly greater capacity the UK requires in the coming years and this process has led to huge questions and uncertainties in the market.</p>

## CUSC Code Administrator Consultation Response Proforma

### **CMP269 ‘Potential consequential changes to the CUSC as a result of CMP264’**

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Please insert your name and contact details (phone number or email address)</i>
<b>Company Name:</b>	<i>Please insert Company Name</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Standard CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License</li> <li>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</li> <li>c) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency</li> <li>d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)</li> </ul>

Q	Question	Response
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Q	Question	Response
1	<p><b>Do you believe that CMP269 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>The proposed change relates to CMP 264 &amp; CMP 265- we <b>do not believe</b> this is the case, as set out for these mods:</p> <p><b>Objective A:</b> This proposal and all of the alternatives apply different charging methodologies for different demand users and create new distortions between different types of generation (CM and non-CM; exported and on-site) and between generation and demand reduction. It will create a system where a demand user and a distributed generator will face entirely different price signals from network charges about where to locate and be charged different rates despite imposing the same costs on the system. No solution to these distortions and discrimination has been proposed or are foreseeable as a result of the different proposed modifications.</p> <p><b>Objective B:</b> Insufficient analysis was undertaken regarding the long run marginal cost of distributed generation and whether this is reflected by the current locational charge. We fully agree with the work group conclusion that the determination of what is and is not cost reflective should only be based upon analysis and evidence, and that no evidence provided by the proposer and related parties on the long run marginal cost impacts of distributed generation. However, 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 business as usual.</p> <p>Regarding the specific proposals made, our view is that 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.</p> <p>The proposal and all of the alternatives apply discrimination between different users does not comply with Directive 2009/72/EC.</p> <p>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.</p>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p><b>Objective C:</b> 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. 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 and needs to be addressed if the changing nature of the transmission network assets is to be taken accounted for in the CUSC methodology.</p> <p><b>Objective D:</b> The proposal and all of the alternatives apply discrimination between different users does not comply with Directive 2009/72/EC.</p> <p><b>Objective E:</b> 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 costs and inefficiencies for both suppliers and small generators, none of which were considered by the work group. Further action will be required to address the demand residual, meaning this modification will apply costs which could be avoided through a different approach.</p> <p>The proposed implementation takes a reasonable approach in finding a practical way to implement these proposals. We do have concerns however that all of the implementation proposals rely on distorting the TNUoS charging methodology by implementing a ‘distributed generation tariff’, which would be set using a completely different methodology to that used for all other demand users. The aim of the CUSC is to set a neutral methodology which applies equally to all users, and the implementation of the ‘distributed generation tariff’ indicates that the proposal and all of the alternatives break with this neutral approach.</p> <p>out in more than 5,300 pages of consultation and legal text.</p> <p>Therefore the CUSC Panel and the Regulator are at significant risk of implementing a proposed approach which</p>

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		<p><b>We would strongly object that the 10 working days allowed under this consultation is insufficient for any stakeholder, especially smaller stakeholders without dedicated regulatory teams, to consider the proposed implementation approaches for 41 alternatives across both CMP264 and CMP265, set out in more than 5,300 pages of consultation and legal text.</b></p> <p>Therefore the CUSC Panel and the Regulator are at significant risk of implementing a proposed approach which will result in unintended consequences and require additional modifications to fix, significant market errors and increased market uncertainty.</p> <p>We would further note that if any proposal or alternative is implemented, they should be implemented on long-term timescales, to set out a clear market transition for generators, demand users and suppliers. Any parties making any investment decision would be aware of this decision and therefore a more appropriate implementation date of 2020 should be adopted.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>The vast majority of industry responses to the earlier consultation were overwhelmingly against these proposed modifications.</p> <p>Industry has consistently communicated the need for a more thorough, holistic review.</p> <p>In addition, we do not think the work group met any reasonable test for considered, evidence-based approaches to the proposed changes, and there is genuine concern from across the energy industry – including some transmission generators – that such a significant change could take place on so little consideration, review or independent evidence.</p> <p>The current CUSC process is not delivering the kind of change that is currently needed in response to major market developments, and is not able to take a whole system view of individual CUSC changes. We continue to state that the correct step is for an independent, holistic review, set to clear parameters and a clear timetable, to secure an agreed pathway for reform, delivered in stages.</p> <p>Long term certainty and consistency is essential for successful energy policy and the delivery of the significantly greater capacity the UK requires in the coming years and this process has led to huge questions and uncertainties in the market.</p>

# CUSC Code Administrator Consultation Response Proforma

## **CMP270 ‘Potential consequential changes to the CUSC as a result of CMP265’**

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Please insert your name and contact details (phone number or email address)</i>
<b>Company Name:</b>	<i>Please insert Company Name</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Standard CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License</li> <li>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</li> <li>c) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency</li> <li>d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)</li> </ul>

Q	Question	Response
1	<p><b>Do you believe that CMP270 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>CMP 270 relates to CMPs 264 &amp; 265- We <b>do not believe</b> this is the case for these mods, for the reasons set out below:</p> <p><b>Objective A:</b> This proposal and all of the alternatives apply different charging methodologies for different demand users and create new distortions between different types of generation (CM and non-CM; exported and on-site) and between generation and demand reduction. It will create a system where a demand user and a distributed generator will face entirely different price signals from network charges about where to locate and be charged different rates despite imposing the same costs on the system. No solution to these distortions and discrimination has been proposed or are foreseeable as a result of the different proposed modifications.</p> <p><b>Objective B:</b> Insufficient analysis was undertaken regarding the long run marginal cost of distributed generation and whether this is reflected by the current locational charge. We fully agree with the work group conclusion that the determination of what is and is not cost reflective should only be based upon analysis and evidence, and that no evidence provided by the proposer and related parties on the long run marginal cost impacts of distributed generation. However, 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 business as usual.</p> <p>Regarding the specific proposals made, our view is that 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.</p> <p>The proposal and all of the alternatives apply discrimination between different users does not comply with Directive 2009/72/EC.</p> <p>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.</p>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p><b>Objective C:</b> 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. 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 and needs to be addressed if the changing nature of the transmission network assets is to be taken accounted for in the CUSC methodology.</p> <p><b>Objective D:</b> The proposal and all of the alternatives apply discrimination between different users does not comply with Directive 2009/72/EC.</p> <p><b>Objective E:</b> 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 costs and inefficiencies for both suppliers and small generators, none of which were considered by the work group. Further action will be required to address the demand residual, meaning this modification will apply costs which could be avoided through a different approach.</p> <p>The proposed implementation takes a reasonable approach in finding a practical way to implement these proposals. We do have concerns however that all of the implementation proposals rely on distorting the TNUoS charging methodology by implementing a ‘distributed generation tariff’, which would be set using a completely different methodology to that used for all other demand users. The aim of the CUSC is to set a neutral methodology which applies equally to all users, and the implementation of the ‘distributed generation tariff’ indicates that the proposal and all of the alternatives break with this neutral approach.</p> <p>out in more than 5,300 pages of consultation and legal text.</p> <p>Therefore the CUSC Panel and the Regulator are at significant risk of implementing a proposed approach which</p>

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		<p><b>We would strongly object that the 10 working days allowed under this consultation is insufficient for any stakeholder, especially smaller stakeholders without dedicated regulatory teams, to consider the proposed implementation approaches for 41 alternatives across both CMP264 and CMP265, set out in more than 5,300 pages of consultation and legal text.</b></p> <p>Therefore the CUSC Panel and the Regulator are at significant risk of implementing a proposed approach which will result in unintended consequences and require additional modifications to fix, significant market errors and increased market uncertainty.</p> <p>We would further note that if any proposal or alternative is implemented, they should be implemented on long-term timescales, to set out a clear market transition for generators, demand users and suppliers. Any parties making any investment decision would be aware of this decision and therefore a more appropriate implementation date of 2020 should be adopted.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>The vast majority of industry responses to the earlier consultation were overwhelmingly against these proposed modifications.</p> <p>Industry has consistently communicated the need for a more thorough, holistic review.</p> <p>In addition, we do not think the work group met any reasonable test for considered, evidence-based approaches to the proposed changes, and there is genuine concern from across the energy industry – including some transmission generators – that such a significant change could take place on so little consideration, review or independent evidence.</p> <p>The current CUSC process is not delivering the kind of change that is currently needed in response to major market developments, and is not able to take a whole system view of individual CUSC changes. We continue to state that the correct step is for an independent, holistic review, set to clear parameters and a clear timetable, to secure an agreed pathway for reform, delivered in stages.</p> <p>Long term certainty and consistency is essential for successful energy policy and the delivery of the significantly greater capacity the UK requires in the coming years and this process has led to huge questions and uncertainties in the market.</p>

## CMP264 ‘Embedded Generation Triad Avoidance Standstill’

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Eamonn Bell – Policy Manager for Networks &amp; Systems</i>
<b>Company Name:</b>	<i>RenewableUK</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li> </ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>We do not believe that the proposals facilitate the Applicable CUSC objectives.</p> <p><b>Objective a</b></p> <p>It is clear that these proposals create distinctly different treatments for different classes of parties on the system. There will be differences in treatment between embedded generation, behind-the-meter generation, new and old generation, and demand reduction activities (Triad avoidance and wider Demand Side Response activities). Embedded Generation with and without Capacity Market contracts will be treated differently. These proposals directly alter the competitive tectonics of the market, lifting up competitive disadvantages into the paths of some market participants, whilst levelling out a relative competitive advantage for other participants. These topographical changes have not been adequately explored by the CUSC Panel and so should not be accepted.</p> <p><b>Objective b</b></p> <p>An inadequate amount of analysis and evidence has been offered to the CUSC Panel for it to warrant accepting these proposals with a view to meeting the CUSC objective of fairly reflecting the costs of the transmission licensees. The bulk of the proposals and WACMs suggest taking an arbitrary decision on who should receive embedded benefits, and on how much those benefits should be. Little by way of supporting evidence has been offered to support these views, and the expedited timetables of the proposals has not given the Panel an adequate amount of time to examine the long run impacts of the proposals. CUSC objective (a) has not been met, and treating parties differently when those parties have an identical effect on the transmission network cannot lead to a cost reflective system charge. We do not believe that the proposals have presented a cost reflective model, and we believe that more work needs to be done to create such a model.</p> <p><b>Objective c</b></p> <p>We do not believe that either objectives (a) or (b) have been facilitated by these proposals, nor have they considered the full impacts, both now and in the future, of developments in system operation at either transmission or distribution level.</p>
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		<p><b>Objective d</b> In applying network charges differently to different market participants who have the same effect on the transmission system, these proposals are discriminatory and so contravene, <i>intra alia</i>, Article 12 of Directive 2009/72/EC.</p> <p><b>Objective e</b> These proposals, because they aim to apply different rules and charges to various classes of market participants, will naturally lead to a higher regulatory and administrative burden on system operation, and so fail to meet objective (e)</p>
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2	<b>Do you support the proposed implementation approach?</b>	<p>We do not support the proposed implementation of the suggestions put forward in <b>CMP 264</b> or its attendant Alternatives. We also stress that the allotted time period of 10 working days in which to consider the impacts and implications of more than 5,000 pages of proposal text is woefully insufficient, and that in such a circumstance as this it is bound to be the case that the count of unintended consequences introduced to the system will doubtless far exceed the count of problems resolved by this process. Even large market participants with dedicated policy teams would struggle to digest and interpret such volumes of CUSC Modifications and Alternatives.</p> <p>It is clear that Ofgem's preferred method of dealing with the market distortions identified by <b>CMP 264</b>, which is to make changes through the CUSC Modifications process to the ways in which distribution-connected generation receives payments based on the Demand Residual component of the TNUoS charge, will not, in our view – which is a view shared by a large proportion of our members – achieve the ultimate aim of levelling the playing field within the electricity market.</p> <p>We believe that the network charging regimes of the UK electricity markets are in urgent need of review, a view supported by many of our members. Both National Grid's and BEIS's proposed upcoming reviews will take, we understand, a holistic approach to their analyses of the needs of the system as a whole. We continue to stress, as we have done throughout this process, that the matter of embedded benefits should be approached through a holistic review.</p> <p>The CUSC Modification approach to dealing with issues of linkages between embedded benefits, the capacity market, T&amp;D charging equivalence, amongst others, is insufficient to capture all the interconnected issues. Only a holistic review of the structure of the system will be sufficient to meet these needs.</p> <p>We do not believe that the CUSC Panel have had sufficient time to model the outcomes of the proposals or to analyse the impacts of the proposals as they stand. This is a serious defect in the implementation, which should give both the Panel and the Regulator pause before accepting any proposal not backed up by a strong and rigorous evidence base.</p>
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3	<b>Do you have any other comments?</b>	<p>Many of our members report objections to the changes which these proposals seek to make, both in the nature and scope of the changes, but also to the timescale in which the changes are intended to be made.</p> <p>It is in our view unjustifiable to make such sweeping and unilateral changes to the network charging regime on the basis of such little evidence and analysis. There has not been enough time given over to examining the effects such changes would make. Providing the industry with only 10 working days to examine +5,000 pages of material is completely inadequate and it betrays a failure to properly assess the embedded benefits issue in a sensible and holistic fashion.</p> <p>We would like to reiterate our call for a full holistic review of network charging at the distribution level, and to request that such a review take precedence over these proposals.</p>
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## CUSC Code Administrator Consultation Response Proforma

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Eamonn Bell – Policy Manager for Networks &amp; Systems</i>
<b>Company Name:</b>	<i>RenewableUK</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any</li></ul>

relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1

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

1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>We do not believe that the proposals facilitate the Applicable CUSC objectives.</p> <p><b>Objective a</b></p> <p>It is clear that these proposals create distinctly different treatments for different classes of parties on the system. There will be differences in treatment between embedded generation, behind-the-meter generation, new and old generation, and demand reduction activities (Triad avoidance and wider Demand Side Response activities). Embedded Generation with and without Capacity Market contracts will be treated differently. These proposals directly alter the competitive tectonics of the market, lifting up competitive disadvantages into the paths of some market participants, whilst levelling out a relative competitive advantage for other participants. These topographical changes have not been adequately explored by the CUSC Panel and so should not be accepted.</p> <p><b>Objective b</b></p> <p>An inadequate amount of analysis and evidence has been offered to the CUSC Panel for it to warrant accepting these proposals with a view to meeting the CUSC objective of fairly reflecting the costs of the transmission licensees. The bulk of the proposals and WACMs suggest taking an arbitrary decision on who should receive embedded benefits, and on how much those benefits should be. Little by way of supporting evidence has been offered to support these views, and the expedited timetables of the proposals has not given the Panel an adequate amount of time to examine the long run impacts of the proposals. CUSC objective (a) has not been met, and treating parties differently when those parties have an identical effect on the transmission network cannot lead to a cost reflective system charge. We do not believe that the proposals have presented a cost reflective model, and we believe that more work needs to be done to create such a model.</p> <p><b>Objective c</b></p> <p>We do not believe that either objectives (a) or (b) have been facilitated by these proposals, nor have they considered the full impacts, both now and in the future, of developments in system operation at either transmission or distribution level.</p>
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		<p><b>Objective d</b> In applying network charges differently to different market participants who have the same effect on the transmission system, these proposals are discriminatory and so contravene, <i>intra alia</i>, Article 12 of Directive 2009/72/EC.</p> <p><b>Objective e</b> These proposals, because they aim to apply different rules and charges to various classes of market participants, will naturally lead to a higher regulatory and administrative burden on system operation, and so fail to meet objective (e)</p>
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2	<b>Do you support the proposed implementation approach?</b>	<p>We do not support the proposed implementation of the suggestions put forward in CMP 265 or its attendant Alternatives. We also stress that the allotted time period of 10 working days in which to consider the impacts and implications of more than 5,000 pages of proposal text is woefully insufficient, and that in such a circumstance as this it is bound to be the case that the count of unintended consequences introduced to the system will doubtless far exceed the count of problems resolved by this process. Even large market participants with dedicated policy teams would struggle to digest and interpret such volumes of CUSC Modifications and Alternatives.</p> <p>It is clear that Ofgem's preferred method of dealing with the market distortions identified by CMP 265, which is to make changes through the CUSC Modifications process to the ways in which distribution-connected generation receives payments based on the Demand Residual component of the TNUoS charge, will not, in our view – which is a view shared by a large proportion of our members – achieve the ultimate aim of levelling the playing field within the electricity market.</p> <p>We believe that the network charging regimes of the UK electricity markets are in urgent need of review, a view supported by many of our members. Both National Grid's and BEIS's proposed upcoming reviews will take, we understand, a holistic approach to their analyses of the needs of the system as a whole. We continue to stress, as we have done throughout this process, that the matter of embedded benefits should be approached through a holistic review.</p> <p>The CUSC Modification approach to dealing with issues of linkages between embedded benefits, the capacity market, T&amp;D charging equivalence, amongst others, is insufficient to capture all the interconnected issues. Only a holistic review of the structure of the system will be sufficient to meet these needs.</p> <p>We do not believe that the CUSC Panel have had sufficient time to model the outcomes of the proposals or to analyse the impacts of the proposals as they stand. This is a serious defect in the implementation, which should give both the Panel and the Regulator pause before accepting any proposal not backed up by a strong and rigorous evidence base.</p>
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3	<b>Do you have any other comments?</b>	<p>Many of our members report objections to the changes which these proposals seek to make, both in the nature and scope of the changes, but also to the timescale in which the changes are intended to be made.</p> <p>It is in our view unjustifiable to make such sweeping and unilateral changes to the network charging regime on the basis of such little evidence and analysis. There has not been enough time given over to examining the effects such changes would make. Providing the industry with only 10 working days to examine +5,000 pages of material is completely inadequate and it betrays a failure to properly assess the embedded benefits issue in a sensible and holistic fashion.</p> <p>We would like to reiterate our call for a full holistic review of network charging at the distribution level, and to request that such a review take precedence over these proposals.</p>
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## CUSC Code Administrator Consultation Response Proforma

### CMP269 'Potential consequential changes to the CUSC as a result of CMP264'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Eamonn Bell – Policy Manager for Networks &amp; Systems</i>
<b>Company Name:</b>	<i>RenewableUK</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li></ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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1	<p><b>Do you believe that CMP269 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>We do not believe that the proposals facilitate the Applicable CUSC objectives.</p> <p><b>Objective a</b></p> <p>It is clear that these proposals create distinctly different treatments for different classes of parties on the system. There will be differences in treatment between embedded generation, behind-the-meter generation, new and old generation, and demand reduction activities (Triad avoidance and wider Demand Side Response activities). Embedded Generation with and without Capacity Market contracts will be treated differently. These proposals directly alter the competitive tectonics of the market, lifting up competitive disadvantages into the paths of some market participants, whilst levelling out a relative competitive advantage for other participants. These topographical changes have not been adequately explored by the CUSC Panel and so should not be accepted.</p> <p><b>Objective b</b></p> <p>An inadequate amount of analysis and evidence has been offered to the CUSC Panel for it to warrant accepting these proposals with a view to meeting the CUSC objective of fairly reflecting the costs of the transmission licensees. The bulk of the proposals and WACMs suggest taking an arbitrary decision on who should receive embedded benefits, and on how much those benefits should be. Little by way of supporting evidence has been offered to support these views, and the expedited timetables of the proposals has not given the Panel an adequate amount of time to examine the long run impacts of the proposals. CUSC objective (a) has not been met, and treating parties differently when those parties have an identical effect on the transmission network cannot lead to a cost reflective system charge. We do not believe that the proposals have presented a cost reflective model, and we believe that more work needs to be done to create such a model.</p> <p><b>Objective c</b></p> <p>We do not believe that either objectives (a) or (b) have been facilitated by these proposals, nor have they considered the full impacts, both now and in the future, of developments in system operation at either transmission or distribution level.</p>
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		<p><b>Objective d</b> In applying network charges differently to different market participants who have the same effect on the transmission system, these proposals are discriminatory and so contravene, <i>intra alia</i>, Article 12 of Directive 2009/72/EC.</p> <p><b>Objective e</b> These proposals, because they aim to apply different rules and charges to various classes of market participants, will naturally lead to a higher regulatory and administrative burden on system operation, and so fail to meet objective (e)</p>
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2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>We do not support the proposed implementation of the suggestions put forward in CMP 269 or its attendant Alternatives. We also stress that the allotted time period of 10 working days in which to consider the impacts and implications of more than 5,000 pages of proposal text is woefully insufficient, and that in such a circumstance as this it is bound to be the case that the count of unintended consequences introduced to the system will doubtless far exceed the count of problems resolved by this process. Even large market participants with dedicated policy teams would struggle to digest and interpret such volumes of CUSC Modifications and Alternatives.</p> <p>It is clear that Ofgem’s preferred method of dealing with the market distortions identified by CMP 269, which is to make changes through the CUSC Modifications process to the ways in which distribution-connected generation receives payments based on the Demand Residual component of the TNUoS charge, will not, in our view – which is a view shared by a large proportion of our members – achieve the ultimate aim of levelling the playing field within the electricity market.</p> <p>We believe that the network charging regimes of the UK electricity markets are in urgent need of review, a view supported by many of our members. Both National Grid’s and BEIS’s proposed upcoming reviews will take, we understand, a holistic approach to their analyses of the needs of the system as a whole. We continue to stress, as we have done throughout this process, that the matter of embedded benefits should be approached through a holistic review.</p> <p>The CUSC Modification approach to dealing with issues of linkages between embedded benefits, the capacity market, T&amp;D charging equivalence, amongst others, is insufficient to capture all the interconnected issues. Only a holistic review of the structure of the system will be sufficient to meet these needs.</p> <p>We do not believe that the CUSC Panel have had sufficient time to model the outcomes of the proposals or to analyse the impacts of the proposals as they stand. This is a serious defect in the implementation, which should give both the Panel and the Regulator pause before accepting any proposal not backed up by a strong and rigorous evidence base.</p>
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3	<b>Do you have any other comments?</b>	<p>Many of our members report objections to the changes which these proposals seek to make, both in the nature and scope of the changes, but also to the timescale in which the changes are intended to be made.</p> <p>It is in our view unjustifiable to make such sweeping and unilateral changes to the network charging regime on the basis of such little evidence and analysis. There has not been enough time given over to examining the effects such changes would make. Providing the industry with only 10 working days to examine +5,000 pages of material is completely inadequate and it betrays a failure to properly assess the embedded benefits issue in a sensible and holistic fashion.</p> <p>We would like to reiterate our call for a full holistic review of network charging at the distribution level, and to request that such a review take precedence over these proposals.</p>
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## CUSC Code Administrator Consultation Response Proforma

### CMP270 'Potential consequential changes to the CUSC as a result of CMP265'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Eamonn Bell – Policy Manager for Networks &amp; Systems</i>
<b>Company Name:</b>	<i>RenewableUK</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li></ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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1	<p><b>Do you believe that CMP270 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>We do not believe that the proposals facilitate the Applicable CUSC objectives.</p> <p><b>Objective a</b></p> <p>It is clear that these proposals create distinctly different treatments for different classes of parties on the system. There will be differences in treatment between embedded generation, behind-the-meter generation, new and old generation, and demand reduction activities (Triad avoidance and wider Demand Side Response activities). Embedded Generation with and without Capacity Market contracts will be treated differently. These proposals directly alter the competitive tectonics of the market, lifting up competitive disadvantages into the paths of some market participants, whilst levelling out a relative competitive advantage for other participants. These topographical changes have not been adequately explored by the CUSC Panel and so should not be accepted.</p> <p><b>Objective b</b></p> <p>An inadequate amount of analysis and evidence has been offered to the CUSC Panel for it to warrant accepting these proposals with a view to meeting the CUSC objective of fairly reflecting the costs of the transmission licensees. The bulk of the proposals and WACMs suggest taking an arbitrary decision on who should receive embedded benefits, and on how much those benefits should be. Little by way of supporting evidence has been offered to support these views, and the expedited timetables of the proposals has not given the Panel an adequate amount of time to examine the long run impacts of the proposals. CUSC objective (a) has not been met, and treating parties differently when those parties have an identical effect on the transmission network cannot lead to a cost reflective system charge. We do not believe that the proposals have presented a cost reflective model, and we believe that more work needs to be done to create such a model.</p> <p><b>Objective c</b></p> <p>We do not believe that either objectives (a) or (b) have been facilitated by these proposals, nor have they considered the full impacts, both now and in the future, of developments in system operation at either transmission or distribution level.</p>
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		<p><b>Objective d</b> In applying network charges differently to different market participants who have the same effect on the transmission system, these proposals are discriminatory and so contravene, <i>intra alia</i>, Article 12 of Directive 2009/72/EC.</p> <p><b>Objective e</b> These proposals, because they aim to apply different rules and charges to various classes of market participants, will naturally lead to a higher regulatory and administrative burden on system operation, and so fail to meet objective (e)</p>
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2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>We do not support the proposed implementation of the suggestions put forward in CMP 270 or its attendant Alternatives. We also stress that the allotted time period of 10 working days in which to consider the impacts and implications of more than 5,000 pages of proposal text is woefully insufficient, and that in such a circumstance as this it is bound to be the case that the count of unintended consequences introduced to the system will doubtless far exceed the count of problems resolved by this process. Even large market participants with dedicated policy teams would struggle to digest and interpret such volumes of CUSC Modifications and Alternatives.</p> <p>It is clear that Ofgem’s preferred method of dealing with the market distortions identified by CMP 270, which is to make changes through the CUSC Modifications process to the ways in which distribution-connected generation receives payments based on the Demand Residual component of the TNUoS charge, will not, in our view – which is a view shared by a large proportion of our members – achieve the ultimate aim of levelling the playing field within the electricity market.</p> <p>We believe that the network charging regimes of the UK electricity markets are in urgent need of review, a view supported by many of our members. Both National Grid’s and BEIS’s proposed upcoming reviews will take, we understand, a holistic approach to their analyses of the needs of the system as a whole. We continue to stress, as we have done throughout this process, that the matter of embedded benefits should be approached through a holistic review.</p> <p>The CUSC Modification approach to dealing with issues of linkages between embedded benefits, the capacity market, T&amp;D charging equivalence, amongst others, is insufficient to capture all the interconnected issues. Only a holistic review of the structure of the system will be sufficient to meet these needs.</p> <p>We do not believe that the CUSC Panel have had sufficient time to model the outcomes of the proposals or to analyse the impacts of the proposals as they stand. This is a serious defect in the implementation, which should give both the Panel and the Regulator pause before accepting any proposal not backed up by a strong and rigorous evidence base.</p>
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3	<b>Do you have any other comments?</b>	<p>Many of our members report objections to the changes which these proposals seek to make, both in the nature and scope of the changes, but also to the timescale in which the changes are intended to be made.</p> <p>It is in our view unjustifiable to make such sweeping and unilateral changes to the network charging regime on the basis of such little evidence and analysis. There has not been enough time given over to examining the effects such changes would make. Providing the industry with only 10 working days to examine +5,000 pages of material is completely inadequate and it betrays a failure to properly assess the embedded benefits issue in a sensible and holistic fashion.</p> <p>We would like to reiterate our call for a full holistic review of network charging at the distribution level, and to request that such a review take precedence over these proposals.</p>
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**CMP264 ‘Embedded Generation Triad Avoidance Standstill’**

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com).

Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<p><b>Respondent:</b></p>	<p><b><i>Graham Pannell</i></b>                   01923 299 492. <a href="mailto:grid@res-group.com">grid@res-group.com</a></p>
<p><b>Company Name:</b></p>	<p><b><i>RES</i></b>   <a href="http://www.res-group.com">www.res-group.com</a></p>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale. (Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:  <b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>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. License under Standard Condition C10, paragraph 1</li> <li>e) Promoting efficiency in the implementation and administration of the system charging methodology</li> </ul>

Q	Question	Response
1	<p>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</p>	<p><b>CMP264 does <u>not</u> better facilitate, <u>nor do any of the WACMs</u> better facilitate the Applicable CUSC objectives. The CUSC baseline is the most appropriate outcome of the options presented. As detailed in the report (volume 1a), the defect is best resolved through reconsideration of the demand TNUoS calculation, a concept considered out-of-scope for the WG of CMP264 &amp; CMP265. We note that CMP271 “Improving the cost-reflectivity of demand transmission charges” does seek to more appropriately and cost-reflectively remedy the underlying issue.</b></p> <p>Important quantitative evidence published with the consultation documents was contained in the EnAppSys report in volume 3. This showed an overall increase in cost of over £500m per year (based on 2016/17 modelling) through removing triad in the context of any benefit of avoided demand-TNUoS. Further, this figure does not account for the increased risk-cost of capital which will be passed to consumers in light of the proposed step-change in effective ‘grid charges’. It seems impossible therefore to justify implementing a limited-scope, ill-thought-out and insufficiently-evidenced solution with no grandfathering or phasing considerations, as with many of the WACMs and as the voting of several of the 22 WG members suggested, one which rather than solve the underlying defect instead will differently distort the market in favour of a different class of asset.</p> <p>We note that the working group professed to not have 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 not sufficiently evidence-based and likely to deliver unintended consequences of further distortion or otherwise impede competition in generation of electricity.</p> <p>The proposals (including all WACMs) suffer from different variants of the issues listed below:</p> <p><u><i>Objective A (competition)</i></u></p> <p>Proposals introduce undue discrimination between users that have the same network impact – principally between behind the meter and directly connected embedded generation. The proposals therefore will introduce distortion of competition. The proposals will incentivise behind-the-meter generation which will further exacerbate the underlying problem of TNUoS tariff setting.</p> <p>If 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 nearly sufficiently.</p> <p><u><i>Objective B (cost-reflectivity)</i></u></p> <p>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.</p> <p>Some proposals attempt to fix a level of benefit (described as “X” in the consultation</p>

Q	Question	Response
		<p>documents). We note that the workgroup evidently could not agree on the most appropriate basis, and was not able to sufficiently analyse the basis of the values selected or the resulting consequences. We are <b>particularly concerned with the proposals to use the “Generation Residual (last estimate £1.62)”</b> which is not cost-reflective: it is not evidenced in SQSS design for (net) demand and is demonstrably only a piece of the impact of the embedded generators in question – as detailed in the Cornwall Energy report.</p> <p><u>Objective E (efficiency)</u></p> <p>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 is also required, which may prove to be unnecessary or inefficient in the context of a holistic review of charges.</p>
2	<p>Do you support the proposed implementation approach?</p>	<p>No – as detailed in answer to Q1 above.</p> <p>Particularly concerned with the short-term high additional cost to users, as per para 2 in answer to Q1 above:</p> <p>“Important quantitative evidence published with the consultation documents was contained in the EnAppSys report in volume 3. This showed an overall increase in cost of over £500m per year (based on 2016/17 modelling) through removing triad in the context of any benefit of avoided demand-TNUoS. Further, this figure does not account for the increased risk-cost of capital which will be passed to consumers in light of the proposed step-change in effective ‘grid charges’. It seems impossible therefore to justify implementing a limited-scope, ill-thought-out and insufficiently-evidenced solution with no grandfathering or phasing considerations, as with many of the WACMs and as the voting of several of the 22 WG members suggested, one which rather than solve the underlying defect instead will differently distort the market in favour of a different class of asset.</p>
3	<p>Do you have any other comments?</p>	<p>All comments contained in answer to Q1.</p>

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm on 4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com).

Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<p><b>Respondent:</b></p>	<p><b><i>Graham Pannell</i></b>  01923 299 492. <a href="mailto:grid@res-group.com">grid@res-group.com</a></p>
<p><b>Company Name:</b></p>	<p><b><i>RES</i></b>  <a href="http://www.res-group.com">www.res-group.com</a></p>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale. (Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are: <b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>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. License under Standard Condition C10, paragraph 1</li> <li>e) Promoting efficiency in the implementation and administration of the system charging methodology</li> </ul>

Q	Question	Response
1	<p>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</p>	<p><b>CMP265 does <u>not</u> better facilitate, <u>nor do any of the WACMs</u> better facilitate the Applicable CUSC objectives. The CUSC baseline is the most appropriate outcome of the options presented. As detailed in the report (volume 1a), the defect is best resolved through reconsideration of the demand TNUoS calculation, a concept considered out-of-scope for the WG of CMP264 &amp; CMP265. We note that CMP271 “Improving the cost-reflectivity of demand transmission charges” does seek to more appropriately and cost-reflectively remedy the underlying issue.</b></p> <p>Important quantitative evidence published with the consultation documents was contained in the EnAppSys report in volume 3. This showed an overall increase in cost of over £500m per year (based on 2016/17 modelling) through removing triad in the context of any benefit of avoided demand-TNUoS. Further, this figure does not account for the increased risk-cost of capital which will be passed to consumers in light of the proposed step-change in effective ‘grid charges’. It seems impossible therefore to justify implementing a limited-scope, ill-thought-out and insufficiently-evidenced solution with no grandfathering or phasing considerations, as with many of the WACMs and as the voting of several of the 22 WG members suggested, one which rather than solve the underlying defect instead will differently distort the market in favour of a different class of asset.</p> <p>We note that the working group professed to not have 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 not sufficiently evidence-based and likely to deliver unintended consequences of further distortion or otherwise impede competition in generation of electricity.</p> <p>The proposals (including all WACMs) suffer from different variants of the issues listed below:</p> <p><u><i>Objective A (competition)</i></u></p> <p>Proposals introduce undue discrimination between users that have the same network impact – principally between behind the meter and directly connected embedded generation. The proposals therefore will introduce distortion of competition. The proposals will incentivise behind-the-meter generation which will further exacerbate the underlying problem of TNUoS tariff setting.</p> <p>If 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 nearly sufficiently.</p> <p><u><i>Objective B (cost-reflectivity)</i></u></p> <p>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.</p> <p>Some proposals attempt to fix a level of benefit (described as “X” in the consultation</p>

Q	Question	Response
		<p>documents). We note that the workgroup evidently could not agree on the most appropriate basis, and was not able to sufficiently analyse the basis of the values selected or the resulting consequences. We are <b>particularly concerned with the proposals to use the “Generation Residual (last estimate £1.62)”</b> which is not cost-reflective: it is not evidenced in SQSS design for (net) demand and is demonstrably only a piece of the impact of the embedded generators in question – as detailed in the Cornwall Energy report.</p> <p><u>Objective E (efficiency)</u></p> <p>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 is also required, which may prove to be unnecessary or inefficient in the context of a holistic review of charges.</p>
2	<p>Do you support the proposed implementation approach?</p>	<p>No – as detailed in answer to Q1 above.</p> <p>Particularly concerned with the short-term high additional cost to users, as per para 2 in answer to Q1 above:</p> <p>“Important quantitative evidence published with the consultation documents was contained in the EnAppSys report in volume 3. This showed an overall increase in cost of over £500m per year (based on 2016/17 modelling) through removing triad in the context of any benefit of avoided demand-TNUoS. Further, this figure does not account for the increased risk-cost of capital which will be passed to consumers in light of the proposed step-change in effective ‘grid charges’. It seems impossible therefore to justify implementing a limited-scope, ill-thought-out and insufficiently-evidenced solution with no grandfathering or phasing considerations, as with many of the WACMs and as the voting of several of the 22 WG members suggested, one which rather than solve the underlying defect instead will differently distort the market in favour of a different class of asset.</p>
3	<p>Do you have any other comments?</p>	<p>All comments contained in answer to Q1.</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP264 'Embedded Generation Triad Avoidance Standstill'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Please insert your name and contact details (phone number or email address) Bill Reed</i>  <a href="mailto:Bill.reed@rwe.com">Bill.reed@rwe.com</a> 07795 355310
<b>Company Name:</b>	RWE Generation UK plc, RWE Supply & Trading GmbH
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b>  <b>(Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li></ul>

	<p>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. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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<b>Q</b>	<b>Question</b>	<b>Response</b>
1	<b>Do you believe that CMP264 Original proposal, or any potential alternatives for change that you wish to suggest, better facilitates the Applicable CUSC Objectives?</b>	We do not believe that CMP264 Original Proposal or any potential alternative better facilitates the applicable objectives.
2	<b>Do you support the proposed implementation approach?</b>	We do not support the implementation approach. Neither the proposed modification nor any alternative should be implemented. We are concerned that the modification and the alternatives do not address the underlying cost reflectivity of demand charges.
3	<b>Do you have any other comments?</b>	The accelerated timescales associated with the modification proposals has precluded effective assessment of the impact of the proposed modification and the alternatives. We are particularly concerned over the potential for undue discrimination associated with the maintenance of existing arrangements. Further work is required to properly assess the defects associated with demand transmission charging and to develop an appropriate cost reflective enduring solution.

## CUSC Code Administrator Consultation Response Proforma

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<b>Respondent:</b>	<i>Please insert your name and contact details (phone number or email address) Bill Reed</i>  <a href="mailto:Bill.reed@rwe.com">Bill.reed@rwe.com</a> 07795 355310
<b>Company Name:</b>	RWE Generation UK plc, RWE Supply & Trading GmbH
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b>  <b>(Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Charging CUSC Objectives</b>  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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license 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

	<p>businesses</p> <p>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. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<b>Do you believe that CMP265 Original proposal, or any potential alternatives for change that you wish to suggest, better facilitates the Applicable CUSC Objectives?</b>	We do not believe that CMP264 Original Proposal or any potential alternative better facilitates the applicable objectives.
2	<b>Do you support the proposed implementation approach?</b>	We do not support the implementation approach. Neither the proposed modification nor any alternative should be implemented. We are concerned that the modification and the alternatives do not address the underlying cost reflectivity of demand charges.
3	<b>Do you have any other comments?</b>	The accelerated timescales associated with the modification proposals has precluded effective assessment of the impact of the proposed modification and the alternatives. We are particularly concerned over the potential for undue discrimination associated with the maintenance of existing arrangements. Further work is required to properly assess the defects associated with demand transmission charging and to develop an appropriate cost reflective enduring solution.

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<b>Respondent:</b>	James Anderson james.anderson@scottishpower.com
<b>Company Name:</b>	ScottishPower Energy Management Limited
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any</li></ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>Yes. Overall CMP264 will better meet the Applicable Charging Objectives (ACOs) than the current baseline.</p> <p>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 and better facilitates ACO (a), competition.</p> <p>CMP264 will better facilitate ACO (b) by removing a non-cost reflective payment realised by embedded generators.</p> <p>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 savings in transmission investment resulting from connecting generation at a distribution level. By addressing which generators can access the demand residual TNUoS charge as an embedded benefit, CMP264 removes a distortion to investment in new generation plant, should significantly reduce the impact on consumers and better facilitates ACO (c).</p> <p>CMP264 is neutral against ACOs (d) and (e).</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>Yes. We support an implementation approach which would see the changes implemented no later than Charging Year 2018/19. This will minimise the potential distortion to competition in the Capacity Mechanism caused by embedded generators being able to continue to access embedded benefits for a number of future Charging Years.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>Our views of the merits of each of the CMP264 WACMs against the ACOs are detailed in the attached schedule. However, we have the following high level comments.</p> <p><b><u>Implementation</u></b></p> <p>CMP264 was originally proposed as a short-term measure to remove a major distortion to competition while Ofgem conducted a wider review of embedded benefits and implemented an enduring solution. Although Ofgem have indicated that they will not be conducting such a review, we believe that urgent action is still required to address distortion in competition, in particular in the Capacity Mechanism. CMP264 Original Proposal offers the opportunity to swiftly address these distortions pending the development of an enduring solution (which could potentially be identified within one of the alternatives to CMP265).</p> <p>In our view, the unjustified level of current and forecast Triad avoidance benefit requires a solution to be implemented without undue delay to avoid future benefits being factored into current Capacity Mechanism bids and to minimise the impact on consumers. We therefore favour earliest practicable implementation.</p> <p><b><u>Grandfathering</u></b></p> <p>We agree with the views expressed in Ofgem’s open letter<sup>1</sup> that grandfathering of existing arrangements for certain users would introduce discrimination; introduce additional complexity; and negatively affect potential future savings to consumers. In order to reduce the potential impact on consumers we have therefore introduced WACM19 which proposes to “freeze” the benefit at its current level for existing embedded generators.</p> <p><b><u>Applicability</u></b></p> <p>While CMP264 Original is designed to address only the issue of distortion to competition in future investment in generation, by addressing generators commissioned after 30.06.17, we acknowledge that Alternatives which seek to introduce a more cost reflective Triad avoidance payment for all embedded generators have the ability to deliver increased benefits for consumers; may be potentially less discriminatory; and may be easier to implement in terms of changes to billing systems. Therefore we believe that Alternatives which continue to provide an enduring embedded benefit based upon the demand locational tariff element (floored at zero) and include an amount based upon avoided GSP investment will also better meet the ACOs.</p>

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<sup>1</sup> Ofgem: Open letter: Charging arrangements for embedded generation, 29 July 2016

## Annexe: Views on whether each Alternative proposal (WACM) better facilitates the Applicable CUSC Objectives against the CUSC baseline

	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)	Rationale
WACM1	Yes	Yes	Yes	Neutral	Neutral	Yes	<p>Removing a non-cost reflective payment for Triad avoidance from All embedded generation will reduce distortions to investment decisions and ensure fair competition in future Capacity Market auctions better facilitating Applicable Objective (a).</p> <p>Removal of a non cost-reflective payment from All embedded generators will improve overall cost reflectivity of the charging arrangements better facilitating Applicable Objective (b).</p> <p>Developments in the transmission system have led to a large increase in the value of the demand residual tariff element and the value of Triad avoidance to an unsustainable level. CMP264 Original Proposal will remove the distortion to investment decisions in new plant in and significantly reduce the impact on consumers, better facilitating Applicable Objective (c).</p> <p>The Proposal is neutral against Objectives (d) and (e).</p>
WACM2	Yes	Yes	Yes	Neutral	Neutral	Yes	Reasons as for WACM1. However, the 3 year

							step down in tariffs while allowing time for existing embedded generators and market arrangements to adapt, may still lead to some potential distortion in early Capacity Mechanism auctions as developers who are able to deploy early may still be able to capture some Triad avoidance value over the 3 year step down period which may be factored into their bids.
WACM3	Yes	Yes	Yes	Neutral	Neutral	Yes	Reasons as for WACM1. The use of the avoided GSP investment value replaces a non cost-reflective Triad avoidance value with cost-reflective one.
WACM4	Yes	Yes	Yes	Neutral	Neutral	Yes	Reasons as for WACM3. However, the 3 year step down in tariffs while allowing time for existing embedded generators and market arrangements to adapt, may still lead to some potential distortion in early Capacity Mechanism auctions as developers who are able to deploy early may still be able to capture some Triad avoidance value over the 3 year step down period which may be factored into their bids.
WACM5	Yes	Yes	Yes	Neutral	Neutral	Yes	Reasons as for WACM3. However, the 3 year step down in tariffs while allowing time for existing embedded generators and market arrangements to adapt, may still lead to some potential distortion in early Capacity Mechanism auctions as

							developers who are able to deploy early may still be able to capture some Triad avoidance value over the 3 year step down period which may be factored into their bids.
WACM6	Yes	Yes	Yes	Neutral	Neutral	Yes	Reasons as for WACM1.
WACM7	Yes	Yes	Yes	Neutral	Neutral	Yes	Reasons as for WACM1. However, the 3 year step down in tariffs while allowing time for existing embedded generators and market arrangements to adapt, may still lead to some potential distortion in early Capacity Mechanism auctions as developers who are able to deploy early may still be able to capture some Triad avoidance value over the 3 year step down period which may be factored into their bids.
WACM8	No	No	Neutral	Neutral	Neutral	No	The value of £32.30/kW payable to both existing and new embedded generators has not been justified as cost-reflective and will therefore perpetuate an ongoing distortion in investment decision between embedded and transmission connected generators reflected, in particular, in the Capacity Mechanism auctions. Therefore WACM8 does not better facilitate Applicable Objective (a). A Triad avoidance payment of £32.30/kw is not cost-reflective but would be marginally better than the forecast rise in the demand residual value. However, to the extent

							that this may be considered by some developers as ‘grandfathering” the £32.30, this would perpetuate a non cost-reflective payment and overall would be detrimental to cost reflectivity in the longer term. WACM8 is neutral against Applicable Objectives (c), (d) and (e).
WACM9	No	No	Neutral	Neutral	Neutral	No	Reasons as for WACM8. A Triad avoidance payment of 34.11/kw (reducing to £20.12 after one year) is not cost-reflective but would be marginally better than the forecast rise in the demand residual value. However, to the extent that this may be considered by some developers as ‘grandfathering” the £32.30, this would perpetuate a non cost-reflective payment and overall would be detrimental to cost reflectivity in the longer term.
WACM10	No	No	Neutral	Neutral	Neutral	No	Reasons as for WACM8. A Triad avoidance payment of £45/kw is not cost-reflective but would be marginally better than the forecast rise in the demand residual value. However, to the extent that this may be considered by some developers as ‘grandfathering” the £45.00, this would perpetuate a non cost-reflective payment and overall would be detrimental to cost reflectivity in the longer term.

