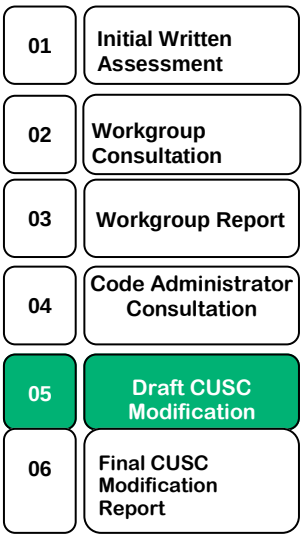
Stage 05: Draft CUSC Final Modification Report	At what stage is this document in the process?

CMP280: 'Creation of a New Generator TNUoS Demand Tariff which Removes Liability for TNUoS Demand Residual Charges from Generation and Storage Users'



Purpose of Modification: CMP280 seeks to remove liability from Generator and Storage Parties for the Demand Residual element of the TNUoS tariff.

This Draft Final Modification Report has been prepared in accordance with the terms of the CUSC. An electronic version of this document and all other CMP280 related documentation can be found on the National Grid ESO website via the following link:

https://www.nationalgrideso.com/codes/connection-and-use-system-code-cusc/modifications/creation-new-generator-tnuos-demand-tariff

The purpose of this document is to assist the CUSC Panel in making its recommendation on whether to implement CMP280.

Suppliers: Any reduction in TNUoS Demand Residual charges paid by generators and storage operators will be recovered from the balance of parties liable to Demand TNUoS. However, the demand from generators and storage operators is small as a proportion of the total and most such parties can currently avoid Demand TNUoS charges by avoiding import at Triad; the impact is therefore expected to be minimal.

Generators: Due to the €2.50/MWh cap applied by ER 838/2010 there should be no impact on Generator parties. National Grid. Changes will be required to the TNUoS billing systems to ensure that the new Generator TNUoS Demand tariff is applied to generator and storage parties.

The Workgroup concludes:

All Workgroup Members concluded that the Original Proposal and WACM proposal facilitates the Applicable CUSC Objectives better than the baseline. The majority of workgroup concluded that the WACM was the Best Option.

Contents

Timetable

The Code Administrator recommends the following timetable:

Draft Final Modification Report presented to Panel	4 September 2019
Modification Panel decision	12 September 2019
Final Modification Report issued to Authority (25 WD)	27 September 2019
Indicative Decision Date	1 November 2019
Decision implemented in CUSC	1 April 2021

Any questions?

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Any questions?

1 About this document

This document is the Draft Final CUSC Modification Report document that contains the discussion of the Workgroup which formed in July 2017 to develop and assess the proposal, the responses to the Workgroup Consultation which closed on 10 July 2018, the voting of the Workgroup held on 18 June 2019. The Panel reviewed the Workgroup Report at their CUSC Panel meeting on 28 June 2019 and agreed that the Workgroup had met its Terms of Reference and that the Workgroup could be discharged. This document also contains the responses received from the Code Administrator Consultation which closed on 28 August 2019.

CMP280 was proposed by Scottish Power and was submitted to the CUSC Modifications Panel for its consideration in June 2017. The Panel decided to send the Proposal to a Workgroup to be developed and assessed against the CUSC Applicable Objectives.

CMP280 seeks to remove liability from Generator and Storage Parties for the Demand Residual element of the TNUoS tariff. The Workgroup consulted on this Modification and a total of 13 responses were received. These responses can be views in Section 5 of this Report.

Workgroup Conclusions

At the final Workgroup meeting, Workgroup members voted on the Original proposal. All members voted that the Original Proposal better facilitated the applicable CUSC objectives as it reflected the licence changes.

Code Administrator Consultation Responses

Nine responses were received to the Code Administrator Consultation. A summary of the responses can be found in Section 6 of this document. Overall all respondents agreed that the proposal better facilitates the applicable CUSC objectives.

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https://www.nationalgrideso.com/codes/connection-and-use-system-code-cusc/modifications/creation-new-generator-tnuos-demand-tariff

2 Original Proposal

Defect

Under the current Charging Methodology, generator and storage parties contribute to both the Generation and Demand TNUoS Residual tariff elements; these parties are therefore contributing more towards the residual cost of the network when compared with other users. Storage users in particular, who compete with generators in the

provision of ancillary services, may therefore be at a competitive disadvantage due to their much higher exposure to TNUoS Demand Residual tariff elements.[1]

Generators and electricity storage operators generally should be able to avoid exposure to Demand TNUoS charges by minimising demand at times of peak system demand (Triad) through generating at these times in order to help balance the system. However, should they import over the Triad (e.g. due to plant outage or instruction to store energy from the System Operator) or should changes in the charging of Demand Residual make it harder to avoid incurring the costs, they would be exposed to potentially significant Demand TNUoS charges.

For the avoidance of doubt, only the element dealing with storage demand was taken forward in the original proposal and the WACM.

What

CUSC 14.17 states that Parties with a Bilateral Connection Agreement (BCA) shall be liable for demand charges. CUSC 14.17.10 states that The Chargeable Demand Capacity for a Power Station with a Bilateral Connection Agreement (BCA) or Licensable Generation with a Bilateral Embedded Generation Agreement (BEGA) will be based on the average of the net import over each Triad leg of the BM Units associated with the Power station (in Appendix C of its BCA or BEGA, including metered additional load) during the Triad. CUSC 14.17.11 states that the Chargeable Demand for Exemptible generation and Derogated Distributed interconnectors with a BEGA will be based on the average of the metered volume of each BM Unit specified in Appendix C of the BEGA during the Triad. It is proposed to amend the TNUoS Charging methodology (CUSC Section 14) so that parties who hold TEC during the charging year (generator parties and storage operators) and who import over the Triad periods would be liable for the proposed Generator Demand TNUoS tariff. The Generator Demand TNUoS tariff would be defined as the locational element of the Demand TNUoS tariff as currently calculated, subject to flooring at zero. The locational element of demand TNUoS would be retained as this element is cost-reflective and reflects the marginal impact of increasing demand at times of system peak demand. The locational element would be floored at zero to prevent a perverse incentive on generators or storage parties in locations with a negative demand locational tariff charge to import during periods of peak demand.

Why

The locational element of the Demand TNUoS tariff provides a cost reflective signal of the impact on the transmission system of increasing demand at a particular location on the transmission system. The TNUoS Demand Residual tariff element is not intended to be cost-reflective and serves to ensure that the Total Allowed Revenue is recovered from parties. As outlined in Ofgem's Targeted Charging Review consultation[2] , Residual

[1] Because in the case of storage, imports typically exceed exports, whereas for generators imports are typically a small proportion of exports

[2] Ofgem, Targeted Charging Review: a consultation, 13 March 2017, 5.9

charges should be recovered on a basis which reduces distortions, is fair and is proportional and practical in its application. Requiring generators and storage parties to contribute to both the Generation and Demand TNUoS Residual tariff elements gives an unfair advantage to generators (whose imports are typically a small proportion of exports) compared to storage (whose imports typically exceed exports). The solution is to remove the liability to the TNUoS Demand Residual tariff element from these parties. Failure to do so will perpetuate the above distortion**.**

How

As identified above, changes are required to the TNUoS Charging Methodology within Section 14 of the CUSC to reflect the fact that Generator parties and storage operators should not be liable for the TNUoS Demand Residual element of the tariff. This will require the definition of a new tariff charge for these parties, the Generator TNUoS Demand Tariff.

For the avoidance of doubt, only the element dealing with storage demand was taken forward in the original proposal and the WACM.

Detail on 'why change'

Generators and storage operators are both liable to TNUoS Demand Residual charges. However, storage operators are potentially much more exposed to these charges because their imports typically exceed exports, whereas for generators imports are typically a small proportion of exports. This may create a competitive distortion between generators and storage, who compete with each other in the provision of ancillary services.

The TNUoS Demand Residual tariff element is not intended to be cost-reflective and serves to ensure that the Total Allowed Revenue is recovered from parties. As outlined in Ofgem's Targeted Charging Review consultation[3] , residual charges should be recovered on a basis which: reduces distortions, is fair and is proportional and practical in its application. Given that storage and generators are not end users of electricity, and are connected to the network primarily for the purposes of providing flexibility and energy services, there is no rationale for them to contribute to both the generator and demand residual recovery mechanisms.

The solution is to remove the liability to the TNUoS Demand Residual tariff element from these parties. For the avoidance of doubt, both generator and storage parties would remain liable for the cost-reflective locational element of demand TNUoS to reflect the marginal impact of increasing demand at times of system peak demand.

Failure to address this issue will perpetuate a distortion to competition between generators (whose imports are typically a small proportion of exports) and storage (whose imports typically exceed exports).

[3] Ofgem, Targeted Charging Review: a consultation, 13 March 2017, 5.9

3 Proposer's solution

The CUSC definition of those parties liable to TNUoS Demand charges should be amended to remove liability for CVA connected storage for the demand residual tariff. Through Workgroup development the original proposals preferred approach is to create a new Storage Demand Tariff that just includes the locational element of the Demand TNUoS tariff floored at zero. This tariff would be applied to facilities that meet qualifying criteria.

The proposal defines in the Charging methodology those parties liable to the Storage Demand TNUoS tariff. In order for a CVA storage facility to be excluded from the demand residual charge it would need to meet specific criteria developed by the Workgroup.

Details of any potential cross-code, consumer or environmental impacts and attach or reference any other, related work.

There are no cross-code impacts for the original proposal.

Does this modification impact a Significant Code Review (SCR) or other significant industry change projects, if so, how?

On 4 August 2017 Ofgem published the Targeted Charging Review – Significant Code Review launch statement to consider:

- "Reform of residual charging for transmission and distribution, for both generation and demand, to ensure it meets the interests of consumers, both now and in the future; and
- Keep the other 'embedded benefits' that may be distorting investment or dispatch decisions under review."

"The scope of the SCR excludes (amongst other things)

- charging arrangements for storage. Our current thinking is that industry is best placed to bring forward modification proposals to make changes within the current charging framework. We note that at the time of this letter, two code modifications have been raised to address BSUoS (CMP281) and TNUoS (CMP280) charging for storage. We reserve the option, if necessary, of bringing storage charges back into the SCR, and issuing a direction to one or more industry parties to raise modifications."
- In their November 2017 update on the TCR[4], Ofgem stated "Our initial work, however, indicates that it may be in consumers' longer-term interests to recover residual charges from suppliers only, as they ultimately pay all system costs. As such, this is a more transparent approach."

[4] Targeted Charging Review: update on approach to reviewing residual charging arrangements 2.7; Ofgem 6 Nov 2017

It is therefore concluded that CMP280 is specifically excluded from the scope of the current SCR. As Ofgem have not exercised the option to bring storage charging back within the scope of the SCR it is the view of the Proposer that CMP280 remains out of the scope of the SCR.

Consumer Impacts

Removal of a distortion to competition should result in improved cost reflectivity, fairer allocation of the costs of the transmission system and stronger competition, which should in turn drive lower costs in the wholesale electricity market.

4 Workgroup Discussions

The Workgroup convened 18 times to discuss the issue, detail the scope of the proposed defect, devise potential solutions, assess the proposal in terms of the CUSC Applicable Objectives and review the responses to the Workgroup Consultation.

The proposer presented the defect that they had identified in the CMP280 proposal and highlighted:

- Generators and storage demand pay network charges both as demand (based on imports at Triad peak and generation (based on TEC).
- Residual charges are not intended to be cost reflective and should serve only to recover TNUoS revenue.
- Generators may potentially contribute towards residual charges twice if they import over the Triad peak.

Introduction

The Workgroup explored a number of aspects in its meetings to understand the implications of the proposed defect and solutions and progress a timely and effective outcome.

On 9 October 2018, the Authority wrote to the proposer of CMP280, stating that they held concerns that CMP280 and two DCUSA modifications (DCP319 and 321), by including generation in their scope of the proposed solutions

> "move away from the original intention of the Smart Systems Plan and interact with ongoing work that has been progressing as part of the Targeted Charging Review (TCR) Significant Code Review (SCR)". Ofgem stated that "this may result in us not approving the modification or directing that the proposals be treated as falling within scope of the SCR and be rejected. The TCR SCR is reviewing the residual charging for transmission and distribution, for both generation and demand".

The Workgroup were encouraged to be mindful of these overlaps in their workings. The Workgroup continued to develop the modification adapting the original solution to be narrowly applied to CVA Storage only, whilst enabling within scope alternatives to be raised to cover SVA Storage or other forms of Generation.

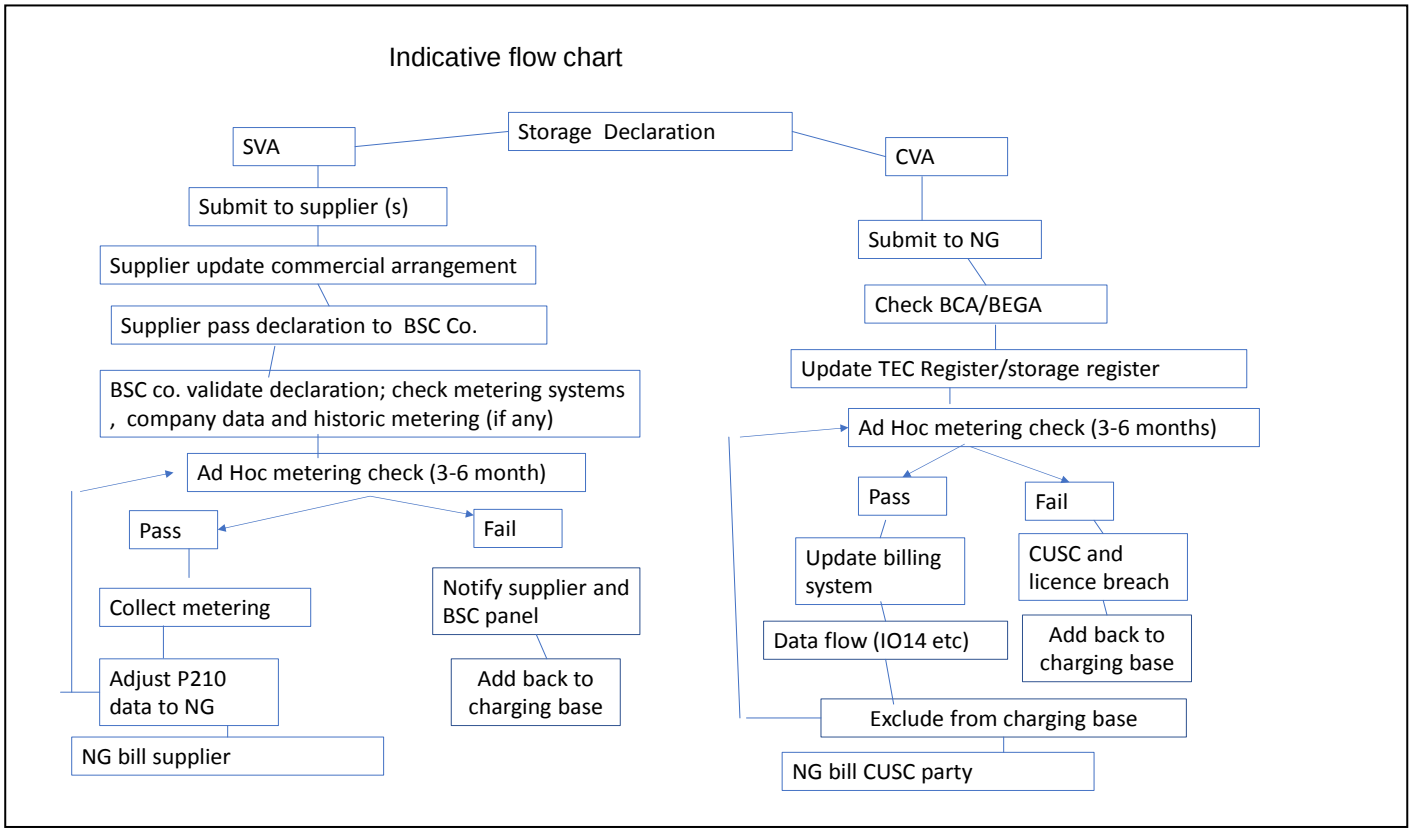
1. Clarification of the scope of CMP280:- CVA storage

Although the defect identified by the Proposer was primarily aimed at storage parties whose potential exposure to TNUoS Demand Residual charges, it also covered other generator parties to ensure a timely and efficient solution ahead of 2019. Following feedback from Ofgem in November 2018, the proposer modified the scope of the solution to CVA connected storage only as this was still an improvement to the current base line and was in line with regulatory direction of the TCR. This change did not preclude alternatives being raised with a wider scope to cover all generation.

2. Alternative that covers both SVA and CVA storage.

As well as the original proposal, a consultation alternative has been developed by the working group and details are provided here as the majority of the discussion applied to both the proposal and the alternative.

The proposed solution initially did not include SVA connected storage. Following the working group discussion of a consultation alternative raised by Elexon, a Working Group Alternative was developed that includes CVA storage and SVA storage that meets similar criteria to larger CVA storage. The high-level overview of the working group alternative is shown below.



Further information on the Workgroup Alternative Code Modification (WACM) is included in section 19.

3. Proposer's view on why CMP280 would level the playing field

The Workgroup noted that this proposed modification was intended to resolve a current defect. Whilst the group recognised that the SCR/TCR may consider this area and that

industry needs to consider impacts post CMP280, the working group can only change the current CUSC baseline, while trying to remain aligned to the principles and direction of travel being highlighted by Ofgem.

Under the current charging methodology there are instances where storage may pay more towards the residual cost of the transmission network. This would arise where site imported over the Triad periods and became liable to the TNUoS Demand Residual charge in addition to the Generation Residual Charge. Clearly there is the potential for storage parties to be contributing twice towards TNUoS residual charges.

CMP280 seeks to address this defect by identifying and removing liability for the TNUoS Demand Residual tariff element from storage CVA connected storage parties.

The Proposer believes that the Demand Residual tariff is a cost recovery mechanism which is not intended to be cost reflective and is not intended to signal a particular behaviour to parties. This is in accordance with the view expressed in the Targeted Charging Review - Significant Code Review launch statement[5] that "Residual charges are 'top up' charges set to ensure that the network's efficient costs, as determined through price controls, can be covered after other charges have been levied" and "the current framework for residual charging may result in inefficient use of the networks. They may drive actions from some network users that result in adverse impacts on other network users"

The Proposer believes that by retaining the demand locational tariff elements in the proposed Storage Tariff it will be reflective of the storage facility impact on the transmission system under both the Peak and Year-Round scenarios.

4. Counter views of WG member on why the defect would not level the playing field

A Workgroup member raised a concern that if CMP280 is implemented then the deterrent for storage importing at Triad is removed. This behaviour might not regularly be employed by storage operators, but the lack of deterrent means that it could be without penalty and such behaviour would add to system stress. Storage units can represent very significant demand loads in comparison to other forms of generation which also contract for import (on the basis of auxiliary demand).

The Member also added that Triad is not suitable for the smart, flexible charging regime of the future, and jumps the gun ahead of the SCR making more fundamental decisions. In response to these concerns, the Proposer suggested that the major factors determining whether a storage operator would import over the Triad period would be the energy price and the System Price at that time. In most circumstances these price mechanisms would be likely to act as a disincentive to importing energy at the Triad. However, there may be circumstances when in particular locations or at particular times operational requirements dictate otherwise. If the System Operator should decide that, at a particular location and/or time, accepting a Balancing Mechanism bid is beneficial to the operation of the transmission system at Triad then the TNUoS Demand Residual

[5] Targeted Charging Review – Significant Code Review launch statement; Ofgem 4 August 2017

tariff should not be used as a disincentive to taking this action. Any ancillary service offered to the System Operator at the Triad would have to factor in both the market price and any potential TNUoS charge.