WACM11	No	No	Neutral	Neutral	Neutral	No	<p>Although the demand residual and therefore the Triad avoidance value payable to all embedded generation would be reduced thus marginally improving competition, the resultant value would remain non cost-reflective as no justification has been offered as to why the demand residual value should be paid to embedded generation. This value can continue to influence the bidding behaviour of embedded generation in the Capacity Mechanism thus distorting investment decisions and competition. Therefore WACM 11 does not better facilitate Applicable Objective (a). As above WACM11 would perpetuate a non cost-reflective payment to embedded generation and would therefore not better facilitate Applicable Objective (b). WACM11 is neutral against Applicable Objectives (c), (d) and (e).</p>
WACM12	No	No	Neutral	Neutral	Neutral	No	<p>WACM 12 is based upon WACM1. However, 'grandfathering' a Triad avoidance payment of £45.33 (plus )RPI until 2033 for 2014/15 CM &amp; CFD contract holders embeds a distortion in the generation market between this one group of generators and all other market participants which the Original CMP264 Proposal sought to see rectified in a much shorter period. Therefore WACM12 does not better facilitate competition (Applicable Objective (a)).</p>

							The payment of £45.33/kW to this class of embedded generators has not been justified as being cost-reflective and therefore guaranteeing such a payment until 2033 perpetuates a non cost-reflective Triad avoidance in the Charging Methodology. Therefore, WACM 12 does not better facilitate Applicable objective (b). WACM12 is neutral against Applicable Objectives (c), (d) and (e).
WACM13	No	No	Neutral	Neutral	Neutral	No	WACM13 is based upon WACM3. However, the same arguments around the payment of £45.33 to one class of generator until 2033 outlined against WACM12 apply.
WACM14	No	No	Neutral	Neutral	Neutral	No	WACM14 is based upon WACM5. However, the same arguments around the payment of £45.33 to one class of generator until 2033 outlined against WACM12 apply.
WACM15	No	No	Neutral	Neutral	Neutral	No	WACM15 is based upon WACM6. However, the same arguments around the payment of £45.33 to one class of generator until 2033 outlined against WACM12 apply.
WACM16	No	No	Neutral	Neutral	Neutral	No	WACM16 is based upon WACM9 which does not overall better meet the Applicable Objectives. In addition, the same arguments around the payment of £45.33 to one class of generator until

							2033 outlined against WACM12 apply
WACM17	No	No	Neutral	Neutral	Neutral	No	WACM17 is based upon WACM8 which does not overall better meet the Applicable Objectives. In addition, the same arguments around the payment of £45.33 to one class of generator until 2033 outlined against WACM12 apply
WACM18	No	No	Neutral	Neutral	Neutral	No	WACM18 is based upon WACM11 which does not overall better meet the Applicable Objectives. In addition, the same arguments around the payment of £45.33 to one class of generator until 2033 outlined against WACM12 apply.
WACM19	Yes	Yes	Yes	Neutral	Neutral	Yes	As for the Original Proposal; Capping the payment to existing embedded generators further improves competition with Transmission connected generation (Objective (a)). Stopping growth in the non cost-reflective Triad value for existing embedded generation further improves overall cost-reflectivity (Objective (b)).
WACM20	No	No	Neutral	Neutral	Neutral	No	WACM20 defines “new Embedded Generators” as those commissioned after 31/10/18. This may still lead to some potential distortion in early Capacity Mechanism auctions as developers who are able to deploy early may still be able to capture some Triad avoidance value until

							<p>31/10/18 which may be factored into their bids. Therefore WACM20 does not better facilitate Objective (a), competition.</p> <p>In addition, similar arguments around the payment of a non cost-reflective £45.33/kW to existing generator until 2033 apply (see WACM12 comments). Therefore WACM20 does not better facilitate Objective (b), cost reflectivity.</p>
WACM21	No	No	Neutral	Neutral	Neutral	No	Reasons as for WACM20.
WACM22	Yes	Yes	Yes	Neutral	Neutral	Yes	<p>Reasons the same as WACM19 (and the Original Proposal) to which WACM 22 is similar differing only in the method of flooring the locational element;</p> <p>Capping the payment to existing embedded generators further improves competition with Transmission connected generation (Objective (a)).</p> <p>Stopping growth in the non cost-reflective Triad value for existing embedded generation further improves overall cost-reflectivity (Objective (b)).</p>
WACM23	No	No	Neutral	Neutral	Neutral	No	<p>'Grandfathering' a Triad avoidance payment of £34.11 (plus RPI) for 10 years for existing embedded generators and a payment of £20.12 for new Embedded Generators embeds distortion in the generation market between embedded generators and other market participants which</p>

						<p>the Original CMP264 Proposal sought to see rectified in a much shorter period. Therefore WACM23 does not better facilitate competition (Applicable Objective (a)).</p> <p>The “grandfathered” payment values to embedded generators has not been justified as being cost-reflective and therefore guaranteeing such payments for 10 years and then indefinitely perpetuates a non cost-reflective Triad avoidance payment in the Charging Methodology. Therefore, WACM 23 does not better facilitate Applicable objective (b).</p> <p>WACM23 is neutral against Applicable Objectives (c), (d) and (e).</p>
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<b>Respondent:</b>	James Anderson james.anderson@scottishpower.com
<b>Company Name:</b>	ScottishPower Energy Management Limited
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Charging CUSC Objectives</b>  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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license 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

	<p>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. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>Yes. Overall CMP265 will better meet the Applicable Charging Objectives (ACOs) than the current baseline.</p> <p>CMP265 will remove a distortion in competition between investing in embedded or transmission connected generation, in particular in connection with the Capacity Market (CM), by removing a non-cost reflective payment from embedded generation. CMP265 therefore better facilitates ACO (a), competition.</p> <p>CMP265 will better facilitate ACO (b) by removing a non-cost reflective payment realised by embedded generators.</p> <p>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 any savings in transmission investment resulting from connecting that generation at a distribution level. By addressing which generators can access the demand residual element of the tariff as an embedded benefit, CMP265 significantly reduces the impact on consumers and better facilitates ACO (c).</p> <p>CMP265 is neutral against ACOs (d) and (e).</p>

Q	Question	Response
2	<b>Do you support the proposed implementation approach?</b>	<p>In order to minimise distortion in forthcoming (CM) auctions we would support the earliest practicable implementation date for CMP265 if approved on its own. Embedded generators who are able to access significant Triad avoidance benefits in the period until the proposed implementation date for the Original proposal of 1 April 2020 may be able to factor these revenues into CM bids thus distorting competition.</p> <p>If CMP265 or an Alternative was to be approved for implementation later than 2018/19 we believe that additional, urgent action such as that proposed by CMP264 would be required to prevent such distortion in competition.</p>
3	<b>Do you have any other comments?</b>	<p>Our views on the merits of each of the WACMs to CMP265 against the ACOs are detailed in the attached schedule. However, we have the following high level comments.</p> <p><b><u>Implementation</u></b> Please see our response to Question 2.</p> <p><b><u>Grandfathering</u></b> We agree with the views expressed in Ofgem’s open letter<sup>1</sup> that grandfathering of existing arrangements for certain users would introduce discrimination; introduce additional complexity; and negatively impact potential future savings to consumers.</p> <p><b><u>Applicability</u></b> While the CMP265 Original Proposal is only intended to apply to embedded generators which secure a CM agreement, we note that Alternatives which seek to introduce a more cost reflective Triad avoidance payment for <u>all</u> embedded generators have the ability to deliver increased benefits for consumers; may be potentially less discriminatory; and may be easier to implement in terms of changes to billing systems. Therefore we believe that Alternatives which continue to provide an enduring embedded benefit based upon the demand locational tariff element (floored at zero) and include an amount based upon avoided GSP investment will also better meet the ACOs.</p>

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<sup>1</sup> Ofgem: Open letter: Charging arrangements for embedded generation, 29 July 2016

## Views on whether each Alternative proposal better facilitates the Applicable CUSC Objectives against the CUSC baseline

	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates ACO (e)?	Overall (Y/N)	Rationale
WACM1	Yes	Yes	Yes	Neutral	Neutral	Yes	Reasons as for CMP265 Original Proposal.
WACM2	Yes	Yes	Yes	Neutral	Neutral	Yes	Reasons as for WACM1. In addition, phased introduction of tariffs would provide embedded generators and market arrangements time to adapt to implementation.
WACM3	Yes	Yes	Yes	Neutral	Neutral	Yes	Reasons as for CMP265 Original Proposal. In addition, introduction of a payment equivalent to avoided transmission investment (£1.62/kW) improves cost-reflectivity.
WACM4	Yes	Yes	Yes	Neutral	Neutral	Yes	Reasons as for WACM3 plus phased introduction of tariffs would provide embedded generators and market arrangements time to adapt to implementation.
WACM5	Yes	Yes	Yes	Neutral	Neutral	Yes	Reasons as for WACM4.
WACM6	Yes	Yes	Yes	Neutral	Neutral	Yes	Reasons as for the Original Proposal. Payment of the lowest locational value simply changes the method of flooring the demand locational

							element at zero.
WACM7	Yes	Yes	Yes	Neutral	Neutral	Yes	Reasons as for the Original Proposal. Payment of the lowest locational value simply changes the method of flooring the demand locational element at zero. Phased introduction of enduring tariffs would provide embedded generators and market arrangements time to adapt to implementation.
WACM8	No	No	Neutral	Neutral	Neutral	No	Grandfathering a non cost-reflective payment of £32.30/kW to all embedded generators will perpetuate a distortion in the generation market and therefore does not better facilitate Applicable Objectives (a), competition, or (b), cost-reflectivity.
WACM9	No	No	Neutral	Neutral	Neutral	No	Grandfathering a non cost-reflective payment of £34.11 then £20.12/kW to all embedded generators will perpetuate a distortion in the generation market and therefore does not better facilitate Applicable Objectives (a), competition, or (b), cost-reflectivity.
WACM10	No	No	Neutral	Neutral	Neutral	No	Grandfathering a non cost-reflective payment of £45.00/kW to all embedded generators will perpetuate a distortion in the generation market and therefore does not better facilitate Applicable Objectives (a), competition, or (b),

							cost-reflectivity.
WACM11	No	No	Neutral	Neutral	Neutral	No	<p>Although the demand residual and therefore the Triad avoidance value payable to all embedded generation would be reduced thus marginally improving competition, the resultant value would remain non cost-reflective as no justification has been offered as to why the demand residual value should be paid to embedded generation. This value can continue to influence the bidding behaviour of embedded generation in the Capacity Mechanism thus distorting investment decisions and competition. Therefore WACM 11 does not better facilitate Applicable Objective (a).</p> <p>As above WACM11 would perpetuate a non cost-reflective payment to embedded generation and would therefore not better facilitate Applicable Objective (b).</p> <p>WACM11 is neutral against Applicable Objectives (c), (d) and (e).</p>
WACM12	No	No	Neutral	Neutral	Neutral	No	<p>WACM 12 is based upon WACM1. However, 'grandfathering' a Triad avoidance payment of £45.33 (plus )RPI until 2033 for 2014/15 CM &amp; CFD contract holders embeds a distortion in the generation market between this one group of generators and all other market. Therefore WACM12 does not better facilitate competition</p>

							<p>(Applicable Objective (a)).</p> <p>The payment of £45.33/kW to this class of embedded generators has not been justified as being cost-reflective and therefore guaranteeing such a payment until 2033 perpetuates a non cost-reflective Triad avoidance in the Charging Methodology. Therefore, WACM 12 does not better facilitate Applicable objective (b). WACM12 is neutral against Applicable Objectives (c), (d) and (e).</p>
WACM13	No	No	Neutral	Neutral	Neutral	No	<p>WACM 13 is based upon WACM3. However, for the reasons outlined against WACM12, the grandfathered payment to 2014/15 CM &amp; CfD contract holders means that WACM 13 does not better meet Applicable Objectives (a) and (b). WACM13 is neutral against Applicable Objectives (c), (d) and (e).</p>
WACM14	No	No	Neutral	Neutral	Neutral	No	<p>WACM 14 is based upon WACM5. However, for the reasons outlined against WACM12, the grandfathered payment to 2014/15 CM &amp; CfD contract holders means that WACM 14 does not better meet Applicable Objectives (a) and (b). WACM14 is neutral against Applicable Objectives (c), (d) and (e).</p>
WACM15	No	No	Neutral	Neutral	Neutral	No	<p>WACM 15 is based upon WACM6. However, for the reasons outlined against WACM12, the</p>

							grandfathered payment to 2014/15 CM & CfD contract holders means that WACM 15 does not better meet Applicable Objectives (a) and (b). WACM15 is neutral against Applicable Objectives (c), (d) and (e).
WACM16	No	No	Neutral	Neutral	Neutral	No	WACM 16 is based upon WACM9. However, for the reasons outlined against WACM12, the grandfathered payment to 2014/15 CM & CfD contract holders means that WACM 16 does not better meet Applicable Objectives (a) and (b). WACM16 is neutral against Applicable Objectives (c), (d) and (e).
WACM17	No	No	Neutral	Neutral	Neutral	No	WACM 17 is based upon WACM8. However, for the reasons outlined against WACM12, the grandfathered payment to 2014/15 CM & CfD contract holders means that WACM 17 does not better meet Applicable Objectives (a) and (b). WACM17 is neutral against Applicable Objectives (c), (d) and (e).
WACM18	No	No	Neutral	Neutral	Neutral	No	WACM 17 is based upon WACM8. However, for the reasons outlined against WACM12, the grandfathered payment to 2014/15 CM & CfD contract holders means that WACM 18 does not better meet Applicable Objectives (a) and (b). WACM18 is neutral against Applicable Objectives (c), (d) and (e).

## CUSC Code Administrator Consultation Response Proforma

### CMP269 'Potential consequential changes to the CUSC as a result of CMP264'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	James Anderson james.anderson@scottishpower.com
<b>Company Name:</b>	ScottishPower Energy Management Limited
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Standard CUSC Objectives</b>  a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License  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  d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)

Q	Question	Response
1	<p><b>Do you believe that CMP269 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>Yes. Overall CMP269 will better facilitate the Applicable CUSC Objectives (ACOs) than the current baseline.</p> <p>The CMP269 Original Proposal will mitigate the effects of the lack of a level playing field between investing in distribution connected and transmission connected generation during the period until an enduring solution can be implemented thus better facilitating competition, ACO (b).</p> <p>By facilitating the delivery of the aims of CMP264 if approved, CMP269 will better facilitate ACO (d).</p> <p>The Proposal is neutral against Objectives (a) and (c)</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>Yes.</p>
3	<p><b>Do you have any other comments?</b></p>	<p>Our views of the merits of each of the CMP269 WACMs against the ACOs are detailed in the attached schedule.</p>

## Views on whether each Alternative proposal better facilitates the Applicable CUSC Objectives against the CUSC baseline

	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)	Rationale
WACM1	Neutral	Yes	Neutral	Yes	Yes	Removing a non-cost reflective payment for Triad avoidance from All embedded generation will reduce distortions to investment decisions and ensure fair competition in future Capacity Market auctions better facilitating Applicable Objective (b). By facilitating the delivery of the aims of CMP264 if approved, CMP269 will better facilitate ACO (d). The Proposal is neutral against Objectives (a) and (c)
WACM2	Neutral	Yes	Neutral	Yes	Yes	Reasons as for WACM1. However, the 3 year step down in tariffs while allowing time for existing embedded generators and market arrangements to adapt, may still lead to some potential distortion in early Capacity Mechanism auctions as developers who are able to deploy early may still be able to capture some Triad avoidance value over the 3 year step down period which may be factored into their bids.

WACM3	Neutral	Yes	Neutral	Neutral	Yes	Reasons as for WACM1.
WACM4	Neutral	Yes	Neutral	Yes	Yes	Reasons as for WACM3. However, the 3 year step down in tariffs while allowing time for existing embedded generators and market arrangements to adapt, may still lead to some potential distortion in early Capacity Mechanism auctions as developers who are able to deploy early may still be able to capture some Triad avoidance value over the 3 year step down period which may be factored into their bids.
WACM5	Neutral	Yes	Neutral	Yes	Yes	Reasons as for WACM3. However, the 3 year step down in tariffs while allowing time for existing embedded generators and market arrangements to adapt, may still lead to some potential distortion in early Capacity Mechanism auctions as developers who are able to deploy early may still be able to capture some Triad avoidance value over the 3 year step down period which may be factored into their bids.
WACM6	Neutral	Yes	Neutral	Yes	Yes	Reasons as for WACM1.
WACM7	Neutral	Yes	Neutral	Yes	Yes	Reasons as for WACM1. However, the 3 year step down in tariffs while allowing time for existing embedded generators and market

						arrangements to adapt, may still lead to some potential distortion in early Capacity Mechanism auctions as developers who are able to deploy early may still be able to capture some Triad avoidance value over the 3 year step down period which may be factored into their bids.
WACM8	Neutral	No	Neutral	Neutral	No	The value of £32.30/kW payable to both existing and new embedded generators has not been justified as cost-reflective and will therefore perpetuate an ongoing distortion in investment decision between embedded and transmission connected generators reflected, in particular, in the Capacity Mechanism auctions. Therefore WACM8 does not better facilitate Applicable Objective (b).
WACM9	Neutral	No	Neutral	Neutral	No	Reasons as for WACM8. A Triad avoidance payment of 34.11/kw (reducing to £20.12 after one year) is not cost-reflective and may be considered by some developers as 'grandfathering' the £32.30, this would perpetuate a non cost-reflective payment and overall would be detrimental to competition..
WACM10	Neutral	No	Neutral	Neutral	No	Reasons as for WACM8. A Triad avoidance payment of £45/kw is not cost-reflective and may be considered by some developers as

						'grandfathering" the £45, this would perpetuate a non cost-reflective payment and overall would be detrimental to competition..
WACM11	Neutral	No	Neutral	Neutral	No	Although the demand residual and therefore the Triad avoidance value payable to all embedded generation would be reduced thus marginally improving competition, the resultant value would remain non cost-reflective as no justification has been offered as to why the demand residual value should be paid to embedded generation. This value can continue to influence the bidding behaviour of embedded generation in the Capacity Mechanism thus distorting investment decisions and competition. Therefore WACM 11 does not better facilitate Applicable Objective (b).
WACM12	Neutral	No	Neutral	Neutral	No	WACM 12 is based upon WACM1. However, 'grandfathering' a Triad avoidance payment of £45.33 (plus )RPI until 2033 for 2014/15 CM & CFD contract holders embeds a distortion in the generation market between this one group of generators and all other market participants which the Original CMP264 Proposal sought to see rectified in a much shorter period. Therefore WACM12 does not better facilitate competition

						(Applicable Objective (b)).
WACM13	Neutral	No	Neutral	Neutral	No	WACM13 is based upon WACM3. However, the same arguments around the payment of £45.33 to one class of generator until 2033 outlined against WACM12 apply.
WACM14	Neutral	No	Neutral	Neutral	No	WACM14 is based upon WACM5. However, the same arguments around the payment of £45.33 to one class of generator until 2033 outlined against WACM12 apply.
WACM15	Neutral	No	Neutral	Neutral	No	WACM15 is based upon WACM6. However, the same arguments around the payment of £45.33 to one class of generator until 2033 outlined against WACM12 apply.
WACM16	Neutral	No	Neutral	Neutral	No	WACM16 is based upon WACM9 which does not overall better meet the Applicable Objectives. In addition, the same arguments around the payment of £45.33 to one class of generator until 2033 outlined against WACM12 apply
WACM17	Neutral	No	Neutral	Neutral	No	WACM17 is based upon WACM8 which does not overall better meet the Applicable Objectives. In addition, the same arguments around the payment of £45.33 to one class of generator until 2033 outlined against

						WACM12 apply
WACM18	Neutral	No	Neutral	Neutral	No	WACM18 is based upon WACM11 which does not overall better meet the Applicable Objectives. In addition, the same arguments around the payment of £45.33 to one class of generator until 2033 outlined against WACM12 apply.
WACM19	Neutral	Yes	Neutral	Yes	Yes	As for the Original Proposal; Capping the payment to existing embedded generators further improves competition with Transmission connected generation (Objective (a)).
WACM20	Neutral	No	Neutral	Neutral	No	WACM20 defines “new Embedded Generators” as those commissioned after 31/10/18. This may still lead to some potential distortion in early Capacity Mechanism auctions as developers who are able to deploy early may still be able to capture some Triad avoidance value until 31/10/18 which may be factored into their bids. Therefore WACM20 does not better facilitate Objective (b), competition.
WACM21	Neutral	No	Neutral	Neutral	No	Reasons as for WACM20.
WACM22	Neutral	Yes	Neutral	Yes	Yes	Reasons the same as WACM19 (and the

						Original Proposal) to which WACM 22 is similar differing only in the method of flooring the locational element; Capping the payment to existing embedded generators further improves competition with Transmission connected generation (Objective (b)).
WACM23	Neutral	No	Neutral	Neutral	No	'Grandfathering' a Triad avoidance payment of £34.11 (plus RPI) for 10 years for existing embedded generators and a payment of £20.12 for new Embedded Generators embeds distortion in the generation market between embedded generators and other market participants which the Original CMP264 Proposal sought to see rectified in a much shorter period. Therefore WACM23 does not better facilitate competition (Applicable Objective (b)).

## CUSC Code Administrator Consultation Response Proforma

### CMP270 'Potential consequential changes to the CUSC as a result of CMP265'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	James Anderson james.anderson@scottishpower.com
<b>Company Name:</b>	ScottishPower Energy Management Limited
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Standard CUSC Objectives</b>  a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License  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  d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)

Q	Question	Response
1	<p><b>Do you believe that CMP270 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>Yes. Overall CMP270 will better facilitate the Applicable CUSC Objectives (ACOs) than the current baseline.</p> <p>CMP265 will remove a distortion to competition between investing in embedded or transmission connected generation, in particular in connection with the Capacity Market, by removing a non-cost reflective payment from embedded generation. This better facilitates ACO (b).</p> <p>By facilitating the delivery of the aims of CMP265 if approved, CMP270 will better facilitate ACO (d).</p> <p>The Proposal is neutral against ACOs (a) and (c).</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>Yes.</p>
3	<p><b>Do you have any other comments?</b></p>	<p>Our views on the merits of each of the WACMs to CMP270 against the ACOs are detailed in the attached schedule.</p>

## Views on whether each Alternative proposal better facilitates the Applicable CUSC Objectives against the CUSC baseline

	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Overall (Y/N)	Rationale
WACM1	Neutral	Yes	Neutral	Yes	Yes	For the same reasons as for CMP265 Original Proposal, CMP270 WACM1 will better facilitate ACO (b). By facilitating the delivery of the aims of CMP265 if approved, CMP270 will better facilitate ACO (d). The proposal is neutral against ACOs (a) and (c).
WACM2	Neutral	Yes	Neutral	Yes	Yes	Reasons as for WACM1. In addition, phased introduction of tariffs would provide embedded generators and market arrangements time to adapt to implementation.
WACM3	Neutral	Yes	Neutral	Yes	Yes	Reasons as for CMP265 Original Proposal. In addition, introduction of a payment equivalent to avoided transmission investment (£1.62/kW) improves cost-reflectivity.
WACM4	Neutral	Yes	Neutral	Yes	Yes	Reasons as for WACM3 plus phased introduction of tariffs would provide embedded generators and market arrangements time to

						adapt to implementation.
WACM5	Neutral	Yes	Neutral	Yes	Yes	Reasons as for WACM4.
WACM6	Neutral	Yes	Neutral	Yes	Yes	Reasons as for the Original Proposal. Payment of the lowest locational value simply changes the method of flooring the demand locational element at zero.
WACM7	Neutral	Yes	Neutral	Yes	Yes	Reasons as for the Original Proposal. Payment of the lowest locational value simply changes the method of flooring the demand locational element at zero. Phased introduction of enduring tariffs would provide embedded generators and market arrangements time to adapt to implementation.
WACM8	Neutral	No	Neutral	Neutral	No	Grandfathering a non cost-reflective payment of £32.30/kW to all embedded generators will perpetuate a distortion in the generation market and therefore does not better facilitate Applicable Objectives (b), competition.
WACM9	Neutral	No	Neutral	Neutral	No	Grandfathering a non cost-reflective payment of £34.11 then £20.12/kW to all embedded generators will perpetuate a distortion in the generation market and therefore does not better facilitate Applicable Objectives (b),

						competition.
WACM10	Neutral	No	Neutral	Neutral	No	Grandfathering a non cost-reflective payment of £45.00/kW to all embedded generators will perpetuate a distortion in the generation market and therefore does not better facilitate Applicable Objectives (b), competition.
WACM11	Neutral	No	Neutral	Neutral	No	Although the demand residual and therefore the Triad avoidance value payable to all embedded generation would be reduced thus marginally improving competition, the resultant value would remain non cost-reflective as no justification has been offered as to why the demand residual value should be paid to embedded generation. This value can continue to influence the bidding behaviour of embedded generation in the Capacity Mechanism thus distorting investment decisions and competition. Therefore WACM 11 does not better facilitate Applicable Objective (b).
WACM12	Neutral	No	Neutral	Neutral	No	WACM 12 is based upon WACM1. However, 'grandfathering' a Triad avoidance payment of £45.33 (plus )RPI until 2033 for 2014/15 CM & CFD contract holders embeds a distortion in the generation market between this one group of generators and all other

						market. Therefore WACM12 does not better facilitate competition (Applicable Objective (b)).
WACM13	Neutral	No	Neutral	Neutral	No	WACM 13 is based upon WACM3. However, for the reasons outlined against WACM12, the grandfathered payment to 2014/15 CM & CfD contract holders means that WACM 13 does not better meet Applicable Objective (b).
WACM14	Neutral	No	Neutral	Neutral	No	WACM 14 is based upon WACM5. However, for the reasons outlined against WACM12, the grandfathered payment to 2014/15 CM & CfD contract holders means that WACM 14 does not better meet Applicable Objectives (a) and (b).
WACM15	Neutral	No	Neutral	Neutral	No	WACM 15 is based upon WACM6. However, for the reasons outlined against WACM12, the grandfathered payment to 2014/15 CM & CfD contract holders means that WACM 15 does not better meet Applicable Objective (b).
WACM16	Neutral	No	Neutral	Neutral	No	WACM 16 is based upon WACM9. However, for the reasons outlined against WACM12, the grandfathered payment to 2014/15 CM & CfD contract holders means that WACM 16 does

						not better meet Applicable Objective (b).
WACM17	Neutral	No	Neutral	Neutral	No	WACM 17 is based upon WACM8. However, for the reasons outlined against WACM12, the grandfathered payment to 2014/15 CM & CfD contract holders means that WACM 17 does not better meet Applicable Objective (b).
WACM18	Neutral	No	Neutral	Neutral	No	WACM 18 is based upon WACM11. However, for the reasons outlined against WACM12, the grandfathered payment to 2014/15 CM & CfD contract holders means that WACM 18 does not better meet Applicable Objective (b).

Caroline Wright  
National Grid House,  
Gallows Hill,  
Warwick  
CV34 6DA

Dear Caroline

### **Embedded Benefit: CMP 264 and CMP 265**

Scottish Renewables is the representative body for the renewable energy industry in Scotland, providing a united voice for more than 275 member organisations working across the full range of technologies delivering a low-carbon energy system integrating renewable electricity, heat and transport.

Our response to the Ofgem open letter on embedded benefit encourages the regulator to revise its stated position and to conduct a significant code review with an achievable scope and delivery timescale<sup>1</sup>.

With this in mind we would like to register our concern that with timescale for the code administrator consultations for CMP 264 and 265. It is our view that ten days to respond to this consultation is not consistent with providing industry the opportunity to fully engage in the process, and to consider the issues set out across the proposed changes and 40 alternatives

In line with our response to Ofgem “there is some concern that existing proposals being made through CMP 264 and 265 focus on addressing some symptoms of defects in the current charging methodology rather than addressing the root causes. In addition, it is our view that the CUSC working group falls short of fully assessing all potential impacts across the electricity system due to the rushed timescales they are faced with.”

With this in mind, we would strongly encourage the CUSC group to work with industry and Ofgem to ensure that any decisions to address the issue of embedded benefit are not rushed and fully consider potential impacts across the industry.

Yours sincerely

Michael Rieley  
**Senior Policy Manager**

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<sup>1</sup> <https://www.scottishrenewables.com/publications/response-ofgem-open-letter-embedded-benefit/>

Caroline Wright  
National Grid House,  
Gallows Hill,  
Warwick  
CV34 6DA

Dear Caroline

### **Embedded Benefit: CMP 264 and CMP 265**

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With this in mind we would like to register our concern that with timescale for the code administrator consultations for CMP 264 and 265. It is our view that ten days to respond to this consultation is not consistent with providing industry the opportunity to fully engage in the process, and to consider the issues set out across the proposed changes and 40 alternatives

In line with our response to Ofgem “there is some concern that existing proposals being made through CMP 264 and 265 focus on addressing some symptoms of defects in the current charging methodology rather than addressing the root causes. In addition, it is our view that the CUSC working group falls short of fully assessing all potential impacts across the electricity system due to the rushed timescales they are faced with.”

With this in mind, we would strongly encourage the CUSC group to work with industry and Ofgem to ensure that any decisions to address the issue of embedded benefit are not rushed and fully consider potential impacts across the industry.

Yours sincerely

Michael Rieley  
**Senior Policy Manager**

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<sup>1</sup> <https://www.scottishrenewables.com/publications/response-ofgem-open-letter-embedded-benefit/>

## CMP264 'Embedded Generation Triad Avoidance Standstill'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Colin Prestwich</i>
<b>Company Name:</b>	<i>SmartestEnergy</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li> </ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
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Q	Question	Response
1	<p><b>Do you believe that CMP264 Original proposal, or any potential alternatives for change that you wish to suggest, better facilitates the Applicable CUSC Objectives?</b></p>	<p>We have stated all along that TNUoS charging should be cost reflective and only those charges which can be identified as being caused by embedded generation should be charged to them. By and large charges should be on a net basis because, as far as National Grid are concerned, there is no difference between a MW of demand and a MW of offsetting embedded generation. We have some concerns over the practicalities of operating a dual gross/net charging arrangement to split out embedded costs but, in the absence of a solution which passes charges through DNOs, this is probably the best solution.</p> <p>Just about the only WACM worthy of the name is WACM11, which appears to maintain the demand residual as an embedded benefit with offshore costs removed. This does at least attempt to identify costs and apportion them and would therefore meet objective b). It should also satisfy one of Ofgem's major concerns which is to do with future increases in the residual. We believe that the locational element should not be removed as an embedded benefit. There should be a floor to avoid the possibility of a negative tariff (or rather scaling up of all rates). However, we further believe that the costs which can be identified as being caused by exporting GSPs should also be removed.</p> <p>On the whole, though, we believe that none of the proposals are desirable and a much more thorough review of TNUoS costs should be conducted. Even WACM11 does not really address an issue caused by embedded generation.</p> <p>It would be inappropriate to distinguish between recipients and non-recipients of the CM payment as this is not relevant to the overall charging of TNUoS which should be charged without reference to another scheme.</p> <p>We do not believe it would be appropriate at this stage to change the charging base i.e. move away from the three Triads as it would be out of scope. We do, however, believe that ultimately, to align with other incentives such as the capacity market obligation, this needs to be investigated.</p>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>If any changes are to be made we believe they do not need to take place until 2018/2019 which is when the projected increases in TNUoS begin to kick in.</p> <p>Also, given the lack of proper analysis, and the fact that generators have invested in a belief of charging stability, if this modification is to proceed, we would encourage a three year phasing approach.</p> <p>We do not, however, agree with grandfathering as this is not economically justified nor is it practical to implement.</p>
3	<p><b>Do you have any other comments?</b></p>	<p>We are deeply unimpressed with this process, the blame for which must lie with Ofgem in not conducting a proper review of embedded benefits, in spite of the fact that DECC suggested that a review was on the cards. The problem with relying on industry to bring forward proposals is that a line will never be drawn under an incremental approach and uncertainty will persist for many years to come.</p> <p>The lack of proper analysis throughout this process has come about because the impetus "to do something". If this had not been the case, some analysis could have already been done by now.</p> <p>We are also disappointed that NGT did not follow up work which had identified an undeniable cost which embedded generation causes on the transmission network viz exporting GSPs. Just about everything else has yet to be justified.</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP264 'Embedded Generation Triad Avoidance Standstill'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>David Pickup, Policy Manager, on behalf of our members</i> <a href="mailto:policy@solar-trade.org.uk">policy@solar-trade.org.uk</a> 0203 637 2945
<b>Company Name:</b>	<i>Solar Trade Association</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> </ul>

	<p>businesses</p> <p>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. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No.</p> <p>Network charging is highly complex and interrelated area. We assert that the current proposals do not take account of the full potential impacts of the changes, and risk a series of negative unintended consequences, listed below, without providing full, evidence-based assurance of achieving cost reflexivity or security of supply, as is the initial intention.</p> <p>While the immediate proposals in this CUSC modification impact solar generators less than other types of generation capacity, there are important principles which are currently not being considered fully. There have been a series of piecemeal responses to the market impact of more distributed generation on the system, as well as the success of diesel generation within the capacity market. These include Ofgem’s open letter on embedded benefits and CDP228.</p> <p>This piecemeal approach has a number of unintended consequences which could be wide-reaching and severely negative, including:</p> <ul style="list-style-type: none"> <li>• Undermining investor confidence and increasing cost of capital in energy infrastructure through lack of transparency, evidence and inclusivity in policymaking.</li> <li>• Reducing competition in the energy, balancing and capacity markets through tilting the playing field in the direction of certain technologies at the expense of others.</li> <li>• Impacting the development of markets for energy storage, demand side response and decentralised low carbon generation, all of which are needed to transition</li> </ul>

Q	Question	Response
		<p>the electricity system to a low-carbon one.</p> <p>We recognise that as the penetration of flexible, intermittent and decentralised generation increases on the system there is a need to ensure charging is designed to meet the challenges of the energy trilemma: low carbon, affordable and secure energy for consumers. However, making piecemeal but highly-impactful changes across the charging methodology without regard to a wider policy strategy risks undermining this goal.</p> <p>In place of this piecemeal approach, we support the stabilisation of charges pending a holistic, systematic review of all charging arrangements.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>We believe that the process for the consultation of this modification and related alternatives is inadequate for gathering a full set of views from across the industry. With over 5,300 pages of text and 41 different proposed approaches, 10 business days is a wholly inadequate period of time to develop consensus within our association, let alone develop the necessary evidence to support any particular view. This has the consequence of limiting the views presented to those larger players already engaged with the process, and excludes those smaller players who will be directly impacted. This imbalance should be carefully examined within the context of any decisions made.</p> <p>As a direct result of the lack of time available for consultation with members our response is based necessarily on overall principles and not on the specific alternatives.</p>
3	<p><b>Do you have any other comments?</b></p>	<p>We do not contend that the existing charging methodology is perfect. However, any changes that are made need to be carefully considered within the whole system framework as they can materially affect the security, affordability and carbon intensity of the electricity system. We therefore advocate an independent, analytical, holistic and systemic review of all charging arrangements instead of the piecemeal and accelerated approach that is currently taking place.</p>

## CUSC Code Administrator Consultation Response Proforma

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>David Pickup, Policy Manager, on behalf of our members</i> <a href="mailto:policy@solar-trade.org.uk">policy@solar-trade.org.uk</a> 0203 637 2945
<b>Company Name:</b>	<i>Solar Trade Association</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Charging CUSC Objectives</b>  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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license 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. License under Standard Condition C10, paragraph 1
- e) Promoting efficiency in the implementation and administration of the system charging methodology

Q	Question	Response
1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No.</p> <p>Network charging is highly complex and interrelated area. We assert that the current proposals do not take account of the full potential impacts of the changes, and risk a series of negative unintended consequences, listed below, without providing full, evidence-based assurance of achieving cost reflexivity or security of supply, as is the initial intention.</p> <p>While the immediate proposals in this CUSC modification impact solar generators less than other types of generation capacity, there are important principles which are currently not being considered fully. There have been a series of piecemeal responses to the market impact of more distributed generation on the system, as well as the success of diesel generation within the capacity market. These include Ofgem’s open letter on embedded benefits and CDP228.</p> <p>This piecemeal approach has a number of unintended consequences which could be wide-reaching and severely negative, including:</p> <ul style="list-style-type: none"> <li>• Undermining investor confidence and increasing cost of capital in energy infrastructure through lack of transparency, evidence and inclusivity in policymaking.</li> <li>• Reducing competition in the energy, balancing and capacity markets through tilting the playing field in the direction of certain technologies at the expense of others.</li> <li>• Impacting the development of markets for energy storage, demand side response and decentralised low carbon generation, all of which are needed to transition the electricity system to a low-carbon one.</li> </ul> <p>We recognise that as the penetration of flexible, intermittent and decentralised generation increases on the system there is a need to ensure charging is designed to meet the challenges of the energy trilemma: low carbon, affordable and secure energy for consumers. However, making piecemeal but highly-impactful changes across the charging methodology without regard to a wider policy strategy risks undermining this goal.</p> <p>In place of this piecemeal approach, we support the stabilisation of charges pending a holistic, systematic review of all charging arrangements.</p>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>We believe that the process for the consultation of this modification and related alternatives is inadequate for gathering a full set of views from across the industry. With over 5,300 pages of text and 41 different proposed approaches, 10 business days is a wholly inadequate period of time to develop consensus within our association, let alone develop the necessary evidence to support any particular view. This has the consequence of limiting the views presented to those larger players already engaged with the process, and excludes those smaller players who will be directly impacted. This imbalance should be carefully examined within the context of any decisions made.</p> <p>As a direct result of the lack of time available for consultation with members our response is based necessarily on overall principles and not on the specific alternatives.</p>
3	<p><b>Do you have any other comments?</b></p>	<p>We do not contend that the existing charging methodology is perfect. However, any changes that are made need to be carefully considered within the whole system framework as they can materially affect the security, affordability and carbon intensity of the electricity system. We therefore advocate an independent, analytical, holistic and systemic review of all charging arrangements instead of the piecemeal and accelerated approach that is currently taking place.</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP269 'Potential consequential changes to the CUSC as a result of CMP264'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>David Pickup, Policy Manager, on behalf of our members</i> <a href="mailto:policy@solar-trade.org.uk">policy@solar-trade.org.uk</a> 0203 637 2945
<b>Company Name:</b>	<i>Solar Trade Association</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Standard CUSC Objectives</b>  a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License  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  d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)

Q	Question	Response
1	<p><b>Do you believe that CMP269 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No.</p> <p>Network charging is highly complex and interrelated area. We assert that the current proposals do not take account of the full potential impacts of the changes, and risk a series of negative unintended consequences, listed below, without providing full, evidence-based assurance of achieving cost reflexivity or security of supply, as is the initial intention.</p> <p>While the immediate proposals in this CUSC modification impact solar generators less than other types of generation capacity, there are important principles which are currently not being considered fully. There have been a series of piecemeal responses to the market impact of more distributed generation on the system, as well as the success of diesel generation within the capacity market. These include Ofgem’s open letter on embedded benefits and CDP228.</p> <p>This piecemeal approach has a number of unintended consequences which could be wide-reaching and severely negative, including:</p> <ul style="list-style-type: none"> <li>• Undermining investor confidence and increasing cost of capital in energy infrastructure through lack of transparency, evidence and inclusivity in policymaking.</li> <li>• Reducing competition in the energy, balancing and capacity markets through tilting the playing field in the direction of certain technologies at the expense of others.</li> <li>• Impacting the development of markets for energy storage, demand side response and decentralised low carbon generation, all of which are needed to transition the electricity system to a low-carbon one.</li> </ul> <p>We recognise that as the penetration of flexible, intermittent and decentralised generation increases on the system there is a need to ensure charging is designed to meet the challenges of the energy trilemma: low carbon, affordable and secure energy for consumers. However, making piecemeal but highly-impactful changes across the charging methodology without regard to a wider policy strategy risks undermining this goal.</p> <p>In place of this piecemeal approach, we support the stabilisation of charges pending a holistic, systematic review of all charging arrangements.</p>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>We believe that the process for the consultation of this modification and related alternatives is inadequate for gathering a full set of views from across the industry. With over 5,300 pages of text and 41 different proposed approaches, 10 business days is a wholly inadequate period of time to develop consensus within our association, let alone develop the necessary evidence to support any particular view. This has the consequence of limiting the views presented to those larger players already engaged with the process, and excludes those smaller players who will be directly impacted. This imbalance should be carefully examined within the context of any decisions made.</p> <p>As a direct result of the lack of time available for consultation with members our response is based necessarily on overall principles and not on the specific alternatives.</p>
3	<p><b>Do you have any other comments?</b></p>	<p>We do not contend that the existing charging methodology is perfect. However, any changes that are made need to be carefully considered within the whole system framework as they can materially affect the security, affordability and carbon intensity of the electricity system. We therefore advocate an independent, analytical, holistic and systemic review of all charging arrangements instead of the piecemeal and accelerated approach that is currently taking place.</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP270 'Potential consequential changes to the CUSC as a result of CMP265'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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<b>Respondent:</b>	<i>David Pickup, Policy Manager, on behalf of our members</i> <a href="mailto:policy@solar-trade.org.uk">policy@solar-trade.org.uk</a> 0203 637 2945
<b>Company Name:</b>	<i>Solar Trade Association</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Standard CUSC Objectives</b>  a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License  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  d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)

Q	Question	Response
1	<p><b>Do you believe that CMP270 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No.</p> <p>Network charging is highly complex and interrelated area. We assert that the current proposals do not take account of the full potential impacts of the changes, and risk a series of negative unintended consequences, listed below, without providing full, evidence-based assurance of achieving cost reflexivity or security of supply, as is the initial intention.</p> <p>While the immediate proposals in this CUSC modification impact solar generators less than other types of generation capacity, there are important principles which are currently not being considered fully. There have been a series of piecemeal responses to the market impact of more distributed generation on the system, as well as the success of diesel generation within the capacity market. These include Ofgem’s open letter on embedded benefits and CDP228.</p> <p>This piecemeal approach has a number of unintended consequences which could be wide-reaching and severely negative, including:</p> <ul style="list-style-type: none"> <li>• Undermining investor confidence and increasing cost of capital in energy infrastructure through lack of transparency, evidence and inclusivity in policymaking.</li> <li>• Reducing competition in the energy, balancing and capacity markets through tilting the playing field in the direction of certain technologies at the expense of others.</li> <li>• Impacting the development of markets for energy storage, demand side response and decentralised low carbon generation, all of which are needed to transition the electricity system to a low-carbon one.</li> </ul> <p>We recognise that as the penetration of flexible, intermittent and decentralised generation increases on the system there is a need to ensure charging is designed to meet the challenges of the energy trilemma: low carbon, affordable and secure energy for consumers. However, making piecemeal but highly-impactful changes across the charging methodology without regard to a wider policy strategy risks undermining this goal.</p> <p>In place of this piecemeal approach, we support the stabilisation of charges pending a holistic, systematic review of all charging arrangements.</p>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>We believe that the process for the consultation of this modification and related alternatives is inadequate for gathering a full set of views from across the industry. With over 5,300 pages of text and 41 different proposed approaches, 10 business days is a wholly inadequate period of time to develop consensus within our association, let alone develop the necessary evidence to support any particular view. This has the consequence of limiting the views presented to those larger players already engaged with the process, and excludes those smaller players who will be directly impacted. This imbalance should be carefully examined within the context of any decisions made.</p> <p>As a direct result of the lack of time available for consultation with members our response is based necessarily on overall principles and not on the specific alternatives.</p>
3	<p><b>Do you have any other comments?</b></p>	<p>We do not contend that the existing charging methodology is perfect. However, any changes that are made need to be carefully considered within the whole system framework as they can materially affect the security, affordability and carbon intensity of the electricity system. We therefore advocate an independent, analytical, holistic and systemic review of all charging arrangements instead of the piecemeal and accelerated approach that is currently taking place.</p>

## CUSC Code Administrator Consultation Response Proforma

### CMP264 'Embedded Generation Triad Avoidance Standstill'

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<b>Respondent:</b>	<i>Garth Graham</i> <i>Garth.graham@sse.com</i>
<b>Company Name:</b>	SSE
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any</li></ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b>	Continued below
2	<b>Do you support the proposed implementation approach?</b>	Continued below
3	<b>Do you have any other comments?</b>	Continued below

**Q1 Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.**

We do not believe that the CUSC Original better facilitates the Applicable CUSC Objectives, however we believe that certain of the WACMs do. In summary our case against the Original and some of the WACMs arises from the fact that grandfathering of any level of embedded benefit is not compatible with the applicable CUSC objectives. Our Case against some other WACMs arises from also including an enduring arbitrary non-cost reflective value of embedded benefit (“value of ‘x’”). We however believe that certain WACMs provide a better means of addressing the defect. Our reasoning as related to the Applicable Objectives is explained in detail in the following section. Additional grounds, based on wider considerations, for opposing the Original proposal and some of the WACMs and supporting certain WACMs is further explained in our answer to Q3.

**In summary and for the avoidance of doubt we only support WACMs 1, 2, 3, 4 and 5.**

We agree with the points made in the summary section “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 to 12.15 of “Volume 1a Workgroup Report for Code Administrator Consultation.

The distortions to the transmission charging arrangements for embedded generators have important implications for the efficient operation of the electricity market from investment through to dispatch. We support the position that the increasing scale of embedded benefits, and TNUoS demand residual payments in particular, are distorting the GB electricity market and should be addressed as a matter of priority. To not do so risks locking-in economically inefficient developments and burdening certain customer groups with inequitably high charges.

Specifically, while supporting certain elements of the CUSC Original proposal, we believe that some of the alternatives; namely WACM1 (Centrica B), WACM2 (NG C), WACM3 (Uniper A), WACM4 (SSE A) and WACM5 (SSE B); are better than the Original proposal and are likely to better facilitate the CUSC *cost reflectivity* and *effective competition* objectives compared with baseline. In our view, TNUoS Demand Residual should be based on the principles where those charges should be *fair* and *difficult to avoid* so that this charging element meets its purpose of revenue collection while treating customers in an equitable way. If TNUoS Demand Residual payments are removed as an embedded benefit, then the unit cost, for end customers, of the transmission system which consumers are paying for would be reduced and this “quick win” approach to improving charging arrangements could deliver benefits for customers much sooner than otherwise would be the case. There is no strong case to not do this as the original decision to charge the Demand Residual in the way that it currently is, which enables the avoidance was made on an arbitrary basis at a time when the residual was a small amount.

We would suggest that any modifications to transmission charging arrangements should take place through the existing industry modification processes which have been developed over time by Ofgem<sup>1</sup> together with stakeholders and reflect the CUSC applicable objectives plus have the appropriate checks and balances to better deliver solutions which are in the best interest of consumers. This process is long established and the fact that elements of the CUSC can change through this process should be well understood by all affected parties.

The detail behind our answer to question 1 is divided into four sections:

- 1. Principle-based charging arrangements** – All charging arrangements should be consistent with these two key principles
- 2. TNUoS Demand Residual payments – Market distortion** – Describes the market distortions which occur within the CUSC baseline
- 3. View of features of the WACMs** – Explains our view of the merits of each of the key features which are variously included in each WACM

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<sup>1</sup> Via, for example, it's three Code Governance Reviews.

- 4. View of individual Original and WACMs** – Explains our view of each WACM regarding whether or not it better meets the applicable CUSC objectives and why by reference to the particular features used in each WACM.

## **1. Principle-based charging arrangements**

In our view, when considering the question of the most appropriate design of TNUoS charges (as with all for all types of charging arrangements ) it is essential that each element of any charge should be clearly classed as falling into one of two categories (and never both): (1) Economic price signal or (2) Revenue collection.

This classification is important because the key principles which determine how individual charging elements should be applied are different for each of these two different categories of charges:

### **(1) Category 1: Economic price signal** (e.g. TNUoS Locational tariff elements)

This signal from this category of charges should be consistent with the CUSC objectives<sup>2</sup> of *cost reflectivity* and *effective competition*. In this way it fulfils its role of promoting the efficient operation of the power market by providing appropriate and economically efficient investment, or dispatch signals to those users that export to the transmission network (such as generation) and those users that import from the transmission network (such as demand). For those objectives to be achieved, charging elements should be applied to an appropriate charging base so that users, be they importing or exporting to the network, are exposed to economic incentives which reflect the incremental costs to the network which they cause.

Charges for the purpose of sending an economic price signal may collect a net non-zero revenue amount (net revenue collection may be positive, or negative), which is entirely appropriate and highlights the need to apply a separate charging element in order to ensure the required total revenue is collected.

### **(2) Category 2: Revenue collection** (e.g. TNUoS Demand Residual)

The principle for this category of charges follows the ‘optimal tax theory’ where the methodology for revenue collection should be *fair* and *difficult to avoid*. In other words, (i) ‘fairness’ could include revenue collection proportional to the ability to pay, or proportional to the value which individual parties receive from the services, or some other method deemed equitable by society; and (ii) ‘difficult to avoid’ means that resources should not be expended to avoid paying the charge because this avoidance action, similarly to tax avoidance, would tend to result in an economically inefficient outcome and higher costs to customers over the long term. By comparison, an action taken to avoid paying a charge is only useful to society if that particular charge is an explicitly cost-reflective economic price signal.

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<sup>2</sup> Designated by the Secretary of State at NETA and BETTA, and amended, from time to time, by the Authority.

Separately, in certain cases other principles should be taken into account to reach an optimum structure of the charging methodology. These include the principles of transparency, accuracy, stability and predictability. We believe that the current CUSC charging arrangements, in relation to TNUoS Demand Residual in particular, are not consistent with the above-mentioned principles.

The approach of the current (CUSC baseline) net charging arrangements, where embedded generation is charged as if it is negative demand, can be appropriate only in circumstances where the demand charge provides a cost-reflective price signal. However, it is important to consider that, in some situations, it may *not* be appropriate to apply cost-reflective demand charges on a net basis. This is because different charges may be designed for different purposes. For example, the TNUoS generation locational charge has the purpose of providing a locational investment signal to generators. By contrast, the TNUoS demand locational charge has the purpose of providing both (i) a locational dispatch signal as well as (ii) a locational investment signal for demand. Further, if the purpose of a charging element is to collect revenue (effectively tax) from demand, then in this circumstance, it is not possible to reasonably justify the use of net charging where, for example, a generator (embedded) obtains a benefit from avoiding a tax, while another generator (e.g. transmission connected, or a different classification of embedded generator) of a similar size (MW) does not obtain the same benefit, despite the impact of both generators on the cost of the transmission system being the same.

## **2. TNUoS Demand Residual payments – Market distortion**

The demand part of the TNUoS charging methodology<sup>3</sup> includes two key tariff components of the wider tariff: (i) the TNUoS Locational tariff (made up the Peak Security tariff element and the Year Round tariff element), and (ii) the TNUoS Demand Residual tariff. The current Triad charging methodology incentivises investment and dispatch decisions for embedded generators located both on the distribution network and behind the demand meter, as well as genuine demand reduction, in order to avoid paying the Demand Residual element of the TNUoS tariff or receiving the benefit indirectly by transferring the nettable volume to suppliers. We support the view that the increasing scale of embedded benefits, and TNUoS demand residual payments in particular, are distorting the GB electricity market and preventing the existence of a level-playing field. They are also, as a result, affecting cross-border trade, which is in contravention of EU law<sup>4</sup>.

As described earlier, the TNUoS Demand Residual is effectively a form of tax for revenue collection, not a cost-reflective price signal, because it does not reflect the avoided investment cost of the transmission network. We support the view that the price incentive for embedded generators to avoid the TNUoS Demand Residual represents a distortion to the efficient operation of competitive markets resulting in the following market defects:

- 1) **Distorted investment decisions** - Economically unjustified subsidy to embedded generation (EG) which tends to distort competition in the capacity market. For example, EG may obtain a capacity contract despite being out of economic merit as

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<sup>3</sup> Set out in Section 14 of the CUSC.

<sup>4</sup> Article 8(7) Regulation 714/2009

the value of the expected embedded benefit can reduce the price at which an EG may offer itself into the capacity market;

- 2) **Distorted dispatch decisions** - Embedded generators may dispatch out of economic merit to ensure that they do not miss the Triad period. This puts a downward pressure on wholesale electricity prices and displaces more efficient and lower cost generation (including transmission connected generation (TG)) out of the merit order; and
- 3) **Inequitable redistribution** - Of transmission costs between customers and generators because the cost of paying embedded generators, given that the cost of the T system is largely unchanged, for their Triad avoidance (equivalent to tax avoidance) behaviour is in turn paid for by higher TNUoS charges for all customers;
- 4) **Inequitable redistribution** - Of transmission costs between different customers (embedded generators and non-embedded generators, customers contracting with embedded generators and other customers)
- 5) **TRIAD becoming an economically inefficient price signal** - As EG is running for longer periods and the timing of TRIAD periods becomes more uncertain it becomes very difficult to ascertain which peak condition the system is being designed for.

### 3. View of features of the WACMs

The range of WACMs each include a selection of possible key features. To avoid repetition, we firstly describe our view of the merits of each of these key features, then secondly go on to explain how the specific combinations of these key features has informed our view of each of the WACMs.

- 1) **Demand Residual should be applied on gross demand, and not on net demand**– It is appropriate that this element is charged gross on all embedded generators as per the SSE, Centrica and Uniper proposed WACMs which are WACM1, WACM2, WACM3, WACM4 and WACM5. The purpose of the Demand Residual is effectively to collect revenue from customers through a form of tax and by contrast, its purpose is not to provide any form of cost reflective price signal. Therefore the current CUSC baseline (where this element is charged net) is not cost reflective, while the associated benefit which embedded generators currently receive is effectively for providing a tax avoidance service which simply increases the total cost to those end customers who continue to face TNUoS charges. This revenue stream from tax avoidance distorts competition because it is not cost reflective and because it is only available to an arbitrary sub-set of generators, namely those which happen to be connected to the distribution (rather than transmission) network. Allowing certain users to receive this type of arbitrary, non cost reflective payment distorts competition between similar users of the transmission network and thus could be contrary to both EU competition law and state aid requirements.
- 2) **Locational tariff elements** – It is appropriate that the locational tariff elements remain charged on a net basis and it is appropriate that the value of the embedded benefit is floored at zero. In our view it is not cost-reflective to apply the Year Round tariff to a peak charging base (such as Triad) and so if industry took the view that the

floor at zero should be removed, then this should only be done in conjunction with a modification to consider an alternative more cost reflective definition of demand charging base. In our view it would not be appropriate to apply a negative Year Round price signal to embedded generators at Triad because this could provide a perverse incentive for EG to turn down at peak, despite the tariff element reflecting year-round conditions. Moreover this could drown out a potential positive Peak Security tariff which may be sending the opposite signal to EG, i.e. to generate at times of peak demand in order to avoid the compromising the transmission network

**3) No grandfathering for selected groups** – We believe that it would be difficult to reasonably justify any grandfathering for any group of market participants with regard to TNUoS charges. The TNUoS charging methodology relies on providing cost-reflective price signals to all market participants to facilitate effective competition which is required to deliver an efficient outcome for society and the best value for customers. If individual groups obtained grandfathered protection every time the TNUoS charging methodology changed, this would result in an increasingly complicated and increasingly distortionary muddle of price signals not based on the cost reflectivity and effective competition principles. Furthermore, given that TNUoS charges recover costs only from users, if one group of users are immune from their receipt of payments being reduced, or immune from their charges increasing (due to grandfathering) then those ongoing payments, or shortfall in charges (due to grandfathering) must, instead, be paid by all other (non-grandfathered) users. This too has a market distorting and competition impeding effect on those (non-grandfathered) users (who pay the ‘shortfall’) whilst also affording, as it does, a competitive advantage to the grandfathered users (who receive the ‘shortfall’ in the form of receiving non-cost reflective payments and/or not paying the costs they give rise to). We agree with the position previously stated from Ofgem in this regard:

- a. We agree with the comments in July<sup>5</sup> from Ofgem in their charging arrangements open letter regarding Embedded benefits which stated “*We [Ofgem] also think that it may be difficult to demonstrate that the costs and/or fairness of grandfathering the current arrangements for the TNUoS demand residual for existing EG could be justified given the significant costs and distortions that this would likely cause.*”<sup>6</sup>

**4) New value to reflect benefit of embedded generation (value of “x”)** – Some WACMs include a new value of embedded benefit which will remain applied on a net basis which the Workgroup referred to as the “value of ‘x’”. This new benefit within the CUSC can only be justified if it meets the CUSC applicable objectives and in particular if it is cost reflective and/or facilitates effective competition. It is our view that some of these features can be justified with in the CUSC applicable objectives, while other cannot, as described below:

**Justifiable i) Avoidance of GSP cost** – There may be a case, from a cost reflectivity point of view, to provide embedded generators with a benefit related to the avoided transmission cost at the GSP, which National Grid has

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<sup>5</sup> 29<sup>th</sup> July 2016

<sup>6</sup> [https://www.ofgem.gov.uk/system/files/docs/2016/07/open\\_letter\\_-\\_charging\\_arrangments\\_for\\_embedded\\_generation.pdf](https://www.ofgem.gov.uk/system/files/docs/2016/07/open_letter_-_charging_arrangments_for_embedded_generation.pdf)

previously estimated (on average, across GB) at circa £1.62/kW per annum. If this element is applied net as an embedded benefit, it will be important to review the value of this benefit and consider the most appropriate way it could be applied.

- ii. **Justifiable ii) Negative of the Generator Residual** – It is our view that, in order to better facilitate effective competition, a value of the transmission generator residual could be applied as an embedded benefit. This may provide a more level playing field between embedded and transmission connected generation with respect to the value of the generator residual. This approach may avoid an imminent need to change the way the generator residual is calculated and would enable any potential changes to the Generator Residual in the future to be automatically incorporated.
- iii. **Unjustifiable i) Do not use lowest locational charge** – This feature would result in an arbitrary value of embedded benefit and would fail to correct the defect with regard to cost reflectivity, or effective competition because:
  - a. **It continues to distort competition** - it would result in an ongoing arbitrary and large value of embedded benefit whereby generators which happen to be connected to the distribution network would continue to receive a substantial revenue stream which is not available to other generators who may be otherwise identical, but who happen to be connected to the transmission network. Therefore the existing CUSC baseline distortions to investment, dispatch and redistribution would persist.
  - b. **It is not cost reflective** – It cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition. The key justification provided for this approach is not valid, namely the intention to maintain the full locational gradient of tariffs instead of flooring the Year Round tariff at zero. This is because the current locational transmission tariff gradient is dominated by the gradient of the Year Round tariff element, but it is not cost reflective to apply the Year Round tariff to the peak (Triad) generation of an embedded generator, so the objective of using this feature to preserve the slope of the existing Year Round tariff gradient does not result in the relative locational price signal of the embedded benefit being any more cost reflective.
  - c. **It may be greater magnitude of distortion than baseline** - It is also possible that future changes in the gradient of locational transmission charges may result in the value of the lowest locational tariff becoming even greater magnitude than the Demand Residual would have been if the baseline charging methodology had been retained.
  - d. **Likely to be relatively volatile** – Changes to the value of locational transmission tariffs, particularly at the extremes such as the lowest locational value have historically demonstrated to be relatively volatile.

Therefore the value of this new benefit would likely be relatively volatile and relatively difficult to forecast.

- iv. **Unjustifiable ii) Do not use an arbitrary value of “x” based on historic levels** – There is no justification within the CUSC applicable objectives for maintaining an arbitrary value of “x” at some level based on what this value happened to be at some time in recent history. It is the objective of the TNUoS charging methodology to provide TNUoS tariffs which are cost reflective and which facilitate effective competition and by contrast it is not the purpose of TNUoS charging to “pick winners” by protecting the investment decisions of one or more specifically selected groups of investors (e.g. protect generators who happen to be embedded, but not provide that same protection to other generators who happen to be transmission connected). TNUoS tariffs and the charging methodology which these are based on has and does continue to change substantially from year to year, so generators cannot reasonably claim to have a valid expectation that any specific historic level of TNUoS could be ‘banked’ on for any number of future years, let alone for the full duration of their project life. We agree with the positions previously stated from BEIS in this regard, including:
- a. We agree with the recent<sup>7</sup> comments from BEIS in their Capacity Market consultation which address the same principles and which are also applicable to this TNUoS charging modification: *“However, to the extent that an investor/CM participant assumes a future revenue as a result of embedded benefits from a CM levy, they ultimately do so at their own risk; and as such they should factor in the possibility that this levy could be subject to change in future and discount it accordingly, as with other variables that an investor needs to consider.”*<sup>8</sup>
- v. **Unjustifiable iii) Do not use selective exclusion of Demand Residual cost elements** – We would suggest that a selective exclusion of individual elements from the Demand Residual net charging base, such as OFTO charges, would be arbitrary and discriminatory. In our view the entire cost of the Demand Residual should be applied gross. The suggested rationale for excluding OFTO costs because they are driven by environmental policy and are not avoided by embedded generators could be applied equally to all other cost elements, including onshore reinforcement being made for other low carbon technologies. The costs caused or avoided by individual embedded generators are reflected in the locational elements of the TNUoS tariffs and by contrast not reflected in any individual line item of the non-locationally allocated TNUoS Allowed Revenue.
- vii. **Unjustifiable iv) No valid evidence has been provided to justify some other value of “x” on the basis of cost reflectivity** – The conclusions in the

report carried out by Cornwall<sup>9</sup> which claimed to calculate a missing value of embedded generation are not valid and can not be relied upon. We explain our reasons for this in more detail within this response in our answer to question 3 and also in further detail within our response to the Workgroup Consultation<sup>10</sup>. It is our view there was no valid justification presented to the Workgroup to support some other value of “x” on the basis of the applicable CUSC objectives of cost reflectivity or effective competition.

- 5) Justifiable v) Phased transition** – A phased approach may provide a helpful transition period for the System Operator and other market participants to adapt to any potential changes in the behaviour of embedded generators following a change to the Triad signal. An early start to this transition will also reduce the cost to end customers by reducing the total cost of embedded benefits from as early as possible before the lower level of the enduring solution is implemented. We would support a short-phased approach as described in both WACM4 (“SSE A”) and WACM5 (“SSE B”), where a short phased period begins as early as practicable (preferably starting no later than the 2018/19 charging year).

#### **4. View of individual Original and WACMs**

It is our view that the following WACMs would all be good solutions to the identified defect and would all better meet the CUSC applicable objectives compared with baseline and compared with the Original: WACM1, WACM2, WACM3, WACM4, WACM5.

These five WACMs stand out compared with all of the other WACMs due to their approach of not using grandfathering and also their new value of embedded benefit which is much more cost reflective than any of the other WACMs. Out of these five WACMs, it is our view that WACM5 (SSE B) provides the best combination of features when compared with the CUSC applicable objectives. However, it is our view that there is a relatively small difference in the relative merits of these five specific WACMs. It is our view that apart from these five, all of the other WACMs are no better than either the CUSC baseline, or the Original regarding the CUSC applicable objectives. Our reasons are described in more detail below:

- **CMP264 Original** – Does *not* better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the objectives of the CUSC, so it does not represent a viable solution to the defect. In practice, after its implementation, discrimination between existing EG and new EG as well as all transmission connected generation would remain, so their continued uneconomic despatch and delayed closure decisions would continue to distort (i) GB wholesale electricity prices, (ii) new market investments and (iii) the capacity market outcome. Furthermore, CMP264 would not rectify the inequitable redistribution of transmission

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<sup>9</sup> Cornwall, *A Review of the Embedded Benefits accruing to Distribution Connected Generation in GB*

<sup>10</sup> Volume 3 Workgroup Consultation Responses, SSE Response, Question 18, page 645 to 650

costs between end customers and existing EG – end customers would continue to pay for the embedded benefit available to existing EG.

- **WACM1 – Centrica B – Does** better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional feature of providing an embedded benefit equivalent to the value of the Generation TNUoS Residual which contributes to a more level playing field, therefore better facilitates competition between embedded and transmission connected generators.
- **WACM2 NG C - Does** better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional feature of a three year phasing approach which may better facilitate the implementation of the change.
- **WACM3 Uniper A - Does** better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional beneficial feature of providing an embedded benefit equivalent to the value of the avoided GSP cost which should result in the TNUoS charging arrangements being more cost reflective.
- **WACM4 SSE A - Does** better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional beneficial features of (i) providing an embedded benefit equivalent to the value of the avoided GSP cost which should result in the TNUoS charging arrangements being more cost reflective and also (ii) a three year phasing approach which may better facilitate the implementation of the change.
- **WACM5 SSE B – Does** better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. It is our view that this is the **best WACM** with regard to meeting the CUSC applicable objectives because it includes all of the beneficial features which we described above. Specifically, this includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional

beneficial features of (i) providing an embedded benefit equivalent to the value of the avoided GSP cost which should result in the TNUoS charging arrangements being more cost reflective; (ii) providing an embedded benefit equivalent to the value of the Generation TNUoS Residual which contributes to a more level playing field, therefore better facilitates competition between embedded and transmission connected generators; and (iii) a three year phasing approach which may better facilitate the implementation of the change.

- **WACM6 NG A** – Does *not* better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reason for this is that it includes a new arbitrary value of embedded benefit equivalent to the lowest locational demand transmission charge which is (i) likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed; (ii) not cost reflective; and (iii) it is possible that future changes in the gradient of locational transmission charges may result in the value of the lowest locational tariff becoming even greater magnitude than the Demand Residual would have been if the CUSC baseline charging methodology had been retained.
- **WACM7 NG D** Does *not* better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition for the same reasons as WACM6. The primary reason for this is that it includes a new arbitrary value of embedded benefit equivalent to the lowest locational charge which is (i) likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed; (ii) not cost reflective; and (iii) it is possible that future changes in the gradient of locational transmission charges may result in the value of the lowest locational tariff becoming even greater magnitude than the Demand Residual would have been if the CUSC baseline charging methodology had been retained. Even the principle of the three year phasing would provide limited benefit within this particular WACM because the reduction in value of the embedded benefit will tend to be relatively small compared with the CUSC baseline.
- **WACM8 ADE E** - Does *not* better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reason for this is that (i) it uses the principle of grandfathering to protect historic investment decisions in a way which is not compatible and cannot be justified within the CUSC applicable objectives of cost reflectivity; and (ii) it creates a new arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.
- **WACM9 Infinis A** - Does *not* better meet the CUSC objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and

effective competition. The primary reason for this is that (i) it uses the principle of grandfathering to protect historic investment decisions in a way which is not compatible and cannot be justified within the CUSC objectives of cost reflectivity; and (ii) it creates a new arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.

- **WACM10 Greenfrog A** - Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reason for this is that (i) it uses the principle of grandfathering to protect historic investment decisions in a way which is not compatible and cannot be justified within the CUSC objectives of cost reflectivity; and (ii) it creates a new arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.
- **WACM11 Eider A** - Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reasons for this is that (i) the proposal to extract only one specific element of cost to be applied gross is arbitrary and cannot be justified on the grounds of cost reflectivity; and (ii) it maintains an arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.
- **WACM12 UKPR F1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect.
- **WACM13 UKPR G1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect.
- **WACM14 UKPR H1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect.

- **WACM15 UKPR I1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit equivalent to the value of the lowest locational tariff – the issues related to this are described in detail in the previous section.
- **WACM16 UKPR J1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit at a value of £20.12/kW plus RPI which cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition and it would be large enough that it would fail to solve the defect for affected generators because the benefit would continue to be large enough that the distortions to investment decisions, dispatch decisions and discriminatory redistribution would continue.
- **WACM17 UKPR K1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit at a value of £32.30/kW which cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition and it would be large enough that it would fail to solve the defect for affected generators because the benefit would continue to be large enough that the distortions to investment decisions, dispatch decisions and discriminatory redistribution would continue.
- **WACM18 UKPR L1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of maintaining the gross charging of the residual except for the arbitrary value of offshore costs removed, which cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition. This ongoing value of embedded benefit would be large enough that it would not solve the defect for affected generators because it would be large enough that the distortions to investment decisions, dispatch decisions and discriminatory redistribution would continue.
- **WACM19 SP B** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline or the Original either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. In practice, after its implementation, the discrimination between existing EG and new EG as well as all transmission connected generation would remain, so their continued uneconomic

despatch and delayed closure decisions would continue to distort (i) GB wholesale electricity prices, (ii) new market investments and (iii) the capacity market outcome. Furthermore, this WACM would not rectify the inequitable redistribution of transmission costs between end customers and existing EG – end customers would continue to pay for the embedded benefit available to existing EG. Although the individual feature of capping the value of “x” for grandfathered generators at £45.33/kW plus RPI may appear better than the Original approach of leaving the value of embedded benefit for existing generators uncapped, when all of the features are taken together, neither the Original, or this WACM are viable solutions to the defect, so overall this WACM is not any better than the Original.

- **WACM20 Alkane A** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit at a value of £27.70/kW which cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition and it would be large enough that it would fail to solve the defect for affected generators because the benefit would continue to be large enough that the distortions to investment decisions, despatch decisions and discriminatory redistribution would continue.
- **WACM21 Alkane B** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit equivalent to the value of the lowest locational tariff – the issues related to this are described in detail in the previous section.
- **WACM22 ADE C** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the objectives of the CUSC, so it does not represent a viable solution to the defect.
- **WACM23 Infinis B** Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit at a value of £34.11/kW plus RPI, or £20.12/kW plus RPI depending on whether or not the relevant generators are new and whether or not they have a capacity or CfD contract. The magnitudes of these new levels of embedded benefit cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition and would be large enough that it would fail to solve the defect for affected generators because the benefit would continue to be large enough that

the distortions to investment decisions, dispatch decisions and discriminatory redistribution would continue.

## **Q2 Do you support the proposed implementation approach? If not, please provide reasoning why.**

Each of the WACMs and the Original have different implications regarding the practicality of how they may be implemented. The proposed approaches to technical implementation of each appears to be a reasonable solution to delivering the intention of each proposal (be that the Original or a WACM).

### **Alleged concerns regarding security of supply only relate to implementation options – This can not override applicable objectives of Cost Reflectivity or Competition**

The Workgroup report and some consultation respondents have raised concerns regarding the potential implications for the security of supply if the Original, or WACMs were implemented. However, it is categorically not the purpose of Transmission charging to incentivise adequate generation capacity, or to incentivise dispatch decisions in order to deliver appropriate security of supply - by contrast, this is the purpose of the Capacity Mechanism and the Wholesale Power market. So the decision regarding which WACM should (or should not) be implemented should not be influenced by any question of its impact on security of supply, however it may be appropriate for Ofgem to consider how the choice of implementation approach can be used to minimise causing additional unnecessary risks to the security of the system during the implementation process.

In our view the removal of TNUoS Demand Residual payments will not have unintended consequences on system security. The changes to transmission network charging arrangements will not affect the system margin as long as embedded generators remain available and dispatch based on their economics in the merit order. In cases where removal of TNUoS Demand Residual payments results in inability of some embedded generators to recover their short-run marginal costs and leads to their closure, the Capacity Mechanism provides the right incentive framework for the right amount of capacity to remain available or come online on the basis of economic principles (rather than the artificiality of TNUoS cost avoidance).

While we recognise that a short transition period might be beneficial to introduce the change gradually, we do not believe that system security concerns are substantiated, therefore system security does not provide a sufficient ground for consideration of *whether* a change to transmission network charging should be implemented.

Finally, we would note that circa 5.5GW of transmission connected generation ceased operation during the last 12 months or so. Various reasons for this were given at the time,

including the TNUoS charging arrangements and the changing GB electricity market conditions, of which embedded benefits is a significant contributory factor. Those that seek to raise security of supply concerns associated with the Original or some of the WACMs appear to ‘conveniently’ overlook this 5.5GW figure.

### **Choice of implementation date**

Because of the large magnitude of the value of the market distortions arising from the CUSC baseline approach of net charging of the TNUoS Demand Residual, it would be appropriate that the implementation date should be as soon as practicable.

We agree with Ofgem’s comment in their July 2016 Open letter that “*Our initial thinking is that, if we are presented with a modification proposal that otherwise suitably addresses the TNUoS demand residual aspect of embedded benefits, it may be challenging to demonstrate that consumers would benefit from any delay in its implementation beyond 2019/20.*” Any unnecessary delay in implementation would result in unnecessary and increasingly expensive costs to end customers because it is those customers who are currently paying the cost of the existing Triad avoidance benefits received by embedded generators.

### **The identified defect should be addressed quickly through the CUSC change process instead of waiting for a protracted holistic review by some other route (such as an SCR, or new project board)**

We disagree with the views suggested by some Workgroup consultation respondents who questioned whether the accelerated timescale and CUSC modification process is appropriate and who suggested a longer and more holistic approach may be better.

On the contrary, we would suggest that the proposed modification to the GB transmission charging arrangements should take place through the existing industry CUSC modification processes (established by Parliament / the Secretary of State as being the legitimate way to amend the transmission charging arrangements) and not wait (an indeterminate period) for an SCR, or a new ‘project board’ type group to consider the issue(s). The CUSC change processes have been developed over time by Ofgem<sup>11</sup> and stakeholders to include appropriate objectives, as well as suitable checks and balances to better deliver solutions which are in the best interest of the industry and the best interest of end customers. They are also fully compatible with UK law and EU law requirements associated with transmission charging.

- **Do not wait for an SCR** – It is our view that it is more beneficial for all market participants and end customers if the issues related this modification are addressed quickly and it is not necessary to wait for a wider review. We believe Ofgem has a valuable role to play regarding setting out the vision and the key principles by which changes should be considered, however it would be more practicable to consider

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<sup>11</sup> For example, via their three Code Governance Reviews.

changes in smaller groups with regard to issues and to the stakeholders affected. By contrast, if Ofgem attempted an SCR process to address all matters related to transmission charging at the same time, then there would be a substantial risk that this “all or nothing” approach (i) could take an unacceptable length of time; (ii) would crowd out the opportunity for implementing “quick win” improvements to transmission charging arrangements which could otherwise deliver benefits for end customers much sooner; and (iii) might, in the end, turn out to have ‘bitten off more than we can chew’.....resulting (some years down the line) in the incremental type changes (such as those addressed by way of CMP264 and CMP265) being utilised after all.

- **Do wait for a new “project board”** - By contrast a new ‘project board’ type group would lack (i) the legal legitimacy to submit recommended change(s) to the Authority; (ii) rigorous governance rules; (iii) openness and transparency with regard to applicable objectives; (iv) robust (and equitable) processes; and (v) transparency regarding the appointment of and (possibly conflicting) interests of the individual members of the ‘project board’. Also, it may be unclear whether the members of such a ‘project board’ will have sufficient detailed technical expertise and knowledge which would be required to adequately oversee the details of any proposed changes with regard to these types of transmission charging arrangements. There would also be a concern that members of a ‘project board’ type group may not be able to provide sufficient regular time commitment to remain on top of the developments which can change quickly during a modification process.

Furthermore, absent of an SCR, there would seem to be nothing in law to prevent any user(s) raising any further CUSC modification proposal(s) to address any (or all) of the issues that the ‘project board’ was considering or developing during the time the ‘project board’ was undertaking its work.

### **Risk of interaction with CMP266**

It is also important to consider the implications of CMP266<sup>12</sup> which relates to the transition of Non Half Hourly (NHH) metered customers to Half Hourly (HH) metering / settlement / charging arrangements. One of the alternatives being considered within CMP266 would begin exposing an additional group of end customers (who have transitioned from NHH) to HH Triad price signal as early as April 2018. If this transition was applied before the Demand Residual element of the embedded benefit is reformed, then this could significantly exacerbate the identified defect. Namely that it would drive economically inefficient Triad avoidance behaviour from even more end customers which would further increase the cost of TNUoS on those remaining (and dwindling number of) NHH customers. Given the significant number of end customers that it is planned (via the Smart Meter rollout) will be moving over to HH (from NHH) annually up to 2020 this effect (for those NHH end customers that remain) is highly unlikely to be either trivial or inconsequential.

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<sup>12</sup> <http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP266/>

## Q3 Do you have any other comments?

### Reducing customer impact

If TNUoS Demand Residual payments were charged net, the cost of the transmission system which end consumers are paying for would be reduced.

The largest and most important benefit to end customers (compared with CUSC baseline) is the reduction of the cost which customers are currently paying for the embedded benefits (Demand Residual element of the Triad benefit). The National Grid analysis (Figure 8 of CMP264/265 workgroup consultation<sup>13</sup>) suggests that the value of TNUoS Demand Residual embedded benefit, which those end customers are paying for, will be increasing from £343m in 2016/17 to £650m in 2020/21 (real 2016/17 prices). In addition, further analysis by National Grid indicates that if the current (CUSC baseline) situation was permitted to continue, this cost to end customers is forecasted to reach £1Bn in 2030 under the Baseline scenario and £2Bn in 2032 under the Consumer Power scenario from their FES analysis. This growth in cost would mean the value of the Demand Residual avoidance benefit paid by customers to embedded generators would amount to circa 70% of the entire cost of the total GB transmission network compared with its current level in 2016/17<sup>14</sup> which customers would have to pay on top of still paying for the total ongoing cost of the transmission network.

It is important to recognise that this forecast increasing cost to customers of paying this embedded benefit is a function of both i) Price of the benefit - the £/kW value of “x” which remains applied net as an embedded benefit and ii) Volume - kW of embedded generation on which this benefit is paid. Many of the WACMs which may restrict the price element (either fixed, capped, or otherwise maintain a value of “x” at a level greater than that justified by cost reflectivity) will fail to address the volume element of this equation. If the ongoing value of “x” is higher than a cost reflective level, then the identified defect will persist such that increasing capacities of embedded generation will continue receive economically unjustified subsidies, so new entrant embedded generators will continue to crowd out other better value generation capacity (which does not benefit from this payment), so the total cost to customers would still continue to dramatically increase over time (i.e. cost to customers of paying this arbitrary and non cost reflective benefit as defined by the value of “x”).

It is clear and consistent with the widely accepted principles of economic theory which underpin the design of markets that a move towards more cost reflective price signals would result in competitive markets delivering a more economically efficient result at a lower total system cost, and therefore at a lower cost to end customers (regarding both transmission network costs and generation costs). It is reasonable to expect that this lower total system

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<sup>13</sup> Dated 2<sup>nd</sup> August 2016

<sup>14</sup> 18 August 2016, p4, Charging Seminar - Case for change: National Grid Analysis of a Do Nothing Scenario,

[http://www2.nationalgrid.com/UK/Industry-information/System-charges/Electricity-transmission/charging\\_review/](http://www2.nationalgrid.com/UK/Industry-information/System-charges/Electricity-transmission/charging_review/)

cost would result in even greater reductions in costs to end customers over the medium and longer term.

It is important to note that if the reduction in the value of the embedded benefit were only applied to a sub set of embedded generators, the subsequent cost saving to end customers would not be as large. We would question the justification for continuing to charge customers an additional cost in order to pay the value of the non cost reflective demand residual to a sub set of embedded generators.

## **Improving Markets**

It is our view that each charging arrangement and market mechanism should provide price signals which are cost reflective in their own right because this will incentivise decisions which tend to result in a more efficient outcome, therefore lowering costs to customers over the longer-term. By contrast, it is not appropriate to consider the use of one charging methodology, such as TNUoS, to cross-subsidise the prices which arise from a different market mechanism; such as the Capacity Mechanism, or the GB wholesale electricity market; because this will tend to result in inefficient decisions and higher cost to end customers over the longer term.

A reduction in the value of the Triad avoidance embedded benefit may result in changes to the clearing prices of other markets such as the Capacity Market and the GB wholesale electricity markets. However, we would suggest that any resulting changes to these markets would represent a move to more appropriately efficient levels than would otherwise be the case. A meaningful impact on these markets would highlight just how large a distortion the current (CUSC baseline) transmission network charging methodology currently is.

We note the analysis carried out in relation to the end consumer impact of a potential increase in the clearing price of these other markets. For example, Cornwall<sup>15</sup> suggests the cost of the capacity market could increase from circa £214m in 2019/20 to £282m in 2020/21. Notwithstanding that we have concerns around the approach used by Cornwall in deriving their figures; even if we take the Cornwall figure as being 'correct', when compared with National Grid's analysis, a potential saving to end customers from the reduction in Triad payments to embedded generators of £343m to £2bn would greatly outweigh the potential increase in Capacity Mechanism cost that Cornwall's analysis suggests.

## **Important implications regarding future provision of flexibility**

Distortions to the transmission charging arrangements for embedded generators have important implications for the efficient provision of flexibility for the electricity system.

It is important to recognise that the market distortions arising from the identified defect may tend to (perversely) incentivise the wrong types of technologies to be built (or not built at all) at the wrong scale, at the wrong locations in GB. The market distortions may also

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<sup>15</sup> [http://www.theade.co.uk/embedded-benefits-review--manufacturing-energy-cost-concerns\\_4069.html](http://www.theade.co.uk/embedded-benefits-review--manufacturing-energy-cost-concerns_4069.html)

incentivise technologies to then dispatch at the wrong times for the purpose of ‘tax avoidance’ instead of in accordance with the genuine underlying economic value (which arise where these perverse incentives are absent).

Some market participants may take the view that the use of implicit subsidies through net transmission charging to avoid effective taxes may not be ideal, but they may take the view that that flexible capacity incentivised through a knowingly distorted non cost reflective framework may be “better than nothing”. However, on the contrary, we would suggest that investment and dispatch decisions incentivised by such large distortions to the transmission charging arrangements may well result in decisions which destroy societal welfare, have a distortionary effect on competition and / or affect cross border trade<sup>16</sup> as well as lead to other greater detrimental unintended consequences which are not “better than nothing”.

### **No valid evidence that a high value of “x” could be justified in terms of cost reflectivity**

It is our view that there has not been any valid evidence submitted to the Workgroup to support a significant non-zero value of “x” (other than avoided GSP cost which may be justified by cost reflectivity and/or the inclusion of a value equivalent to the Generator Residual which may be justified by better facilitating effective competition). A report from Cornwall Energy<sup>17</sup> was submitted to the Workgroup which suggested a non-locational value of embedded generation at £32.30 per kW (£18.50 per kW for average cost of new network reinforcement plus £13.80 per kW for long-term cost of existing network), however it is our view that the analysis behind the calculation of this number was seriously flawed and cannot be relied upon. We explained the flaws in this Cornwall analysis in detail in our Workgroup Consultation response<sup>18</sup>, while to avoid duplication we have summarised this below:

- i. **Invalid calculation of £18.5/kW for average cost of new network reinforcement**
  - Cornwall calculated this from the capital cost of a number of National Grid network reinforcement schemes which happen to currently under construction (£8.8bn), divided by the total GW of additional generation made possible by that reinforcement (35.56GW) to calculate an annualised average network cost per kW of generation capacity. However, there are logical flaws in Cornwall’s next steps because it is not a valid conclusion to draw that this is can be used as a generalised value of embedded benefits:
    - Location matters (national average price is not cost reflective) - Cost and benefit of embedded generation is dependent on its location, so it would be contrary to both cost reflectivity and effective competition to apply a flat average embedded benefit of this type irrespective of its location. Only if an embedded generator was built in a location on the transmission network which actually reduced flows on the network could there be a saving to the cost of transmission network investment, but Cornwall fail to take this locational effect into account. Importantly, the cost of this locational effect is already reflected by the TNUoS

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<sup>16</sup> Contrary to UK and EU law, such as set out in Article 8(7) of Regulation 714/2009.