5. Current charging arrangements for transmission-connected and both large and small distribution-connected generation and storage

In their November 2017 update on the TCR[6], Ofgem provided the following analysis and summary:

"We have set out concerns with how residual charges are levied at present, which we think may be distorting competition between different network users and leading to unfair outcomes. This is illustrated in figure 1 below which outlines which network users currently pay residual and cost recovery charges.

Figure1 Network users' current exposure to residual/cost recovery charges

		T Final Demand	T Generation	T Storage†	D Larger EG**	D Larger Storage**†	D Smaller EG*	D Smaller Storage*†	D Demand
Transmission residual	Generation		✓	✓	✓	✓			
	Demand	✓	✓	✓	✓	✓	Paid††	Paid††	✓
Distribution residual	Generation				Only EHV pay#	Only EHV pay#	Only EHV pay#	Only EHV pay#	
	Demand				✓	✓	✓	✓	✓
Balancing	Generation		✓	✓	✓	✓			
	Demand	✓	✓	✓	✓	✓	Paid	Paid	✓

✓ - Pay the charge Paid – can get paid the inverse of the charge when generating
* <100MW EG **>100MW EG
† - may be affected by ongoing storage modifications CMP280 & CMP281
†† - will be replaced by dedicated embedded export tariff following CMP264/5 WACM4 implementation
# - only those connected at HEV level pay distribution demand residuals. All other are exempted

6. Practical issues associated with identification of storage

A Workgroup Member confirmed that identification of storage parties would be needed as part of the modification.

[6] Targeted Charging Review: update on approach to reviewing residual charging arrangements 2.7; Ofgem 6 Nov 2017

The Workgroup discussed how this could be work in practice as this would need policing and the only way to do so would be for Ofgem's licensing to show that only those generating stations that are licensed would be applicable.

It was the view of Workgroup Members that if you are being supplied by a Supplier then the Supplier would have to know you are a Licensed Generator and then would have to be able to net off imports for the purpose of the levies. This would also require an information flow from the BSC to National Grid to net it off or deducted volumes.

This indicated that for any SVA solution (using either the Licence or netting route) would likely require a BSC Modification to do the relevant charging/forecasting this was subsequently raised (P383) to set out how a SVA storage facility would be defined.

7. Impacts of Ofgem's consultation on amendment of the Generation Licence to include Electricity Storage Facilities

On 29 September 2017, Ofgem published a consultation on "Clarifying the regulatory framework for electricity storage licensing".[7]

The consultation sought views on proposals to modify the electricity generation licence to clarify the regulatory position of storage in the regulatory framework and to ensure consistency between both storage and electricity generation. This will help ensure that a level playing field exists so that storage can compete fairly with other sources of flexibility.

The proposals seek to:

- Include a definition of electricity storage in the electricity generation licence
- Clarify expectations with regard to compliance by storage with the standard licence conditions in the electricity generation licence
- Introduce a new licence condition that, by definition electricity storage providers do not have self-consumption as the primary function when operating the storage facility

The consultation anticipated that storage providers operating under a generation licence:

- Will be expected to sign up to relevant industry codes only insofar as these are applicable to them and/or depending on the capacity of the storage facility; and
- Not be subject to the payment of final consumption levies.

The proposed changes to the Electricity Generation Licence Standard Conditions include the following changes:

> *"generating station" means an electricity generating station or an electricity storage facility which:*

[7] Ofgem: Clarifying the regulatory framework for electricity storage licensing; https://www.ofgem.gov.uk/system/files/docs/2017/10/electricity_storage_licence_consultation_final.pdf

i. has, or will have when its construction or extension is completed, a capacity of not less than 50 MW or such other capacity as may be specified in relation thereto by order of the Secretary of state under section 36(3) of the Act;

ii. Is, or will be when its extension or construction is completed, operated by or for the licensee;

SECTION E: Supplementary Standard Conditions for electricity storage

Condition E1: Requirement to export

1 The licensee shall not have self-consumption as the primary function when operating its storage facility.

2 If at any time the licensee knows or reasonably should know of any event or circumstance that has occurred or is likely to occur that may affect its ability to comply with paragraph 1, the licensee shall as soon as reasonably practicable notify the Authority in writing of the event or circumstance.

3 In this Section:

"Export" Has the meaning given to it in Section K of the Balancing and settlement Code.

Note new SLC E1 will apply to both existing and future licensees.

The Workgroup discussed the proposed extension of the generation licence to include certain electricity storage facilities which could result in storage parties entering into a form of Bilateral Agreement with National Grid. Therefore, depending on the agreement type, they will be liable for TNUoS charges (if applicable to them) and so any changes to TNUoS charges will apply also.

8. Impacts on the Generation/Demand (G/D) split and charges/tariffs should CMP280 be implemented

At present, generator parties and storage facility operators are largely able to avoid incurring Demand TNUoS charges by avoiding import at Triad. Should there be any Chargeable Demand in a charging year, this could constitute an over-recovery in TNUoS in that charging year. It was noted that over/under recoveries of Allowed Revenue are recovered in subsequent year's TNUoS charges through the k factor.

The G/D split and the €2.50/MWh cap under EU Regulation 838/2010 is implemented within the Charging Methodology at CUSC 14.14.5 (v). The key inputs are as follows:

- The upper limit in Regulation 838/2010 (currently €2.50/MWh)
- The error margin – determined on previous year's difference between forecast and out-turn values
- Forecast Generation Output
- Forecast TO Allowed Revenue
- Forecast €/£ exchange rate (OBR rate in year prior year)

Although none of the above forecast factors are affected (materially or otherwise) by Chargeable Demand from Generator and storage parties There may be an impact on the forecast which is used in the calculation due to technology such as storage coming online in future.

9 Will there be a requirement under CMP280 solution for a separate bi-lateral agreement for licensable generation for storage

The Proposer and the Workgroup for CMP280 does not believe that a separate bilateral agreement will be required to implement the Original Proposal. At present CVA registered generation, including storage facilities, are subject to one of the existing forms of Bilateral Agreement under the CUSC:

- Bilateral Connection Agreement (BCA) – for transmission connected generators
- Bilateral Embedded Generation Agreement (BEGA) – for embedded generators

10 Cost reflectivity

The Proposer and the Workgroup believes that the Demand Residual tariff is a cost recovery mechanism and is not cost reflective or intended to signal a particular behaviour to parties. This is in accordance with the view expressed in the Targeted Charging Review - Significant Code Review launch statement[8] that

"Residual charges are 'top up' charges set to ensure that the network's efficient costs, as determined through price controls, can be covered after other charges have been levied" and "the current framework for residual charging may result in inefficient use of the networks. They may drive actions from some network users that result in adverse impacts on other network users"

The Proposer believes that by retaining the demand locational tariff elements in the proposed Generator Demand TNUoS charge, that a signal reflective of the generator's impact on the transmission system under both the Peak and Year Round scenarios will continue to be applied.

11 System changes and the impact on setting tariffs and publishing them.

CMP280 is looking to create a completely new tariff - the Storage Tariff - to apply to a certain category of users which is conceptually straightforward. From a system perspective, the impact to National Grid is twofold: firstly, on the systems and processes around setting TNUoS tariffs; and secondly to the systems and processes for billing customers. These impacts are not incurred by National Grid alone, and system changes to billing processes will be required for generators and/or suppliers, and also potentially to end consumer billing systems.

An indicative cost for the changes to National Grid's Charging and Billing System is around £1-2million. This is because this modification will lead to significant changes

[8] Targeted Charging Review – Significant Code Review launch statement; Ofgem 4 August 2017

within its Charging and Billing System to allow applicable parties to be billed correctly and flagged within its relevant systems. National Grid options and costs based on progression of the modification will be clarified, including for any alternatives raised.

National Grid requires at least 9 months' lead time from a decision to implement this modification in order to make the necessary changes to the billing systems. In addition, historic data to allow forecasting of new tariffs, is also required in a timely manner ahead of tariff setting and forecasting (in February, June, October, December and for final tariffs in January).

12 Rationale for solution flooring to zero

Cost-reflective locational demand charges are intended to reflect the cost to the transmission system of a User's decision to site their demand at a particular location on the transmission system and are derived from the DCLF ICRP Charging Model. This produces a range of locational charges are outlined below ((2017/18 Final TNUoS Charges):

Table 24 - Demand Tariffs with breakdown of peak security and year round elements

Zone	Zone Name	Peak Security Tariff	Year Round Tariff	Residual	Small Generators Discount	HH Demand Tariff (£/kW)
1	Northern Scotland	1.87	-20.11	47.26	0.55	29.58
2	Southern Scotland	0.02	-17.35	47.26	0.55	30.48
3	Northern	-2.67	-5.92	47.26	0.55	39.22
4	North West	-0.71	-1.85	47.26	0.55	45.25
5	Yorkshire	-2.58	-0.27	47.26	0.55	44.97
6	N Wales & Mersey	-1.82	0.79	47.26	0.55	46.79
7	East Midlands	-2.13	2.21	47.26	0.55	47.89
8	Midlands	-1.41	3.05	47.26	0.55	49.46
9	Eastern	1.04	0.76	47.26	0.55	49.62
10	South Wales	-6.19	3.92	47.26	0.55	45.55
11	South East	3.86	0.87	47.26	0.55	52.54
12	London	5.04	2.11	47.26	0.55	54.97
13	Southern	1.68	3.91	47.26	0.55	53.41
14	South Western	-0.93	5.08	47.26	0.55	51.96

The proposed Storage Tariff will consist of the sum of the Peak Security Tariff and the Year Round Tariff. In a number of zones (Zones 1-6 & 10 above) the generator Demand TNUoS Tariff would be negative (-£18.24/kW to -£1.02/kW).

The effect of a negative Storage TNUoS tariff would be that Users would be paid the negative tariff element if they used energy at times of maximum system demand. This would potentially encourage Users to increase demand at this time to maximise the payment received thus increasing the strain on the system at this time and potentially increasing the cost of balancing the system. Any increased costs would ultimately be passed through to consumers through BSUoS costs.