<sup>17</sup> Cornwall, *A Review of the Embedded Benefits accruing to Distribution Connected Generation in GB*

<sup>18</sup> Volume 3 Workgroup Consultation Responses, SSE Response, Question 18, page 645 to 650

locational tariff elements such as the Peak Security tariff which is positive in some locations and negative in other locations.

- Capital, operations and maintenance costs are already accounted for in TNUoS locational tariff elements
  - Technology and operating characteristics matter (national average price is not cost reflective)
  - Inconsistent methodology for calculating the average cost of the network
- ii. **Invalid calculation of £13.8/kW Long-term cost of existing network** – Cornwall calculate this as the long term cost which they claim embedded generation can avoid, but their methodology and conclusions are not valid:
- Location matters (national average price is not cost reflective) – As above.
  - Long-term costs are already accounted for in TNUoS locational tariff elements

### **Behind the meter market distortions may remain, but this does not justify a delay to implementation**

We disagree with the position suggested by some respondents to the Workgroup consultation that this modification should not be implemented because it does not go far enough to solve the defect with regard to generation and DSR behind demand meters. On the contrary, it is our view that this is not a valid reason to delay, or prevent the implementation of an effective solution to the identified defects. If an appropriate proposal is implemented, then it can substantially reduce the existing (CUSC) baseline market distortions and discrimination between embedded generators and transmission connected generators. It is our view that a potential future modification proposal<sup>19</sup> may be well placed to address the remaining defect with regard to behind demand meters if stakeholders take the view that a future change would be beneficial.

### **Implementation can address Exporting Grid Supply Points (GSPs)**

In our view if demand charges are improved in the way described above, then this can provide a more cost reflective transmission charging methodology for all demand and generation users of the transmission network irrespective of whether or not they may be located behind an exporting GSP. If TNUoS charges are applied in an appropriately cost-reflective way, it would no longer be necessary to consider special solutions for exporting GSPs.

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<sup>19</sup> Which, for example, may or may not include CMP271 or CMP274

## CUSC Code Administrator Consultation Response Proforma

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Garth Graham</i> <i>Garth.graham@sse.com</i>
<b>Company Name:</b>	<i>SSE</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Charging CUSC Objectives</b>  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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license 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

	<p>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. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b>	Continued below
2	<b>Do you support the proposed implementation approach?</b>	Continued below
3	<b>Do you have any other comments?</b>	Continued below

**Q1 Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.**

We do not believe that the CUSC Original better facilitates the Applicable CUSC Objectives, however we believe that certain of the WACMs do. In summary our case against the Original particularly based on the unequal treatment of embedded generators (based on whether they may, or may not have a Capacity Mechanism contract) who are otherwise the same in regard to the transmission network costs which they cause which is not compatible with the applicable CUSC objectives. Our opposition to many of the WACMs is particularly based on the fact that grandfathering of any level of embedded benefit is not compatible with the applicable CUSC objectives. Our Case against some other WACMs arises from also including an enduring arbitrary non-cost reflective value of embedded benefit (“value of ‘x’”). We however believe that certain WACMs provide a better means of addressing the

defect. Our reasoning as related to the Applicable Objectives is explained in detail in the following section. Additional grounds, based on wider considerations, for opposing the Original proposal and some of the WACMs and supporting certain WACMs is further explained in our answer to Q3.

**In summary and for the avoidance of doubt we only support WACMs 1, 2, 3, 4 and 5.**

We agree with the points made in the summary section “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 to 12.15 of “Volume 1a Workgroup Report for Code Administrator Consultation).

The distortions to the transmission charging arrangements for embedded generators have important implications for the efficient operation of the electricity market from investment through to dispatch. We support the position that the increasing scale of embedded benefits, and TNUoS demand residual payments in particular, are distorting the GB electricity market and should be addressed as a matter of priority. To not do so risks locking-in economically inefficient developments and burdening certain customer groups with inequitably high charges.

Specifically, while supporting certain elements of the CUSC Original proposal, we believe that some of the alternatives; namely WACM1 (Centrica B), WACM2 (NG C), WACM3 (Uniper A), WACM4 (SSE A) and WACM5 (SSE B); are better than the Original proposal and are likely to better facilitate the CUSC *cost reflectivity* and *effective competition* objectives compared with baseline. In our view, TNUoS Demand Residual should be based on the principles where those charges should be *fair* and *difficult to avoid* so that this charging element meets its purpose of revenue collection while treating customers in an equitable way. If TNUoS Demand Residual payments are removed as an embedded benefit, then the unit cost, for end customers, of the transmission system which consumers are paying for would be reduced and this “quick win” approach to improving charging arrangements could deliver benefits for customers much sooner than otherwise would be the case. There is no strong case to not do this as the original decision to charge the Demand Residual in the way that it currently is, which enables the avoidance was made on an arbitrary basis at a time when the residual was a small amount.

We would suggest that any modifications to transmission charging arrangements should take place through the existing industry modification processes which have been developed over time by Ofgem<sup>1</sup> together with stakeholders and reflect the CUSC applicable objectives plus have the appropriate checks and balances to better deliver solutions which are in the best interest of consumers. This process is long established and the fact that elements of the CUSC can change through this process should be well understood by all affected parties.

The detail behind our answer to question 1 is divided into four sections:

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<sup>1</sup> Via, for example, it's three Code Governance Reviews.

1. **Principle-based charging arrangements** – All charging arrangements should be consistent with these two key principles
2. **TNUoS Demand Residual payments – Market distortion** – Describes the market distortions which occur within the CUSC baseline
3. **View of features of the WACMs** – Explains our view of the merits of each of the key features which are variously included in each WACM
4. **View of individual Original and WACMs** – Explains our view of each WACM regarding whether or not it better meets the applicable CUSC objectives and why by reference to the particular features used in each WACM.

## 1. Principle-based charging arrangements

In our view, when considering the question of the most appropriate design of TNUoS charges (as with all for all types of charging arrangements ) it is essential that each element of any charge should be clearly classed as falling into one of two categories (and never both): (1) Economic price signal or (2) Revenue collection.

This classification is important because the key principles which determine how individual charging elements should be applied are different for each of these two different categories of charges:

### (1) **Category 1: Economic price signal** (e.g. TNUoS Locational tariff elements)

This signal from this category of charges should be consistent with the CUSC objectives<sup>2</sup> of *cost reflectivity* and *effective competition*. In this way it fulfils its role of promoting the efficient operation of the power market by providing appropriate and economically efficient investment, or dispatch signals to those users that export to the transmission network (such as generation) and those users that import from the transmission network (such as demand). For those objectives to be achieved, charging elements should be applied to an appropriate charging base so that users, be they importing or exporting to the network, are exposed to economic incentives which reflect the incremental costs to the network which they cause.

Charges for the purpose of sending an economic price signal may collect a net non-zero revenue amount (net revenue collection may be positive, or negative), which is entirely appropriate and highlights the need to apply a separate charging element in order to ensure the required total revenue is collected.

### (2) **Category 2: Revenue collection** (e.g. TNUoS Demand Residual)

The principle for this category of charges follows the ‘optimal tax theory’ where the methodology for revenue collection should be *fair* and *difficult to avoid*. In other words, (i) ‘fairness’ could include revenue collection proportional to the ability to pay, or proportional to the value which individual parties receive from the services, or

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<sup>2</sup> Designated by the Secretary of State at NETA and BETTA, and amended, from time to time, by the Authority.

some other method deemed equitable by society; and (ii) 'difficult to avoid' means that resources should not be expended to avoid paying the charge because this avoidance action, similarly to tax avoidance, would tend to result in an economically inefficient outcome and higher costs to customers over the long term. By comparison, an action taken to avoid paying a charge is only useful to society if that particular charge is an explicitly cost-reflective economic price signal.

Separately, in certain cases other principles should be taken into account to reach an optimum structure of the charging methodology. These include the principles of transparency, accuracy, stability and predictability. We believe that the current CUSC charging arrangements, in relation to TNUoS Demand Residual in particular, are not consistent with the above-mentioned principles.

The approach of the current (CUSC baseline) net charging arrangements, where embedded generation is charged as if it is negative demand, can be appropriate only in circumstances where the demand charge provides a cost-reflective price signal. However, it is important to consider that, in some situations, it may *not* be appropriate to apply cost-reflective demand charges on a net basis. This is because different charges may be designed for different purposes. For example, the TNUoS generation locational charge has the purpose of providing a locational investment signal to generators. By contrast, the TNUoS demand locational charge has the purpose of providing both (i) a locational dispatch signal as well as (ii) a locational investment signal for demand. Further, if the purpose of a charging element is to collect revenue (effectively tax) from demand, then in this circumstance, it is not possible to reasonably justify the use of net charging where, for example, a generator (embedded) obtains a benefit from avoiding a tax, while another generator (e.g. transmission connected, or a different classification of embedded generator) of a similar size (MW) does not obtain the same benefit, despite the impact of both generators on the cost of the transmission system being the same.

## **2. TNUoS Demand Residual payments – Market distortion**

The demand part of the TNUoS charging methodology<sup>3</sup> includes two key tariff components of the wider tariff: (i) the TNUoS Locational tariff (made up the Peak Security tariff element and the Year Round tariff element), and (ii) the TNUoS Demand Residual tariff. The current Triad charging methodology incentivises investment and dispatch decisions for embedded generators located both on the distribution network and behind the demand meter, as well as genuine demand reduction, in order to avoid paying the Demand Residual element of the TNUoS tariff or receiving the benefit indirectly by transferring the nettable volume to suppliers. We support the view that the increasing scale of embedded benefits, and TNUoS demand residual payments in particular, are distorting the GB electricity market and preventing the existence of a level-playing field. They are also, as a result, affecting cross-border trade, which is in contravention of EU law<sup>4</sup>.

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<sup>3</sup> Set out in Section 14 of the CUSC.

<sup>4</sup> Article 8(7) Regulation 714/2009

As described earlier, the TNUoS Demand Residual is effectively a form of tax for revenue collection, not a cost-reflective price signal, because it does not reflect the avoided investment cost of the transmission network. We support the view that the price incentive for embedded generators to avoid the TNUoS Demand Residual represents a distortion to the efficient operation of competitive markets resulting in the following market defects:

- 1) **Distorted investment decisions** - Economically unjustified subsidy to embedded generation (EG) which tends to distort competition in the capacity market. For example, EG may obtain a capacity contract despite being out of economic merit as the value of the expected embedded benefit can reduce the price at which an EG may offer itself into the capacity market;
- 2) **Distorted dispatch decisions** - Embedded generators may dispatch out of economic merit to ensure that they do not miss the Triad period. This puts a downward pressure on wholesale electricity prices and displaces more efficient and lower cost generation (including transmission connected generation (TG)) out of the merit order; and
- 3) **Inequitable redistribution** - Of transmission costs between customers and generators because the cost of paying embedded generators, given that the cost of the T system is largely unchanged, for their Triad avoidance (equivalent to tax avoidance) behaviour is in turn paid for by higher TNUoS charges for all customers;
- 4) **Inequitable redistribution** - Of transmission costs between different customers (embedded generators and non-embedded generators, customers contracting with embedded generators and other customers)
- 5) **TRIAD becoming an economically inefficient price signal** - As EG is running for longer periods and the timing of TRIAD periods becomes more uncertain it becomes very difficult to ascertain which peak condition the system is being designed for.

### **3. View of features of the WACMs**

The range of WACMs each include a selection of possible key features. To avoid repetition, we firstly describe our view of the merits of each of these key features, then secondly go on to explain how the specific combinations of these key features has informed our view of each of the WACMs.

- 1) **Demand Residual should be applied on gross demand, and not on net demand**– It is appropriate that this element is charged gross on all embedded generators as per the SSE, Centrica and Uniper proposed WACMs which are WACM1, WACM2, WACM3, WACM4 and WACM5. The purpose of the Demand Residual is effectively to collect revenue from customers through a form of tax and by contrast, its purpose is not to provide any form of cost reflective price signal. Therefore the current CUSC baseline (where this element is charged net) is not cost reflective, while the associated benefit which embedded generators currently receive is effectively for providing a tax avoidance service which simply increases the total cost to those end customers who continue to face TNUoS charges. This revenue stream from tax avoidance distorts competition because it is not cost reflective and because it is only available to an arbitrary sub-set of generators, namely those which happen to be connected to the distribution (rather than transmission) network. Allowing certain users to receive this type of arbitrary, non cost reflective payment

distorts competition between similar users of the transmission network and thus could be contrary to both EU competition law and state aid requirements.

- 2) Locational tariff elements** – It is appropriate that the locational tariff elements remain charged on a *net* basis and it is appropriate that the value of the embedded benefit is floored at zero. In our view it is not cost-reflective to apply the Year Round tariff to a peak charging base (such as Triad) and so if industry took the view that the floor at zero should be removed, then this should only be done in conjunction with a modification to consider an alternative more cost reflective definition of demand charging base. In our view it would not be appropriate to apply a negative Year Round price signal to embedded generators at Triad because this could provide a perverse incentive for EG to turn down at peak, despite the tariff element reflecting year-round conditions. Moreover this could drown out a potential positive Peak Security tariff which may be sending the opposite signal to EG, i.e. to generate at times of peak demand in order to avoid the compromising the transmission network
- 3) No grandfathering for selected groups** – We believe that it would be difficult to reasonably justify any grandfathering for any group of market participants with regard to TNUoS charges. The TNUoS charging methodology relies on providing cost-reflective price signals to all market participants to facilitate effective competition which is required to deliver an efficient outcome for society and the best value for customers. If individual groups obtained grandfathered protection every time the TNUoS charging methodology changed, this would result in an increasingly complicated and increasingly distortionary muddle of price signals not based on the cost reflectivity and effective competition principles. Furthermore, given that TNUoS charges recover costs only from users, if one group of users are immune from their receipt of payments being reduced, or immune from their charges increasing (due to grandfathering) then those ongoing payments, or shortfall in charges (due to grandfathering) must, instead, be paid by all other (non-grandfathered) users. This too has a market distorting and competition impeding effect on those (non-grandfathered) users (who pay the ‘shortfall’) whilst also affording, as it does, a competitive advantage to the grandfathered users (who receive the ‘shortfall’ in the form of receiving non-cost reflective payments and/or not paying the costs they give rise too). We agree with the position previously stated from Ofgem in this regard:
- a. We agree with the comments in July<sup>5</sup> from Ofgem in their charging arrangements open letter regarding Embedded benefits which stated “*We [Ofgem] also think that it may be difficult to demonstrate that the costs and/or fairness of grandfathering the current arrangements for the TNUoS demand residual for existing EG could be justified given the significant costs and distortions that this would likely cause.*”<sup>6</sup>
- 4) New value to reflect benefit of embedded generation (value of “x”)** – Some WACMs include a new value of embedded benefit which will remain applied on a net

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<sup>5</sup> 29<sup>th</sup> July 2016

<sup>6</sup> [https://www.ofgem.gov.uk/system/files/docs/2016/07/open\\_letter\\_-\\_charging\\_arrangements\\_for\\_embedded\\_generation.pdf](https://www.ofgem.gov.uk/system/files/docs/2016/07/open_letter_-_charging_arrangements_for_embedded_generation.pdf)

basis which the Workgroup referred to as the “value of ‘x’”. This new benefit within the CUSC can only be justified if it meets the CUSC applicable objectives and in particular if it is cost reflective and/or facilitates effective competition. It is our view that some of these features can be justified within the CUSC applicable objectives, while others cannot, as described below:

**Justifiable i) Avoidance of GSP cost** – There may be a case, from a cost reflectivity point of view, to provide embedded generators with a benefit related to the avoided transmission cost at the GSP, which National Grid has previously estimated (on average, across GB) at circa £1.62/kW per annum. If this element is applied net as an embedded benefit, it will be important to review the value of this benefit and consider the most appropriate way it could be applied.

ii. **Justifiable ii) Negative of the Generator Residual** – It is our view that, in order to better facilitate effective competition, a value of the transmission generator residual could be applied as an embedded benefit. This may provide a more level playing field between embedded and transmission connected generation with respect to the value of the generator residual. This approach may avoid an imminent need to change the way the generator residual is calculated and would enable any potential changes to the Generator Residual in the future to be automatically incorporated.

iii. **Unjustifiable i) Do not use lowest locational charge** – This feature would result in an arbitrary value of embedded benefit and would fail to correct the defect with regard to cost reflectivity, or effective competition because:

a. **It continues to distort competition** - it would result in an ongoing arbitrary and large value of embedded benefit whereby generators which happen to be connected to the distribution network would continue to receive a substantial revenue stream which is not available to other generators who may be otherwise identical, but who happen to be connected to the transmission network. Therefore the existing CUSC baseline distortions to investment, dispatch and redistribution would persist.

b. **It is not cost reflective** – It cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition. The key justification provided for this approach is not valid, namely the intention to maintain the full locational gradient of tariffs instead of flooring the Year Round tariff at zero. This is because the current locational transmission tariff gradient is dominated by the gradient of the Year Round tariff element, but it is not cost reflective to apply the Year Round tariff to the peak (Triad) generation of an embedded generator, so the objective of using this feature to preserve the slope of the existing Year Round tariff gradient does not result in the relative locational price signal of the embedded benefit being any more cost reflective.

- c. **It may be greater magnitude of distortion than baseline** - It is also possible that future changes in the gradient of locational transmission charges may result in the value of the lowest locational tariff becoming even greater magnitude than the Demand Residual would have been if the baseline charging methodology had been retained.
      - d. **Likely to be relatively volatile** – Changes to the value of locational transmission tariffs, particularly at the extremes such as the lowest locational value have historically demonstrated to be relatively volatile. Therefore the value of this new benefit would likely be relatively volatile and relatively difficult to forecast.
- iv. **Unjustifiable ii) Do not use an arbitrary value of “x” based on historic levels** – There is no justification within the CUSC applicable objectives for maintaining an arbitrary value of “x” at some level based on what this value happened to be at some time in recent history. It is the objective of the TNUoS charging methodology to provide TNUoS tariffs which are cost reflective and which facilitate effective competition and by contrast it is not the purpose of TNUoS charging to “pick winners” by protecting the investment decisions of one or more specifically selected groups of investors (e.g. protect generators who happen to be embedded, but not provide that same protection to other generators who happen to be transmission connected). TNUoS tariffs and the charging methodology which these are based on has and does continue to change substantially from year to year, so generators cannot reasonably claim to have a valid expectation that any specific historic level of TNUoS could be ‘banked’ on for any number of future years, let alone for the full duration of their project life. We agree with the positions previously stated from BEIS in this regard, including:
  - a. We agree with the recent<sup>7</sup> comments from BEIS in their Capacity Market consultation which address the same principles and which are also applicable to this TNUoS charging modification: *“However, to the extent that an investor/CM participant assumes a future revenue as a result of embedded benefits from a CM levy, they ultimately do so at their own risk; and as such they should factor in the possibility that this levy could be subject to change in future and discount it accordingly, as with other variables that an investor needs to consider.”*<sup>8</sup>
- v. **Unjustifiable iii) Do not use selective exclusion of Demand Residual cost elements** – We would suggest that a selective exclusion of individual elements from the Demand Residual net charging base, such as OFTO charges, would be arbitrary and discriminatory. In our view the entire cost of the Demand Residual should be applied gross. The suggested rationale for excluding OFTO costs because they are driven by environmental policy and are not avoided by embedded generators could be applied equally to all other cost elements, including onshore reinforcement being made for other low

carbon technologies. The costs caused or avoided by individual embedded generators are reflected in the locational elements of the TNUoS tariffs and by contrast not reflected in any individual line item of the non-locationally allocated TNUoS Allowed Revenue.

- vii. **Unjustifiable iv) No valid evidence has been provided to justify some other value of “x” on the basis of cost reflectivity** – The conclusions in the report carried out by Cornwall<sup>9</sup> which claimed to calculate a missing value of embedded generation are not valid and can not be relied upon. We explain our reasons for this in more detail within this response in our answer to question 3 and also in further detail within our response to the Workgroup Consultation<sup>10</sup>. It is our view there was no valid justification presented to the Workgroup to support some other value of “x” on the basis of the applicable CUSC objectives of cost reflectivity or effective competition.

- 5) Justifiable v) Phased transition** – A phased approach may provide a helpful transition period for the System Operator and other market participants to adapt to any potential changes in the behaviour of embedded generators following a change to the Triad signal. An early start to this transition will also reduce the cost to end customers by reducing the total cost of embedded benefits from as early as possible before the lower level of the enduring solution is implemented. We would support a short-phased approach as described in both WACM4 (“SSE A”) and WACM5 (“SSE B”), where a short phased period begins as early as practicable (preferably starting no later than the 2018/19 charging year).

#### **4. View of individual Original and WACMs**

It is our view that the following WACMs would all be good solutions to the identified defect and would all better meet the CUSC applicable objectives compared with baseline and compared with the Original: WACM1, WACM2, WACM3, WACM4, WACM5.

These five WACMs stand out compared with all of the other WACMs due to their approach of not using grandfathering and also their new value of embedded benefit which is much more cost reflective than any of the other WACMs. Out of these five WACMs, it is our view that WACM5 (SSE B) provides the best combination of features when compared with the CUSC applicable objectives. However, it is our view that there is a relatively small difference in the relative merits of these five specific WACMs. It is our view that apart from these five, all of the other WACMs are no better than either the CUSC baseline, or the Original regarding the CUSC applicable objectives. Our reasons are described in more detail below:

- **CMP265 Original** - Does *not* better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. The approach of treating

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<sup>9</sup> Cornwall, *A Review of the Embedded Benefits accruing to Distribution Connected Generation in GB*

<sup>10</sup> Volume 3 Workgroup Consultation Responses, SSE Response, Question 18, page 645 to 650

generators differently based on whether they may or may not have a Capacity Market contract despite their impact on the network flows (therefore the cost of transmission network which they cause) being the same is not compatible with the applicable CUSC objectives of cost reflectivity, or effective competition. We think that this proposal while aiming to facilitate *effective competition* in the Capacity Market might introduce certain unintended consequences. For example, taking into account that TNUoS Demand Residual payments are much larger than the CM clearing price, EG might opt to forgo CM revenue for the benefit of receiving embedded benefit payments instead. This could result in further distortion and reduced competition in the Capacity Market which would further diminish its effectiveness. Furthermore, the CUSC Original does not rectify the inequitable redistribution of transmission costs between end customers and those EG without CM contracts.

- **WACM1 – Centrica B** – Does better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional feature of providing an embedded benefit equivalent to the value of the Generation TNUoS Residual which contributes to a more level playing field, therefore better facilitates competition between embedded and transmission connected generators.
- **WACM2 NG C** - Does better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional feature of a three year phasing approach which may better facilitate the implementation of the change.
- **WACM3 Uniper A** - Does better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional beneficial feature of providing an embedded benefit equivalent to the value of the avoided GSP cost which should result in the TNUoS charging arrangements being more cost reflective.
- **WACM4 SSE A** - Does better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional beneficial features of (i) providing an embedded benefit equivalent to the value of the avoided GSP cost which should result in the TNUoS charging arrangements being

more cost reflective and also (ii) a three year phasing approach which may better facilitate the implementation of the change.

- **WACM5 SSE B** – Does better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. It is our view that this is the **best WACM** with regard to meeting the CUSC applicable objectives because it includes all of the beneficial features which we described above. Specifically, this includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional beneficial features of (i) providing an embedded benefit equivalent to the value of the avoided GSP cost which should result in the TNUoS charging arrangements being more cost reflective; (ii) providing an embedded benefit equivalent to the value of the Generation TNUoS Residual which contributes to a more level playing field, therefore better facilitates competition between embedded and transmission connected generators; and (iii) a three year phasing approach which may better facilitate the implementation of the change.
- **WACM6 NG A** – Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reason for this is that it includes a new arbitrary value of embedded benefit equivalent to the lowest locational demand transmission charge which is (i) likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed; (ii) not cost reflective; and (iii) it is possible that future changes in the gradient of locational transmission charges may result in the value of the lowest locational tariff becoming even greater magnitude than the Demand Residual would have been if the CUSC baseline charging methodology had been retained.
- **WACM7 NG D** Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition for the same reasons as WACM6. The primary reason for this is that it includes a new arbitrary value of embedded benefit equivalent to the lowest locational charge which is (i) likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed; (ii) not cost reflective; and (iii) it is possible that future changes in the gradient of locational transmission charges may result in the value of the lowest locational tariff becoming even greater magnitude than the Demand Residual would have been if the CUSC baseline charging methodology had been retained. Even the principle of the three year phasing would provide limited benefit within this particular WACM because the reduction in value of the embedded benefit will tend to be relatively small compared with the CUSC baseline.
- **WACM8 ADE E** - Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost

reflectivity and effective competition. The primary reason for this is that (i) it uses the principle of grandfathering to protect historic investment decisions in a way which is not compatible and cannot be justified within the CUSC applicable objectives of cost reflectivity; and (ii) it creates a new arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.

- **WACM9 Infinis A** - Does not better meet the CUSC objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reason for this is that (i) it uses the principle of grandfathering to protect historic investment decisions in a way which is not compatible and cannot be justified within the CUSC objectives of cost reflectivity; and (ii) it creates a new arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.
- **WACM10 Greenfrog A** - Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reason for this is that (i) it uses the principle of grandfathering to protect historic investment decisions in a way which is not compatible and cannot be justified within the CUSC objectives of cost reflectivity; and (ii) it creates a new arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.
- **WACM11 Eider A** - Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reasons for this is that (i) the proposal to extract only one specific element of cost to be applied gross is arbitrary and cannot be justified on the grounds of cost reflectivity; and (ii) it maintains an arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.
- **WACM12 UKPR F1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect.
- **WACM13 UKPR G1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its

use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect.

- **WACM14 UKPR H1** - Does *not* better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect.
- **WACM15 UKPR I1** - Does *not* better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit equivalent to the value of the lowest locational tariff – the issues related to this are described in detail in the previous section.
- **WACM16 UKPR J1** - Does *not* better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit at a value of £20.12/kW plus RPI which cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition and it would be large enough that it would fail to solve the defect for affected generators because the benefit would continue to be large enough that the distortions to investment decisions, dispatch decisions and discriminatory redistribution would continue.
- **WACM17 UKPR K1** - Does *not* better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit at a value of £32.30/kW which cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition and it would be large enough that it would fail to solve the defect for affected generators because the benefit would continue to be large enough that the distortions to investment decisions, dispatch decisions and discriminatory redistribution would continue.
- **WACM18 UKPR L1** - Does *not* better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of maintaining the gross charging of the residual except for the arbitrary value of offshore costs removed, which cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition. This ongoing value of embedded benefit would be large enough that it would not solve the defect for affected generators because it would be large enough that the distortions

to investment decisions, dispatch decisions and discriminatory redistribution would continue.

## **Q2 Do you support the proposed implementation approach? If not, please provide reasoning why.**

Each of the WACMs and the Original have different implications regarding the practicality of how they may be implemented. The proposed approaches to technical implementation of each appears to be a reasonable solution to delivering the intention of each proposal (be that the Original or a WACM).

### **Alleged concerns regarding security of supply only relate to implementation options – This can not override applicable objectives of Cost Reflectivity or Competition**

The Workgroup report and some consultation respondents have raised concerns regarding the potential implications for the security of supply if the Original, or WACMs were implemented. However, it is categorically not the purpose of Transmission charging to incentivise adequate generation capacity, or to incentivise dispatch decisions in order to deliver appropriate security of supply - by contrast, this is the purpose of the Capacity Mechanism and the Wholesale Power market. So the decision regarding which WACM should (or should not) be implemented should not be influenced by any question of its impact on security of supply, however it may be appropriate for Ofgem to consider how the choice of implementation approach can be used to minimise causing additional unnecessary risks to the security of the system during the implementation process.

In our view the removal of TNUoS Demand Residual payments will not have unintended consequences on system security. The changes to transmission network charging arrangements will not affect the system margin as long as embedded generators remain available and dispatch based on their economics in the merit order. In cases where removal of TNUoS Demand Residual payments results in inability of some embedded generators to recover their short-run marginal costs and leads to their closure, the Capacity Mechanism provides the right incentive framework for the right amount of capacity to remain available or come online on the basis of economic principles (rather than the artificiality of TNUoS cost avoidance).

While we recognise that a short transition period might be beneficial to introduce the change gradually, we do not believe that system security concerns are substantiated, therefore system security does not provide a sufficient ground for consideration of *whether* a change to transmission network charging should be implemented.

Finally, we would note that circa 5.5GW of transmission connected generation ceased operation during the last 12 months or so. Various reasons for this were given at the time,

including the TNUoS charging arrangements and the changing GB electricity market conditions, of which embedded benefits is a significant contributory factor. Those that seek to raise security of supply concerns associated with the Original or some of the WACMs appear to ‘conveniently’ overlook this 5.5GW figure.

### **Choice of implementation date**

Because of the large magnitude of the value of the market distortions arising from the CUSC baseline approach of net charging of the TNUoS Demand Residual, it would be appropriate that the implementation date should be as soon as practicable.

We agree with Ofgem’s comment in their July 2016 Open letter that “*Our initial thinking is that, if we are presented with a modification proposal that otherwise suitably addresses the TNUoS demand residual aspect of embedded benefits, it may be challenging to demonstrate that consumers would benefit from any delay in its implementation beyond 2019/20.*” Any unnecessary delay in implementation would result in unnecessary and increasingly expensive costs to end customers because it is those customers who are currently paying the cost of the existing Triad avoidance benefits received by embedded generators.

### **The identified defect should be addressed quickly through the CUSC change process instead of waiting for a protracted holistic review by some other route (such as an SCR, or new project board)**

We disagree with the views suggested by some Workgroup consultation respondents who questioned whether the accelerated timescale and CUSC modification process is appropriate and who suggested a longer and more holistic approach may be better.

On the contrary, we would suggest that the proposed modification to the GB transmission charging arrangements should take place through the existing industry CUSC modification processes (established by Parliament / the Secretary of State as being the legitimate way to amend the transmission charging arrangements) and not wait (an indeterminate period) for an SCR, or a new ‘project board’ type group to consider the issue(s). The CUSC change processes have been developed over time by Ofgem<sup>11</sup> and stakeholders to include appropriate objectives, as well as suitable checks and balances to better deliver solutions which are in the best interest of the industry and the best interest of end customers. They are also fully compatible with UK law and EU law requirements associated with transmission charging.

- **Do not wait for an SCR** – It is our view that it is more beneficial for all market participants and end customers if the issues related this modification are addressed quickly and it is not necessary to wait for a wider review. We believe Ofgem has a valuable role to play regarding setting out the vision and the key principles by which changes should be considered, however it would be more practicable to consider

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<sup>11</sup> For example, via their three Code Governance Reviews.

changes in smaller groups with regard to issues and to the stakeholders affected. By contrast, if Ofgem attempted an SCR process to address all matters related to transmission charging at the same time, then there would be a substantial risk that this “all or nothing” approach (i) could take an unacceptable length of time; (ii) would crowd out the opportunity for implementing “quick win” improvements to transmission charging arrangements which could otherwise deliver benefits for end customers much sooner; and (iii) might, in the end, turn out to have ‘bitten off more than we can chew’.....resulting (some years down the line) in the incremental type changes (such as those addressed by way of CMP264 and CMP265) being utilised after all.

- **Do wait for a new “project board”** - By contrast a new ‘project board’ type group would lack (i) the legal legitimacy to submit recommended change(s) to the Authority; (ii) rigorous governance rules; (iii) openness and transparency with regard to applicable objectives; (iv) robust (and equitable) processes; and (v) transparency regarding the appointment of and (possibly conflicting) interests of the individual members of the ‘project board’. Also, it may be unclear whether the members of such a ‘project board’ will have sufficient detailed technical expertise and knowledge which would be required to adequately oversee the details of any proposed changes with regard to these types of transmission charging arrangements. There would also be a concern that members of a ‘project board’ type group may not be able to provide sufficient regular time commitment to remain on top of the developments which can change quickly during a modification process.

Furthermore, absent of an SCR, there would seem to be nothing in law to prevent any user(s) raising any further CUSC modification proposal(s) to address any (or all) of the issues that the ‘project board’ was considering or developing during the time the ‘project board’ was undertaking its work.

### **Risk of interaction with CMP266**

It is also important to consider the implications of CMP266<sup>12</sup> which relates to the transition of Non Half Hourly (NHH) metered customers to Half Hourly (HH) metering / settlement / charging arrangements. One of the alternatives being considered within CMP266 would begin exposing an additional group of end customers (who have transitioned from NHH) to HH Triad price signal as early as April 2018. If this transition was applied before the Demand Residual element of the embedded benefit is reformed, then this could significantly exacerbate the identified defect. Namely that it would drive economically inefficient Triad avoidance behaviour from even more end customers which would further increase the cost of TNUoS on those remaining (and dwindling number of) NHH customers. Given the significant number of end customers that it is planned (via the Smart Meter rollout) will be moving over to HH (from NHH) annually up to 2020 this effect (for those NHH end customers that remain) is highly unlikely to be either trivial or inconsequential.

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<sup>12</sup> <http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP266/>

## Q3 Do you have any other comments?

### Reducing customer impact

If TNUoS Demand Residual payments were charged net, the cost of the transmission system which end consumers are paying for would be reduced.

The largest and most important benefit to end customers (compared with CUSC baseline) is the reduction of the cost which customers are currently paying for the embedded benefits (Demand Residual element of the Triad benefit). The National Grid analysis (Figure 8 of CMP264/265 workgroup consultation<sup>13</sup>) suggests that the value of TNUoS Demand Residual embedded benefit, which those end customers are paying for, will be increasing from £343m in 2016/17 to £650m in 2020/21 (real 2016/17 prices). In addition, further analysis by National Grid indicates that if the current (CUSC baseline) situation was permitted to continue, this cost to end customers is forecasted to reach £1Bn in 2030 under the Baseline scenario and £2Bn in 2032 under the Consumer Power scenario from their FES analysis. This growth in cost would mean the value of the Demand Residual avoidance benefit paid by customers to embedded generators would amount to circa 70% of the entire cost of the total GB transmission network compared with its current level in 2016/17<sup>14</sup> which customers would have to pay on top of still paying for the total ongoing cost of the transmission network.

It is important to recognise that this forecast increasing cost to customers of paying this embedded benefit is a function of both i) Price of the benefit - the £/kW value of “x” which remains applied net as an embedded benefit and ii) Volume - kW of embedded generation on which this benefit is paid. Many of the WACMs which may restrict the price element (either fixed, capped, or otherwise maintain a value of “x” at a level greater than that justified by cost reflectivity) will fail to address the volume element of this equation. If the ongoing value of “x” is higher than a cost reflective level, then the identified defect will persist such that increasing capacities of embedded generation will continue receive economically unjustified subsidies, so new entrant embedded generators will continue to crowd out other better value generation capacity (which does not benefit from this payment), so the total cost to customers would still continue to dramatically increase over time (i.e. cost to customers of paying this arbitrary and non cost reflective benefit as defined by the value of “x”).

It is clear and consistent with the widely accepted principles of economic theory which underpin the design of markets that a move towards more cost reflective price signals would result in competitive markets delivering a more economically efficient result at a lower total system cost, and therefore at a lower cost to end customers (regarding both transmission network costs and generation costs). It is reasonable to expect that this lower total system

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<sup>13</sup> Dated 2<sup>nd</sup> August 2016

<sup>14</sup> 18 August 2016, p4, Charging Seminar - Case for change: National Grid Analysis of a Do Nothing Scenario,

[http://www2.nationalgrid.com/UK/Industry-information/System-charges/Electricity-transmission/charging\\_review/](http://www2.nationalgrid.com/UK/Industry-information/System-charges/Electricity-transmission/charging_review/)

cost would result in even greater reductions in costs to end customers over the medium and longer term.

It is important to note that if the reduction in the value of the embedded benefit were only applied to a sub set of embedded generators, the subsequent cost saving to end customers would not be as large. We would question the justification for continuing to charge customers an additional cost in order to pay the value of the non cost reflective demand residual to a sub set of embedded generators.

## **Improving Markets**

It is our view that each charging arrangement and market mechanism should provide price signals which are cost reflective in their own right because this will incentivise decisions which tend to result in a more efficient outcome, therefore lowering costs to customers over the longer-term. By contrast, it is not appropriate to consider the use of one charging methodology, such as TNUoS, to cross-subsidise the prices which arise from a different market mechanism; such as the Capacity Mechanism, or the GB wholesale electricity market; because this will tend to result in inefficient decisions and higher cost to end customers over the longer term.

A reduction in the value of the Triad avoidance embedded benefit may result in changes to the clearing prices of other markets such as the Capacity Market and the GB wholesale electricity markets. However, we would suggest that any resulting changes to these markets would represent a move to more appropriately efficient levels than would otherwise be the case. A meaningful impact on these markets would highlight just how large a distortion the current (CUSC baseline) transmission network charging methodology currently is.

We note the analysis carried out in relation to the end consumer impact of a potential increase in the clearing price of these other markets. For example, Cornwall<sup>15</sup> suggests the cost of the capacity market could increase from circa £214m in 2019/20 to £282m in 2020/21. Notwithstanding that we have concerns around the approach used by Cornwall in deriving their figures; even if we take the Cornwall figure as being 'correct', when compared with National Grid's analysis, a potential saving to end customers from the reduction in Triad payments to embedded generators of £343m to £2bn would greatly outweigh the potential increase in Capacity Mechanism cost that Cornwall's analysis suggests.

## **Important implications regarding future provision of flexibility**

Distortions to the transmission charging arrangements for embedded generators have important implications for the efficient provision of flexibility for the electricity system.

It is important to recognise that the market distortions arising from the identified defect may tend to (perversely) incentivise the wrong types of technologies to be built (or not built at all) at the wrong scale, at the wrong locations in GB. The market distortions may also

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<sup>15</sup> [http://www.theade.co.uk/embedded-benefits-review--manufacturing-energy-cost-concerns\\_4069.html](http://www.theade.co.uk/embedded-benefits-review--manufacturing-energy-cost-concerns_4069.html)

incentivise technologies to then dispatch at the wrong times for the purpose of ‘tax avoidance’ instead of in accordance with the genuine underlying economic value (which arise where these perverse incentives are absent).

Some market participants may take the view that the use of implicit subsidies through net transmission charging to avoid effective taxes may not be ideal, but they may take the view that that flexible capacity incentivised through a knowingly distorted non cost reflective framework may be “better than nothing”. However, on the contrary, we would suggest that investment and dispatch decisions incentivised by such large distortions to the transmission charging arrangements may well result in decisions which destroy societal welfare, have a distortionary effect on competition and / or affect cross border trade<sup>16</sup> as well as lead to other greater detrimental unintended consequences which are not “better than nothing”.

### **No valid evidence that a high value of “x” could be justified in terms of cost reflectivity**

It is our view that there has not been any valid evidence submitted to the Workgroup to support a significant non-zero value of “x” (other than avoided GSP cost which may be justified by cost reflectivity and/or the inclusion of a value equivalent to the Generator Residual which may be justified by better facilitating effective competition). A report from Cornwall Energy<sup>17</sup> was submitted to the Workgroup which suggested a non-locational value of embedded generation at £32.30 per kW (£18.50 per kW for average cost of new network reinforcement plus £13.80 per kW for long-term cost of existing network), however it is our view that the analysis behind the calculation of this number was seriously flawed and cannot be relied upon. We explained the flaws in this Cornwall analysis in detail in our Workgroup Consultation response<sup>18</sup>, while to avoid duplication we have summarised this below:

- i. **Invalid calculation of £18.5/kW for average cost of new network reinforcement**
  - Cornwall calculated this from the capital cost of a number of National Grid network reinforcement schemes which happen to currently under construction (£8.8bn), divided by the total GW of additional generation made possible by that reinforcement (35.56GW) to calculate an annualised average network cost per kW of generation capacity. However, there are logical flaws in Cornwall’s next steps because it is not a valid conclusion to draw that this is can be used as a generalised value of embedded benefits:
    - Location matters (national average price is not cost reflective) - Cost and benefit of embedded generation is dependent on its location, so it would be contrary to both cost reflectivity and effective competition to apply a flat average embedded benefit of this type irrespective of its location. Only if an embedded generator was built in a location on the transmission network which actually reduced flows on the network could there be a saving to the cost of transmission network investment, but Cornwall fail to take this locational effect into account. Importantly, the cost of this locational effect is already reflected by the TNUoS

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<sup>16</sup> Contrary to UK and EU law, such as set out in Article 8(7) of Regulation 714/2009.

<sup>17</sup> Cornwall, *A Review of the Embedded Benefits accruing to Distribution Connected Generation in GB*

<sup>18</sup> Volume 3 Workgroup Consultation Responses, SSE Response, Question 18, page 645 to 650

locational tariff elements such as the Peak Security tariff which is positive in some locations and negative in other locations.

- Capital, operations and maintenance costs are already accounted for in TNUoS locational tariff elements
  - Technology and operating characteristics matter (national average price is not cost reflective)
  - Inconsistent methodology for calculating the average cost of the network
- ii. **Invalid calculation of £13.8/kW Long-term cost of existing network** – Cornwall calculate this as the long term cost which they claim embedded generation can avoid, but their methodology and conclusions are not valid:
- Location matters (national average price is not cost reflective) – As above.
  - Long-term costs are already accounted for in TNUoS locational tariff elements

### **Behind the meter market distortions may remain, but this does not justify a delay to implementation**

We disagree with the position suggested by some respondents to the Workgroup consultation that this modification should not be implemented because it does not go far enough to solve the defect with regard to generation and DSR behind demand meters. On the contrary, it is our view that this is not a valid reason to delay, or prevent the implementation of an effective solution to the identified defects. If an appropriate proposal is implemented, then it can substantially reduce the existing (CUSC) baseline market distortions and discrimination between embedded generators and transmission connected generators. It is our view that a potential future modification proposal<sup>19</sup> may be well placed to address the remaining defect with regard to behind demand meters if stakeholders take the view that a future change would be beneficial.

### **Implementation can address Exporting Grid Supply Points (GSPs)**

In our view if demand charges are improved in the way described above, then this can provide a more cost reflective transmission charging methodology for all demand and generation users of the transmission network irrespective of whether or not they may be located behind an exporting GSP. If TNUoS charges are applied in an appropriately cost-reflective way, it would no longer be necessary to consider special solutions for exporting GSPs.

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<sup>19</sup> Which, for example, may or may not include CMP271 or CMP274

## CUSC Code Administrator Consultation Response Proforma

### **CMP269 ‘Potential consequential changes to the CUSC as a result of CMP264’**

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Garth Graham</i> <i>Garth.graham@sse.com</i>
<b>Company Name:</b>	SSE
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Standard CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License</li> <li>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</li> <li>c) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency</li> <li>d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)</li> </ul>

Q	Question	Response
1	<b>Do you believe that CMP269 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b>	Continued below
2	<b>Do you support the proposed implementation approach?</b>	Continued below
3	<b>Do you have any other comments?</b>	Continued below

**Q1 Do you believe that CMP269 better facilitates the Applicable CUSC objectives? Please include your reasoning.**

We do not believe that the CUSC Original better facilitates the Applicable CUSC Objectives, however we believe that certain of the WACMs do. In summary our case against the Original and some of the WACMs arises from the fact that grandfathering of any level of embedded benefit is not compatible with the Applicable CUSC objectives. Our Case against some other WACMs arises from also including an enduring arbitrary non-cost reflective value of embedded benefit (“value of ‘x’”). We however believe that certain WACMs provide a better means of addressing the defect. Our reasoning as related to the applicable Objectives is explained in detail in the following section. Additional grounds, based on wider considerations, for opposing the Original proposal and some of the WACMs and supporting certain WACMs is further explained in our answer to Q3.

**In summary and for the avoidance of doubt we only support WACMs 1, 2, 3, 4 and 5.**

We agree with the points made in the summary section “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 to 12.15 of “Volume 1a Workgroup Report for Code Administrator Consultation).

The distortions to the transmission charging arrangements for embedded generators have important implications for the efficient operation of the electricity market from investment through to dispatch. We support the position that the increasing scale of embedded benefits, and TNUoS demand residual payments in particular, are distorting the GB electricity market and should be addressed as a matter of priority. To not do so risks locking-in economically inefficient developments and burdening certain customer groups with inequitably high charges.

Specifically, while supporting certain elements of the CUSC Original proposal, we believe that some of the alternatives; namely WACM1 (Centrica B), WACM2 (NG C), WACM3 (Uniper A), WACM4 (SSE A) and WACM5 (SSE B); are better than the Original proposal and are likely to better facilitate the CUSC *cost reflectivity* and *effective competition* objectives compared with baseline. In our view, TNUoS Demand Residual should be based on the principles where those charges should be *fair* and *difficult to avoid* so that this charging element meets its purpose of revenue collection while treating customers in an equitable way. If TNUoS Demand Residual payments are removed as an embedded benefit, then the unit cost, for end customers, of the transmission system which consumers are paying for would be reduced and this “quick win” approach to improving charging arrangements could deliver benefits for customers much sooner than otherwise would be the case. There is no strong case to not do this as the original decision to charge the Demand Residual in the way that it currently is, which enables the avoidance was made on an arbitrary basis at a time when the residual was a small amount.

We would suggest that any modifications to transmission charging arrangements should take place through the existing industry modification processes which have been developed over time by Ofgem<sup>1</sup> together with stakeholders and reflect the CUSC applicable objectives plus have the appropriate checks and balances to better deliver solutions which are in the best interest of consumers. This process is long established and the fact that elements of the CUSC can change through this process should be well understood by all affected parties.

The detail behind our answer to question 1 is divided into four sections:

- 1. Principle-based charging arrangements** – All charging arrangements should be consistent with these two key principles
- 2. TNUoS Demand Residual payments – Market distortion** – Describes the market distortions which occur within the CUSC baseline
- 3. View of features of the WACMs** – Explains our view of the merits of each of the key features which are variously included in each WACM
- 4. View of individual Original and WACMs** – Explains our view of each WACM regarding whether or not it better meets the applicable CUSC objectives and why by reference to the particular features used in each WACM.

## **1. Principle-based charging arrangements**

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<sup>1</sup> Via, for example, it's three Code Governance Reviews.

In our view, when considering the question of the most appropriate design of TNUoS charges (as with all for all types of charging arrangements ) it is essential that each element of any charge should be clearly classed as falling into one of two categories (and never both): (1) Economic price signal or (2) Revenue collection.

This classification is important because the key principles which determine how individual charging elements should be applied are different for each of these two different categories of charges:

**(1) Category 1: Economic price signal** (e.g. TNUoS Locational tariff elements)

This signal from this category of charges should be consistent with the CUSC objectives<sup>2</sup> of *cost reflectivity* and *effective competition*. In this way it fulfils its role of promoting the efficient operation of the power market by providing appropriate and economically efficient investment, or dispatch signals to those users that export to the transmission network (such as generation) and those users that import from the transmission network (such as demand). For those objectives to be achieved, charging elements should be applied to an appropriate charging base so that users, be they importing or exporting to the network, are exposed to economic incentives which reflect the incremental costs to the network which they cause.

Charges for the purpose of sending an economic price signal may collect a net non-zero revenue amount (net revenue collection may be positive, or negative), which is entirely appropriate and highlights the need to apply a separate charging element in order to ensure the required total revenue is collected.

**(2) Category 2: Revenue collection** (e.g. TNUoS Demand Residual)

The principle for this category of charges follows the ‘optimal tax theory’ where the methodology for revenue collection should be *fair* and *difficult to avoid*. In other words, (i) ‘fairness’ could include revenue collection proportional to the ability to pay, or proportional to the value which individual parties receive from the services, or some other method deemed equitable by society; and (ii) ‘difficult to avoid’ means that resources should not be expended to avoid paying the charge because this avoidance action, similarly to tax avoidance, would tend to result in an economically inefficient outcome and higher costs to customers over the long term. By comparison, an action taken to avoid paying a charge is only useful to society if that particular charge is an explicitly cost-reflective economic price signal.

Separately, in certain cases other principles should be taken into account to reach an optimum structure of the charging methodology. These include the principles of transparency, accuracy, stability and predictability. We believe that the current CUSC charging arrangements, in relation to TNUoS Demand Residual in particular, are not consistent with the above-mentioned principles.

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<sup>2</sup> Designated by the Secretary of State at NETA and BETTA, and amended, from time to time, by the Authority.

The approach of the current (CUSC baseline) net charging arrangements, where embedded generation is charged as if it is negative demand, can be appropriate only in circumstances where the demand charge provides a cost-reflective price signal. However, it is important to consider that, in some situations, it may *not* be appropriate to apply cost-reflective demand charges on a net basis. This is because different charges may be designed for different purposes. For example, the TNUoS generation locational charge has the purpose of providing a locational investment signal to generators. By contrast, the TNUoS demand locational charge has the purpose of providing both (i) a locational dispatch signal as well as (ii) a locational investment signal for demand. Further, if the purpose of a charging element is to collect revenue (effectively tax) from demand, then in this circumstance, it is not possible to reasonably justify the use of net charging where, for example, a generator (embedded) obtains a benefit from avoiding a tax, while another generator (e.g. transmission connected, or a different classification of embedded generator) of a similar size (MW) does not obtain the same benefit, despite the impact of both generators on the cost of the transmission system being the same.

## 2. TNUoS Demand Residual payments – Market distortion

The demand part of the TNUoS charging methodology<sup>3</sup> includes two key tariff components of the wider tariff: (i) the TNUoS Locational tariff (made up the Peak Security tariff element and the Year Round tariff element), and (ii) the TNUoS Demand Residual tariff. The current Triad charging methodology incentivises investment and dispatch decisions for embedded generators located both on the distribution network and behind the demand meter, as well as genuine demand reduction, in order to avoid paying the Demand Residual element of the TNUoS tariff or receiving the benefit indirectly by transferring the nettable volume to suppliers. We support the view that the increasing scale of embedded benefits, and TNUoS demand residual payments in particular, are distorting the GB electricity market and preventing the existence of a level-playing field. They are also, as a result, affecting cross-border trade, which is in contravention of EU law<sup>4</sup>.

As described earlier, the TNUoS Demand Residual is effectively a form of tax for revenue collection, not a cost-reflective price signal, because it does not reflect the avoided investment cost of the transmission network. We support the view that the price incentive for embedded generators to avoid the TNUoS Demand Residual represents a distortion to the efficient operation of competitive markets resulting in the following market defects:

- 1) **Distorted investment decisions** - Economically unjustified subsidy to embedded generation (EG) which tends to distort competition in the capacity market. For example, EG may obtain a capacity contract despite being out of economic merit as the value of the expected embedded benefit can reduce the price at which an EG may offer itself into the capacity market;
- 2) **Distorted dispatch decisions** - Embedded generators may dispatch out of economic merit to ensure that they do not miss the Triad period. This puts a downward pressure on wholesale electricity prices and displaces more efficient and lower cost generation (including transmission connected generation (TG)) out of the merit order; and

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<sup>3</sup> Set out in Section 14 of the CUSC.

<sup>4</sup> Article 8(7) Regulation 714/2009

- 3) **Inequitable redistribution** - Of transmission costs between customers and generators because the cost of paying embedded generators, given that the cost of the T system is largely unchanged, for their Triad avoidance (equivalent to tax avoidance) behaviour is in turn paid for by higher TNUoS charges for all customers;
- 4) **Inequitable redistribution** - Of transmission costs between different customers (embedded generators and non-embedded generators, customers contracting with embedded generators and other customers)
- 5) **TRIAD becoming an economically inefficient price signal** - As EG is running for longer periods and the timing of TRIAD periods becomes more uncertain it becomes very difficult to ascertain which peak condition the system is being designed for.

### 3. View of features of the WACMs

The range of WACMs each include a selection of possible key features. To avoid repetition, we firstly describe our view of the merits of each of these key features, then secondly go on to explain how the specific combinations of these key features has informed our view of each of the WACMs.

- 1) **Demand Residual should be applied on gross demand, and not on net demand**– It is appropriate that this element is charged gross on all embedded generators as per the SSE, Centrica and Uniper proposed WACMs which are WACM1, WACM2, WACM3, WACM4 and WACM5. The purpose of the Demand Residual is effectively to collect revenue from customers through a form of tax and by contrast, its purpose is not to provide any form of cost reflective price signal. Therefore the current CUSC baseline (where this element is charged net) is not cost reflective, while the associated benefit which embedded generators currently receive is effectively for providing a tax avoidance service which simply increases the total cost to those end customers who continue to face TNUoS charges. This revenue stream from tax avoidance distorts competition because it is not cost reflective and because it is only available to an arbitrary sub-set of generators, namely those which happen to be connected to the distribution (rather than transmission) network. Allowing certain users to receive this type of arbitrary, non cost reflective payment distorts competition between similar users of the transmission network and thus could be contrary to both EU competition law and state aid requirements.
- 2) **Locational tariff elements** – It is appropriate that the locational tariff elements remain charged on a net basis and it is appropriate that the value of the embedded benefit is floored at zero. In our view it is not cost-reflective to apply the Year Round tariff to a peak charging base (such as Triad) and so if industry took the view that the floor at zero should be removed, then this should only be done in conjunction with a modification to consider an alternative more cost reflective definition of demand charging base. In our view it would not be appropriate to apply a negative Year Round price signal to embedded generators at Triad because this could provide a perverse incentive for EG to turn down at peak, despite the tariff element reflecting year-round conditions. Moreover this could drown out a potential positive Peak Security tariff which may be sending the opposite signal to EG, i.e. to generate at times of peak demand in order to avoid the compromising the transmission network

**3) No grandfathering for selected groups** – We believe that it would be difficult to reasonably justify any grandfathering for any group of market participants with regard to TNUoS charges. The TNUoS charging methodology relies on providing cost-reflective price signals to all market participants to facilitate effective competition which is required to deliver an efficient outcome for society and the best value for customers. If individual groups obtained grandfathered protection every time the TNUoS charging methodology changed, this would result in an increasingly complicated and increasingly distortionary muddle of price signals not based on the cost reflectivity and effective competition principles. Furthermore, given that TNUoS charges recover costs only from users, if one group of users are immune from their receipt of payments being reduced, or immune from their charges increasing (due to grandfathering) then those ongoing payments, or shortfall in charges (due to grandfathering) must, instead, be paid by all other (non-grandfathered) users. This too has a market distorting and competition impeding effect on those (non-grandfathered) users (who pay the ‘shortfall’) whilst also affording, as it does, a competitive advantage to the grandfathered users (who receive the ‘shortfall’ in the form of receiving non-cost reflective payments and/or not paying the costs they give rise to). We agree with the position previously stated from Ofgem in this regard:

- a. We agree with the comments in July<sup>5</sup> from Ofgem in their charging arrangements open letter regarding Embedded benefits which stated “*We [Ofgem] also think that it may be difficult to demonstrate that the costs and/or fairness of grandfathering the current arrangements for the TNUoS demand residual for existing EG could be justified given the significant costs and distortions that this would likely cause.*”<sup>6</sup>

**4) New value to reflect benefit of embedded generation (value of “x”)** – Some WACMs include a new value of embedded benefit which will remain applied on a net basis which the Workgroup referred to as the “value of ‘x’”. This new benefit within the CUSC can only be justified if it meets the CUSC applicable objectives and in particular if it is cost reflective and/or facilitates effective competition. It is our view that some of these features can be justified within the CUSC applicable objectives, while other cannot, as described below:

**Justifiable i) Avoidance of GSP cost** – There may be a case, from a cost reflectivity point of view, to provide embedded generators with a benefit related to the avoided transmission cost at the GSP, which National Grid has previously estimated (on average, across GB) at circa £1.62/kW per annum. If this element is applied net as an embedded benefit, it will be important to review the value of this benefit and consider the most appropriate way it could be applied.

- ii. **Justifiable ii) Negative of the Generator Residual** – It is our view that, in order to better facilitate effective competition, a value of the transmission

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<sup>5</sup> 29<sup>th</sup> July 2016

<sup>6</sup> [https://www.ofgem.gov.uk/system/files/docs/2016/07/open\\_letter\\_-\\_charging\\_arrangements\\_for\\_embedded\\_generation.pdf](https://www.ofgem.gov.uk/system/files/docs/2016/07/open_letter_-_charging_arrangements_for_embedded_generation.pdf)

generator residual could be applied as an embedded benefit. This may provide a more level playing field between embedded and transmission connected generation with respect to the value of the generator residual. This approach may avoid an imminent need to change the way the generator residual is calculated and would enable any potential changes to the Generator Residual in the future to be automatically incorporated.

- iii. **Unjustifiable i) Do not use lowest locational charge** – This feature would result in an arbitrary value of embedded benefit and would fail to correct the defect with regard to cost reflectivity, or effective competition because:
  - a. **It continues to distort competition** - it would result in an ongoing arbitrary and large value of embedded benefit whereby generators which happen to be connected to the distribution network would continue to receive a substantial revenue stream which is not available to other generators who may be otherwise identical, but who happen to be connected to the transmission network. Therefore the existing CUSC baseline distortions to investment, dispatch and redistribution would persist.
  - b. **It is not cost reflective** – It cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition. The key justification provided for this approach is not valid, namely the intention to maintain the full locational gradient of tariffs instead of flooring the Year Round tariff at zero. This is because the current locational transmission tariff gradient is dominated by the gradient of the Year Round tariff element, but it is not cost reflective to apply the Year Round tariff to the peak (Triad) generation of an embedded generator, so the objective of using this feature to preserve the slope of the existing Year Round tariff gradient does not result in the relative locational price signal of the embedded benefit being any more cost reflective.
  - c. **It may be greater magnitude of distortion than baseline** - It is also possible that future changes in the gradient of locational transmission charges may result in the value of the lowest locational tariff becoming even greater magnitude than the Demand Residual would have been if the baseline charging methodology had been retained.
  - d. **Likely to be relatively volatile** – Changes to the value of locational transmission tariffs, particularly at the extremes such as the lowest locational value have historically demonstrated to be relatively volatile. Therefore the value of this new benefit would likely be relatively volatile and relatively difficult to forecast.
- iv. **Unjustifiable ii) Do not use an arbitrary value of “x” based on historic levels** – There is no justification within the CUSC applicable objectives for maintaining an arbitrary value of “x” at some level based on what this value happened to be at some time in recent history. It is the objective of the

TNUoS charging methodology to provide TNUoS tariffs which are cost reflective and which facilitate effective competition and by contrast it is not the purpose of TNUoS charging to “pick winners” by protecting the investment decisions of one or more specifically selected groups of investors (e.g. protect generators who happen to be embedded, but not provide that same protection to other generators who happen to be transmission connected). TNUoS tariffs and the charging methodology which these are based on has and does continue to change substantially from year to year, so generators cannot reasonably claim to have a valid expectation that any specific historic level of TNUoS could be ‘banked’ on for any number of future years, let alone for the full duration of their project life. We agree with the positions previously stated from BEIS in this regard, including:

a. We agree with the recent<sup>7</sup> comments from BEIS in their Capacity Market consultation which address the same principles and which are also applicable to this TNUoS charging modification: “*However, to the extent that an investor/CM participant assumes a future revenue as a result of embedded benefits from a CM levy, they ultimately do so at their own risk; and as such they should factor in the possibility that this levy could be subject to change in future and discount it accordingly, as with other variables that an investor needs to consider.*”<sup>8</sup>

v. **Unjustifiable iii) Do not use selective exclusion of Demand Residual cost elements** – We would suggest that a selective exclusion of individual elements from the Demand Residual net charging base, such as OFTO charges, would be arbitrary and discriminatory. In our view the *entire* cost of the Demand Residual should be applied *gross*. The suggested rationale for excluding OFTO costs because they are driven by environmental policy and are not avoided by embedded generators could be applied equally to all other cost elements, including onshore reinforcement being made for other low carbon technologies. The costs caused or avoided by individual embedded generators are reflected in the locational elements of the TNUoS tariffs and by contrast not reflected in any individual line item of the non-locationally allocated TNUoS Allowed Revenue.

vii. **Unjustifiable iv) No valid evidence has been provided to justify some other value of “x” on the basis of cost reflectivity** – The conclusions in the report carried out by Cornwall<sup>9</sup> which claimed to calculate a missing value of embedded generation are not valid and can not be relied upon. We explain our reasons for this in more detail within this response in our answer to question 3 and also in further detail within our response to the Workgroup Consultation<sup>10</sup>. It is our view there was no valid justification presented to the

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<sup>9</sup> Cornwall, *A Review of the Embedded Benefits accruing to Distribution Connected Generation in GB*

<sup>10</sup> Volume 3 Workgroup Consultation Responses, SSE Response, Question 18, page 645 to 650

Workgroup to support some other value of “x” on the basis of the applicable CUSC objectives of cost reflectivity or effective competition.

- 5) **Justifiable v) Phased transition** – A phased approach may provide a helpful transition period for the System Operator and other market participants to adapt to any potential changes in the behaviour of embedded generators following a change to the Triad signal. An early start to this transition will also reduce the cost to end customers by reducing the total cost of embedded benefits from as early as possible before the lower level of the enduring solution is implemented. We would support a short-phased approach as described in both WACM4 (“SSE A”) and WACM5 (“SSE B”), where a short phased period begins as early as practicable (preferably starting no later than the 2018/19 charging year).

#### **4. View of individual Original and WACMs**

It is our view that the following WACMs would all be good solutions to the identified defect and would all better meet the CUSC applicable objectives compared with baseline and compared with the Original: WACM1, WACM2, WACM3, WACM4, WACM5.

These five WACMs stand out compared with all of the other WACMs due to their approach of not using grandfathering and also their new value of embedded benefit which is much more cost reflective than any of the other WACMs. Out of these five WACMs, it is our view that WACM5 (SSE B) provides the best combination of features when compared with the CUSC applicable objectives. However, it is our view that there is a relatively small difference in the relative merits of these five specific WACMs. It is our view that apart from these five, all of the other WACMs are no better than either the CUSC baseline, or the Original regarding the CUSC applicable objectives. Our reasons are described in more detail below:

- **CMP269 Original** – Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the objectives of the CUSC, so it does not represent a viable solution to the defect. In practice, after its implementation, discrimination between existing EG and new EG as well as all transmission connected generation would remain, so their continued uneconomic despatch and delayed closure decisions would continue to distort (i) GB wholesale electricity prices, (ii) new market investments and (iii) the capacity market outcome. Furthermore, the Original would not rectify the inequitable redistribution of transmission costs between end customers and existing EG – end customers would continue to pay for the embedded benefit available to existing EG.
- **WACM1 – Centrica B** – Does better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional feature of providing an embedded benefit equivalent to the value of the Generation TNUoS Residual which contributes to a more level playing field, therefore

better facilitates competition between embedded and transmission connected generators.

- **WACM2 NG C** - Does better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional feature of a three year phasing approach which may better facilitate the implementation of the change.
- **WACM3 Uniper A** - Does better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional beneficial feature of providing an embedded benefit equivalent to the value of the avoided GSP cost which should result in the TNUoS charging arrangements being more cost reflective.
- **WACM4 SSE A** - Does better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional beneficial features of (i) providing an embedded benefit equivalent to the value of the avoided GSP cost which should result in the TNUoS charging arrangements being more cost reflective and also (ii) a three year phasing approach which may better facilitate the implementation of the change.
- **WACM5 SSE B** – Does better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. It is our view that this is the **best WACM** with regard to meeting the CUSC applicable objectives because it includes all of the beneficial features which we described above. Specifically, this includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional beneficial features of (i) providing an embedded benefit equivalent to the value of the avoided GSP cost which should result in the TNUoS charging arrangements being more cost reflective; (ii) providing an embedded benefit equivalent to the value of the Generation TNUoS Residual which contributes to a more level playing field, therefore better facilitates competition between embedded and transmission connected generators; and iii) a three year phasing approach which may better facilitate the implementation of the change.

- **WACM6 NG A** – Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reason for this is that it includes a new arbitrary value of embedded benefit equivalent to the lowest locational demand transmission charge which is (i) likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed; (ii) not cost reflective; and (iii) it is possible that future changes in the gradient of locational transmission charges may result in the value of the lowest locational tariff becoming even greater magnitude than the Demand Residual would have been if the CUSC baseline charging methodology had been retained.
- **WACM7 NG D** Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition for the same reasons as WACM6. The primary reason for this is that it includes a new arbitrary value of embedded benefit equivalent to the lowest locational charge which is (i) likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed; (ii) not cost reflective; and (iii) it is possible that future changes in the gradient of locational transmission charges may result in the value of the lowest locational tariff becoming even greater magnitude than the Demand Residual would have been if the CUSC baseline charging methodology had been retained. Even the principle of the three year phasing would provide limited benefit within this particular WACM because the reduction in value of the embedded benefit will tend to be relatively small compared with the CUSC baseline.
- **WACM8 ADE E** - Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reason for this is that (i) it uses the principle of grandfathering to protect historic investment decisions in a way which is not compatible and cannot be justified within the CUSC applicable objectives of cost reflectivity; and (ii) it creates a new arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.
- **WACM9 Infinis A** - Does not better meet the CUSC objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reason for this is that (i) it uses the principle of grandfathering to protect historic investment decisions in a way which is not compatible and cannot be justified within the CUSC objectives of cost reflectivity; and (ii) it creates a new arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.

- **WACM10 Greenfrog A** - Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reason for this is that (i) it uses the principle of grandfathering to protect historic investment decisions in a way which is not compatible and cannot be justified within the CUSC objectives of cost reflectivity; and (ii) it creates a new arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.
- **WACM11 Eider A** - Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reasons for this is that (i) the proposal to extract only one specific element of cost to be applied gross is arbitrary and cannot be justified on the grounds of cost reflectivity; and (ii) it maintains an arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.
- **WACM12 UKPR F1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect.
- **WACM13 UKPR G1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect.
- **WACM14 UKPR H1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect.
- **WACM15 UKPR I1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit equivalent to the value of the lowest locational tariff – the issues related to this are described in detail in the previous section.

- **WACM16 UKPR J1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit at a value of £20.12/kW plus RPI which cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition and it would be large enough that it would fail to solve the defect for affected generators because the benefit would continue to be large enough that the distortions to investment decisions, dispatch decisions and discriminatory redistribution would continue.
- **WACM17 UKPR K1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit at a value of £32.30/kW which cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition and it would be large enough that it would fail to solve the defect for affected generators because the benefit would continue to be large enough that the distortions to investment decisions, dispatch decisions and discriminatory redistribution would continue.
- **WACM18 UKPR L1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of maintaining the gross charging of the residual except for the arbitrary value of offshore costs removed, which cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition. This ongoing value of embedded benefit would be large enough that it would not solve the defect for affected generators because it would be large enough that the distortions to investment decisions, dispatch decisions and discriminatory redistribution would continue.
- **WACM19 SP B** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline or the Original either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. In practice, after its implementation, the discrimination between existing EG and new EG as well as all transmission connected generation would remain, so their continued uneconomic despatch and delayed closure decisions would continue to distort (i) GB wholesale electricity prices, (ii) new market investments and (iii) the capacity market outcome. Furthermore, this WACM would not rectify the inequitable redistribution of transmission costs between end customers and existing EG – end customers would continue to pay for the embedded benefit available to existing EG. Although the individual feature of capping the value of “x” for grandfathered generators at £45.33/kW plus RPI may appear better than the Original approach of leaving the value of embedded benefit for existing generators uncapped, when all of the features

are taken together, neither the Original, or this WACM are viable solutions to the defect, so overall this WACM is not any better than the Original.

- **WACM20 Alkane A** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit at a value of £27.70/kW which cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition and it would be large enough that it would fail to solve the defect for affected generators because the benefit would continue to be large enough that the distortions to investment decisions, dispatch decisions and discriminatory redistribution would continue.
- **WACM21 Alkane B** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit equivalent to the value of the lowest locational tariff – the issues related to this are described in detail in the previous section.
- **WACM22 ADE C** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the objectives of the CUSC, so it does not represent a viable solution to the defect.
- **WACM23 Infinis B** Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit at a value of £34.11/kW plus RPI, or £20.12/kW plus RPI depending on whether or not the relevant generators are new and whether or not they have a capacity or CfD contract. The magnitudes of these new levels of embedded benefit cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition and would be large enough that it would fail to solve the defect for affected generators because the benefit would continue to be large enough that the distortions to investment decisions, dispatch decisions and discriminatory redistribution would continue.

## **Q2 Do you support the proposed implementation approach? If not, please provide reasoning why.**

Each of the WACMs and the Original have different implications regarding the practicality of how they may be implemented. The proposed approaches to technical implementation of each appears to be a reasonable solution to delivering the intention of each proposal (be that the Original or a WACM).

### **Alleged concerns regarding security of supply only relate to implementation options – This can not override applicable objectives of Cost Reflectivity or Competition**

The Workgroup report and some consultation respondents have raised concerns regarding the potential implications for the security of supply if the Original, or WACMs were implemented. However, it is categorically not the purpose of Transmission charging to incentivise adequate generation capacity, or to incentivise dispatch decisions in order to deliver appropriate security of supply - by contrast, this is the purpose of the Capacity Mechanism and the Wholesale Power market. So the decision regarding which WACM should (or should not) be implemented should not be influenced by any question of its impact on security of supply, however it may be appropriate for Ofgem to consider how the choice of implementation approach can be used to minimise causing additional unnecessary risks to the security of the system during the implementation process.

In our view the removal of TNUoS Demand Residual payments will not have unintended consequences on system security. The changes to transmission network charging arrangements will not affect the system margin as long as embedded generators remain available and dispatch based on their economics in the merit order. In cases where removal of TNUoS Demand Residual payments results in inability of some embedded generators to recover their short-run marginal costs and leads to their closure, the Capacity Mechanism provides the right incentive framework for the right amount of capacity to remain available or come online on the basis of economic principles (rather than the artificiality of TNUoS cost avoidance).

While we recognise that a short transition period might be beneficial to introduce the change gradually, we do not believe that system security concerns are substantiated, therefore system security does not provide a sufficient ground for consideration of *whether* a change to transmission network charging should be implemented.

Finally, we would note that circa 5.5GW of transmission connected generation ceased operation during the last 12 months or so. Various reasons for this were given at the time, including the TNUoS charging arrangements and the changing GB electricity market conditions, of which embedded benefits is a significant contributory factor. Those that seek to raise security of supply concerns associated with the Original or some of the WACMs appear to 'conveniently' overlook this 5.5GW figure.

### **Choice of implementation date**

Because of the large magnitude of the value of the market distortions arising from the CUSC baseline approach of net charging of the TNUoS Demand Residual, it would be appropriate that the implementation date should be as soon as practicable.

We agree with Ofgem's comment in their July 2016 Open letter that *"Our initial thinking is that, if we are presented with a modification proposal that otherwise suitably addresses the TNUoS demand residual aspect of embedded benefits, it may be challenging to demonstrate that consumers would benefit from any delay in its implementation beyond 2019/20."* Any unnecessary delay in implementation would result in unnecessary and increasingly expensive costs to end customers because it is those customers who are currently paying the cost of the existing Triad avoidance benefits received by embedded generators.

**The identified defect should be addressed quickly through the CUSC change process instead of waiting for a protracted holistic review by some other route (such as an SCR, or new project board)**

We disagree with the views suggested by some Workgroup consultation respondents who questioned whether the accelerated timescale and CUSC modification process is appropriate and who suggested a longer and more holistic approach may be better.

On the contrary, we would suggest that the proposed modification to the GB transmission charging arrangements should take place through the existing industry CUSC modification processes (established by Parliament / the Secretary of State as being the legitimate way to amend the transmission charging arrangements) and not wait (an indeterminate period) for an SCR, or a new 'project board' type group to consider the issue(s). The CUSC change processes have been developed over time by Ofgem<sup>11</sup> and stakeholders to include appropriate objectives, as well as suitable checks and balances to better deliver solutions which are in the best interest of the industry and the best interest of end customers. They are also fully compatible with UK law and EU law requirements associated with transmission charging.

- **Do not wait for an SCR** – It is our view that it is more beneficial for all market participants and end customers if the issues related this modification are addressed quickly and it is not necessary to wait for a wider review. We believe Ofgem has a valuable role to play regarding setting out the vision and the key principles by which changes should be considered, however it would be more practicable to consider changes in smaller groups with regard to issues and to the stakeholders affected. By contrast, if Ofgem attempted an SCR process to address all matters related to transmission charging at the same time, then there would be a substantial risk that this "all or nothing" approach (i) could take an unacceptable length of time; (ii) would crowd out the opportunity for implementing "quick win" improvements to transmission charging arrangements which could otherwise deliver benefits for end customers much sooner; and (iii) might, in the end, turn out to have 'bitten off more

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<sup>11</sup> For example, via their three Code Governance Reviews.

than we can chew'.....resulting (some years down the line) in the incremental type changes (such as those addressed by way of CMP264 and CMP265) being utilised after all.

- **Do wait for a new “project board”** - By contrast a new 'project board' type group would lack (i) the legal legitimacy to submit recommended change(s) to the Authority; (ii) rigorous governance rules; (iii) openness and transparency with regard to applicable objectives; (iv) robust (and equitable) processes; and (v) transparency regarding the appointment of and (possibly conflicting) interests of the individual members of the 'project board'. Also, it may be unclear whether the members of such a 'project board' will have sufficient detailed technical expertise and knowledge which would be required to adequately oversee the details of any proposed changes with regard to these types of transmission charging arrangements. There would also be a concern that members of a 'project board' type group may not be able to provide sufficient regular time commitment to remain on top of the developments which can change quickly during a modification process.

Furthermore, absent of an SCR, there would seem to be nothing in law to prevent any user(s) raising any further CUSC modification proposal(s) to address any (or all) of the issues that the 'project board' was considering or developing during the time the 'project board' was undertaking its work.

### **Risk of interaction with CMP266**

It is also important to consider the implications of CMP266<sup>12</sup> which relates to the transition of Non Half Hourly (NHH) metered customers to Half Hourly (HH) metering / settlement / charging arrangements. One of the alternatives being considered within CMP266 would begin exposing an additional group of end customers (who have transitioned from NHH) to HH Triad price signal as early as April 2018. If this transition was applied before the Demand Residual element of the embedded benefit is reformed, then this could significantly exacerbate the identified defect. Namely that it would drive economically inefficient Triad avoidance behaviour from even more end customers which would further increase the cost of TNUoS on those remaining (and dwindling number of) NHH customers. Given the significant number of end customers that it is planned (via the Smart Meter rollout) will be moving over to HH (from NHH) annually up to 2020 this effect (for those NHH end customers that remain) is highly unlikely to be either trivial or inconsequential.

## **Q3 Do you have any other comments?**

### **Reducing customer impact**

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<sup>12</sup> <http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP266/>

If TNUoS Demand Residual payments were charged net, the cost of the transmission system which end consumers are paying for would be reduced.

The largest and most important benefit to end customers (compared with CUSC baseline) is the reduction of the cost which customers are currently paying for the embedded benefits (Demand Residual element of the Triad benefit). The National Grid analysis (Figure 8 of CMP264/265 workgroup consultation<sup>13</sup>) suggests that the value of TNUoS Demand Residual embedded benefit, which those end customers are paying for, will be increasing from £343m in 2016/17 to £650m in 2020/21 (real 2016/17 prices). In addition, further analysis by National Grid indicates that if the current (CUSC baseline) situation was permitted to continue, this cost to end customers is forecasted to reach £1Bn in 2030 under the Baseline scenario and £2Bn in 2032 under the Consumer Power scenario from their FES analysis. This growth in cost would mean the value of the Demand Residual avoidance benefit paid by customers to embedded generators would amount to circa 70% of the entire cost of the total GB transmission network compared with its current level in 2016/17<sup>14</sup> which customers would have to pay on top of still paying for the total ongoing cost of the transmission network.

It is important to recognise that this forecast increasing cost to customers of paying this embedded benefit is a function of both i) Price of the benefit - the £/kW value of “x” which remains applied net as an embedded benefit and ii) Volume - kW of embedded generation on which this benefit is paid. Many of the WACMs which may restrict the price element (either fixed, capped, or otherwise maintain a value of “x” at a level greater than that justified by cost reflectivity) will fail to address the volume element of this equation. If the ongoing value of “x” is higher than a cost reflective level, then the identified defect will persist such that increasing capacities of embedded generation will continue receive economically unjustified subsidies, so new entrant embedded generators will continue to crowd out other better value generation capacity (which does not benefit from this payment), so the total cost to customers would still continue to dramatically increase over time (i.e. cost to customers of paying this arbitrary and non cost reflective benefit as defined by the value of “x”).

It is clear and consistent with the widely accepted principles of economic theory which underpin the design of markets that a move towards more cost reflective price signals would result in competitive markets delivering a more economically efficient result at a lower total system cost, and therefore at a lower cost to end customers (regarding both transmission network costs and generation costs). It is reasonable to expect that this lower total system cost would result in even greater reductions in costs to end customers over the medium and longer term.

It is important to note that if the reduction in the value of the embedded benefit were only applied to a sub set of embedded generators, the subsequent cost saving to end customers would not be as large. We would question the justification for continuing to charge customers an additional cost in order to pay the value of the non cost reflective demand residual to a sub set of embedded generators.

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<sup>13</sup> Dated 2<sup>nd</sup> August 2016

<sup>14</sup> 18 August 2016, p4, Charging Seminar - Case for change: National Grid Analysis of a Do Nothing Scenario,

[http://www2.nationalgrid.com/UK/Industry-information/System-charges/Electricity-transmission/charging\\_review/](http://www2.nationalgrid.com/UK/Industry-information/System-charges/Electricity-transmission/charging_review/)

## **Improving Markets**

It is our view that each charging arrangement and market mechanism should provide price signals which are cost reflective in their own right because this will incentivise decisions which tend to result in a more efficient outcome, therefore lowering costs to customers over the longer-term. By contrast, it is not appropriate to consider the use of one charging methodology, such as TNUoS, to cross-subsidise the prices which arise from a different market mechanism; such as the Capacity Mechanism, or the GB wholesale electricity market; because this will tend to result in inefficient decisions and higher cost to end customers over the longer term.

A reduction in the value of the Triad avoidance embedded benefit may result in changes to the clearing prices of other markets such as the Capacity Market and the GB wholesale electricity markets. However, we would suggest that any resulting changes to these markets would represent a move to more appropriately efficient levels than would otherwise be the case. A meaningful impact on these markets would highlight just how large a distortion the current (CUSC baseline) transmission network charging methodology currently is.

We note the analysis carried out in relation to the end consumer impact of a potential increase in the clearing price of these other markets. For example, Cornwall<sup>15</sup> suggests the cost of the capacity market could increase from circa £214m in 2019/20 to £282m in 2020/21. Notwithstanding that we have concerns around the approach used by Cornwall in deriving their figures; even if we take the Cornwall figure as being 'correct', when compared with National Grid's analysis, a potential saving to end customers from the reduction in Triad payments to embedded generators of £343m to £2bn would greatly outweigh the potential increase in Capacity Mechanism cost that Cornwall's analysis suggests.

## **Important implications regarding future provision of flexibility**

Distortions to the transmission charging arrangements for embedded generators have important implications for the efficient provision of flexibility for the electricity system.

It is important to recognise that the market distortions arising from the identified defect may tend to (perversely) incentivise the wrong types of technologies to be built (or not built at all) at the wrong scale, at the wrong locations in GB. The market distortions may also incentivise technologies to then dispatch at the wrong times for the purpose of 'tax avoidance' instead of in accordance with the genuine underlying economic value (which arise where these perverse incentives are absent).

Some market participants may take the view that the use of implicit subsidies through net transmission charging to avoid effective taxes may not be ideal, but they may take the view that that flexible capacity incentivised through a knowingly distorted non cost reflective framework may be "better than nothing". However, on the contrary, we would suggest that

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<sup>15</sup> [http://www.theade.co.uk/embedded-benefits-review--manufacturing-energy-cost-concerns\\_4069.html](http://www.theade.co.uk/embedded-benefits-review--manufacturing-energy-cost-concerns_4069.html)

investment and dispatch decisions incentivised by such large distortions to the transmission charging arrangements may well result in decisions which destroy societal welfare, have a distortionary effect on competition and / or affect cross border trade<sup>16</sup> as well as lead to other greater detrimental unintended consequences which are not “better than nothing”.

### **No valid evidence that a high value of “x” could be justified in terms of cost reflectivity**

It is our view that there has not been any valid evidence submitted to the Workgroup to support a significant non-zero value of “x” (other than avoided GSP cost which may be justified by cost reflectivity and/or the inclusion of a value equivalent to the Generator Residual which may be justified by better facilitating effective competition). A report from Cornwall Energy<sup>17</sup> was submitted to the Workgroup which suggested a non-locational value of embedded generation at £32.30 per kW (£18.50 per kW for average cost of new network reinforcement plus £13.80 per kW for long-term cost of existing network), however it is our view that the analysis behind the calculation of this number was seriously flawed and cannot be relied upon. We explained the flaws in this Cornwall analysis in detail in our Workgroup Consultation response<sup>18</sup>, while to avoid duplication we have summarised this below:

- i. **Invalid calculation of £18.5/kW for average cost of new network reinforcement**
  - Cornwall calculated this from the capital cost of a number of National Grid network reinforcement schemes which happen to currently under construction (£8.8bn), divided by the total GW of additional generation made possible by that reinforcement (35.56GW) to calculate an annualised average network cost per kW of generation capacity. However, there are logical flaws in Cornwall’s next steps because it is not a valid conclusion to draw that this is can be used as a generalised value of embedded benefits:
    - Location matters (national average price is not cost reflective) - Cost and benefit of embedded generation is dependent on its location, so it would be contrary to both cost reflectivity and effective competition to apply a flat average embedded benefit of this type irrespective of its location. Only if an embedded generator was built in a location on the transmission network which actually reduced flows on the network could there be a saving to the cost of transmission network investment, but Cornwall fail to take this locational effect into account. Importantly, the cost of this locational effect is already reflected by the TNUoS locational tariff elements such as the Peak Security tariff which is positive in some locations and negative in other locations.
    - Capital, operations and maintenance costs are already accounted for in TNUoS locational tariff elements
    - Technology and operating characteristics matter (national average price is not cost reflective)
    - Inconsistent methodology for calculating the average cost of the network

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<sup>16</sup> Contrary to UK and EU law, such as set out in Article 8(7) of Regulation 714/2009.

<sup>17</sup> Cornwall, *A Review of the Embedded Benefits accruing to Distribution Connected Generation in GB*

<sup>18</sup> Volume 3 Workgroup Consultation Responses, SSE Response, Question 18, page 645 to 650

- ii. **Invalid calculation of £13.8/kW Long-term cost of existing network** – Cornwall calculate this as the long term cost which they claim embedded generation can avoid, but their methodology and conclusions are not valid:
- Location matters (national average price is not cost reflective) – As above.
  - Long-term costs are already accounted for in TNUoS locational tariff elements

### **Behind the meter market distortions may remain, but this does not justify a delay to implementation**

We disagree with the position suggested by some respondents to the Workgroup consultation that this modification should not be implemented because it does not go far enough to solve the defect with regard to generation and DSR behind demand meters. On the contrary, it is our view that this is not a valid reason to delay, or prevent the implementation of an effective solution to the identified defects. If an appropriate proposal is implemented, then it can substantially reduce the existing (CUSC) baseline market distortions and discrimination between embedded generators and transmission connected generators. It is our view that a potential future modification proposal<sup>19</sup> may be well placed to address the remaining defect with regard to behind demand meters if stakeholders take the view that a future change would be beneficial.

### **Implementation can address Exporting Grid Supply Points (GSPs)**

In our view if demand charges are improved in the way described above, then this can provide a more cost reflective transmission charging methodology for all demand and generation users of the transmission network irrespective of whether or not they may be located behind an exporting GSP. If TNUoS charges are applied in an appropriately cost-reflective way, it would no longer be necessary to consider special solutions for exporting GSPs.

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<sup>19</sup> Which, for example, may or may not include CMP271 or CMP274

## CUSC Code Administrator Consultation Response Proforma

### CMP270 'Potential consequential changes to the CUSC as a result of CMP265'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Garth Graham</i> <i>Garth.graham@sse.com</i>
<b>Company Name:</b>	SSE
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b> <b>(Please include any issues, suggestions or queries)</b>	For reference, the Applicable CUSC objectives are:  <b>Standard CUSC Objectives</b>  a) The efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission License  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  d) Promoting efficiency in the implementation and administration of the system charging methodology (Note this is a new objective that will be introduced under CGR3)

Q	Question	Response
1	<b>Do you believe that CMP270 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b>	Continued below
2	<b>Do you support the proposed implementation approach?</b>	Continued below
3	<b>Do you have any other comments?</b>	Continued below

**Q1 Do you believe that CMP270 better facilitates the Applicable CUSC objectives? Please include your reasoning.**

We do not believe that the CUSC Original better facilitates the Applicable CUSC Objectives, however we believe that certain of the WACMs do. In summary our case against the Original particularly based on the unequal treatment of embedded generators (based on whether they may, or may not have a Capacity Mechanism contract) who are otherwise the same in regard to the transmission network costs which they cause which is not compatible with the applicable CUSC objectives. Our opposition to many of the WACMs is particularly based on the fact that grandfathering of any level of embedded benefit is not compatible with the applicable CUSC objectives. Our Case against some other WACMs arises from also including an enduring arbitrary non-cost reflective value of embedded benefit (“value of ‘x’”). We however believe that certain WACMs provide a better means of addressing the defect. Our reasoning as related to the Applicable Objectives is explained in detail in the following section. Additional grounds, based on wider considerations, for opposing the Original proposal and some of the WACMs and supporting certain WACMs is further explained in our answer to Q3.