To avoid this detrimental impact on system costs it is proposed that for storage, the Storage TNUoS tariff is floored at zero. Although this may result in some reduction in cost-reflectivity, it is believed that this is outweighed by preventing the potentially detrimental impact of incentivising storage in some TNUoS charging zones to increase demand at times of system stress.

Retaining the TNUoS demand locational signal, subject to flooring at zero, would continue to provide a cost reflective signal for the siting of storage on the transmission network. Relieving storage from the non-cost reflective residual element of the demand TNUoS tariff would have no impact upon the cost reflectivity of the demand TNUoS charge.

13 Potential alternatives

Ofgem recommended in the Targeted Charging Review consultation that changes to charging for storage should be taken forward ahead of any wider changes to residual charging.

While CMP280 solution is primarily aimed at addressing the defect affecting storage parties, it is within scope for an alternative could be developed to adopt the same approach for generator parties and also for SVA connected storage

At present, generator parties, like storage parties, are potentially liable for the demand TNUoS cost recovery element should they import over the Triad periods. Generators' demand is likely to be a significantly lower proportion of their generation output compared to storage parties, where maximum demand is often similar to or in excess of maximum generation capacity. This means that the issue of recovery of the demand residual is potentially less material for generator parties than for storage. However, neither generator nor storage parties import energy from the transmission system as an end user.

Removing the liability for generator parties would ensure a level playing field with storage in terms of the costs faced by two competing providers of ancillary services. CMP280 therefore proposes to remove the liability for the cost recovery element of the Demand TNUoS charge from storage demand.

Several options were discussed by the Workgroup covering the range of options discussion below at paragraph 5). Following on from guidance issued by Ofgem on 9th October 2018 that the solution should focus on storage solutions (see section 22), Options 1 and 3 were taken forward as the proposal and the alternative.

	Storage only	Storage & Generation
CVA only	Option 1	Option 2
CVA & SVA	Option 3	Option 4

Option No	Option	Pro	Con
1	CVA Storage only	Addresses the identified defect and levels playing field with generation	Does not address SVA connected storage. Requires definition, identification and recording/flagging of storage parties for TNUoS billing purposes
2	CVA Storage and Generation	Provides a level playing field between generator and storage parties – nether exposed to TNUoS Demand Residual tariff element	Does not address SVA Storage and Generation sites.
3	CVA and SVA Storage only	Avoids discrimination between CVA and SVA connected storage sites	Increased complexity of solution and need for metering to prevent exempting end use. Requires definition, identification and recording/flagging of storage parties for TNUoS billing purposes
4	CVA and SVA Storage and Generation	Avoids discrimination between parties through equivalent treatment.	Increased complexity of solution and need for metering to prevent exempting end use. Need to ensure that exempting SVA generation does not create risk of end use consumption being excluded

9. **How would the CMP280 Proposal identify those parties not liable for the TNUoS Demand Residual Charge?**

As all CVA licenced storage facilities would be required to accede to the CUSC, the Grid Code and the BSC and that as CVA sites they would be registered as BM Units

and would be separately identifiable in the data flows provided to National Grid for TNUoS billing purposes.

It was the view of some Workgroup Members that data flows must already exist from the BSC to National Grid, to enable the measurement of any Chargeable Demand for Generator parties under the existing charging arrangements and therefore it would not be expected that any changes would be required to the BSC to facilitate the original CMP280 proposal.

10. Impacts on behind the meter issue

The scope of CMP280 is limited to storage registered in Central Volume Allocation (CVA) and party to a valid Bilateral Connection Agreement (BCA) or Bilateral Embedded Generation Agreement (BEGA) with National Grid and therefore will have no impact on behind the meter (BTM) storage. Similarly, the proposed alternative that covers CVA and SVA storage facilities will require separate metering that will only measure imports and exports to the storage site this would exclude storage sites that are co-located with demand (BTM storage)

11. Impact on DCUSA and DUoS

There should be no direct impact upon the Distribution Connection Use of System Agreement (DCUSA) or Distribution Use of System (DUoS) charges from CMP280.

There are no cross-code impacts for the original or alternate proposal. Although not dependent of the CUSC solution, similar changes for storage are being progressed through the DCUSA.

12. Materiality of the proposed defect?

It is important to address the defect as CVA storage parties remain at risk of being instructed to operate in a manner which might incur a liability for demand TNUoS. Even if this is mitigated by setting very high BM prices, this is not a satisfactory outcome reflecting actual costs. Other generator parties are only likely to import at the Triad peak if the site is on outage. If future changes to the method of recovering the demand residual charge increase the potential liability of generator parties to the demand TNUoS cost recovery element, this would increase the scale of the defect that CMP280 addresses.

In general, storage does not consumer over the Triad and as such, is not subject to significant demand TNUoS charges. Demand is forecasted at peak and so generators (including storage) will be assumed to be generating over peak. Please note that within the transport and tariff model, demand is not forecasted on a site by site basis, therefore a specific storage sites demand would not be modelled but demand overall forecasted.CMP280 is therefore not expected to have a material impact on any other parties.

13. Table of Historical Data Costs for all CVA Generation

The following data was provided to the Workgroup by the original proposer

Charging Year	Chargeable Triad Demand, from Generators (kW)	Demand TNUoS charged to Generators based on final published tariffs (£)	Indicative Demand TNUoS charged to Generator if only liable for Demand Locational floored at zero (£)
13/14	139,812	£ 3,548,098.56	£ 147,339.38
14/15	31,988	£ 1,002,325.87	£ 106,800.53
15/16	42,791	£ 1,560,631.13	£ 116,258.21
16/17	44,974	£ 2,068,361.64	£ 90,658.14
17/18	68,683	£ 3,134,924.98	£ 116,066.10

14. Impacts on consumers

Storage providers may pay more towards the residual cost of the network when compared with other network users placing them at a competitive disadvantage. Removal of this distortion will place generator and storage users, who compete with each other in the provision of ancillary services and in the energy market, on a more level playing-field, better facilitating competition which will ultimately be to the benefit of the consumer. Increased competition in the provision of ancillary services will potentially put downwards pressure on costs for end consumer.

It is expected that any residual payments that would have been made by Storage will be picked up through Demand TNUoS by all other Demand.

15. Consideration of ELEXON discussion paper

ELEXON presented a discussion paper to the working group for consideration. See Annex 4.

ELEXON's discussion paper argued that the CMP280 and CMP281 Workgroups should raise a Workgroup Alternative CUSC Modifications (WACMs). Specifically, that a WACM proposes a solution that applies to all licensed generation, irrespective of whether it is connected to a transmission or distribution system, or whether the Metering System(s) for the site are registered in the Central Volume Allocation or Supplier Volume Allocation arrangements. The paper argued that changes to network charging and Final Consumption Levy charging arrangements should converge on the approach set out in Ofgem and BEIS' Smart Systems and Flexibility Plan (SSFP) so they are as simple and consistent as possible. In particular, that:

- Imports to storage (and other generation) operated by a generation licensee should be excluded from the calculation of FCLs, network charges and other charges levied on demand, irrespective of whether the generation is 'exemptible', or whether it is registered in Supplier Volume Allocation (SVA) or CVA); but
- Imports to storage (and other generation) that is operated by an unlicensed person should be treated like an ordinary 'supply' and included in the calculation of FCLs, network charges and other charges levied on demand.

ELEXON's paper set out its understanding of how imported electricity used for different purposes should be charged for FCLs and that this approach should also apply to charging for TNUoS and BSUOS. In particular, ELEXON believe that Ofgem and BEIS' policy intent is that only electricity imported for the specific purpose of operating a generating asset operated by a licensee ('a licensed activity') should be exempt from FCLs and other charges.

The CMP280 Workgroup welcomed ELEXON's paper. They acknowledged that in principle, and where appropriate, the CUSC should treat all types of generator consistently, irrespective of whether connected to a transmission or distribution system, or whether related metering was registered in CVA or SVA arrangements.

ELEXON acknowledged that its discussion paper did not specify a detailed solution that a Workgroup member could easily adopt as a WACM but that it planned to republish its paper, setting out in more detail how a centralised solution could be delivered by ELEXON to support FCL and network charging.

None of the Workgroup members decided to formally propose a WACM prior to Workgroup Consultation.

16. Post Workgroup Consultation Discussions

Post Workgroup consultation, the Workgroup convened on multiple further occasions. During this period, the Workgroup continued to develop the modification, taking into account responses to the consultation, which can be found in Annex 5. During this period, there were broader developments within industry which the Workgroup had to take into consideration whilst developing CMP280.

17. Ownership of Modification

The original proposer of this modification, Scottish Power, relinquished ownership of the modification post-workgroup consultation[9]. The modification was adopted by Drax Power Ltd who took the modification forwards from 20 November 2018. The original proposer remained on the Workgroup in the function of a Workgroup member.

18. SCR/TCR Interactions and Ofgem letter of 9 October 2018

On 4 August 2017[10], Ofgem announced that they would be launching a Significant Code Review/Targeted Charging Review, which would have two main objectives, namely to "consider reform of residual charging for transmission and distribution, for both generation and demand, to ensure it meets the interests of consumers, both now and in future"; and "keep the other 'embedded benefits' that may be distorting investment or dispatch decisions under review". As CMP280 and its BSUoS equivalent modification, CMP281, were raised before this date, the modifications both continued to develop despite the potential for some overlap in scope of the SCR/TCR.

On 9 October 2018, the Authority wrote to the proposer of CMP280, stating that they held concerns that CMP280 and two DCUSA modifications (DCP319 and 321), by including generation in their scope,

"move away from the original intention of the Smart Systems Plan and interact with ongoing work that has been progressing as part of the Targeted Charging Review (TCR) Significant Code Review (SCR)". Ofgem stated that "this may result in us not approving the modification or directing that the proposals be treated as falling within scope of the SCR and be rejected. The TCR SCR is reviewing the residual charging for transmission and distribution, for both generation and demand".