**In summary and for the avoidance of doubt we only support WACMs 1, 2, 3, 4 and 5.**

We agree with the points made in the summary section “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 to 12.15 of “Volume 1a Workgroup Report for Code Administrator Consultation.

The distortions to the transmission charging arrangements for embedded generators have important implications for the efficient operation of the electricity market from investment through to dispatch. We support the position that the increasing scale of embedded benefits, and TNUoS demand residual payments in particular, are distorting the GB electricity market and should be addressed as a matter of priority. To not do so risks locking-in economically inefficient developments and burdening certain customer groups with inequitably high charges.

Specifically, while supporting certain elements of the CUSC Original proposal, we believe that some of the alternatives; namely WACM1 (Centrica B), WACM2 (NG C), WACM3 (Uniper A), WACM4 (SSE A) and WACM5 (SSE B); are better than the Original proposal and are likely to better facilitate the CUSC *cost reflectivity* and *effective competition* objectives compared with baseline. In our view, TNUoS Demand Residual should be based on the principles where those charges should be *fair* and *difficult to avoid* so that this charging element meets its purpose of revenue collection while treating customers in an equitable way. If TNUoS Demand Residual payments are removed as an embedded benefit, then the unit cost, for end customers, of the transmission system which consumers are paying for would be reduced and this “quick win” approach to improving charging arrangements could deliver benefits for customers much sooner than otherwise would be the case. There is no strong case to not do this as the original decision to charge the Demand Residual in the way that it currently is, which enables the avoidance was made on an arbitrary basis at a time when the residual was a small amount.

We would suggest that any modifications to transmission charging arrangements should take place through the existing industry modification processes which have been developed over time by Ofgem<sup>1</sup> together with stakeholders and reflect the CUSC applicable objectives plus have the appropriate checks and balances to better deliver solutions which are in the best interest of consumers. This process is long established and the fact that elements of the CUSC can change through this process should be well understood by all affected parties.

The detail behind our answer to question 1 is divided into four sections:

- 1. Principle-based charging arrangements** – All charging arrangements should be consistent with these two key principles
- 2. TNUoS Demand Residual payments – Market distortion** – Describes the market distortions which occur within the CUSC baseline
- 3. View of features of the WACMs** – Explains our view of the merits of each of the key features which are variously included in each WACM
- 4. View of individual Original and WACMs** – Explains our view of each WACM regarding whether or not it better meets the applicable CUSC objectives and why by reference to the particular features used in each WACM.

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<sup>1</sup> Via, for example, it's three Code Governance Reviews.

## **1. Principle-based charging arrangements**

In our view, when considering the question of the most appropriate design of TNUoS charges (as with all for all types of charging arrangements ) it is essential that each element of any charge should be clearly classed as falling into one of two categories (and never both): (1) Economic price signal or (2) Revenue collection.

This classification is important because the key principles which determine how individual charging elements should be applied are different for each of these two different categories of charges:

### **(1) Category 1: Economic price signal** (e.g. TNUoS Locational tariff elements)

This signal from this category of charges should be consistent with the CUSC objectives<sup>2</sup> of *cost reflectivity* and *effective competition*. In this way it fulfils its role of promoting the efficient operation of the power market by providing appropriate and economically efficient investment, or dispatch signals to those users that export to the transmission network (such as generation) and those users that import from the transmission network (such as demand). For those objectives to be achieved, charging elements should be applied to an appropriate charging base so that users, be they importing or exporting to the network, are exposed to economic incentives which reflect the incremental costs to the network which they cause.

Charges for the purpose of sending an economic price signal may collect a net non-zero revenue amount (net revenue collection may be positive, or negative), which is entirely appropriate and highlights the need to apply a separate charging element in order to ensure the required total revenue is collected.

### **(2) Category 2: Revenue collection** (e.g. TNUoS Demand Residual)

The principle for this category of charges follows the 'optimal tax theory' where the methodology for revenue collection should be *fair* and *difficult to avoid*. In other words, (i) 'fairness' could include revenue collection proportional to the ability to pay, or proportional to the value which individual parties receive from the services, or some other method deemed equitable by society; and (ii) 'difficult to avoid' means that resources should not be expended to avoid paying the charge because this avoidance action, similarly to tax avoidance, would tend to result in an economically inefficient outcome and higher costs to customers over the long term. By comparison, an action taken to avoid paying a charge is only useful to society if that particular charge is an explicitly cost-reflective economic price signal.

Separately, in certain cases other principles should be taken into account to reach an optimum structure of the charging methodology. These include the principles of transparency, accuracy, stability and predictability. We believe that the current CUSC

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<sup>2</sup> Designated by the Secretary of State at NETA and BETTA, and amended, from time to time, by the Authority.

charging arrangements, in relation to TNUoS Demand Residual in particular, are not consistent with the above-mentioned principles.

The approach of the current (CUSC baseline) net charging arrangements, where embedded generation is charged as if it is negative demand, can be appropriate only in circumstances where the demand charge provides a cost-reflective price signal. However, it is important to consider that, in some situations, it may *not* be appropriate to apply cost-reflective demand charges on a net basis. This is because different charges may be designed for different purposes. For example, the TNUoS generation locational charge has the purpose of providing a locational investment signal to generators. By contrast, the TNUoS demand locational charge has the purpose of providing both (i) a locational dispatch signal as well as (ii) a locational investment signal for demand. Further, if the purpose of a charging element is to collect revenue (effectively tax) from demand, then in this circumstance, it is not possible to reasonably justify the use of net charging where, for example, a generator (embedded) obtains a benefit from avoiding a tax, while another generator (e.g. transmission connected, or a different classification of embedded generator) of a similar size (MW) does not obtain the same benefit, despite the impact of both generators on the cost of the transmission system being the same.

## **2. TNUoS Demand Residual payments – Market distortion**

The demand part of the TNUoS charging methodology<sup>3</sup> includes two key tariff components of the wider tariff: (i) the TNUoS Locational tariff (made up the Peak Security tariff element and the Year Round tariff element), and (ii) the TNUoS Demand Residual tariff. The current Triad charging methodology incentivises investment and dispatch decisions for embedded generators located both on the distribution network and behind the demand meter, as well as genuine demand reduction, in order to avoid paying the Demand Residual element of the TNUoS tariff or receiving the benefit indirectly by transferring the nettable volume to suppliers. We support the view that the increasing scale of embedded benefits, and TNUoS demand residual payments in particular, are distorting the GB electricity market and preventing the existence of a level-playing field. They are also, as a result, affecting cross-border trade, which is in contravention of EU law<sup>4</sup>.

As described earlier, the TNUoS Demand Residual is effectively a form of tax for revenue collection, not a cost-reflective price signal, because it does not reflect the avoided investment cost of the transmission network. We support the view that the price incentive for embedded generators to avoid the TNUoS Demand Residual represents a distortion to the efficient operation of competitive markets resulting in the following market defects:

- 1) **Distorted investment decisions** - Economically unjustified subsidy to embedded generation (EG) which tends to distort competition in the capacity market. For example, EG may obtain a capacity contract despite being out of economic merit as the value of the expected embedded benefit can reduce the price at which an EG may offer itself into the capacity market;
- 2) **Distorted dispatch decisions** - Embedded generators may dispatch out of economic merit to ensure that they do not miss the Triad period. This puts a

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<sup>3</sup> Set out in Section 14 of the CUSC.

<sup>4</sup> Article 8(7) Regulation 714/2009

downward pressure on wholesale electricity prices and displaces more efficient and lower cost generation (including transmission connected generation (TG)) out of the merit order; and

- 3) **Inequitable redistribution** - Of transmission costs between customers and generators because the cost of paying embedded generators, given that the cost of the T system is largely unchanged, for their Triad avoidance (equivalent to tax avoidance) behaviour is in turn paid for by higher TNUoS charges for all customers;
- 4) **Inequitable redistribution** - Of transmission costs between different customers (embedded generators and non-embedded generators, customers contracting with embedded generators and other customers)
- 5) **TRIAD becoming an economically inefficient price signal** - As EG is running for longer periods and the timing of TRIAD periods becomes more uncertain it becomes very difficult to ascertain which peak condition the system is being designed for.

### 3. View of features of the WACMs

The range of WACMs each include a selection of possible key features. To avoid repetition, we firstly describe our view of the merits of each of these key features, then secondly go on to explain how the specific combinations of these key features has informed our view of each of the WACMs.

- 1) **Demand Residual should be applied on gross demand, and not on net demand**– It is appropriate that this element is charged gross on all embedded generators as per the SSE, Centrica and Uniper proposed WACMs which are WACM1, WACM2, WACM3, WACM4 and WACM5. The purpose of the Demand Residual is effectively to collect revenue from customers through a form of tax and by contrast, its purpose is not to provide any form of cost reflective price signal. Therefore the current CUSC baseline (where this element is charged net) is not cost reflective, while the associated benefit which embedded generators currently receive is effectively for providing a tax avoidance service which simply increases the total cost to those end customers who continue to face TNUoS charges. This revenue stream from tax avoidance distorts competition because it is not cost reflective and because it is only available to an arbitrary sub-set of generators, namely those which happen to be connected to the distribution (rather than transmission) network. Allowing certain users to receive this type of arbitrary, non cost reflective payment distorts competition between similar users of the transmission network and thus could be contrary to both EU competition law and state aid requirements.
- 2) **Locational tariff elements** – It is appropriate that the locational tariff elements remain charged on a net basis and it is appropriate that the value of the embedded benefit is floored at zero. In our view it is not cost-reflective to apply the Year Round tariff to a peak charging base (such as Triad) and so if industry took the view that the floor at zero should be removed, then this should only be done in conjunction with a modification to consider an alternative more cost reflective definition of demand charging base. In our view it would not be appropriate to apply a negative Year Round price signal to embedded generators at Triad because this could provide a

perverse incentive for EG to turn down at peak, despite the tariff element reflecting year-round conditions. Moreover this could drown out a potential positive Peak Security tariff which may be sending the opposite signal to EG, i.e. to generate at times of peak demand in order to avoid the compromising the transmission network

**3) No grandfathering for selected groups** – We believe that it would be difficult to reasonably justify any grandfathering for any group of market participants with regard to TNUoS charges. The TNUoS charging methodology relies on providing cost-reflective price signals to all market participants to facilitate effective competition which is required to deliver an efficient outcome for society and the best value for customers. If individual groups obtained grandfathered protection every time the TNUoS charging methodology changed, this would result in an increasingly complicated and increasingly distortionary muddle of price signals not based on the cost reflectivity and effective competition principles. Furthermore, given that TNUoS charges recover costs only from users, if one group of users are immune from their receipt of payments being reduced, or immune from their charges increasing (due to grandfathering) then those ongoing payments, or shortfall in charges (due to grandfathering) must, instead, be paid by all other (non-grandfathered) users. This too has a market distorting and competition impeding effect on those (non-grandfathered) users (who pay the 'shortfall') whilst also affording, as it does, a competitive advantage to the grandfathered users (who receive the 'shortfall' in the form of receiving non-cost reflective payments and/or not paying the costs they give rise to). We agree with the position previously stated from Ofgem in this regard:

- a. We agree with the comments in July<sup>5</sup> from Ofgem in their charging arrangements open letter regarding Embedded benefits which stated “*We [Ofgem] also think that it may be difficult to demonstrate that the costs and/or fairness of grandfathering the current arrangements for the TNUoS demand residual for existing EG could be justified given the significant costs and distortions that this would likely cause.*”<sup>6</sup>

**4) New value to reflect benefit of embedded generation (value of “x”)** – Some WACMs include a new value of embedded benefit which will remain applied on a net basis which the Workgroup referred to as the “value of ‘x’”. This new benefit within the CUSC can only be justified if it meets the CUSC applicable objectives and in particular if it is cost reflective and/or facilitates effective competition. It is our view that some of these features can be justified with in the CUSC applicable objectives, while other cannot, as described below:

**Justifiable i) Avoidance of GSP cost** – There may be a case, from a cost reflectivity point of view, to provide embedded generators with a benefit related to the avoided transmission cost at the GSP, which National Grid has previously estimated (on average, across GB) at circa £1.62/kW per annum. If this element is applied net as an embedded benefit, it will be important to review the value of this benefit and consider the most appropriate way it could be applied.

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<sup>5</sup> 29<sup>th</sup> July 2016

<sup>6</sup> [https://www.ofgem.gov.uk/system/files/docs/2016/07/open\\_letter\\_-\\_charging\\_arrangements\\_for\\_embedded\\_generation.pdf](https://www.ofgem.gov.uk/system/files/docs/2016/07/open_letter_-_charging_arrangements_for_embedded_generation.pdf)

- ii. **Justifiable ii) Negative of the Generator Residual** – It is our view that, in order to better facilitate effective competition, a value of the transmission generator residual could be applied as an embedded benefit. This may provide a more level playing field between embedded and transmission connected generation with respect to the value of the generator residual. This approach may avoid an imminent need to change the way the generator residual is calculated and would enable any potential changes to the Generator Residual in the future to be automatically incorporated.
  
- iii. **Unjustifiable i) Do not use lowest locational charge** – This feature would result in an arbitrary value of embedded benefit and would fail to correct the defect with regard to cost reflectivity, or effective competition because:
  - a. **It continues to distort competition** - it would result in an ongoing arbitrary and large value of embedded benefit whereby generators which happen to be connected to the distribution network would continue to receive a substantial revenue stream which is not available to other generators who may be otherwise identical, but who happen to be connected to the transmission network. Therefore the existing CUSC baseline distortions to investment, dispatch and redistribution would persist.
  
  - b. **It is not cost reflective** – It cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition. The key justification provided for this approach is not valid, namely the intention to maintain the full locational gradient of tariffs instead of flooring the Year Round tariff at zero. This is because the current locational transmission tariff gradient is dominated by the gradient of the Year Round tariff element, but it is not cost reflective to apply the Year Round tariff to the peak (Triad) generation of an embedded generator, so the objective of using this feature to preserve the slope of the existing Year Round tariff gradient does not result in the relative locational price signal of the embedded benefit being any more cost reflective.
  
  - c. **It may be greater magnitude of distortion than baseline** - It is also possible that future changes in the gradient of locational transmission charges may result in the value of the lowest locational tariff becoming even greater magnitude than the Demand Residual would have been if the baseline charging methodology had been retained.
  
  - d. **Likely to be relatively volatile** – Changes to the value of locational transmission tariffs, particularly at the extremes such as the lowest locational value have historically demonstrated to be relatively volatile. Therefore the value of this new benefit would likely be relatively volatile and relatively difficult to forecast.

- iv. **Unjustifiable ii) Do not use an arbitrary value of “x” based on historic levels** – There is no justification within the CUSC applicable objectives for maintaining an arbitrary value of “x” at some level based on what this value happened to be at some time in recent history. It is the objective of the TNUoS charging methodology to provide TNUoS tariffs which are cost reflective and which facilitate effective competition and by contrast it is not the purpose of TNUoS charging to “pick winners” by protecting the investment decisions of one or more specifically selected groups of investors (e.g. protect generators who happen to be embedded, but not provide that same protection to other generators who happen to be transmission connected). TNUoS tariffs and the charging methodology which these are based on has and does continue to change substantially from year to year, so generators cannot reasonably claim to have a valid expectation that any specific historic level of TNUoS could be ‘banked’ on for any number of future years, let alone for the full duration of their project life. We agree with the positions previously stated from BEIS in this regard, including:
- a. We agree with the recent<sup>7</sup> comments from BEIS in their Capacity Market consultation which address the same principles and which are also applicable to this TNUoS charging modification: “*However, to the extent that an investor/CM participant assumes a future revenue as a result of embedded benefits from a CM levy, they ultimately do so at their own risk; and as such they should factor in the possibility that this levy could be subject to change in future and discount it accordingly, as with other variables that an investor needs to consider.*”<sup>8</sup>
- v. **Unjustifiable iii) Do not use selective exclusion of Demand Residual cost elements** – We would suggest that a selective exclusion of individual elements from the Demand Residual net charging base, such as OFTO charges, would be arbitrary and discriminatory. In our view the entire cost of the Demand Residual should be applied gross. The suggested rationale for excluding OFTO costs because they are driven by environmental policy and are not avoided by embedded generators could be applied equally to all other cost elements, including onshore reinforcement being made for other low carbon technologies. The costs caused or avoided by individual embedded generators are reflected in the locational elements of the TNUoS tariffs and by contrast not reflected in any individual line item of the non-locationally allocated TNUoS Allowed Revenue.
- vii. **Unjustifiable iv) No valid evidence has been provided to justify some other value of “x” on the basis of cost reflectivity** – The conclusions in the report carried out by Cornwall<sup>9</sup> which claimed to calculate a missing value of embedded generation are not valid and can not be relied upon. We explain our reasons for this in more detail within this response in our answer to

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<sup>9</sup> Cornwall, *A Review of the Embedded Benefits accruing to Distribution Connected Generation in GB*

question 3 and also in further detail within our response to the Workgroup Consultation<sup>10</sup>. It is our view there was no valid justification presented to the Workgroup to support some other value of “x” on the basis of the applicable CUSC objectives of cost reflectivity or effective competition.

- 5) Justifiable v) Phased transition** – A phased approach may provide a helpful transition period for the System Operator and other market participants to adapt to any potential changes in the behaviour of embedded generators following a change to the Triad signal. An early start to this transition will also reduce the cost to end customers by reducing the total cost of embedded benefits from as early as possible before the lower level of the enduring solution is implemented. We would support a short-phased approach as described in both WACM4 (“SSE A”) and WACM5 (“SSE B”), where a short phased period begins as early as practicable (preferably starting no later than the 2018/19 charging year).

#### **4. View of individual Original and WACMs**

It is our view that the following WACMs would all be good solutions to the identified defect and would all better meet the CUSC applicable objectives compared with baseline and compared with the Original: WACM1, WACM2, WACM3, WACM4, WACM5.

These five WACMs stand out compared with all of the other WACMs due to their approach of not using grandfathering and also their new value of embedded benefit which is much more cost reflective than any of the other WACMs. Out of these five WACMs, it is our view that WACM5 (SSE B) provides the best combination of features when compared with the CUSC applicable objectives. However, it is our view that there is a relatively small difference in the relative merits of these five specific WACMs. It is our view that apart from these five, all of the other WACMs are no better than either the CUSC baseline, or the Original regarding the CUSC applicable objectives. Our reasons are described in more detail below:

- **CMP270 Original** - Does *not* better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. The approach of treating generators differently based on whether they may or may not have a Capacity Market contract despite their impact on the network flows (therefore the cost of transmission network which they cause) being the same is not compatible with the applicable CUSC objectives of cost reflectivity, or effective competition. We think that this proposal while aiming to facilitate *effective competition* in the Capacity Market might introduce certain unintended consequences. For example, taking into account that TNUoS Demand Residual payments are much larger than the CM clearing price, EG might opt to forgo CM revenue for the benefit of receiving embedded benefit payments instead. This could result in further distortion and reduced competition in the Capacity Market which would further diminish its effectiveness. Furthermore, the CUSC Original does not rectify the inequitable redistribution of transmission costs between end customers and those EG without CM contracts.

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<sup>10</sup> Volume 3 Workgroup Consultation Responses, SSE Response, Question 18, page 645 to 650

- **WACM1 – Centrica B – Does** better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional feature of providing an embedded benefit equivalent to the value of the Generation TNUoS Residual which contributes to a more level playing field, therefore better facilitates competition between embedded and transmission connected generators.
- **WACM2 NG C - Does** better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional feature of a three year phasing approach which may better facilitate the implementation of the change.
- **WACM3 Uniper A - Does** better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional beneficial feature of providing an embedded benefit equivalent to the value of the avoided GSP cost which should result in the TNUoS charging arrangements being more cost reflective.
- **WACM4 SSE A - Does** better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. Importantly, this WACM includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional beneficial features of (i) providing an embedded benefit equivalent to the value of the avoided GSP cost which should result in the TNUoS charging arrangements being more cost reflective and also (ii) a three year phasing approach which may better facilitate the implementation of the change.
- **WACM5 SSE B – Does** better meet the CUSC applicable objectives compared with both the CUSC baseline and the Original, particularly with respect to cost reflectivity and effective competition. It is our view that this is the **best WACM** with regard to meeting the CUSC applicable objectives because it includes all of the beneficial features which we described above. Specifically, this includes the key beneficial features of gross charging of the Demand Residual and no grandfathering so that all embedded generators are treated the same. This WACM includes the additional beneficial features of (i) providing an embedded benefit equivalent to the value of the avoided GSP cost which should result in the TNUoS charging arrangements being more cost reflective; (ii) providing an embedded benefit equivalent to the value of the

Generation TNUoS Residual which contributes to a more level playing field, therefore better facilitates competition between embedded and transmission connected generators; and iii) a three year phasing approach which may better facilitate the implementation of the change.

- **WACM6 NG A** – Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reason for this is that it includes a new arbitrary value of embedded benefit equivalent to the lowest locational demand transmission charge which is (i) likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed; (ii) not cost reflective; and (iii) it is possible that future changes in the gradient of locational transmission charges may result in the value of the lowest locational tariff becoming even greater magnitude than the Demand Residual would have been if the CUSC baseline charging methodology had been retained.
- **WACM7 NG D** Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition for the same reasons as WACM6. The primary reason for this is that it includes a new arbitrary value of embedded benefit equivalent to the lowest locational charge which is (i) likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed; (ii) not cost reflective; and (iii) it is possible that future changes in the gradient of locational transmission charges may result in the value of the lowest locational tariff becoming even greater magnitude than the Demand Residual would have been if the CUSC baseline charging methodology had been retained. Even the principle of the three year phasing would provide limited benefit within this particular WACM because the reduction in value of the embedded benefit will tend to be relatively small compared with the CUSC baseline.
- **WACM8 ADE E** - Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reason for this is that (i) it uses the principle of grandfathering to protect historic investment decisions in a way which is not compatible and cannot be justified within the CUSC applicable objectives of cost reflectivity; and (ii) it creates a new arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.
- **WACM9 Infinis A** - Does not better meet the CUSC objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reason for this is that (i) it uses the principle of grandfathering to protect historic investment decisions in a way which is not compatible and cannot be justified within the CUSC objectives of cost reflectivity; and

(ii) it creates a new arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.

- **WACM10 Greenfrog A** - Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reason for this is that (i) it uses the principle of grandfathering to protect historic investment decisions in a way which is not compatible and cannot be justified within the CUSC objectives of cost reflectivity; and (ii) it creates a new arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.
- **WACM11 Eider A** - Does not better meet the CUSC applicable objectives compared with either the CUSC baseline, or the Original, in particular with respect to cost reflectivity and effective competition. The primary reasons for this is that (i) the proposal to extract only one specific element of cost to be applied gross is arbitrary and cannot be justified on the grounds of cost reflectivity; and (ii) it maintains an arbitrary value of embedded benefit which is not justified by cost reflectivity and is likely to be of a large enough magnitude that it means the identified defects of market distortions with respect to investment decisions and dispatch decisions, as well as discriminatory redistribution effects will fail to be addressed.
- **WACM12 UKPR F1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect.
- **WACM13 UKPR G1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect.
- **WACM14 UKPR H1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect.
- **WACM15 UKPR I1** - Does not better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an

additional detrimental feature of introducing a new arbitrary value of embedded benefit equivalent to the value of the lowest locational tariff – the issues related to this are described in detail in the previous section.

- **WACM16 UKPR J1** - Does *not* better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit at a value of £20.12/kW plus RPI which cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition and it would be large enough that it would fail to solve the defect for affected generators because the benefit would continue to be large enough that the distortions to investment decisions, dispatch decisions and discriminatory redistribution would continue.
- **WACM17 UKPR K1** - Does *not* better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of introducing a new arbitrary value of embedded benefit at a value of £32.30/kW which cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition and it would be large enough that it would fail to solve the defect for affected generators because the benefit would continue to be large enough that the distortions to investment decisions, dispatch decisions and discriminatory redistribution would continue.
- **WACM18 UKPR L1** - Does *not* better meet the CUSC applicable objectives compared with the CUSC baseline either in principle, or in practice. In principle, its use of grandfathering is not compatible with the applicable objectives of the CUSC, so it does not represent a viable solution to the defect. This WACM also includes an additional detrimental feature of maintaining the gross charging of the residual except for the arbitrary value of offshore costs removed, which cannot be justified in terms of the CUSC applicable objectives of cost reflectivity or effective competition. This ongoing value of embedded benefit would be large enough that it would not solve the defect for affected generators because it would be large enough that the distortions to investment decisions, dispatch decisions and discriminatory redistribution would continue.

## **Q2 Do you support the proposed implementation approach? If not, please provide reasoning why.**

Each of the WACMs and the Original have different implications regarding the practicality of how they may be implemented. The proposed approaches to technical implementation of

each appears to be a reasonable solution to delivering the intention of each proposal (be that the Original or a WACM).

**Alleged concerns regarding security of supply only relate to implementation options – This can not override applicable objectives of Cost Reflectivity or Competition**

The Workgroup report and some consultation respondents have raised concerns regarding the potential implications for the security of supply if the Original, or WACMs were implemented. However, it is categorically not the purpose of Transmission charging to incentivise adequate generation capacity, or to incentivise dispatch decisions in order to deliver appropriate security of supply - by contrast, this is the purpose of the Capacity Mechanism and the Wholesale Power market. So the decision regarding which WACM should (or should not) be implemented should not be influenced by any question of its impact on security of supply, however it may be appropriate for Ofgem to consider how the choice of implementation approach can be used to minimise causing additional unnecessary risks to the security of the system during the implementation process.

In our view the removal of TNUoS Demand Residual payments will not have unintended consequences on system security. The changes to transmission network charging arrangements will not affect the system margin as long as embedded generators remain available and dispatch based on their economics in the merit order. In cases where removal of TNUoS Demand Residual payments results in inability of some embedded generators to recover their short-run marginal costs and leads to their closure, the Capacity Mechanism provides the right incentive framework for the right amount of capacity to remain available or come online on the basis of economic principles (rather than the artificiality of TNUoS cost avoidance).

While we recognise that a short transition period might be beneficial to introduce the change gradually, we do not believe that system security concerns are substantiated, therefore system security does not provide a sufficient ground for consideration of *whether* a change to transmission network charging should be implemented.

Finally, we would note that circa 5.5GW of transmission connected generation ceased operation during the last 12 months or so. Various reasons for this were given at the time, including the TNUoS charging arrangements and the changing GB electricity market conditions, of which embedded benefits is a significant contributory factor. Those that seek to raise security of supply concerns associated with the Original or some of the WACMs appear to 'conveniently' overlook this 5.5GW figure.

**Choice of implementation date**

Because of the large magnitude of the value of the market distortions arising from the CUSC baseline approach of net charging of the TNUoS Demand Residual, it would be appropriate that the implementation date should be as soon as practicable.

We agree with Ofgem's comment in their July 2016 Open letter that *“Our initial thinking is that, if we are presented with a modification proposal that otherwise suitably addresses the TNUoS demand residual aspect of embedded benefits, it may be challenging to demonstrate that consumers would benefit from any delay in its implementation beyond 2019/20.”* Any unnecessary delay in implementation would result in unnecessary and increasingly expensive costs to end customers because it is those customers who are currently paying the cost of the existing Triad avoidance benefits received by embedded generators.

**The identified defect should be addressed quickly through the CUSC change process instead of waiting for a protracted holistic review by some other route (such as an SCR, or new project board)**

We disagree with the views suggested by some Workgroup consultation respondents who questioned whether the accelerated timescale and CUSC modification process is appropriate and who suggested a longer and more holistic approach may be better.

On the contrary, we would suggest that the proposed modification to the GB transmission charging arrangements should take place through the existing industry CUSC modification processes (established by Parliament / the Secretary of State as being the legitimate way to amend the transmission charging arrangements) and not wait (an indeterminate period) for an SCR, or a new 'project board' type group to consider the issue(s). The CUSC change processes have been developed over time by Ofgem<sup>11</sup> and stakeholders to include appropriate objectives, as well as suitable checks and balances to better deliver solutions which are in the best interest of the industry and the best interest of end customers. They are also fully compatible with UK law and EU law requirements associated with transmission charging.

- **Do not wait for an SCR** – It is our view that it is more beneficial for all market participants and end customers if the issues related to this modification are addressed quickly and it is not necessary to wait for a wider review. We believe Ofgem has a valuable role to play regarding setting out the vision and the key principles by which changes should be considered, however it would be more practicable to consider changes in smaller groups with regard to issues and to the stakeholders affected. By contrast, if Ofgem attempted an SCR process to address all matters related to transmission charging at the same time, then there would be a substantial risk that this “all or nothing” approach (i) could take an unacceptable length of time; (ii) would crowd out the opportunity for implementing “quick win” improvements to transmission charging arrangements which could otherwise deliver benefits for end customers much sooner; and (iii) might, in the end, turn out to have ‘bitten off more than we can chew’....resulting (some years down the line) in the incremental type changes (such as those addressed by way of CMP264 and CMP265) being utilised after all.

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<sup>11</sup> For example, via their three Code Governance Reviews.

- **Do wait for a new “project board”** - By contrast a new 'project board' type group would lack (i) the legal legitimacy to submit recommended change(s) to the Authority; (ii) rigorous governance rules; (iii) openness and transparency with regard to applicable objectives; (iv) robust (and equitable) processes; and (v) transparency regarding the appointment of and (possibly conflicting) interests of the individual members of the 'project board'. Also, it may be unclear whether the members of such a 'project board' will have sufficient detailed technical expertise and knowledge which would be required to adequately oversee the details of any proposed changes with regard to these types of transmission charging arrangements. There would also be a concern that members of a 'project board' type group may not be able to provide sufficient regular time commitment to remain on top of the developments which can change quickly during a modification process.

Furthermore, absent of an SCR, there would seem to be nothing in law to prevent any user(s) raising any further CUSC modification proposal(s) to address any (or all) of the issues that the 'project board' was considering or developing during the time the 'project board' was undertaking its work.

### **Risk of interaction with CMP266**

It is also important to consider the implications of CMP266<sup>12</sup> which relates to the transition of Non Half Hourly (NHH) metered customers to Half Hourly (HH) metering / settlement / charging arrangements. One of the alternatives being considered within CMP266 would begin exposing an additional group of end customers (who have transitioned from NHH) to HH Triad price signal as early as April 2018. If this transition was applied before the Demand Residual element of the embedded benefit is reformed, then this could significantly exacerbate the identified defect. Namely that it would drive economically inefficient Triad avoidance behaviour from even more end customers which would further increase the cost of TNUoS on those remaining (and dwindling number of) NHH customers. Given the significant number of end customers that it is planned (via the Smart Meter rollout) will be moving over to HH (from NHH) annually up to 2020 this effect (for those NHH end customers that remain) is highly unlikely to be either trivial or inconsequential.

## **Q3 Do you have any other comments?**

### **Reducing customer impact**

If TNUoS Demand Residual payments were charged net, the cost of the transmission system which end consumers are paying for would be reduced.

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<sup>12</sup> <http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/CMP266/>

The largest and most important benefit to end customers (compared with CUSC baseline) is the reduction of the cost which customers are currently paying for the embedded benefits (Demand Residual element of the Triad benefit). The National Grid analysis (Figure 8 of CMP264/265 workgroup consultation<sup>13</sup>) suggests that the value of TNUoS Demand Residual embedded benefit, which those end customers are paying for, will be increasing from £343m in 2016/17 to £650m in 2020/21 (real 2016/17 prices). In addition, further analysis by National Grid indicates that if the current (CUSC baseline) situation was permitted to continue, this cost to end customers is forecasted to reach £1Bn in 2030 under the Baseline scenario and £2Bn in 2032 under the Consumer Power scenario from their FES analysis. This growth in cost would mean the value of the Demand Residual avoidance benefit paid by customers to embedded generators would amount to circa 70% of the entire cost of the total GB transmission network compared with its current level in 2016/17<sup>14</sup> which customers would have to pay on top of still paying for the total ongoing cost of the transmission network.

It is important to recognise that this forecast increasing cost to customers of paying this embedded benefit is a function of both i) Price of the benefit - the £/kW value of “x” which remains applied net as an embedded benefit and ii) Volume - kW of embedded generation on which this benefit is paid. Many of the WACMs which may restrict the price element (either fixed, capped, or otherwise maintain a value of “x” at a level greater than that justified by cost reflectivity) will fail to address the volume element of this equation. If the ongoing value of “x” is higher than a cost reflective level, then the identified defect will persist such that increasing capacities of embedded generation will continue receive economically unjustified subsidies, so new entrant embedded generators will continue to crowd out other better value generation capacity (which does not benefit from this payment), so the total cost to customers would still continue to dramatically increase over time (i.e. cost to customers of paying this arbitrary and non cost reflective benefit as defined by the value of “x”).

It is clear and consistent with the widely accepted principles of economic theory which underpin the design of markets that a move towards more cost reflective price signals would result in competitive markets delivering a more economically efficient result at a lower total system cost, and therefore at a lower cost to end customers (regarding both transmission network costs and generation costs). It is reasonable to expect that this lower total system cost would result in even greater reductions in costs to end customers over the medium and longer term.

It is important to note that if the reduction in the value of the embedded benefit were only applied to a sub set of embedded generators, the subsequent cost saving to end customers would not be as large. We would question the justification for continuing to charge customers an additional cost in order to pay the value of the non cost reflective demand residual to a sub set of embedded generators.

## Improving Markets

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<sup>13</sup> Dated 2<sup>nd</sup> August 2016

<sup>14</sup> 18 August 2016, p4, Charging Seminar - Case for change: National Grid Analysis of a Do Nothing Scenario,

[http://www2.nationalgrid.com/UK/Industry-information/System-charges/Electricity-transmission/charging\\_review/](http://www2.nationalgrid.com/UK/Industry-information/System-charges/Electricity-transmission/charging_review/)

It is our view that each charging arrangement and market mechanism should provide price signals which are cost reflective in their own right because this will incentivise decisions which tend to result in a more efficient outcome, therefore lowering costs to customers over the longer-term. By contrast, it is not appropriate to consider the use of one charging methodology, such as TNUoS, to cross-subsidise the prices which arise from a different market mechanism; such as the Capacity Mechanism, or the GB wholesale electricity market; because this will tend to result in inefficient decisions and higher cost to end customers over the longer term.

A reduction in the value of the Triad avoidance embedded benefit may result in changes to the clearing prices of other markets such as the Capacity Market and the GB wholesale electricity markets. However, we would suggest that any resulting changes to these markets would represent a move to more appropriately efficient levels than would otherwise be the case. A meaningful impact on these markets would highlight just how large a distortion the current (CUSC baseline) transmission network charging methodology currently is.

We note the analysis carried out in relation to the end consumer impact of a potential increase in the clearing price of these other markets. For example, Cornwall<sup>15</sup> suggests the cost of the capacity market could increase from circa £214m in 2019/20 to £282m in 2020/21. Notwithstanding that we have concerns around the approach used by Cornwall in deriving their figures; even if we take the Cornwall figure as being 'correct', when compared with National Grid's analysis, a potential saving to end customers from the reduction in Triad payments to embedded generators of £343m to £2bn would greatly outweigh the potential increase in Capacity Mechanism cost that Cornwall's analysis suggests.

### **Important implications regarding future provision of flexibility**

Distortions to the transmission charging arrangements for embedded generators have important implications for the efficient provision of flexibility for the electricity system.

It is important to recognise that the market distortions arising from the identified defect may tend to (perversely) incentivise the wrong types of technologies to be built (or not built at all) at the wrong scale, at the wrong locations in GB. The market distortions may also incentivise technologies to then dispatch at the wrong times for the purpose of 'tax avoidance' instead of in accordance with the genuine underlying economic value (which arise where these perverse incentives are absent).

Some market participants may take the view that the use of implicit subsidies through net transmission charging to avoid effective taxes may not be ideal, but they may take the view that that flexible capacity incentivised through a knowingly distorted non cost reflective framework may be "better than nothing". However, on the contrary, we would suggest that investment and dispatch decisions incentivised by such large distortions to the transmission charging arrangements may well result in decisions which destroy societal welfare, have a

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<sup>15</sup> [http://www.theade.co.uk/embedded-benefits-review--manufacturing-energy-cost-concerns\\_4069.html](http://www.theade.co.uk/embedded-benefits-review--manufacturing-energy-cost-concerns_4069.html)

distortionary effect on competition and / or affect cross border trade<sup>16</sup> as well as lead to other greater detrimental unintended consequences which are not “better than nothing”.

### **No valid evidence that a high value of “x” could be justified in terms of cost reflectivity**

It is our view that there has not been any valid evidence submitted to the Workgroup to support a significant non-zero value of “x” (other than avoided GSP cost which may be justified by cost reflectivity and/or the inclusion of a value equivalent to the Generator Residual which may be justified by better facilitating effective competition). A report from Cornwall Energy<sup>17</sup> was submitted to the Workgroup which suggested a non-locational value of embedded generation at £32.30 per kW (£18.50 per kW for average cost of new network reinforcement plus £13.80 per kW for long-term cost of existing network), however it is our view that the analysis behind the calculation of this number was seriously flawed and cannot be relied upon. We explained the flaws in this Cornwall analysis in detail in our Workgroup Consultation response<sup>18</sup>, while to avoid duplication we have summarised this below:

- i. **Invalid calculation of £18.5/kW for average cost of new network reinforcement**
  - Cornwall calculated this from the capital cost of a number of National Grid network reinforcement schemes which happen to currently under construction (£8.8bn), divided by the total GW of additional generation made possible by that reinforcement (35.56GW) to calculate an annualised average network cost per kW of generation capacity. However, there are logical flaws in Cornwall’s next steps because it is not a valid conclusion to draw that this is can be used as a generalised value of embedded benefits:
    - Location matters (national average price is not cost reflective) - Cost and benefit of embedded generation is dependent on its location, so it would be contrary to both cost reflectivity and effective competition to apply a flat average embedded benefit of this type irrespective of its location. Only if an embedded generator was built in a location on the transmission network which actually reduced flows on the network could there be a saving to the cost of transmission network investment, but Cornwall fail to take this locational effect into account. Importantly, the cost of this locational effect is already reflected by the TNUoS locational tariff elements such as the Peak Security tariff which is positive in some locations and negative in other locations.
    - Capital, operations and maintenance costs are already accounted for in TNUoS locational tariff elements
    - Technology and operating characteristics matter (national average price is not cost reflective)
    - Inconsistent methodology for calculating the average cost of the network

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<sup>16</sup> Contrary to UK and EU law, such as set out in Article 8(7) of Regulation 714/2009.

<sup>17</sup> Cornwall, *A Review of the Embedded Benefits accruing to Distribution Connected Generation in GB*

<sup>18</sup> Volume 3 Workgroup Consultation Responses, SSE Response, Question 18, page 645 to 650

- ii. **Invalid calculation of £13.8/kW Long-term cost of existing network** – Cornwall calculate this as the long term cost which they claim embedded generation can avoid, but their methodology and conclusions are not valid:
- Location matters (national average price is not cost reflective) – As above.
  - Long-term costs are already accounted for in TNUoS locational tariff elements

### **Behind the meter market distortions may remain, but this does not justify a delay to implementation**

We disagree with the position suggested by some respondents to the Workgroup consultation that this modification should not be implemented because it does not go far enough to solve the defect with regard to generation and DSR behind demand meters. On the contrary, it is our view that this is not a valid reason to delay, or prevent the implementation of an effective solution to the identified defects. If an appropriate proposal is implemented, then it can substantially reduce the existing (CUSC) baseline market distortions and discrimination between embedded generators and transmission connected generators. It is our view that a potential future modification proposal<sup>19</sup> may be well placed to address the remaining defect with regard to behind demand meters if stakeholders take the view that a future change would be beneficial.

### **Implementation can address Exporting Grid Supply Points (GSPs)**

In our view if demand charges are improved in the way described above, then this can provide a more cost reflective transmission charging methodology for all demand and generation users of the transmission network irrespective of whether or not they may be located behind an exporting GSP. If TNUoS charges are applied in an appropriately cost-reflective way, it would no longer be necessary to consider special solutions for exporting GSPs.

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<sup>19</sup> Which, for example, may or may not include CMP271 or CMP274

## CMP264 ‘Embedded Generation Triad Avoidance Standstill’

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Knut Dyrstad</i> <i>Regulatory Affairs Manager</i> <i>Wind Power, Technologies &amp; Strategy</i> <a href="mailto:knut.dyrstad@statkraft.com">knut.dyrstad@statkraft.com</a> (+47) 48026416
<b>Company Name:</b>	<i>Statkraft UK Ltd.</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b>  <b>(Please include any issues, suggestions or queries)</b>	<p>Statkraft is a leading company in hydropower internationally and Europe’s largest generator of renewable energy.</p> <p>Statkraft has been a developer and investor in the UK since 2003. We are operating several onshore wind farms in the UK, the Rheidol Hydro power plant and the Sheringham Shoal offshore wind farm. Together with Innogy, we are developing the Triton Knoll offshore wind park, which is located 20 miles off the Lincolnshire coast.</p> <p>Statkraft is among the largest providers of Power Purchase Agreements to independent renewable power generators in the UK. We are also a provider of energy services to industrial and commercial consumers.</p> <p>CMP 264 is a proposal with potentially considerable impact on electricity markets and with a significant distributional impact. As we see it, the proposal addresses only particular aspect of the problem or reflects the advocates’ specific commercial interests. Our view is that a SCR needs to be undertaken and a more worked-through holistic view of the issue developed. The introduction of</p>

piecemeal solutions which are far from ideal should be avoided.

A primary concern for Statkraft is that even if much of renewable generation is intermittent triad avoidance benefit represents an important revenue stream also for these embedded renewable energy projects. Embedded benefits are a relatively small, but still important component of the revenues to distribution connected wind power and hydro power plants.

The impact also on intermittent renewables generators is likely to be significant. National Grid forecast that the average output from embedded wind during the triads is 10% of installed capacity. Although power purchase agreements vary from site to site, a significant proportion of this value stream was realised by the generators – and relied upon when making investment decisions.

Developers of renewables have made investments based on the aggregate framework at the time of investment decision.

We already have seen the LEC scheme, a part of the income stream for renewables generators, suddenly and surprisingly being taken away last year. A hasty cut in embedded benefits will add to negative ex-post adjustments of the investment cases and will be detrimental for the investor confidence of renewable generators in the UK.