The Workgroup were encouraged to be mindful of these overlaps in their workings. The Workgroup continued to develop the modification.

The Workgroup reconvened in November 2018 and considered the scope of the modification in regards to the communication from the Authority. The Code Administrator gave their perspective around the scope of the defect.

The Workgroup discussed the applicability of the defect and options to address Ofgem's concerns. The proposer stated that he believed that the defect did not need to be changed and would modify the solution to align with Ofgem's expectation. There were opinions expressed supporting the proposer and the approach to take this modification forwards. NGESO expressed concern that the defect in the modification addressed all generation. NGESO thought this may set a precedent whereby a solution does not meet the defect.

19. Workgroup Alternative Code Modification

Following the Workgroup Consultation, an alternative solution was put forward by an observer to the Workgroup, Elexon, in their capacity as BSCCo that subsequently became a consultation alternative. The Elexon alternative looked to address the defect by including Supplier Volume Allocation (SVA) registration within the exemption, exempting all imports for generating purposes from the Residual Charge, irrespective of registration status, voltage of connection, and license status. ELEXON justified its alternative by summarising concerns that the original would discriminate against SVA

[10] https://www.ofgem.gov.uk/system/files/docs/2017/08/tcr_scr_launch_letter.pdf

registered storage, may lead to unintended consequences or perverse outcomes between CVA and SVA storage and that an SVA solution could build on existing or forthcoming BSC processes.

The proposer of the alternative highlighted to the Workgroup what areas of the CUSC specifically would be impacted. It was presented to the Workgroup that all Parties' Chargeable Gross Demand Capacity will be charged based on the Locational Tariff, and that all Parties' Chargeable Gross End-Use Demand Capacity will be charged based on the Residual Tariff.

Several potential BSC changes were also highlighted and subsequently a BSC modification has been raised to cover these areas.:

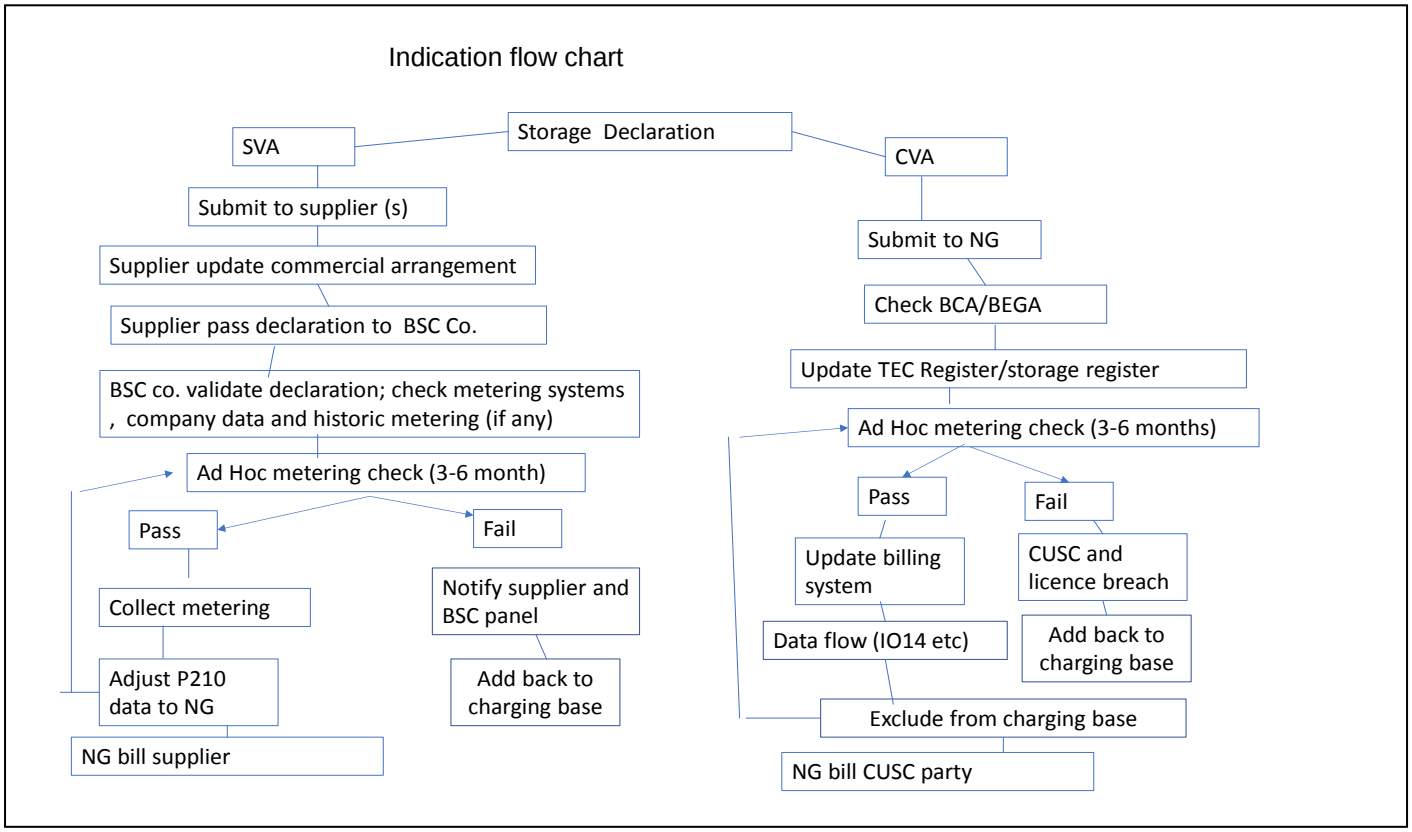
In January 2019, the Workgroup convened and further discussed the alternative solution which would include an SVA solution.

Some Workgroup members viewed a SVA solution as incompatible with wider industry initiatives and direction of travel. It was suggested by one Workgroup member that the Workgroup in its current format was lacking SVA suppliers, and would require this expertise to push forward a CVA and SVA solution. It was suggested that a separate modification could be raised to deal with this issue, with a new Workgroup containing experts on Supplier Volume Allocation. The Ofgem representative was asked by the Workgroup if an SVA solution is wanted by the Authority at this moment in time. The Authority representative stated that the Authority would be more comfortable assessing a CVA only solution if they knew a SVA solution was also on the table.

It was also recognised that the timescales for implementation could be longer than for the original solution.

The Workgroup voted unanimously that Elexon's alternative should become a WACM, as it better facilitated the relevant CUSC objectives than the current Baseline.

The flow chart and text below details the proposed methodology for establishing a valid Storage Facility for SVA and CVA connected storage facilities. Details of the SVA validation methodology are set out in further details in P383, which was raised by a Workgroup member.



An “SVA Storage Facility” is a Storage Facility that:

i. performs Electricity Storage as its sole function;

ii. is operated by a Storage Facility Operator who also holds a generation licence;

iii. has its imports and exports, measured only by Half Hourly Metering Systems which are registered in the Supplier Meter Registration Service (SMRS) as part of a Supplier BM Unit, and where those Half Hourly Metering Systems only measure activities necessary for performing Electricity Storage; and

A “CVA Storage Facility” is a Storage Facility that:

i. performs Electricity Storage as its sole function;

ii. is operated by a Storage Facility Operator who also holds a generation licence;

iii. has its imports and exports measured only by Half Hourly Metering Systems which are registered in the Central Meter Registration Service (CMRS), and as a BM Unit within the Central Registration Service (CRS) and where those Half Hourly Metering Systems only measure activities necessary for performing Electricity Storage;

iv. comprises plant and apparatus registered as part of a BMU or BMUs which only perform activities necessary for performing Electricity Storage, and the BMUs are identified within the bi-lateral agreement; and

The legal text which creates the Definitions required for CMP280 is being developed

20. Generation licence

The group considered if the need for a generation licence should be a prerequisite for the final proposal. The group noted the pros and cons of using this as an approach.

Pros

- The generation licence allows for own use consumption but would not allow energy to be supplied to others without an exemption. This requirement will be helpful in ensuring that the storage facility demand is only used to support the generation
- The Smart Systems and Flexibility Plan (SSFP), sets out the view position that only generation licence holders will be excluded from the various levies (P22)

  "Electricity supplied to generation licence holders is excluded from the supply volumes used to calculate the costs of the Renewables Obligation (RO), Contracts for Difference (CFD), Feed in Tariffs (FITs) and Capacity Market auctions. Holders of either a generation licence or the new storage licence to be consulted on by Ofgem (see 1.2) will, as a result, not be liable for such levies."

  The approach of requiring a generation licence is compatible with this approach.

Cons

- Various classes of exemptible storage facility would be excluded from the benefit due to their size unless a generation licence was obtained.
- The cost and process and obligations relating to of obtaining a generation licence may be prohibitive for small storage facilities.

Having discussed these issues, it was felt that the Pros outweighed the Cons. **There will therefore be a requirement to hold a generation licence under both the Original Proposal and Alternate**. If at some future time the generation licencing regime was reviewed it may be possible to reconsider this approach with a further modification but to ensure a timely implementation maintaining a generation licence requirement was the preferred approach.

21. Auxiliary demand at storage facilities - further considerations

The working group discussed the issue of how to ensure that the demand used by a storage facility was used by the facility for subsequent generation and was not used for any other purpose. Imports fell into two classes: -

1. Imports that are directly used to store energy this typically would be power to the storage pumps or to power the converter that stores energy in a battery these could be referred to as the principle storage device.
2. Auxiliary equipment that are needed to support principle storage device such that it can operate in a safe and controlled way. Examples of these would be fire suppression systems, cooling fans, lighting, compressors, auxiliary pumps, control and security systems etc. These are systems that a reasonable and prudent operator would provide to support the principle storage devices operation.

The group noted the different types of use and were comfortable that both types were needed to operate a storage facility and would be covered by the proposed definition of "sole" use. It was noted that the intent of the sole use provisions was to mirror the proposed Generation Licence definitions for storage that are not currently in place.