Statkraft is supportive of a properly cost-reflective system that rewards the efficient placing of generation. We think however it cannot be fair to restrict embedded generators to only the locational element as this would underestimate the benefit of embedded generator in reducing flows on the transmission network.

We recognise that the transmission network demand residual has increased substantially over the past decade and is forecast to do so due to a range of factors. This is not a sustainable development, but does not justify to withdraw in full the part of the benefit based on the demand residual without this being based on a thorough analysis on the broader market conditions and a holistic approach.

CMP 264 would lead to an asymmetrical treatment of the cost impacts of an increase or decrease in the volume of power drawn from the transmission network which can hardly be cost-effective.

	<p>CMP 264 is implicitly focused on fixing a perceived defect on the Capacity Market, and not on tackling the issue of cost to consumers for the use of the transmission network. The modification proposal cannot be fully justified on the basis of reduction of cost to the consumer.</p>
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Q	Question	Response
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Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No.</p> <p>The objective 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.</p> <p>There is no clarity in when CMP 264 may be replaced with any enduring solution following a SCR or other regulatory intervention and it is likely to bring much uncertainty to the market</p> <p>The proposal does not address other distortions that also influence the market, such as connection policies which are more costly for distribution connected generators, or the negative generation residual within TNUoS. Removing the residual element of the demand charge, but maintaining liability for the locational element will for generators in Scotland (where the locational demand charge is heavily negative) give the perverse incentive to generators in these areas to minimise output during triad periods. Alternative proposals lack grandfathering which should be offered to generators to protect commitments made against the existing set of charging arrangements.</p> <p>The material prepared for the Workgroup consultation report (UK power reserve) shows that removal of embedded benefits could result in capacity defaulting on their capacity agreements, creating a shortfall in security of supply from winter 2018/19 onwards.</p> <p>There will also be an impact of the development of the energy storage market. 50 MW of the 200 MW Enhanced Frequency response capacity recently procured by National Grid were secured by service providers that were seeking to augment the service provision income stream with triad avoidance payments.</p> <p>We cannot see that CMP 264 in any respect simplifies administration. Rather the opposite, there will be a need for different treatment of otherwise equal generators and there will be a cut-off date issue that can complicate administration.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>No</p>

Q	Question	Response
3	<b>Do you have any other comments?</b>	We are not convinced about the urgency of CMP 264 and see the need for a SCR to address the issues in CMP 264 and 265 more holistically than introducing piecemeal solutions which are far from ideal and simply replace one distortion with another.

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm on 4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Knut Dyrstad</i> <i>Regulatory Affairs Manager</i> <i>Wind Power, Technologies &amp; Strategy</i> <a href="mailto:knut.dyrstad@statkraft.com">knut.dyrstad@statkraft.com</a> (+47) 48026416
<b>Company Name:</b>	<i>Statkraft UK Ltd.</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.</b>  <b>(Please include any issues, suggestions or queries)</b>	<p>Statkraft is a leading company in hydropower internationally and Europe’s largest generator of renewable energy.</p> <p>Statkraft has been a developer and investor in the UK since 2003. We are operating several onshore wind farms in the UK, the Rheidol Hydro power plant and the Sheringham Shoal offshore wind farm. Together with Innogy, we are developing the Triton Knoll offshore wind park, which is located 20 miles off the Lincolnshire coast.</p> <p>Statkraft is among the largest providers of Power Purchase Agreements to independent renewable power generators in the UK. We are also a provider of energy services to industrial and commercial consumers.</p> <p>CMP 265 is a proposal with potentially considerable impact on electricity markets and with a significant distributional impact. As we see it, the proposal addresses only particular aspect of the problem or reflects the advocates’ specific commercial interests. Our view is that a SCR needs to be undertaken and a more worked-through</p>

holistic view of the issue developed. The introduction of piecemeal solutions which are far from ideal should be avoided.

A primary concern for Statkraft is that triad avoidance benefit represents an important revenue stream also for renewables projects that may enter the capacity market.

Developers of renewables have made investments based on the aggregate framework at the time of investment decision. CMP 265 also lacks grandfathering protection.

We already have seen the LEC scheme, a part of the income stream for renewables generators, suddenly and surprisingly being taken away last year. A hasty cut in embedded benefits will add to negative ex-post adjustments of the investment cases and will be detrimental for the investor confidence of renewable generators in the UK.

Statkraft is supportive of a properly cost-reflective system that rewards the efficient placing of generation. We think it however cannot be fair to restrict embedded generators to only the locational element as this would underestimate the benefit of embedded generator in reducing flows on the transmission network.

We recognise that the transmission network demand residual has increased substantially over the past decade and is forecast to do so due to a range of factors. This is not a sustainable development, but does not justify to withdraw in full the part of the benefit based on the demand residual without this being based on a thorough analysis on the broader market conditions and a holistic approach.

CMP 265 would lead to an asymmetrical treatment of the cost impacts of an increase or decrease in the volume of power drawn from the transmission network which can hardly be cost-effective.

CMP 265 is focused on fixing a perceived defect on the Capacity Market, and not on tackling the issue of cost to consumers for the use of the transmission network. The modification proposal cannot be fully justified on the basis of reduction of cost to the consumer.

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Q	Question	Response
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Q	Question	Response
1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No.</p> <p>The objective of enabling effective competition is undermined by the introduction of an arbitrary distinction between the access to embedded benefits for generators within and outside of the capacity market.</p> <p>The proposal does not address other distortions that also influence the market, such as connection policies which are more costly for distribution connected generators, or the negative generation residual within TNUoS. Removing the residual element of the demand charge, but maintaining liability for the locational element will for generators in Scotland (where the locational demand charge is heavily negative) give the perverse incentive to generators in these areas to minimise output during triad periods.</p> <p>The material prepared for the Workgroup consultation report (UK power reserve) shows that removal of embedded benefits could result in capacity defaulting on their capacity agreements, creating a shortfall in security of supply from winter 2018/19 onwards.</p> <p>There may also be an impact of the development of the energy storage market. 50 MW of the 200 MW Enhanced Frequency response capacity recently procured by National Grid were secured by service providers that were seeking to augment the service provision income stream with triad avoidance payments.</p> <p>We cannot see that CMP 265 in any respect simplifies administration. Rather the opposite, there will be a need for different treatment of otherwise equal generators.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>No</p>
3	<p><b>Do you have any other comments?</b></p>	<p>We are not convinced about the urgency of CMP 265 and see the need for a SCR to address the issues in CMP 264 and 265 more holistically than introducing piecemeal solutions which are far from ideal and could simply replace one distortion with another.</p>

## CUSC Code Administrator Consultation Response CMP264

<b>Respondent:</b>	<i>Sam Wither, Commercial Director, UK Power Reserve</i>  <i><u>Sam.wither@ukpowerreserve.com</u></i>
<b>Company Name:</b>	<i>UK Power Reserve</i>

### Response to Q1-Q3 CMP264

UKPR has submitted a variety of alternatives to the proposed modifications. This is to ensure that we, together with the working group, present the widest range of scenarios to the CUSC panel and later Ofgem for their consideration. Our position is as follows:

We agree that the continued evolution of policy regimes, including network charging, is essential. As our energy technologies evolve and new ways of consuming and supplying power become available, the commercial and investment frameworks will need to change to enable investment. Therefore, UKPR is supportive of a holistic review of the network charging methodology – for both transmission and distribution connected generation. As with all policy development, it is essential that the principles of predictability and transparency are maintained to strengthen, and not undermine, investor confidence.

This means 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 (UNDG<sup>1</sup>)**. Within that, it is important to establish clearly what a level playing field is – e.g. if connecting at DNO level reduces overall network or system costs, that must be recognized and valued in the charging methodology.

**In terms of existing and committed investments i.e. existing assets and the 1.7GW of committed new build distributed generation (CNDG<sup>2</sup>) procured in the 2014 and 2015 capacity market (CM) auctions, it is essential that transitional arrangements are established to reinstate a level of predictability of future revenue flows so that continued investment can happen. Without this, assets will not be built, resulting in:**

- **Increased consumer bills** resulting from additional payments to keep old power stations open for longer. UKPR has presented evidence to the working group that consumers will face an increase in costs in the region of £1.4bn NPV. In addition, KPMG published independent analysis demonstrating the negative impact on consumer bills of not providing protection to existing or committed investments.
- **reduced security of supply** as the old power stations do not have the required fast-ramping capability to provide the flexibility needed in system with more intermittent renewables

1 Uncommitted New Build Distributed Generation: Capacity which has not yet been awarded capacity market contracts or similar / pre Ofgem's Open Letter regarding embedded benefits

2 Committed New Build Distributed Generation: capacity which has reached a significant investment commitment prior to the 29/7/2016 (Ofgem Open Letter regarding embedded benefits).

- **investor confidence in energy sector undermined** as investors see policy makers are free to make retrospective policy changes. This will also feed into the cost of capital for ALL energy projects going forward, leading to huge and unnecessary increases in consumer bills.

Ofgem's consultation and the Scottish Power and EdF mods have introduced a new and clear signal to the market going forward – from the 2016 CM auction and onward – that triad revenues cannot be relied upon and that this should be factored into the CM 2016 bidding price by all parties which levels the playing field. We accept this, but highlight that existing and committed investments, made in good faith, were based on a set of previous policy signals which were very clear; embedded charging was fit for purpose and that it should not be subject to change, in large part in order to protect investor confidence. It is vital that investor confidence is not undermined by hasty or clumsy policy changes that are applied retrospectively.

### **Threat to Investor Confidence**

Through the establishment of two important principles immediately prior to the 2014 capacity auction, Government legislation under State Aid approval for the Capacity Market and National Grid's review of embedded benefits sent clear signals to the industry to incentive investment; Market revenues should be augmented by other revenue streams – indeed failure to do so would result in a suboptimal outcome for consumers. Embedded benefits had at the point of the 2014 and 2015 Capacity Auctions been declared fit for purpose and should not be expected to be the subject to a significant review.

These signals together with the well-established notion of providing clear policy signals to protect investor confidence are illustrated below. UKPR and its investors do understand that markets and regulation need to evolve. However, policy sent clear and specific signals to the industry to incentivise investment on a particular basis.

### **CM revenues should be augmented by other revenue streams**

The Capacity Market was designed and implemented to secure supply for GB at the lowest possible cost to the end consumer. It has been quite clearly established that Capacity Market revenues should be complemented by other revenues streams. In a letter on 28<sup>th</sup> October 2014 Ofgem set out its commitment to a package of reforms to the electricity balancing and settlement code. Within this statement Ofgem gives a clear indication that forecast revenues are in important consideration of any Capacity Market bid and that the reforms being made should be factored in:

*“As a result of the EBSCR reforms, participants should need to recover less ‘missing money’ through capacity payments and therefore lower their bids in the Capacity Market auctions. Given the EBSCR’s high likelihood of introduction, we strongly advice participants bidding into the Capacity Market auctions in December 2014 to factor in the expected impact of EBSCR. This will ensure efficient auction results and the avoidances of unnecessary costs for consumers in winter 2018/19”*

### **Embedded benefits declared fit for purpose**

During 2013/14 a comprehensive embedded benefits review was undertaken by National Grid and consulted on by the industry concluding in April 2014. The conclusion provided a clear steer of

change to introduce charges for exporting GSPs however to continue under the status quo for treatment of embedded benefits. One of the key reasons that National Grid pointed to in their decision to leave embedded benefits as-is, was the need to protect investor confidence:

*“Consultation respondents indicated to us that they were concerned over the volume of industry reform at this time, including EMR proposals and the Electricity Balancing Significant Code Review, and believed that further industry reform would only reduce investor confidence”<sup>v</sup>.*

This conclusion was only a matter of months prior to the Secretary of State declaring the first T-4 Capacity Market auction go ahead. Following this conclusion and in the run up to the first Capacity Market auction in December 2014, no further review or statement was made by Ofgem in regard to the findings from National Grids Embedded Benefits Review until now in 2016.

## **The Importance of Investor Confidence**

The recent Electricity Market Reform (EMR) has been built upon the three concepts of energy security, affordability and carbon reduction. These themes are pervasive through the underlying policy discussion and scheme designs. Investor confidence is acknowledged as a core requirement. The EMR white paper clearly states;

*“Putting in place an enduring, robust and credible institutional framework is critical to ensuring investor confidence. The institutional arrangements for administering FiT, CfD and capacity-based contracts will need to provide clarity and certainty and be trusted by investors.”*

The ‘Electricity Market Reform: Capacity Market – Detailed Design Proposals’ published in June 2013 states that *“Investor confidence is a core requirement if the investment needed is to be brought forward”*. Changes to the current regime for network cost charging that would have a detrimental impact on investors already committed to obligations secured in the Capacity Market would clearly signal a shift in Ofgem and HMG’s commitment to policy stability.

It should be understood that the review of transmission network charging on which Ofgem is embarking is as significant as EMR has been in terms of the signals it will send for new generation investment. The great care that was taken to create the right incentives and build investor confidence must be replicated in this area.

## **Conclusion**

- Ongoing charging reform is essential but in order to protect investor confidence and allow continued investment in assets that have been committed to in good faith, transitional arrangements are required.
- Without transitional arrangements, there will be serious, negative implications for security of supply, consumer bills and investor confidence
- Ofgem must act quickly to reinstate a level of predictability into future revenue flows for existing and committed investment so that projects can continue to current timescales
- To do this, Ofgem must send a signal ahead of the December capacity auction to confirm a commitment to transitional arrangements

- Ofgem must also set out a clear scope and timetable for a future holistic charging review. Priorities for this review must be established through analysis of the key distortions and market failures
- An impact assessment of any changes is essential and must commence immediately to avoid further delay

## CUSC Code Administrator Consultation Response CMP265

<b>Respondent:</b>	<i>Sam Wither, Commercial Director, UK Power Reserve</i>  <i><u>Sam.wither@ukpowerreserve.com</u></i>
<b>Company Name:</b>	<i>UK Power Reserve</i>

### Response to Q1-Q3 CMP265;

**We believe there are two major flaws to the proposed CMP265 original that the CUSC Panel must consider;**

1. We believe CMP proposal 265 breaches CUSC objective;

(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. License under Standard Condition C10,

By making the Capacity Market and Triad mutually exclusive this modification proposal breaches EU Commission decision on State Aid awarded for the UK Capacity Market (ie CM to be complementary to other eligible revenue streams).

2. The implementation timescales are incompatible with the up-coming T-4 2016 Capacity Market (for delivery obligations in 2020/21) as a significant amount of capacity has already prequalified as CMUs price takers. Should these price takers not wish to risk becoming committed to 2020 Capacity Market obligations they have an option to opt out of the auction 10 working days prior to the auction commencing (once opted in a price taker cannot bid out of the auction until the auction reduces in prices below £25/kW). CMP265 proposes making capacity market and Triad mutually exclusive from 2020 onwards however a CUSC panel recommendation nor Ofgem decision is not going to be forthcoming prior to the 22<sup>nd</sup> November meaning potentially affected DG CMUs cannot make an informed decision and this could lead to significant distortions and discrimination in this years Capacity Market auction as a result.

## CMP264 'Embedded Generation Triad Avoidance Standstill'

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Matthew Bacon, (matthew.bacon@vattenfall.com)</i>
<b>Company Name:</b>	<i>Vattenfall</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li> </ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b>	<p>No – whilst we agree that there are exceptional factors accelerating the growth of TNUoS demand residual tariffs and associated TRIAD benefits, and these are creating inefficiencies, we do not believe the CMP 264 better facilitates the Applicable CUSC objectives. In particular, we believe it runs counter to CUSC objective (a) by introducing an un-level playing field which will hamper competition in the sale of electricity.</p> <p>We argue instead for a fuller independent review, conducted in tandem with National Grid’s Transmission Charging Review, which provides adequate time for consultation, appropriate analysis to be conducted, and interdependencies and unintended consequences to be considered.</p>
2	<b>Do you support the proposed implementation approach?</b>	No.
3	<b>Do you have any other comments?</b>	We would like to take this opportunity to include our response to Ofgem’s open letter ‘Charging arrangements for embedded generation’ of 29 July 2016 in full in the attached annex A for your consideration. This letter explains our thoughts regarding both CMP 264 and CMP 265 in more detail and includes original analysis of the impact of embedded wind generation on TRIAD periods and security of supply.

Frances Warburton  
Partner, Energy Systems  
Ofgem  
9 Millbank  
London SW1P 3GE

23 September 2016

**Response to Ofgem's open letter: 'Charging arrangements for embedded generation'**

Vattenfall is the Swedish state-owned utility and one of Europe's largest generators of electricity and heat and the second largest player in the global offshore sector.

We have invested nearly £3bn in the UK in onshore and offshore wind since 2008. We will operate nearly 1GW of capacity by 2017 and recently announced plans to invest £5bn in renewables, mainly offshore wind, in Northern Europe by 2020. It is our ambition that the UK will continue to be a growth market for Vattenfall.

Our over-riding objective in responding to this letter is to help industry and Government develop a grid charging regime which is stable, predictable, fair, and provides efficient investment signals to demand customers and generators with a long-term view of society's needs.

Our existing portfolio includes assets which are both transmission and distribution connected and we are actively developing new projects which would be connected at the distribution level. Some of our assets receive 'embedded benefits' and others do not and we are therefore well positioned to provide input on both sides of the embedded benefits debate due to the risks and opportunities for our business in the UK.

Firstly, we agree with Ofgem's view that changing BSUoS charging arrangement is not a priority and support this by noting that embedded BSUoS benefits, unlike the TRIAD element, turn negative in areas of high penetration of embedded generation. This is increasing prevalent in the Northern Scotland GSP Group, acting to mitigate the regional embedded benefit.

With respect to TRIAD benefits we agree, on balance, that there are exceptional factors accelerating the growth of TNUoS demand residual tariffs and associated TRIAD benefits that are not efficient. This growth is increasing discrepancies between charges for transmission and distribution-connected generation and likely excessively incentivising flexible embedded generation and demand-side response. We also accept that these factors may not reflect increasing value of these beneficiaries either to the network or to the system as a whole and that this defect indicates the need for analysis and long-term reform.

TRIADs were established in 1990 and are generally accepted as having been successful in improving efficiency by incentivising mitigation of winter peak power flows across the transmission network. These arrangements have also, we believe, contributed to securing the system and reducing energy price excursions by providing a targeted incentive for balancing generation and demand during periods of greatest stress. A key strength of the TRIAD arrangements is that generator and demand-side (including generation behind the meter) response are treated equally, thereby increasing competition across a level playing field to deliver a reduction in peak net demand. However, we accept that changes in the system since 1990 and the recent and forecast increases in the TNUoS residual element may cause distortion and merit long-term reform.

Given the historic benefit of TRIADs to network efficiency and system security we believe that the impact and risks of radical change implemented to the timescales proposed in CMP264 and Ofgem’s letter merit detailed and careful analysis. Alongside this analysis, any decisions taken should take into account that investment decisions have been taken on the basis of a long-standing charging regime and sudden changes to this may manifest themselves in decreased confidence and, therefore, higher costs of capital.

We are particularly concerned about the potential for piecemeal and disjointed reform leading to significant unintended and inefficient consequences and damage to investor confidence. Furthermore, we do not believe the current evidence put forward by Ofgem or the CUSC Modification Working Group has effectively made the case for, or addressed the risk of, change. We are not convinced the analysis presented publically has considered in sufficient detail the financial impact on existing and future generators, the risks of unintended consequences, or the impacts on security of supply; neither has it assessed in adequate detail the benefits of distributed generation to the system.

Ofgem’s decision not to undertake a Significant Code Review and to rely on CUSC modification instead underlines a recent trend in energy policy towards unpredictable, significant, and fast-paced change arguably conducted without full understanding of the costs and benefits. Our perception of the policy and regulatory risks of the UK market is rising and proposals like these may well have a significant impact on investor confidence, particularly when considered cumulatively with other policy and market changes.

We do believe that there is now an excellent opportunity to fully and independently assess the costs and benefits of distributed generation, on-site generation and demand-side response, and the extent to which this should be reflected in the charging methodology. A consultation that allows industry to engage effectively, conducted in a joined-up manner with full sight of National Grid’s developing Transmission Charging Review would seem the right time to settle long-term change using a process with which investors can have confidence.

Although we urge Ofgem not to enact piecemeal change of this scale through the CUSC process and note that both CUSC modifications CMP 264 and CMP 265 will have significant consequences for the sector and consumers, it is our view that the CMP 265 is more targeted and is therefore likely to have comparatively less impact on the energy system than the alternative. We do not support CMP 264 and its proposal to create an increasingly un-level playing where some projects receive access to embedded benefits and others do not. We would also be extremely concerned by any decision to remove embedded benefits for all generators with immediate effect.

A fuller response is supplied in the attached annex. My colleague Matthew Bacon would be pleased to discuss. He can be reached at [matthew.bacon@vattenfall.com](mailto:matthew.bacon@vattenfall.com) or on 0203 301 9103.

Yours sincerely



Piers Guy  
UK Country Manager

## **Annex – Charging arrangements for embedded benefits**

This annex lays out our views on embedded benefits, Ofgem’s open letter, and the CUSC modification proposals in more detail. Supporting information of a commercially sensitive nature is located in a separate confidential annex.

We have grouped this response into a number of topics.

### **1) Impact on security of supply**

The only detailed analyses conducted so far on the impact of change to the embedded benefits system has highlighted significant short-term security of supply concerns as some plant suddenly finds itself uneconomic and exits the market. KPMG and Cornwall Energy separately have estimated this impact around 2.1-3.6GW of embedded generation exiting the system, which would otherwise be present at winter peak.<sup>1</sup> Careful thought should be given to the corresponding impacts on security of supply and what will replace this capacity in the short-term.

### **2) Financial impact on existing generators**

Investment decisions have been taken on the basis of a legitimate expectation of the longevity of the current charging regime and it is of great concern that Ofgem may enact change which curtails a significant part of project revenue on which investment decisions have been based (i.e. change which goes beyond the remit of the current CUSC proposals or follows on from it).

It is particularly concerning that change may lack a sufficient lead-in time given the scale of value at stake and knock-on impact to the electricity system. Although signalled in Ofgem’s forward workplan for 16/17, analysis and proposals have been brought forward at an accelerated pace and could go from proposal to implementation over the course of just one year, following consultation on CUSC proposals amounting to 16 working days over August. We think this is problematic considering that investors take a long-term view of revenues and costs and their development at the point of Final Investment Decision (20 years for onshore wind and 25 years for offshore wind).

It is our interpretation of Ofgem’s letter and BEIS’s May consultation on the Capacity Market that there is a perception that the proposed changes to the charging regime are likely to be less problematic for wind generators than dispatchable power (and are therefore attractive in that they fix a perceived problem in the Capacity Market whilst minimising impact elsewhere). Whilst dispatchable power is likely to feel the impact

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<sup>1</sup> Cornwall Energy, *A Review of the embedded benefits accruing to distribution connected generation in GB*, pp.27-31; KPMG, *The effects of changes to embedded benefits on the energy trilemma – executive summary*, pp.3-4.

more than wind generation, there is likely significant value at stake for wind generators outlined in Figure 4.

### 3) Impact on the investment case for viability of embedded wind

Analysis by Bloomberg New Energy Finance suggests that onshore wind is now the cheapest form of new build electricity generation in the UK at around \$85/MWh in terms of the levelised costs of energy (LCOE) compared to \$88/MWh for new-build CCGT.<sup>2</sup> This position is likely to entrench and widen as technological development continues to drive down the costs of wind compared to gas (which is likely at a low ebb now in terms of LCOE thanks to currently low wholesale gas prices).

However, all forms of new-build power generation remain un-investable on their own basis against current wholesale electricity prices (around \$50/MWh in Q1 2016). This is likely to remain the case out to 2035 based on the central scenario of wholesale electricity price projections produced by the Department of Business, Energy, and Industrial Strategy.<sup>3</sup>

Developers are currently working hard to reduce the LCOE of new-build wind, but cost reductions in the region of 50% that would allow projects to come forward under the wholesale price alone are clearly challenging, especially for smaller-scale distribution-connected projects. Removal of the TRIAD residual element of embedded benefits makes this objective harder still for smaller projects.

Within this context, we find CMP 264 particularly problematic as it creates a ‘twin track’ system where new distribution connected generation is discriminated against when compared to existing incumbents. Whilst a discriminatory element is also true of CMP 265, in CMP 265 the discrimination is limited to those that also access revenue support through Capacity Market payments and this is also a more limited number of technologies and parties.

Removing the TRIAD residual could therefore have a knock-on impact on the amount of embedded onshore wind which can be constructed in the future. We are aware that consumers ultimately pay for embedded benefits through energy bills. However, as the CUSC Modifications and Ofgem’s letter suggest the counterfactual of removing the TRIAD residual may not be lower bills for consumers, if the effect of embedded benefit change manifests in higher clearing prices for the Capacity Market and potentially increased wholesale electricity prices. If this happens, it would amount to a transfer of value from distributed generators, many of which are small innovative businesses, new market entrants and/or renewable generators, to a small number of large incumbent power generators operating ageing carbon-emitting assets with little net change to the

<sup>2</sup> Bloomberg New Energy Finance, *H1 2016 EMEA LCOE Outlook* (April 2016).

<sup>3</sup> BEIS, *Updated Energy and Emissions Projections 2015*.

ability to meet peak power demand (as there would be ‘re-procurement’ of capacity already ‘bought’ once under previous auctions). We believe that this is not in the overall interests of existing or future energy consumers.

We would also like to take this opportunity to address an assertion in Ofgem’s *Open Letter* that embedded benefits are causing distortion in investment decisions between transmission and distribution connected capacity. Whilst there may be instances where embedded benefits have affected decisions around the size of distribution connected projects near the 100MW boundary for embedded benefit eligibility, we anticipate that the number and scale of these decisions is likely to be minimal.

This is because decisions around the size of an installation and whether to connect at the transmission or distribution level will be driven by many other factors besides embedded benefits, including: land availability; proximity to transmission/distribution infrastructure; transmission/distribution entry capacity availability; greater regulatory/administrative overheads of transmission connection; restrictions on size imposed through planning; and, until recently, the relative immaturity of the wind sector and technology which would incline developers towards smaller installations at the distribution level.

#### 4) Regulatory risk and concern over due process

We have a number of concerns regarding the CUSC process in this instance. These all serve to increase our perception of the GB energy market as vulnerable to sudden, unpredictable and significant change in policy. Other examples of this include the early closure of the Renewables Obligation (RO), change in approach to onshore wind in planning and the Contracts for Difference (CFD) mechanism, capping of the Feed-in Tariff scheme, cancellation of the CCS programme, and removal of Levy Exemption Certificates, alongside the broader uncertainty created by the result of the EU referendum.

Although none of these have been caused by Ofgem, we hope Ofgem bears in mind the broader market context and impact on perceptions of regulatory risk, as it did in the decision not to re-open the RIIO methodology for transmission system regulated returns in the recent RIIO mid-point review. Below we highlight a number of concerns with the current process. We also note that many of these perceptions resonate with findings made by the CMA about adverse effects on competition in energy sector analysis and regulatory change.<sup>4</sup>

- i. We feel a change of this scale requires independent analysis led by the regulator or TSO acting on behalf of the sector as a whole, and not through industry-led processes where there is a significant risk of analysis and decisions being driven

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<sup>4</sup> CMA, *Energy Market Investigation – final report* (June 2016), pp.1219-1289.

by those with financial interests in a particular outcome. Whilst we appreciate Ofgem’s willingness to engage pragmatically and quickly with perceived distortions in the sector, we do not think this should come at the expense of robust analysis and effective industry engagement.

- ii. In particular, Ofgem notes that the decision not to launch a Significant Code Review is due to lack of confidence in delivery of a timely response. In light of this view, we suggest the SCR process should be reformed to ensure Ofgem is capable of delivering industry change which balances the need to act with quality of analysis.
- iii. Furthermore, both modifications and publications from BEIS and Ofgem either implicitly or explicitly reference perceived problems with the Capacity Market in discussing embedded benefits and we do not think the charging methodology is an appropriate way to address policy concerns, which should instead be dealt with through the Capacity Market rules and regulations.
- iv. In our view, the complexity of analysis presented by the CUSC Modification panel is insufficient. We therefore think relying on this significantly increases the risks of unintended consequences, or basing decisions around flawed analysis or assumptions. We note that this runs counter to views expressed recently by the Competition and Markets Authority.<sup>5</sup> Furthermore, the paucity of analysis so far is in part a product of the excessive speed with which these proposals have been developed, which has amounted to a consultation period on the proposals of 16 working days over August.

## 5) Flawed rationale for change

We have concerns about a number of the theories of harm put forward by Ofgem arising from views that embedded benefits:

- i. ‘distort the outcome of the capacity market by holding down prices’: our principle concern is that BEIS and Ofgem are conflating the primary objective of the Capacity Market (securing technology-neutral capacity at the lowest cost to consumers) with secondary objectives (incentivising new-build CCGT). The 2015 auction secured 46.4GW at a clearing price of

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<sup>5</sup> In particular, their statement that ‘government policies and regulations have had a fundamental influence on the nature of competition in energy markets... to ensure [these policies] serve customers’ needs, it is vital that policy decisions... are informed by robust analyses of their likely impact’. Furthermore, the CMA states ‘it is our view that analysis and communication of the impact of government and regulatory policies on energy prices and bills... is insufficient; and there is a lack of relevant financial information, which is needed to provide clear and trusted assessment of outcomes in the GB energy markets, including an analysis of the forecast and actual impacts of regulations, and the trade-offs between policies’. CMA, *Energy Market Investigation – Final Report* (2016), p.1234.

£18/kW/year and a total cost to the consumer of £834mn.<sup>6</sup> This is significantly lower than the estimates provided before the first auction (at an average of £33/kW/year between 2019-30).<sup>7</sup> It therefore seems questionable to pursue a change which seeks to raise the clearing price of an auction mechanism which is already achieving its objectives at a lower cost to consumers than anticipated. This is particularly the case as analysis conducted by independent consultants proposes that the impact of removing embedded benefits would be to increase the clearing price in 2019/20 to c.£23.2/kW/year at an additional cost to consumers of £214mn and that this would still be significantly lower than the clearing price required to bring forward new CCGT capacity.<sup>8</sup>

- ii. ‘lead to [transmission connected generation] exiting because it cannot compete’: whilst embedded benefits are likely a factor in the comparative competitiveness of transmission vs. distribution connected generation, we note that there are broader fundamentals leading to the exit of transmission-connected capacity, including competition from interconnection (which receives favourable treatment in EU network codes with regards to TNUOS charges), over-capacity in conventional generation, competition from low-marginal cost renewables, and policy such as the Industrial Emissions Directive, which limits the running hours of coal. We note also that larger transmission-connected capacity also accesses benefits largely not available to distribution-connected capacity (including economies of scale and more favourable financing arrangements) which may counter-act any effect of embedded benefits.
- iii. ‘lead to an inefficient mix of generation by encouraging investment in smaller distribution connected generation... over potentially more efficient larger transmission connected generators’: this is a matter of interpretation that assumes bigger is better. An alternative interpretation could be that smaller plant designed to run for limited hours during periods of system peak is more efficient than larger power stations requiring larger grid connections etc. which are redundant for large parts of the year.
- iv. ‘distort innovation in the market towards parties who can best capture this large payment’: this is an assertion which needs evidence and further rationale to substantiate and develop. The counter-factual of this argument is also hard to follow, i.e. that it is pro-innovation to support large incumbents running traditional forms of large power stations.

<sup>6</sup> National Grid, *Final Auction Results T-4 Capacity Market Auction for 2019/20*.

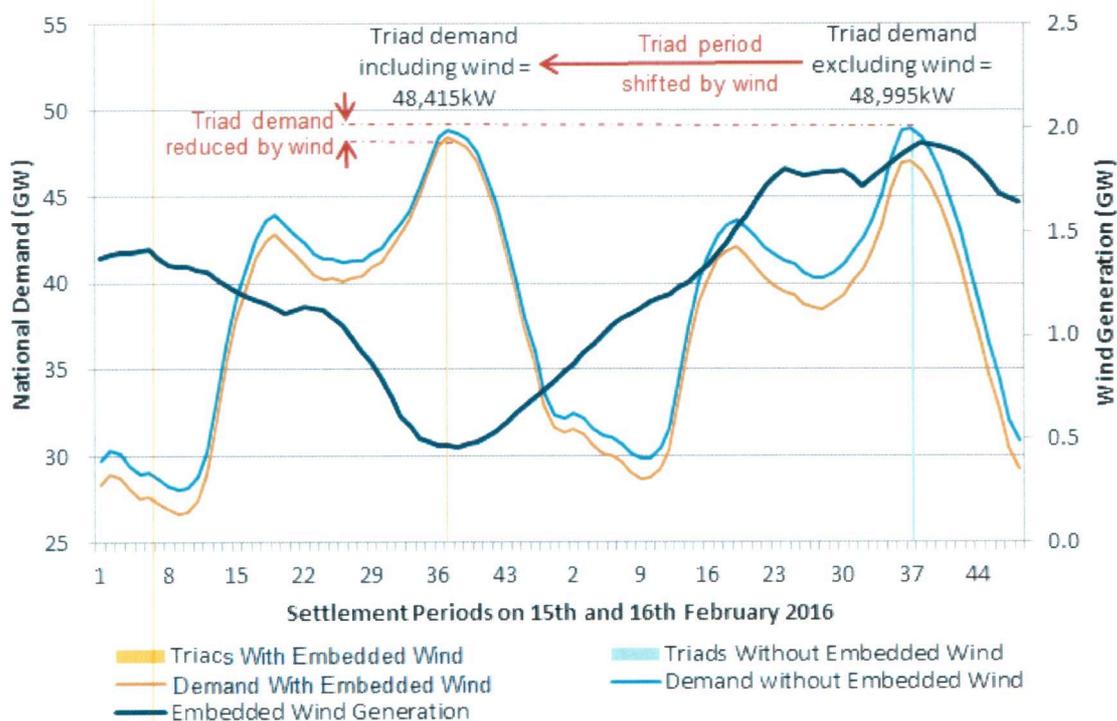
<sup>7</sup> DECC, *Electricity Market Reform – Capacity Market Impact Assessment* (Sept, 2014), p.29.

<sup>8</sup> Cornwall Energy, *A Review of the Embedded Benefits accruing to Distribution Connected Generation in GB* (May 2016).

**6) Analysis suggests that the value of embedded wind generation to the system may actually be undervalued at present due to the impact of ‘TRIAD shifting’**

In relation to their effect on the Triad, embedded generation can be divided into two types: controllable “Triad-chasing” generators such as diesel plants, and intermittent generators such as wind farms. Both types reduce Triad demand but, whereas the former tends to have a uniform effect across all potential Triad periods, the latter have a variable effect that depends on aggregate production during each settlement period.

Whereas the aggregate solar production during Triad periods, which consistently occur after sunset, is always zero, aggregate wind production can vary between zero and its annual maximum level depending on wind speeds. The effect of variable wind production on potential Triad periods is illustrated by the following example on consecutive days in February 2016.



**Figure 1 - Embedded wind effect on peak demand**

The above chart shows that the third Triad period in winter 2015/16 was shifted by wind from 16<sup>th</sup> to 15<sup>th</sup> February, thereby reducing the Triad demand by 580MW and the aggregate embedded wind production during the Triad period by 1,430MW (i.e. 75% reduction). This example illustrates an underlying principle that embedded wind generation tends to reduce peak demand and shift Triads to periods of lower wind production, thereby reducing the aggregate Triad benefit for wind generators.

Further analysis of the last four years, summarised in Figure 2 below, illustrates the extent of Triad-shifting, with seven out of twelve Triads in that period shifted by embedded wind to different dates resulting in an average reduction in Triad demand of 858MW, representing 27% of the average embedded wind generation capacity in the same period.

Year	Triad no	Including Embedded Wind		Excluding Embedded Wind		Effect of Embedded Wind
		Demand (MW)	Triad Date	Demand (MW)	Triad Date	Demand reduction (MW)
2012 - 13	1	55751	12/12/2012	56068	12/12/2012	317
	2	55438	16/01/2013	55665	16/01/2013	227
	3	52941	28/11/2012	53997	28/01/2013	1056
	Average	54710	-	55243	-	533
2013 - 14	1	51738	03/12/2013	52796	05/12/2013	1058
	2	51333	19/11/2013	52104	12/02/2014	771
	3	50967	30/01/2014	52065	20/11/2013	1098
	Average	51346	-	52322	-	976
2014 - 15	1	52379	19/01/2015	53138	09/12/2014	759
	2	52020	02/02/2015	52925	20/01/2015	905
	3	50900	12/02/2015	52509	02/02/2015	1609
	Average	51766	-	52857	-	1091
2015 - 16	1	50965	18/01/2016	51419	18/01/2016	454
	2	48781	23/11/2015	50241	23/11/2015	1460
	3	48415	15/02/2016	48995	16/02/2016	580
	Average	49387	-	50218	-	831

Figure 2 - Effect of embedded wind generation on Triad demand and date (shifted Triad periods in red)

Triad-shifting also leads to a significant reduction in the average wind generation during Triad periods, as shown in Figure 3 below. The average reduction in embedded wind generation caused by this effect over the four-year period is 57%. **This reduction has a proportional effect on the aggregate Triad benefits that embedded wind farms received in the same period.**

Year	Embedded wind capacity (MW)	Average wind output during Triads including embedded wind		Average wind output during Triads excluding embedded wind		Resulting reduction in wind output & Triad benefits
		Wind generation (MW)	Wind capacity factor	Wind generation (MW)	Wind capacity factor	
2012 - 13	2085	370	20%	764	41%	52%
2013 - 14	2434	490	25%	1465	76%	67%
2014 - 15	4039	388	13%	1320	43%	71%
2015 - 16	4013	793	28%	1270	44%	38%
Average	-	-	22%	-	51%	57%

Figure 3 - Effect of Triad-shifting on aggregate embedded wind generation and associated embedded benefits

Furthermore, the results in Figure 3 indicate that the average wind capacity factor during Triads excluding the contribution of wind generation is 51%, significantly greater than the average annual capacity factor for embedded wind generation. The effect of Triad-shifting reduces this average capacity factor to 22%, which is lower than the average annual capacity factor but still a significant and continuing revenue stream for embedded wind farms, as indicated generically in Figure 4 below based on TNUoS data from selected Demand Zones, as published in the current NGET TNUoS Forecast Statement.

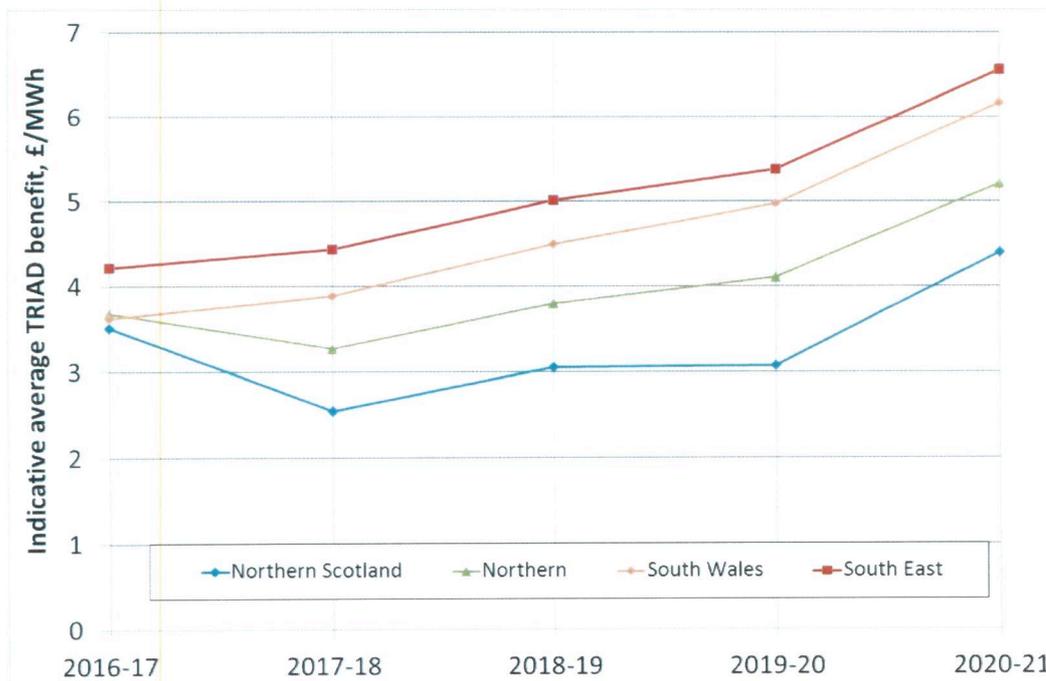


Figure 4 – Indicative Triad benefits for wind generation in four TNUoS demand zones assuming average output during Triad periods is equal to 75% of average annual output

It is important to note Vattenfall has undertaken this analysis using publically available data downloaded from National Grid’s data explorer website, which does not reflect

precisely the demand data used to determine Triads. However, we believe it illustrates the principle and merits consideration and further analysis, possibly using data not available in the public domain.

The analysis was performed using historic half-hourly data downloaded from the National Grid website.<sup>9</sup> The available demand dataset that most closely reflects that used by National Grid to determine Triads is *IO14 National Demand*, which is the sum of metered generation, excluding generation required to meet station load, pump storage pumping and interconnector exports. There is a small but material difference between this dataset and the one used to derive Triad periods which includes station loads and pumped storage. This discrepancy results in some differences between actual Triad periods and those derived from the analysis. Although those differences do not undermine the demonstration of principle, further detailed analysis should seek to fully align.

In order to demonstrate the principle illustrated above, half-hourly Embedded Wind Generation and *IO14 National Demand* datasets were summed to derive National Demand without embedded wind and used to determine windless Triads applying the methodology defined in CUSC. These windless Triads were compared to Triads determined directly from the *IO14 National Demand* dataset and the changes in their occurrence and magnitude were noted together with the differences in the average embedded wind generation for the Triad in each of the last four winters. Wind generation was expressed in MW and as a capacity factor using the installed wind capacity during each associated winter period, as estimated in the National Grid dataset.

It is important to note, as stated in the website dataset descriptions, that the true output of these (embedded wind) generators is not known so an estimate is provided based on National Grid's model. This estimate will inevitably result in residual errors in any Triad-shifting analysis which are unlikely to be eliminated in more comprehensive analysis, since accurate measurement of aggregate embedded generation is not available from any publically available source.

### **Alternative proposals**

We note that the main problem with the TRIAD residual element of embedded benefits is that they are dominated by the network investment residual element and not the specific value of reducing peak network power flows and balancing demand in peak periods. The increasing network investment which is driving the increase in the residual element (and therefore the TRIAD benefits) is a function of a changing market which has seen large-scale retirement of ageing coal generation dispatched from the centre of the UK being replaced by new technologies based on the periphery of the UK with offshore wind and associated OFTO investment being a significant factor.