In reality given the meeting arrangements for most new storage sites (battery) it would be not possible to separate the two demand uses and the magnitude of the energy consumed for auxiliary equipment is small compared to the principle storage devise. Three of the existing pumped storage stations separately meter station load. The % used to power auxiliary equipment was presented to the working group and is shown below at typically less than 1.5% of total demand.

Station load as a % of imports

	Ffestiniog	Cruchan	Foyers
2015	1.43%	1.26%	1.48%
2016	0.97%	1.49%	1.29%
2017	1.08%	1.20%	1.15%
2018	1.36%	1.73%	1.35%

The group was keen to ensure that where other demand that was used on the same site as the storage facility but not used "solely for storage" would need to be separately metered and not included in the storage facility demand. The group discussed several types of demand that would be exclude not be allowed including:-

1. On-site demand used by unrelated business or sold via a private wire.
2. Site demand used to support a much larger site than was not required for a storage facility examples of this could be the site demand used for an industrial complex where a small battery system was located.

To protect against these types of use the definition contained in the CUSC would need to provide sufficient comfort there these types would be excluded, the link to a generation licence was considered helpful as well as a monitoring regime that would establish that metering of the storage facility was that would reasonably be expected for a storage facility.

22. Treatment of SVA Storage Facilities whose HH Metering Systems are measurement Class F or G

Overall, a Supplier's TNUOS charges comprise three elements – a charge reflecting the imports measured by HH Metering Systems (Chargeable Gross Demand Capacity), a charge reflecting embedded Exports measured by HH Metering Systems (Chargeable Embedded Export Capacity) and a charge reflecting Imports measured by NHH Metering Systems (Chargeable Energy Capacity).

However, in accordance with Approved CMP266, metered volumes recorded by HH Metering Systems registered as Measurement Class F or G are added to the NHH metered volumes, rather than treated as Chargeable Gross Demand Capacity or Chargeable Embedded Export Capacity.

The Workgroup considered whether an SVA Storage Facility whose Imports are measured by HH Metering Systems registered as Measurement Class F or G, which would otherwise be charged along with other NHH metered volumes as Chargeable Energy Capacity, should also avoid the Demand Residual element of TNUOS charges? In principle the Workgroup concluded that Imports to such an SVA Storage Facility should be excluded from the calculation of Demand Residual charges, even if those metered volumes would otherwise be treated as though NHH. However, the Workgroup also noted their expectation that it is unlikely that any Storage Facilities that met the other criteria for an SVA Storage Facility would use Metering Systems registered as MC F or G.

The ESO reviewed the feasibility of changes to the legal text to facilitate the inclusion of SVA Storage Facilities with HH Metering Systems registered as Measurement Classes F or G. The Workgroup concluded no changes are required to be made as part of CMP280.

5 Workgroup Consultation responses

The CMP280 Workgroup sought the views of Industry Parties and other interested parties in relation to the issues noted in this document and specifically in response to the questions highlighted in the report and summarised below:

The CMP280 Workgroup Consultation was issued in June 2018 for 15 Working Days, with a close date of 10 July 2018. Two additional questions to the standard Workgroup consultation questions were asked.

14 Consultation Responses were received and detailed below.

Response from	Q1: Do you believe that CMP280 Original proposal or either of the potential options for change better facilitates the Applicable CUSC Objectives?	Q2: Do you support the proposed implementation approach?	Q3: Do you have any other comments?	Q4: Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?	Q5. Can you confirm how CMP280 will impact CUSC Parties (for example, operations, billing, contractual, tariff stability, processes and information flows)?	Q6. Do you believe CMP280 original proposal would level the playing field in the way that Ofgem and Government have intended in recent publications?
Drax Power	It is recognised that Ofgem believe that network charges create a relative disadvantage for electricity storage compared to other forms of generation, and have asked industry to address this issue. Within this context the proposal can be seen as better than the baseline in facilitating ACO (a) in that it removes TNUoS residual demand charges from all CVA Generators, but retains an element of cost reflective charging. We can see that in theory the proposal also better reflects and facilitates ACO (c) in appropriately	The approach to implementation appears appropriate in that the change can be introduced clearly without crafting additional definitions within CUSC. We would recommend that consideration should be given to interactions and priorities identified from the	We can see how the proposal may improve arrangements and potentially remedy the perceived distortion. The proposal does dilute the principle of paying to transport energy across the system in exempting	No	N/A	It may. The proposal has been designed to reduce distortions and would benefit further from an articulation as to how it will benefit end consumers.

	apportioning TNUoS residual demand charges and reflecting changes to the transmission licensee's business. We would however like to see some supporting analysis on the distributional effects of the change to these charges to assure that the new arrangements are in the interests of consumers. On all other ACO we believe the proposal is neutral	TCR Significant Code Review and Charging Futures Forum work when implementing the proposed solution	primarily storage from TNUoS demand residual costs. We would be better assured that this is in the interests of consumers if there were clarity as to the wider benefits for all consumers of this approach.			
E.On	• E.ON believes that storage facilities should not have to pay both generation residual and demand residual tariffs, and therefore removal of the demand residual tariff by applying a specific "Generator TNUoS Demand Tariff" will remove this distortion in competition. • However, in removing the distortion for CVA registered storage, the proposal creates a new distortion between CVA and SVA registered storage. In a future world of decentralised energy with customers having personalised energy solutions which include storage options, this	E.ON does not support the current implementation timescale as it appears to prohibit the development of a robust and comprehensive solution that encompasses not only CVA but SVA registered storage facilities. We would therefore propose implementation be pushed back to allow such a solution to be developed.	No Thanks	As mentioned in our answer to question 1, E.ON strongly recommends that the workgroup develop an alternative proposal to extend the solution to SVA registered storage facilities, as originally	• Should the solution be developed for SVA storage facilities, then a degree of sub-metering (use of operational meters) would be necessary. In order to facilitate this, it is likely that some form of metering dispensation would be required, as well as a need to develop an	• The proposal would not level the playing field in the way that Ofgem and BEIS have intended as it creates a new distortion between CVA and SVA registered storage facilities.

	distortion is likely to become increasingly significant. Whilst we recognise the complexity that could be involved in extending the solution to cover SVA storage facilities, it seems sensible to address this issue in one go, rather than having to re-visit this in the future. • The workgroup report highlights that it is unlikely that storage will import at times of peak demand given the current market drivers (energy and balancing market) and hence the current materiality is limited. The workgroup report further says that the impact on generation is even more limited. It therefore appears that there is no significant degree of urgency in terms of implementation and hence the extra time should be taken to develop a robust and comprehensive solution that works for all storage, regardless of how they are registered. • Overall, E.ON therefore believes the Original proposal is negative against CUSC Charging Objective (a). • Furthermore, the proposal suggest that the demand locational charge should still be applied to imports that	• It is also worth noting that the DCUSA proposals DCP319 and DCP321, which seek to remove the same demand residual distortion that arises from DUoS (CDCM and EDCM respectively) both have later implementation dates than CMP280 and therefore delay to CMP280		intended by Ofgem. The initial suggestions by Elexon appear to be a sound basis for this, and E.ON hopes that these will be developed further. • In addition, new information/data flows with regards to metering are being developed under BSC mods P354 and P344. E.ON would recommend the workgroup look to understand how these new processes could be used or adapted to facilitate an SVA	appropriate methodology for agreeing the calculation of losses between boundary meters and the operational meters. As described above, the workgroup should assess whether new information flows and metering options developed for P354 and P344 can facilitate an SVA solution.	

	occur during peak times as this charge is supposedly cost-reflective and therefore covers the marginal cost impact of such imports. However, the proposal then perversely suggests that this “cost-reflective” locational charge should be floored at zero to avoid what the report describes as a “detrimental impact on system costs”. This appears highly illogical as to ignore what has been assumed to be a cost-reflective charge by flooring at zero would have precisely the opposite effect. • Therefore, applying the floor at zero to the locational charge means the proposal is negative against CUSC Charging Objective (b). • Should the workgroup truly believe that the signal that is created by the locational charge being negative in some areas creates a detrimental impact on the system costs, then it is imperative that the locational signal itself be reviewed for its cost-reflectivity.			solution.		
Gazprom Marketing and Trading	We believe that the proposed Modification will better facilitate objectives a) and c) as it will improve competition and address the current	Yes, we agree with the Implementation approach.	N/A	See comment below	N/A	We believe that the CMP280 original proposal partially level the playing field in the way that Ofgem/BEIS

	distortion in the transmission licensees' business.					intended. To be completed, the solution should remove liability for TNUoS demand residual charges from generators and storages registered in SVA, not only in CVA. This will be consistent with Ofgem/BEIS publications which do not differentiate between the two systems. We understand that this solution might be more costly and complex, but this is not a sufficient reason to keep discriminating between CVA and SVA licenced storages/generators. We support ELEXON's discussion paper (annex 4) and we encourage the CMP280 Workgroup to consider raising a WACM to extend the solution. In addition, ELEXON noted that they are discussing the possibility to adapt the P344 solution to facilitate changes to how ELEXON reports Supplier imports to EMRS for Final Consumption Levies. Therefore, we believe that CUSC arrangements should follow the same direction of FCLs
Innogy	((a) That compliance with the use of system charging methodology	No. This proposal is a 'sticking		No	We would expect responsible	Not as it is currently proposed. It discriminates

	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; Negative. For reasons described throughout my response this proposal could introduce discrimination and constitutes a 'sticking plaster' for a problem which could be better dealt with properly as part of the Targeted Charging Review Significant Code Review. (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 licence condition C26 requirements of a connect and manage connection); There is possibly merit in generation and storage sites paying only one set of residual costs (where this is	plaster' for a problem which could be better dealt with properly as part of the Targeted Charging Review Significant Code Review. Ofgem should consider assessing CMP280 alongside DCP319 and DCP321 to ensure there are no gaps or undue differences between the proposals for the Transmission and Distribution networks before making a decision. If there is discrimination arising within the two proposals or any gaps not covered between them then Ofgem should be sending back to parties for changes to be made, and also considering whether some or all of this work is			Suppliers to have an existing process in place to confirm customer connection agreement / licence status when on-boarding new customers.	between generation and storage settled in Central Volume Allocation and Supplier Volume Allocation. As this response has set out, we believe it is a 'sticking plaster' which does not go to the root of the defect.

	deemed appropriate). However, this is only acceptable where the residual costs are not driving behaviour and are purely for cost-recovery purposes. The quote from Ofgem (on page 8 of 39, and referred to elsewhere within this response) confirms that Ofgem themselves recognise that the baseline does not achieve this. This Mod does not seek to resolve the root of that problem, as it is being looked at through the Targeted Charging Review Significant Code Review. Rather this Mod seeks to 'get around' the problem for a subset of generators only. Therefore, this proposal does not offer a better solution than the baseline. (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; None. (d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European	better placed within the scope of the Targeted Charging Review Significant Code Review. Ofgem's recent consultation regarding storage and the generation licence is also highly relevant, and we would expect any decisions to be made in full view of Ofgem's intentions for storage licensing. Do you have any other comments? On page 8 of 49 there is a quote from Ofgem: "the current framework for residual charging may result in inefficient use of the networks. They may drive actions from some network users that result in adverse impacts on other network users". This proposal will				

	Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1*; and None. (e) Promoting efficiency in the implementation and administration of the CUSC arrangements. None. *Objective (d) refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy Regulators (ACER).	not resolve that problem. The defect runs much deeper than this – and the TCR SCR should resolve that deeper defect. The CMP280 Original proposal may have merit in a post-TCR world, depending upon the direction the TCR takes.				
Elexon	No, as this will introduce new distortions in the market. Although the proposed solution may remove certain distortions in competition, we believe it will introduce new ones, which the Workgroup has not fully considered or assessed: • The proposed solution is not clear on how / whether demand residual charges would be levied on BM Units that include both end-use demand (e.g. industrial or commercial load) and a Power	Yes	As noted above, we believe the proposed solution is unclear on how / whether demand residual charges would be levied on BM Units that include both end-use demand and a	Yes, we would like the Workgroup to consider Alternatives which treat SVA and CVA more consistently. Under the original proposal, the criteria for whether a given	No View	No, as noted above, we believe that the Original Proposal will have a limited benefit and introduce new distortions. That is, it will level the playing field between storage and other generators, so long as they are registered for CVA purposes. Consequently, SVA storage (and generators) will be treated unfairly and differently to CVA storage (and generators).

	Station with a BEGA or BCA. This lack of certainty is in itself a potential barrier to competition, and could also create artificial incentives for the Lead Parties of such BM Units to claim that they are Power Stations and not "Supplier BM Units". See our answer to the 'Other Comments' question below for more information. • Because the proposed solution only applies to CVA BM Units, it discriminates arbitrarily between power stations registered in Central Volume Allocation (CVA), and those registered in Supplier Volume Allocation (SVA). If an Exemptible generator asks a Supplier to register their power station in CVA, the Supplier will not be required to pay demand residual charges; but if an identical Exemptible generator asks the same Supplier to register their power station in SVA, the Supplier will be required to pay demand residual charges. This introduces entirely artificial distortions into the generation market, favouring		Power Station. Based on public registration data, examples of BM Units whose treatment under CMP280 seems very unclear include the following: • T_MEAD D-1 (Caledonian Paper) has TEC=20 MW, GC=22 MW, DC=–48MW • T_WILC T-1 (Wilton) which has TEC=141 MW, GC=182 MW, DC=-120 MW It seems to us the proposed solution is silent on whether BM	generation or storage user is required to pay demand residual charges on their imports depends primarily on whether they (or the BSC Party acting on their behalf) have registered the meters in SVA or CVA. The Workgroup's justification for this approach is that a CVA solution is more straightforward to implement than an SVA solution. But actually – we suggest – it's the degree of aggregation (rather than registration in SVA or CVA) that makes		

	power stations registered in CVA over those registered in SVA. We believe that the dis-benefit of creating these new distortions outweighs the benefits the proposed Modification seeks to achieve. One of the key issues raised by respondents to the BEIS/Ofgem Smart Systems and Flexibility Plan (SSFP) Call for Evidence was that complexity and lack of consistency in charging arrangements is a barrier to investment in storage. We are concerned that by differentiating between SVA and CVA generators, the Original Proposal reinforces, and possibly exacerbates the concern, that storage/generators are treated differently depending on where they are connected and how they are registered (in SVA or CVA).		Units such as these should be treated for charging purposes as Power Stations, Supplier BM Units or both. The fact that the CUSC appears to have no definition of Supplier BM Unit (but uses the term in a different way to the BSC, which does have a definition) worsens the confusion. Broadly speaking there would seem to be two approaches to handling such BM Units: • Using a transparent	implementation difficult. A BM Unit containing a single 49 MW generation or storage site is easy to include in the solution, irrespective of whether it's an Additional BM Unit (in SVA) or an Embedded BM Unit (in CVA). We therefore request that the Workgroup progresses an Alternative which does not discriminate between SVA and CVA registrations, and which leaves it up to BSC processes to 'untangle' the different types of		

			process or criteria to decide which BM Units should be treated as Power Stations and which as 'Supplier BM Units'. Great care would be needed to ensure that such an approach did not create perverse incentives (e.g. for demand sites to pay Power Stations to co-locate, in order to avoid demand residual charges); • A 'sub-metering' approach, in which metering data beneath the level of the BM Unit was	import to each BM Unit – see attached document.		

			used to separate the Power Station metered volume from that of the remainder of the site. We suggest that the Workgroup needs to agree which approach is intended – otherwise the nature of the proposed Modification (and its impact on parties) is unclear and will introduce distortions and dis-benefits to the market. We believe that our proposed Alternative would address this issue.			
Power Data	For reference, the Applicable CUSC	No. As highlighted by some members	Probably said	No	It adds further complexity to the	No. The TCR needs to complete its analysis. The

Associates Ltd	Objectives for the Use of System Charging Methodology are: ((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; No – the proposed approach appears to introduce a more complex and less transparent charging system. (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 licence condition C26 requirements of a connect and manage connection); No – the proposed approach appears to introduce a more complex and less transparent charging system which will incur material cost to implement with	of the workgroup the proposal is a 'sticking plaster' to attempt to fix a perceived concern. The TCR is in progress, it would be better to let it conclude with a market wide solution to this concern, rather than attempt to implement a partial solution. The TCR may conclude that Triads are no longer appropriate (I hope so!) as they are a crude mechanism that is no longer fit for purpose. The proposer believes that most storage sites generate during the times they might incur charges, so the apparent financial benefit appears small. The import revenue described in para 23 is not material.	enough		charging arrangements, which reduces transparency. Only a small number (handful) of people in the country can actually understand the transmission charging arrangements.	early 2017 views have evolved based on a greater understanding of the issues and complexities.

	undefined ongoing costs. (c) That, so far as is consistent with sub-paragraphs (a) and (b), the use of system charging methodology, as far as is reasonably practicable, properly takes account of the developments in transmission licensees' transmission businesses; (d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1*; and (e) Promoting efficiency in the implementation and administration of the CUSC arrangements. No – the proposed approach appears to introduce a more complex and less transparent charging system which will incur material cost to implement with undefined ongoing costs. *Objective (d) refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy	The indicative cost of making the change is in the similar order to the annual charges. This does not appear to provide a suitable justification, unless the workgroup believes the benefits to parties will increase in some way not identified in the current report. I see considerable ambiguity about defining sites with or without storage derived generation. If there is a benefit to have storage-based generation will there be a business case for a site to install some storage generation simply to avoid TUoS at the site? Does a proposed storage derived generation definition include the proportion of the site attributable				

	Regulators (ACER).	to storage as opposed to other generation types. Sites which combine wind and storage or diesel generation and storage do exist. There are several potential 'gaming' opportunities that this change may reveal. None appear to have been captured or considered in the consultation document. Applying the nil TUoS charges to all generators then reveals an opportunity to retain the generator licence in place while supplying via a 'private wire' several import customers. There are many rather 'odd' supply arrangements in existence which are "non-standard". Applying this logic				

		to all of them has not been documented or apparently considered how this 'import consumption' would be treated. Applying any 'behind the meter' solutions is fraught with difficulty. As a member of BSC Metering Dispensation Review Group I have reviewed many complicated metering arrangements. The greatest problems with metering different bits of equipment at one site is that they are typically connected at different voltages. So to reflect equipment with a 33kV connection/metering to a 400kV transmission connection requires some estimation of				

		transformer and/or cable losses. By definition the estimation is inaccurate. Also, many sites are metered for the 'normal operation', whereas there are opportunities for abnormal electrical arrangements that are not metered appropriately, in which case errors occur. Introducing more complex metering arrangements of deducting consumption to add to another BM units, estimating losses, etc. Increases the opportunity for metering/settlement error. The ELEXON paper refers to behind the meter solutions. Although these have been mentioned in concept no-one				

		has resolved the lack of governance/legalities of metering behind the settlement meter located on a customers' site, the different voltage levels (losses compensation), the additional consumption data sources and registration information. All these add complexity to any solution using anything other than the current BSC boundary meter. My own discussions with Ofgem have expressed a desire to use data from behind the settlement meter, but a recognition that use of any further metering (behind the settlement meter) expands the governance/legaliti				

		es into an aspect that is practically impossible to achieve.				
SSE Plc.	Yes. SSE believes that the proposal will remove a distortion in competition between different types of energy producers, ensuring that certain users do not pay disproportionate costs and thereby better facilitating objective a). SSE also agree that the proposal will better facilitate objective c) to ensure that use of system arrangements properly address the impact of the large growth in the value of the TNUoS Demand Residual as a result of increased Allowed Revenues for transmission system investment.	Yes	No	No	The main impact for users will be a redistribution of costs as liabilities are removed from storage and generators parties, albeit current costs are relatively limited in the scheme of things. Generator and storage parties will reduce risk by removing exposure to potential disproportionate recovery of residual costs, thereby giving greater tariff stability. There will be some system and process changes required to reflect the revised charging structure, but our view is that the main impact of	Yes. Under the current methodology storage operators and generators contribute to both the Demand and Generation TNUoS Residual tariff elements, thereby contributing more to the residual cost of the network when compared with other users. CMP280 is a step in the right direction and will contribute to levelling the playing the field by removing liability to this potential double charge in certain circumstances. Storage operators and generators would therefore mitigate the risk of contributing twice towards TNUoS residual charges by removing the liability for TNUoS Demand Residual. Residual charges should be recovered on a basis which reduces distortions, is fair and is proportional and practical in its application. SSE believes that the solution better meets these