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<sup>9</sup> <http://www2.nationalgrid.com/UK/Industry-information/Electricity-transmission-operational-data/Data-Explorer/>

Within this context, in the short-term we note that CUSC working group proposals to ‘pause’ the TRIAD benefit at the current level may help to mitigate increases to TNUoS charges for consumers whilst balancing investor confidence or creating other unintended and inefficient outcomes.

It is our strong view that a full and independent assessment of the embedded benefit system should be completed alongside National Grid’s charging review. We are aware of alternative approaches, such as changing the number of TRIAD periods (e.g. aligning TRIAD periods with the peak times of the Capacity Market) or applying a demand TNUoS charging methodology that is more closely related to the principles of GB SQSS (as already applied to generation TNUoS), which could be further developed as an industry with more time and visibility of the future network charging regime. We believe strongly this is an objective Ofgem and industry should be working towards.

## CUSC Code Administrator Consultation Response Proforma

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Matthew Bacon, (matthew.bacon@vattenfall.com)</i>
<b>Company Name:</b>	<i>Vattenfall</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li><li>d) Compliance with the Electricity Regulation and any</li></ul>

	<p>relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b>	<p>No – we believe that both CMP 264 and 265 have the potential to create significant market distortion and unintended consequences to the transmission, distribution, generation, and sale of electricity. However, we believe that, of the two proposals, CMP 265 is more targeted and therefore likely to bring about comparatively fewer unintended consequences.</p> <p>Please see our consultation response to CMP264.</p>
2	<b>Do you support the proposed implementation approach?</b>	
3	<b>Do you have any other comments?</b>	<p>Please refer to Annex A – Vattenfall’s response to Ofgem’s open letter ‘Charging arrangements for embedded generation’ for further information and analysis.</p>

Frances Warburton  
Partner, Energy Systems  
Ofgem  
9 Millbank  
London SW1P 3GE

23 September 2016

**Response to Ofgem's open letter: 'Charging arrangements for embedded generation'**

Vattenfall is the Swedish state-owned utility and one of Europe's largest generators of electricity and heat and the second largest player in the global offshore sector.

We have invested nearly £3bn in the UK in onshore and offshore wind since 2008. We will operate nearly 1GW of capacity by 2017 and recently announced plans to invest £5bn in renewables, mainly offshore wind, in Northern Europe by 2020. It is our ambition that the UK will continue to be a growth market for Vattenfall.

Our over-riding objective in responding to this letter is to help industry and Government develop a grid charging regime which is stable, predictable, fair, and provides efficient investment signals to demand customers and generators with a long-term view of society's needs.

Our existing portfolio includes assets which are both transmission and distribution connected and we are actively developing new projects which would be connected at the distribution level. Some of our assets receive 'embedded benefits' and others do not and we are therefore well positioned to provide input on both sides of the embedded benefits debate due to the risks and opportunities for our business in the UK.

Firstly, we agree with Ofgem's view that changing BSUoS charging arrangement is not a priority and support this by noting that embedded BSUoS benefits, unlike the TRIAD element, turn negative in areas of high penetration of embedded generation. This is increasing prevalent in the Northern Scotland GSP Group, acting to mitigate the regional embedded benefit.

With respect to TRIAD benefits we agree, on balance, that there are exceptional factors accelerating the growth of TNUoS demand residual tariffs and associated TRIAD benefits that are not efficient. This growth is increasing discrepancies between charges for transmission and distribution-connected generation and likely excessively incentivising flexible embedded generation and demand-side response. We also accept that these factors may not reflect increasing value of these beneficiaries either to the network or to the system as a whole and that this defect indicates the need for analysis and long-term reform.

TRIADs were established in 1990 and are generally accepted as having been successful in improving efficiency by incentivising mitigation of winter peak power flows across the transmission network. These arrangements have also, we believe, contributed to securing the system and reducing energy price excursions by providing a targeted incentive for balancing generation and demand during periods of greatest stress. A key strength of the TRIAD arrangements is that generator and demand-side (including generation behind the meter) response are treated equally, thereby increasing competition across a level playing field to deliver a reduction in peak net demand. However, we accept that changes in the system since 1990 and the recent and forecast increases in the TNUoS residual element may cause distortion and merit long-term reform.

Given the historic benefit of TRIADs to network efficiency and system security we believe that the impact and risks of radical change implemented to the timescales proposed in CMP264 and Ofgem's letter merit detailed and careful analysis. Alongside this analysis, any decisions taken should take into account that investment decisions have been taken on the basis of a long-standing charging regime and sudden changes to this may manifest themselves in decreased confidence and, therefore, higher costs of capital.

We are particularly concerned about the potential for piecemeal and disjointed reform leading to significant unintended and inefficient consequences and damage to investor confidence. Furthermore, we do not believe the current evidence put forward by Ofgem or the CUSC Modification Working Group has effectively made the case for, or addressed the risk of, change. We are not convinced the analysis presented publically has considered in sufficient detail the financial impact on existing and future generators, the risks of unintended consequences, or the impacts on security of supply; neither has it assessed in adequate detail the benefits of distributed generation to the system.

Ofgem's decision not to undertake a Significant Code Review and to rely on CUSC modification instead underlines a recent trend in energy policy towards unpredictable, significant, and fast-paced change arguably conducted without full understanding of the costs and benefits. Our perception of the policy and regulatory risks of the UK market is rising and proposals like these may well have a significant impact on investor confidence, particularly when considered cumulatively with other policy and market changes.

We do believe that there is now an excellent opportunity to fully and independently assess the costs and benefits of distributed generation, on-site generation and demand-side response, and the extent to which this should be reflected in the charging methodology. A consultation that allows industry to engage effectively, conducted in a joined-up manner with full sight of National Grid's developing Transmission Charging Review would seem the right time to settle long-term change using a process with which investors can have confidence.

Although we urge Ofgem not to enact piecemeal change of this scale through the CUSC process and note that both CUSC modifications CMP 264 and CMP 265 will have significant consequences for the sector and consumers, it is our view that the CMP 265 is more targeted and is therefore likely to have comparatively less impact on the energy system than the alternative. We do not support CMP 264 and its proposal to create an increasingly un-level playing where some projects receive access to embedded benefits and others do not. We would also be extremely concerned by any decision to remove embedded benefits for all generators with immediate effect.

A fuller response is supplied in the attached annex. My colleague Matthew Bacon would be pleased to discuss. He can be reached at [matthew.bacon@vattenfall.com](mailto:matthew.bacon@vattenfall.com) or on 0203 301 9103.

Yours sincerely



Piers Guy  
UK Country Manager

## **Annex – Charging arrangements for embedded benefits**

This annex lays out our views on embedded benefits, Ofgem’s open letter, and the CUSC modification proposals in more detail. Supporting information of a commercially sensitive nature is located in a separate confidential annex.

We have grouped this response into a number of topics.

### **1) Impact on security of supply**

The only detailed analyses conducted so far on the impact of change to the embedded benefits system has highlighted significant short-term security of supply concerns as some plant suddenly finds itself uneconomic and exits the market. KPMG and Cornwall Energy separately have estimated this impact around 2.1-3.6GW of embedded generation exiting the system, which would otherwise be present at winter peak.<sup>1</sup> Careful thought should be given to the corresponding impacts on security of supply and what will replace this capacity in the short-term.

### **2) Financial impact on existing generators**

Investment decisions have been taken on the basis of a legitimate expectation of the longevity of the current charging regime and it is of great concern that Ofgem may enact change which curtails a significant part of project revenue on which investment decisions have been based (i.e. change which goes beyond the remit of the current CUSC proposals or follows on from it).

It is particularly concerning that change may lack a sufficient lead-in time given the scale of value at stake and knock-on impact to the electricity system. Although signalled in Ofgem’s forward workplan for 16/17, analysis and proposals have been brought forward at an accelerated pace and could go from proposal to implementation over the course of just one year, following consultation on CUSC proposals amounting to 16 working days over August. We think this is problematic considering that investors take a long-term view of revenues and costs and their development at the point of Final Investment Decision (20 years for onshore wind and 25 years for offshore wind).

It is our interpretation of Ofgem’s letter and BEIS’s May consultation on the Capacity Market that there is a perception that the proposed changes to the charging regime are likely to be less problematic for wind generators than dispatchable power (and are therefore attractive in that they fix a perceived problem in the Capacity Market whilst minimising impact elsewhere). Whilst dispatchable power is likely to feel the impact

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<sup>1</sup> Cornwall Energy, *A Review of the embedded benefits accruing to distribution connected generation in GB*, pp.27-31; KPMG, *The effects of changes to embedded benefits on the energy trilemma – executive summary*, pp.3-4.

more than wind generation, there is likely significant value at stake for wind generators outlined in Figure 4.

### 3) Impact on the investment case for viability of embedded wind

Analysis by Bloomberg New Energy Finance suggests that onshore wind is now the cheapest form of new build electricity generation in the UK at around \$85/MWh in terms of the levelised costs of energy (LCOE) compared to \$88/MWh for new-build CCGT.<sup>2</sup> This position is likely to entrench and widen as technological development continues to drive down the costs of wind compared to gas (which is likely at a low ebb now in terms of LCOE thanks to currently low wholesale gas prices).

However, all forms of new-build power generation remain un-investable on their own basis against current wholesale electricity prices (around \$50/MWh in Q1 2016). This is likely to remain the case out to 2035 based on the central scenario of wholesale electricity price projections produced by the Department of Business, Energy, and Industrial Strategy.<sup>3</sup>

Developers are currently working hard to reduce the LCOE of new-build wind, but cost reductions in the region of 50% that would allow projects to come forward under the wholesale price alone are clearly challenging, especially for smaller-scale distribution-connected projects. Removal of the TRIAD residual element of embedded benefits makes this objective harder still for smaller projects.

Within this context, we find CMP 264 particularly problematic as it creates a ‘twin track’ system where new distribution connected generation is discriminated against when compared to existing incumbents. Whilst a discriminatory element is also true of CMP 265, in CMP 265 the discrimination is limited to those that also access revenue support through Capacity Market payments and this is also a more limited number of technologies and parties.

Removing the TRIAD residual could therefore have a knock-on impact on the amount of embedded onshore wind which can be constructed in the future. We are aware that consumers ultimately pay for embedded benefits through energy bills. However, as the CUSC Modifications and Ofgem’s letter suggest the counterfactual of removing the TRIAD residual may not be lower bills for consumers, if the effect of embedded benefit change manifests in higher clearing prices for the Capacity Market and potentially increased wholesale electricity prices. If this happens, it would amount to a transfer of value from distributed generators, many of which are small innovative businesses, new market entrants and/or renewable generators, to a small number of large incumbent power generators operating ageing carbon-emitting assets with little net change to the

<sup>2</sup> Bloomberg New Energy Finance, *H1 2016 EMEA LCOE Outlook* (April 2016).

<sup>3</sup> BEIS, *Updated Energy and Emissions Projections 2015*.

ability to meet peak power demand (as there would be ‘re-procurement’ of capacity already ‘bought’ once under previous auctions). We believe that this is not in the overall interests of existing or future energy consumers.

We would also like to take this opportunity to address an assertion in Ofgem’s *Open Letter* that embedded benefits are causing distortion in investment decisions between transmission and distribution connected capacity. Whilst there may be instances where embedded benefits have affected decisions around the size of distribution connected projects near the 100MW boundary for embedded benefit eligibility, we anticipate that the number and scale of these decisions is likely to be minimal.

This is because decisions around the size of an installation and whether to connect at the transmission or distribution level will be driven by many other factors besides embedded benefits, including: land availability; proximity to transmission/distribution infrastructure; transmission/distribution entry capacity availability; greater regulatory/administrative overheads of transmission connection; restrictions on size imposed through planning; and, until recently, the relative immaturity of the wind sector and technology which would incline developers towards smaller installations at the distribution level.

#### 4) Regulatory risk and concern over due process

We have a number of concerns regarding the CUSC process in this instance. These all serve to increase our perception of the GB energy market as vulnerable to sudden, unpredictable and significant change in policy. Other examples of this include the early closure of the Renewables Obligation (RO), change in approach to onshore wind in planning and the Contracts for Difference (CFD) mechanism, capping of the Feed-in Tariff scheme, cancellation of the CCS programme, and removal of Levy Exemption Certificates, alongside the broader uncertainty created by the result of the EU referendum.

Although none of these have been caused by Ofgem, we hope Ofgem bears in mind the broader market context and impact on perceptions of regulatory risk, as it did in the decision not to re-open the RIIO methodology for transmission system regulated returns in the recent RIIO mid-point review. Below we highlight a number of concerns with the current process. We also note that many of these perceptions resonate with findings made by the CMA about adverse effects on competition in energy sector analysis and regulatory change.<sup>4</sup>

- i. We feel a change of this scale requires independent analysis led by the regulator or TSO acting on behalf of the sector as a whole, and not through industry-led processes where there is a significant risk of analysis and decisions being driven

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<sup>4</sup> CMA, *Energy Market Investigation – final report* (June 2016), pp.1219-1289.

by those with financial interests in a particular outcome. Whilst we appreciate Ofgem’s willingness to engage pragmatically and quickly with perceived distortions in the sector, we do not think this should come at the expense of robust analysis and effective industry engagement.

- ii. In particular, Ofgem notes that the decision not to launch a Significant Code Review is due to lack of confidence in delivery of a timely response. In light of this view, we suggest the SCR process should be reformed to ensure Ofgem is capable of delivering industry change which balances the need to act with quality of analysis.
- iii. Furthermore, both modifications and publications from BEIS and Ofgem either implicitly or explicitly reference perceived problems with the Capacity Market in discussing embedded benefits and we do not think the charging methodology is an appropriate way to address policy concerns, which should instead be dealt with through the Capacity Market rules and regulations.
- iv. In our view, the complexity of analysis presented by the CUSC Modification panel is insufficient. We therefore think relying on this significantly increases the risks of unintended consequences, or basing decisions around flawed analysis or assumptions. We note that this runs counter to views expressed recently by the Competition and Markets Authority.<sup>5</sup> Furthermore, the paucity of analysis so far is in part a product of the excessive speed with which these proposals have been developed, which has amounted to a consultation period on the proposals of 16 working days over August.

## 5) Flawed rationale for change

We have concerns about a number of the theories of harm put forward by Ofgem arising from views that embedded benefits:

- i. ‘distort the outcome of the capacity market by holding down prices’: our principle concern is that BEIS and Ofgem are conflating the primary objective of the Capacity Market (securing technology-neutral capacity at the lowest cost to consumers) with secondary objectives (incentivising new-build CCGT). The 2015 auction secured 46.4GW at a clearing price of

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<sup>5</sup> In particular, their statement that ‘government policies and regulations have had a fundamental influence on the nature of competition in energy markets... to ensure [these policies] serve customers’ needs, it is vital that policy decisions... are informed by robust analyses of their likely impact’. Furthermore, the CMA states ‘it is our view that analysis and communication of the impact of government and regulatory policies on energy prices and bills... is insufficient; and there is a lack of relevant financial information, which is needed to provide clear and trusted assessment of outcomes in the GB energy markets, including an analysis of the forecast and actual impacts of regulations, and the trade-offs between policies’. CMA, *Energy Market Investigation – Final Report* (2016), p.1234.

£18/kW/year and a total cost to the consumer of £834mn.<sup>6</sup> This is significantly lower than the estimates provided before the first auction (at an average of £33/kW/year between 2019-30).<sup>7</sup> It therefore seems questionable to pursue a change which seeks to raise the clearing price of an auction mechanism which is already achieving its objectives at a lower cost to consumers than anticipated. This is particularly the case as analysis conducted by independent consultants proposes that the impact of removing embedded benefits would be to increase the clearing price in 2019/20 to c.£23.2/kW/year at an additional cost to consumers of £214mn and that this would still be significantly lower than the clearing price required to bring forward new CCGT capacity.<sup>8</sup>

- ii. ‘lead to [transmission connected generation] exiting because it cannot compete’: whilst embedded benefits are likely a factor in the comparative competitiveness of transmission vs. distribution connected generation, we note that there are broader fundamentals leading to the exit of transmission-connected capacity, including competition from interconnection (which receives favourable treatment in EU network codes with regards to TNUOS charges), over-capacity in conventional generation, competition from low-marginal cost renewables, and policy such as the Industrial Emissions Directive, which limits the running hours of coal. We note also that larger transmission-connected capacity also accesses benefits largely not available to distribution-connected capacity (including economies of scale and more favourable financing arrangements) which may counter-act any effect of embedded benefits.
- iii. ‘lead to an inefficient mix of generation by encouraging investment in smaller distribution connected generation... over potentially more efficient larger transmission connected generators’: this is a matter of interpretation that assumes bigger is better. An alternative interpretation could be that smaller plant designed to run for limited hours during periods of system peak is more efficient than larger power stations requiring larger grid connections etc. which are redundant for large parts of the year.
- iv. ‘distort innovation in the market towards parties who can best capture this large payment’: this is an assertion which needs evidence and further rationale to substantiate and develop. The counter-factual of this argument is also hard to follow, i.e. that it is pro-innovation to support large incumbents running traditional forms of large power stations.

<sup>6</sup> National Grid, *Final Auction Results T-4 Capacity Market Auction for 2019/20*.

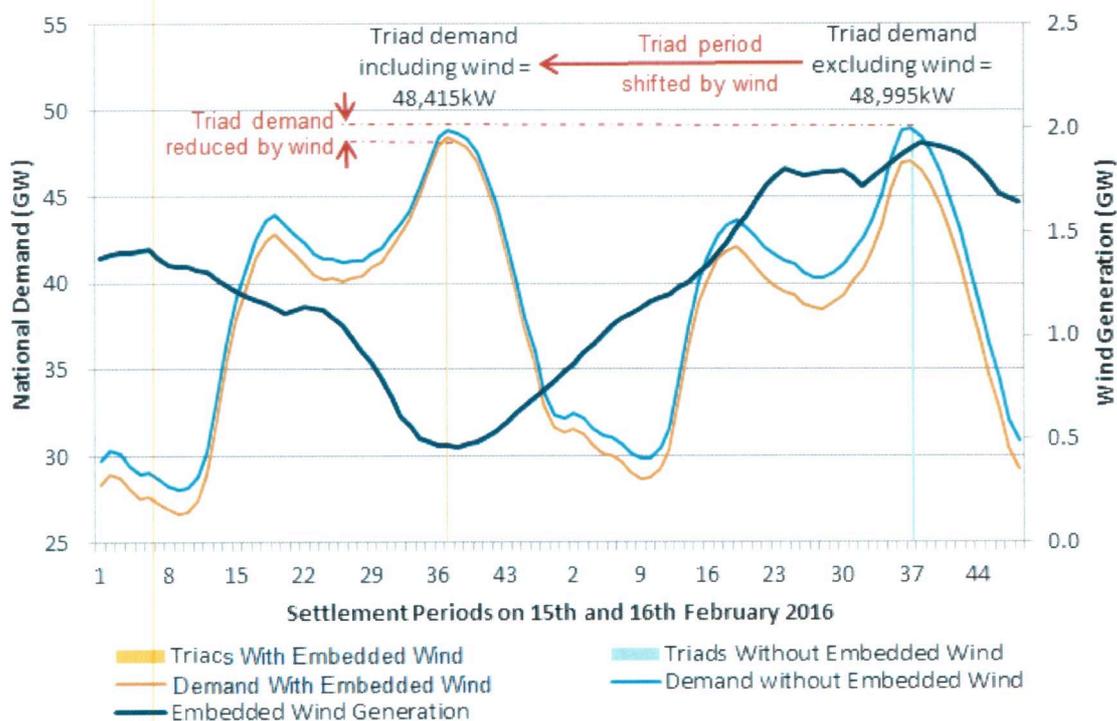
<sup>7</sup> DECC, *Electricity Market Reform – Capacity Market Impact Assessment* (Sept, 2014), p.29.

<sup>8</sup> Cornwall Energy, *A Review of the Embedded Benefits accruing to Distribution Connected Generation in GB* (May 2016).

**6) Analysis suggests that the value of embedded wind generation to the system may actually be undervalued at present due to the impact of ‘TRIAD shifting’**

In relation to their effect on the Triad, embedded generation can be divided into two types: controllable “Triad-chasing” generators such as diesel plants, and intermittent generators such as wind farms. Both types reduce Triad demand but, whereas the former tends to have a uniform effect across all potential Triad periods, the latter have a variable effect that depends on aggregate production during each settlement period.

Whereas the aggregate solar production during Triad periods, which consistently occur after sunset, is always zero, aggregate wind production can vary between zero and its annual maximum level depending on wind speeds. The effect of variable wind production on potential Triad periods is illustrated by the following example on consecutive days in February 2016.



**Figure 1 - Embedded wind effect on peak demand**

The above chart shows that the third Triad period in winter 2015/16 was shifted by wind from 16<sup>th</sup> to 15<sup>th</sup> February, thereby reducing the Triad demand by 580MW and the aggregate embedded wind production during the Triad period by 1,430MW (i.e. 75% reduction). This example illustrates an underlying principle that embedded wind generation tends to reduce peak demand and shift Triads to periods of lower wind production, thereby reducing the aggregate Triad benefit for wind generators.

Further analysis of the last four years, summarised in Figure 2 below, illustrates the extent of Triad-shifting, with seven out of twelve Triads in that period shifted by embedded wind to different dates resulting in an average reduction in Triad demand of 858MW, representing 27% of the average embedded wind generation capacity in the same period.

Year	Triad no	Including Embedded Wind		Excluding Embedded Wind		Effect of Embedded Wind
		Demand (MW)	Triad Date	Demand (MW)	Triad Date	Demand reduction (MW)
2012 - 13	1	55751	12/12/2012	56068	12/12/2012	317
	2	55438	16/01/2013	55665	16/01/2013	227
	3	52941	28/11/2012	53997	28/01/2013	1056
	Average	54710	-	55243	-	533
2013 - 14	1	51738	03/12/2013	52796	05/12/2013	1058
	2	51333	19/11/2013	52104	12/02/2014	771
	3	50967	30/01/2014	52065	20/11/2013	1098
	Average	51346	-	52322	-	976
2014 - 15	1	52379	19/01/2015	53138	09/12/2014	759
	2	52020	02/02/2015	52925	20/01/2015	905
	3	50900	12/02/2015	52509	02/02/2015	1609
	Average	51766	-	52857	-	1091
2015 - 16	1	50965	18/01/2016	51419	18/01/2016	454
	2	48781	23/11/2015	50241	23/11/2015	1460
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Figure 2 - Effect of embedded wind generation on Triad demand and date (shifted Triad periods in red)

Triad-shifting also leads to a significant reduction in the average wind generation during Triad periods, as shown in Figure 3 below. The average reduction in embedded wind generation caused by this effect over the four-year period is 57%. **This reduction has a proportional effect on the aggregate Triad benefits that embedded wind farms received in the same period.**

Year	Embedded wind capacity (MW)	Average wind output during Triads including embedded wind		Average wind output during Triads excluding embedded wind		Resulting reduction in wind output & Triad benefits
		Wind generation (MW)	Wind capacity factor	Wind generation (MW)	Wind capacity factor	
2012 - 13	2085	370	20%	764	41%	52%
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Average	-	-	22%	-	51%	57%

Figure 3 - Effect of Triad-shifting on aggregate embedded wind generation and associated embedded benefits

Furthermore, the results in Figure 3 indicate that the average wind capacity factor during Triads excluding the contribution of wind generation is 51%, significantly greater than the average annual capacity factor for embedded wind generation. The effect of Triad-shifting reduces this average capacity factor to 22%, which is lower than the average annual capacity factor but still a significant and continuing revenue stream for embedded wind farms, as indicated generically in Figure 4 below based on TNUoS data from selected Demand Zones, as published in the current NGET TNUoS Forecast Statement.

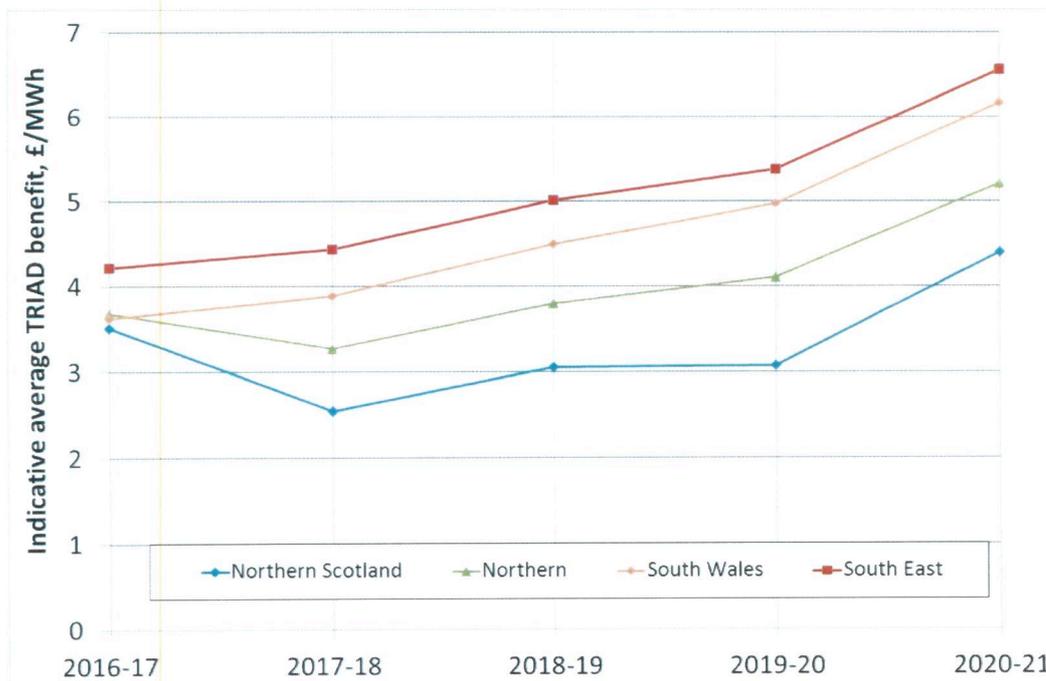


Figure 4 – Indicative Triad benefits for wind generation in four TNUoS demand zones assuming average output during Triad periods is equal to 75% of average annual output

It is important to note Vattenfall has undertaken this analysis using publically available data downloaded from National Grid’s data explorer website, which does not reflect

precisely the demand data used to determine Triads. However, we believe it illustrates the principle and merits consideration and further analysis, possibly using data not available in the public domain.

The analysis was performed using historic half-hourly data downloaded from the National Grid website.<sup>9</sup> The available demand dataset that most closely reflects that used by National Grid to determine Triads is *IO14 National Demand*, which is the sum of metered generation, excluding generation required to meet station load, pump storage pumping and interconnector exports. There is a small but material difference between this dataset and the one used to derive Triad periods which includes station loads and pumped storage. This discrepancy results in some differences between actual Triad periods and those derived from the analysis. Although those differences do not undermine the demonstration of principle, further detailed analysis should seek to fully align.

In order to demonstrate the principle illustrated above, half-hourly Embedded Wind Generation and *IO14 National Demand* datasets were summed to derive National Demand without embedded wind and used to determine windless Triads applying the methodology defined in CUSC. These windless Triads were compared to Triads determined directly from the *IO14 National Demand* dataset and the changes in their occurrence and magnitude were noted together with the differences in the average embedded wind generation for the Triad in each of the last four winters. Wind generation was expressed in MW and as a capacity factor using the installed wind capacity during each associated winter period, as estimated in the National Grid dataset.

It is important to note, as stated in the website dataset descriptions, that the true output of these (embedded wind) generators is not known so an estimate is provided based on National Grid's model. This estimate will inevitably result in residual errors in any Triad-shifting analysis which are unlikely to be eliminated in more comprehensive analysis, since accurate measurement of aggregate embedded generation is not available from any publically available source.

### **Alternative proposals**

We note that the main problem with the TRIAD residual element of embedded benefits is that they are dominated by the network investment residual element and not the specific value of reducing peak network power flows and balancing demand in peak periods. The increasing network investment which is driving the increase in the residual element (and therefore the TRIAD benefits) is a function of a changing market which has seen large-scale retirement of ageing coal generation dispatched from the centre of the UK being replaced by new technologies based on the periphery of the UK with offshore wind and associated OFTO investment being a significant factor.

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<sup>9</sup> <http://www2.nationalgrid.com/UK/Industry-information/Electricity-transmission-operational-data/Data-Explorer/>

Within this context, in the short-term we note that CUSC working group proposals to ‘pause’ the TRIAD benefit at the current level may help to mitigate increases to TNUoS charges for consumers whilst balancing investor confidence or creating other unintended and inefficient outcomes.

It is our strong view that a full and independent assessment of the embedded benefit system should be completed alongside National Grid’s charging review. We are aware of alternative approaches, such as changing the number of TRIAD periods (e.g. aligning TRIAD periods with the peak times of the Capacity Market) or applying a demand TNUoS charging methodology that is more closely related to the principles of GB SQSS (as already applied to generation TNUoS), which could be further developed as an industry with more time and visibility of the future network charging regime. We believe strongly this is an objective Ofgem and industry should be working towards.

## CUSC Code Administrator Consultation Response Proforma

### **CMP264 'Embedded Generation Triad Avoidance Standstill' CMP 265 Gross charging of TNUoS for HH demand where embedded generation is in Capacity Market**

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Robert Hunt, Chief Corporate Officer and External Affairs Director</i>
<b>Company Name:</b>	<i>Veolia UK Ltd</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li></ul>

	<p>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. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
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Q	Question	Response
1	<p><b>Do you believe that CMP264/265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No.</p> <p><b>Objective A:</b> Both CMP264 and CMP265 introduce an uneven playing field between distribution and transmission connected generation. Veolia seeks increasingly to maximize the value of demand reduction on behalf of its customers in addition to export generation: these modifications will put a differing TNUoS value on 1 MW of demand reduction and 1 MW of additional generation, putting a different price on what is essentially the same social benefit, i.e. contributing to balancing of the network at peak periods. This is contrary to the putative intention of the modifications, which is to make transmission charging as cost-reflective as possible.</p> <p><b>Objective B:</b> It has been impossible for us to assess the true cost and benefit that distribution connected generation places on the transmission network in the short period of time given under the CUSC mod process. The ten working days provided for responses to this consultation are not sufficient to examine in detail the preliminary work that has been done by some parties and is published on the NG website (but which is disputed by some members of the Workgroup in any event). We note furthermore that DNOs have not been involved in this process; they surely have vital information to contribute.</p> <p><b>Objective C:</b> Exempting unlicensed distributed generators from receiving the TNUoS demand residual does not change the root cause of the problem: fixed charges for transmission connected generators in the context of ever growing transmission costs. In this respect we feel mods CMP264 and CMP265 are piecemeal and likely to be subject to further modification.</p>

Q	Question	Response
1	<p><b>Do you believe that CMP264/265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p><b>Objective D:</b> No comment.</p> <p><b>Objective E:</b> We note that neither of these modifications addresses the growth of the demand residual element nor on-site generation. Given that both of these matters will have to be addressed at some point if the current modifications are implemented, it seems unwise not to take the time to have a wider review. Instead, a series of unstable changes to charging methodologies are being proposed which will cause confusion for system users and increase costs for consumers.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>In 10 working days it has been impossible to consider the proposed implementation approaches for 41 alternatives across both CMP264 and CMP265. Neither have we had time to read more than 5,300 words of consultation and legal text. We feel the CUSC Workgroup process has been opaque and has favoured big energy companies with large teams able to work full time on CUSC modifications. A much better approach would be to work in conjunction with Ofgem, BEIS and all industry stakeholders on a full review of the value of distributed generation to the GB electricity system. Given the uncertainty over the durability of any modification and the likelihood of future changes as discussed above, we feel an implementation date before 2020 is unrealistic. Implementation before this date runs the risk of ~7.5 GW of embedded generation turning off during peak winter periods, putting at risk GB's security of supply objectives.</p>

Q	Question	Response
3	Do you have any other comments?	<p>We feel the CUSC Workgroup has had neither the time, resource nor breadth of participation that is necessary in order to make such a big change to the GB charging regime. The consultation document acknowledges (12.2) that</p> <p><i>the Workgroup had concerns that the accelerated timetable for developing the Modifications and proposed alternatives, would not allow for an 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</i></p> <p>Furthermore, the ambiguous conclusion of the Workgroup and the unmanageable number of additional modifications means there is an overwhelming lack of consensus in the industry, even amongst transmission connected generators. A much better approach would be to work in conjunction with Ofgem, BEIS and all industry stakeholders on a full review of the value of distributed generation to the GB electricity system</p>

## CUSC Code Administrator Consultation Response Proforma

### **CMP264 'Embedded Generation Triad Avoidance Standstill' CMP 265 Gross charging of TNUoS for HH demand where embedded generation is in Capacity Market**

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Robert Hunt, Chief Corporate Officer and External Affairs Director</i>
<b>Company Name:</b>	<i>Veolia UK Ltd</i>
<b>Please express your views regarding the Workgroup Consultation, including rationale.  (Please include any issues, suggestions or queries)</b>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"><li>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</li><li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li><li>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</li></ul>

	<p>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. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
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Q	Question	Response
1	<p><b>Do you believe that CMP264/265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>No.</p> <p><b>Objective A:</b> Both CMP264 and CMP265 introduce an uneven playing field between distribution and transmission connected generation. Veolia seeks increasingly to maximize the value of demand reduction on behalf of its customers in addition to export generation: these modifications will put a differing TNUoS value on 1 MW of demand reduction and 1 MW of additional generation, putting a different price on what is essentially the same social benefit, i.e. contributing to balancing of the network at peak periods. This is contrary to the putative intention of the modifications, which is to make transmission charging as cost-reflective as possible.</p> <p><b>Objective B:</b> It has been impossible for us to assess the true cost and benefit that distribution connected generation places on the transmission network in the short period of time given under the CUSC mod process. The ten working days provided for responses to this consultation are not sufficient to examine in detail the preliminary work that has been done by some parties and is published on the NG website (but which is disputed by some members of the Workgroup in any event). We note furthermore that DNOs have not been involved in this process; they surely have vital information to contribute.</p> <p><b>Objective C:</b> Exempting unlicensed distributed generators from receiving the TNUoS demand residual does not change the root cause of the problem: fixed charges for transmission connected generators in the context of ever growing transmission costs. In this respect we feel mods CMP264 and CMP265 are piecemeal and likely to be subject to further modification.</p>

Q	Question	Response
1	<p><b>Do you believe that CMP264/265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p><b>Objective D:</b> No comment.</p> <p><b>Objective E:</b> We note that neither of these modifications addresses the growth of the demand residual element nor on-site generation. Given that both of these matters will have to be addressed at some point if the current modifications are implemented, it seems unwise not to take the time to have a wider review. Instead, a series of unstable changes to charging methodologies are being proposed which will cause confusion for system users and increase costs for consumers.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>In 10 working days it has been impossible to consider the proposed implementation approaches for 41 alternatives across both CMP264 and CMP265. Neither have we had time to read more than 5,300 words of consultation and legal text. We feel the CUSC Workgroup process has been opaque and has favoured big energy companies with large teams able to work full time on CUSC modifications. A much better approach would be to work in conjunction with Ofgem, BEIS and all industry stakeholders on a full review of the value of distributed generation to the GB electricity system. Given the uncertainty over the durability of any modification and the likelihood of future changes as discussed above, we feel an implementation date before 2020 is unrealistic. Implementation before this date runs the risk of ~7.5 GW of embedded generation turning off during peak winter periods, putting at risk GB's security of supply objectives.</p>

Q	Question	Response
3	Do you have any other comments?	<p>We feel the CUSC Workgroup has had neither the time, resource nor breadth of participation that is necessary in order to make such a big change to the GB charging regime. The consultation document acknowledges (12.2) that</p> <p><i>the Workgroup had concerns that the accelerated timetable for developing the Modifications and proposed alternatives, would not allow for an 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</i></p> <p>Furthermore, the ambiguous conclusion of the Workgroup and the unmanageable number of additional modifications means there is an overwhelming lack of consensus in the industry, even amongst transmission connected generators. A much better approach would be to work in conjunction with Ofgem, BEIS and all industry stakeholders on a full review of the value of distributed generation to the GB electricity system</p>

### **CMP264 ‘Embedded Generation Triad Avoidance Standstill’**

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

Please send your responses by **5:00pm** on **4 November 2016** to [cusc.team@nationalgrid.com](mailto:cusc.team@nationalgrid.com). Please note that any responses received after the deadline or sent to a different email address may not be included within the Final Workgroup Report to the Authority.

Any queries on the content of the consultation should be addressed to Caroline Wright at [caroline.wright@nationalgrid.com](mailto:caroline.wright@nationalgrid.com)

These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Kirstin Gardner</i>
<b>Company Name:</b>	<i>Watt Power Ltd</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p style="text-align: center;"><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> <li>d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European</li> </ul>

	<p>Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP264 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>Firstly, we assert that we are not supportive of the CMP264/269 proposal as the scope of the defect is too narrow and overemphasises the link between Triad avoidance payments available to distribution connected generators and the lack of investment in alternative forms of new generation. The issues surrounding current investment in the UK generation mix are far greater than those described by CMP264/269 and should be addressed by Ofgem through a SCR.</p> <p>Secondly, the proposed solution creates a defect, since all parties appear to accept that embedded generation provides some grid cost reduction, which would not be reflected in the payments to generators affected by the modification. There is no firm evidence that this defect is less significant than the defect that the modification seeks to address.</p>

Q	Question	Response
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>As stated above, we are not supportive of proposal CMP264/269. Regardless, it appears that the implementation approach for the original CMP264/269 proposal raised by Scottish Power is not appropriate or achievable. The post June 30th 2017 cut-off date for “new” embedded generation proposed by CMP264/269 does not allow sufficient time for parties to bring forward plants which are already under development (i.e. planning consent granted, connections secured and, where relevant, capacity contracts are in place) though the plant is not yet constructed or commissioned. Furthermore, the originally proposed implementation date for CMP264 (April 2017) is unrealistic as the change would require complementary changes to a number of billing and charging systems.</p> <p>It is noted that through discussions the Workgroup have concluded that no new charging arrangements be introduced until the 2018-2019 charging year. Though this may provide a slightly more realistic timeframe in which to bring forward the required changes to billing and charging systems associated with a new charging regime, we echo the views held by some workgroup members that any changes be accompanied by grandfathering or other transitional arrangements. Removal of the embedded benefit as proposed by CMP264/269, without suitable grandfathering or transitional arrangements, will damage investor confidence and potentially put projects at risk, reducing security of supply.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>We note the WACMs proposed by the Working Group and findings of the Working Group vote for the WACM which best facilitates the achievement of the applicable CUSC objectives. We do not support WACM 3 (which received 4 votes) for the same reasons listed in response to question 1, above.</p> <p>If immediate action must be taken to address the increasing embedded benefit payment, we are in support of WACM 8 (which received 3 votes from the Working Group). The embedded benefit proposed by WACM 8 (£32.30) is based on sound analysis by an independent group. The analysis confirms that the proposed payment of £32.30 would be cost reflective in respect of the grid cost reduction provided by distribution connected generators. As such, we believe that WACM 8 better achieves the CUSC objectives than the original proposal.</p> <p>However, Watt Power are concerned that without a holistic review, the uncertainty created by the CUSC modification proposals will remain and investment will be deterred. As such, Ofgem should seek to bring forward an enduring solution through a SCR.</p>

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

Industry parties are invited to respond to this Code Administrator Consultation expressing their views and supplying the rationale for those views, particularly in respect of any specific questions detailed below.

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These responses will be included within the Draft CUSC Modification Report to the CUSC Panel and within the Final CUSC Modification Report to the Authority.

<b>Respondent:</b>	<i>Kirstin Gardner</i>
<b>Company Name:</b>	<i>Watt Power Ltd</i>
<p><b>Please express your views regarding the Workgroup Consultation, including rationale.</b></p> <p><b>(Please include any issues, suggestions or queries)</b></p>	<p>For reference, the Applicable CUSC objectives are:</p> <p><b>Charging CUSC Objectives</b></p> <ul style="list-style-type: none"> <li>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</li> <li>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 accordance with the STC) incurred by transmission licensees in their transmission businesses and which are compatible with standard license condition C26 requirements of a connect and manage connection)</li> <li>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</li> </ul>

	<p>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. License under Standard Condition C10, paragraph 1</p> <p>e) Promoting efficiency in the implementation and administration of the system charging methodology</p>
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Q	Question	Response
1	<p><b>Do you believe that CMP265 better facilitates the Applicable CUSC objectives? Please include your reasoning.</b></p>	<p>We are not supportive of the CMP265/270 proposal as the scope of the defect is too narrow and unjustly targets distribution connected generators as a cause for distorted capacity market outcomes. The issues surrounding charging arrangements and transmission network costs are far more complex than set out in the defect described by CMP265/270 and should be addressed by Ofgem through a SCR. The proposed solution creates a defect, since all parties appear to accept that embedded generation provides some grid cost reduction, which would not be reflected in the payments to generators affected by the modification. There is no firm evidence that this defect is less significant than the defect that the modification seeks to address.</p>
2	<p><b>Do you support the proposed implementation approach?</b></p>	<p>It is noted that through discussions the Workgroup have concluded that no new charging arrangements be introduced until the 2018-2019 charging year. Though this may provide a realistic timeframe in which to bring forward the required changes to billing and charging systems associated with a new charging regime, we echo the views held by some workgroup members that any changes be accompanied by grandfathering or other transitional arrangements. Removal of the embedded benefit as proposed by CMP265/270, without suitable grandfathering or transitional arrangements, will damage investor confidence and potentially put projects at risk, reducing security of supply.</p>

Q	Question	Response
3	<p><b>Do you have any other comments?</b></p>	<p>We note the WACMs proposed by the Working Group and findings of the Working Group vote, which has found that WACM 10 best facilitates achievement of the CUSC objectives.</p> <p>WACM 10 freezes embedded benefit payment at current levels (for all parties) to prevent the spiralling cost of embedded benefit payments. It is argued that this provides a swift solution to the immediate issue of spiralling costs.</p> <p>If immediate action must be taken to address the increasing embedded benefit payment, rather than WACM 10, we are in support of WACM 8 (which received 3 votes from the Working Group). The embedded benefit proposed by WACM 8 (£32.30) is based on sound analysis by an independent group. The analysis confirms that the proposed payment of £32.30 would be cost reflective in respect of the grid cost reduction provided by distribution connected generators. As such, we believe that WACM 8 better achieves the CUSC objectives than the original proposal.</p> <p>However, Watt Power are concerned that without a holistic review, the uncertainty created by the CUSC modification proposals will remain and investment will be deterred. Whilst WACM 10 or WACM 8 may provide a temporary solution, Ofgem should undertake an appropriate level of assessment and analysis through a SCR in order to introduce a robust, long-lasting and reliable solution to the current charging arrangement issues.</p>