					this will be upon National Grid as the settlement agent.	principles.
SmartestEnergy	No. We do not think competition is better served by the Original proposal because it does not resolve any differences between CVA and SVA nor between Storage and Generation.	No	Please see answer to Specific Question 2 below	No, but we would be supportive of Option 3	We do not envisage that there will be much of an impact on billing operations.	No. The defect as stated in the consultation document is as follows: *"*Under the current Charging Methodology, generator and storage parties contribute to both the Generation and Demand TNUoS Residual tariff elements; these parties are therefore contributing more towards the residual cost of the network when compared with other users. Storage users in particular, who compete with generators in the provision of ancillary services, may therefore be at a competitive disadvantage due to their much higher exposure to TNUoS Demand Residual tariff elements." Ironically, the proposed solution reduces charges for generation and storage but does nothing to level the playing field between

						generation and storage as they are effectively in the same position comparative to each other. More generally, the original proposal probably is moving towards Ofgem's and Govt's intentions with regards to placing network costs on demand, but it does nothing for the "double charging" of network costs which end-consumers see when using electricity which has been stored. We are inclined to agree with the comment that the original proposal jumps the gun of the TCR. Ofgem recommended in the Targeted Charging Review consultation that changes to charging for storage should be taken forward ahead of any wider changes to residual charging. This proposed solution does not fulfil that requirement.

						Option 3 (removal of residual charges for storage only in both SVA and CVA) would level the playing field.
National Grid ESO	We believe that the proposed original creates some unintended consequences and so does not better facilitate the applicable CUSC Objectives: • (A) This proposed modification will have a negative impact on this objective as this will shift demand residual charges from generator parties to pure demand customers, and so this will add extra costs to these parties potentially affecting the competitiveness of demand side providers when considered against generation and storage assets. • (B) This modification will remove some of the disincentive for generation to consume rather than produce at peak and so may lead to a change of behaviour which might, in itself, lead to additional cost for some parties - a slight negative impact on Applicable	Yes, if this modification is approved, we would support the approach detailed in section 7. This would only be practical if there was an Authority decision in the August before the start of a Charging Year. If a decision is received later than August 2018 then implementation should be no earlier than April 2020, owing to the significant system changes required to facilitate this CMP.	We have a few comments for the Workgroup to consider. 1. TCR/SCR: Looking at this topic in isolation from work that is being conducted as part of Ofgem's TCR/SCR work may lead to disjointed approaches as to the treatment of the demand and generation residual. There is therefore a risk that this modification	Not at this time. There is a preference to wait for more clarity on other industry work-streams. We have looked into potential SVA options, from a National Grid ESO perspective, to ensure that we look at the whole system holistically and cover all possible options. In summary, as ESO, we are not in receipt of	Changes needed to National Grid ESO's systems to facilitate this modification, which introduces a new tariff, include changes to the charging and billing system to ensure correct monthly and reconciliation billing, a new tariff will need to be added to the system and reporting will need to be updated. These IS changes will take a minimum of 6 months to complete (based on the original solution). Following on from this other impacts	The original proposal would not level the playing field in the way that Government and Ofgem have intended in recent publications. Our reasoning for this statement is that this modification looks to remove all obligation to pay residual demand TNUoS charges from generation, irrespective of whether that demand is to power an office somewhere or to power a storage asset. It is not appropriate that a generator has total exemption from the TDR when that exemption means they are off-taking for the purposes of powering an office or a security facility rather than for the purposes of operating their station. There is no difference between a Supplier's office block and a Generator's office block and it is not reasonable to state that one should face a cost on

	Objective (b) • (C) This modification will impact this objective negatively as the costs of the ETOs (including OFTOs) will not be fully reflected within charges for generation. Whether demand is taken for the express purpose of furthering/ensuring the output of a relevant generating station, or it is taken for final consumption the effect on the system is the same and we consider the cost base should be the same. In our view this CMP is potentially discriminatory, which we elaborate on further in this response • (D) None. • (E) None.		develops in isolation and needs to be unwound once the TCR is concluded. Any such unwinding would result in wasted cost for all parties through unnecessary system changes and inefficient use of time. 2. Definition of 'storage' and possible discrimination: We believe that any solution should be applied to all generation and not limited to storage as this ensures that there is no risk of discrimination.	granular HH data (as it is aggregated by Supplier and by GSP Group), and cannot differentiate between different 'types' of demand (although we would reiterate that demand is demand, and the transmission system is built and secured in order to meet all demand). We are mindful that the proposed solution exempts a Generator (as an entity) from paying the TDR, which means their NHH	to consider are: • The correct data provided by Elexon to allow the correct amount of volume to be excluded from the demand residual charge. If this data was not provided by Elexon, National Grid will have to create a process and system to be able to correctly identify this volume which will increase cost of implementation, especially if a solution is developed that includes SVA generation. • It is important to note that if an SVA solution is developed this would dramatically increase the amount of data National Grid would receive, increasing	demand from which the other is exempt. In recent publications, Ofgem have alluded to a distinction between 'final demand' and 'demand for the purposes of generation'. This has not been considered as part of the solution as of yet but should be considered by the Workgroup.

			We are mindful of our ESO obligation to ensure that no technology is subject to discrimination, positive or negative, and therefore can only support a solution which applies to all generation technologies. We are, however not comfortable that the solution as written extends a TDR exemption to all imports by a Generator (legal entity) rather than those which are attributable to a generating station (power plant) and	meters powering a small office or the security hut on site would be equally exempt – we don't believe the scope of the exemption is appropriate, nor do we have the ability to make such a distinction in our systems/processes. We would therefore need someone to furnish us with the relevant data. Assuming that the relevant HH sites are all either Measurement Class C or E, the Supplier, DNO and SVAA can provide us with the relevant totals to deduct	workload and the need for resource. Additional systems and processing power would also be needed, meaning a system upgrade and so pushing the cost of implementation higher. • This modification would have an impact on tariff stability and forecasting. It could change how the system is used today as the disincentive to demand at peak times would be reduced. The proposal could lead to unpredictable generator behaviour which is out of kilter with previous ESO forecasts. The unexpected behaviour could	

			therefore does not fulfil this principle. This is because this modification introduces discrimination between HH metered demand customers. Where a Generator imports for the purposes of powering an office, there is no difference between that import and the import of any other business powering an office and it is discriminatory to treat two similar things as though they are different – exempting the Generator from	from TNUoS liabilities. There is no process by which this could currently happen, without significant system changes (increasing costs further) and without (in the case of DNO/Supplier provision) ESO becoming party to the MRA/DTSA to receive relevant flows. Whilst achievable, there are significant barriers to this being done expediently. Alternatively, we could utilise the process created under CMP266/P339 where	potentially create unforeseen peaks (shift away from current triad periods). Also, it would be impossible to accurately predict how generators will take advantage of this modification. Therefore, tariff predictability/stability could become harder to forecast and more volatile. Week 24 demand would be impacted. There also needs to be an understanding of what volume of demand is actually chargeable and what isn't as there will be a new tariff to predict going forward. These IT changes and wider impacts would cost up to £1 million based on	

			the TDR whilst requiring any other business to pay it in the instance where the imports are for the same express purpose is not appropriate in our view. Adding to this, the original solution does not address the issue of behind-the-meter generation (where there is no exposure to Use of System charges) or the situation where large demand parties add generation to their sites and so, under this modification, are no longer liable	adjustment files are received so that ESO knows which consumption to 'deduct' from a liability however, this is particularly labour intensive and works for P272 sites and elective HH sites as an interim solution during the migration of Profile Classes 5-8, and the minimal elective Profile Class 1-4 transitions to HH only. It is not appropriate to expand this manual workaround to a permanent industry process.	the original solution. If there were to be variations which increase the complexity, this cost would increase. Therefore, we believe it is very important for the Workgroup to consider that revenue collected from CVA imports is quite small in relation to total revenue collected from chargeable demand (please see table on page 21 of the Workgroup consultation document for historic figures). So, this gives rise to a disproportionally high cost to the consumer of implementing this solution, which would drive up their TNUoS	

			to pay the TNUoS demand residual. This could lead to possible gaming behaviour from parties trying to amend/avoid their liability to Use of System charges. Therefore, it is imperative to get the definition of parties liable for demand charges under this change proposal correct. Last year (October 2017) Ofgem released a Generation Licence consultation with the aim of including Storage as a subset of	For any NHH meters operated by the Generator, we cannot see how any exemption could be managed. Our assessment is that there are no viable or efficient routes for National Grid ESO to facilitate an SVA option at this time. We will re-evaluate this as more information from wider industry work streams becomes available – we are more than happy to discuss this analysis/assessment with The Authority, and with any other	exposure and doesn't deliver any clear benefits, at present, compared to the amount of revenue this modification is due to collect.	

			generation licensee – which is now closed and awaiting a final decision from Ofgem. This will impact the definition of affected generation and potentially the treatment of Storage. This would impact the parties and type of demand that this modification is applicable to and so will need to be considered when developing the solution. It would be prudent to wait until the direction is much clearer from The	interested party.		

			Authority in these areas of work before a firm solution is proposed for this modification. 3. Complexity in TNUoS arrangements: National Grid has a concern that this modification will add a further layer of complexity into the tariff setting and forecasting process as generator demand will now need to be considered as part of these calculations where it has not been previously. This essentially means a short-			

			term increase in tariff volatility as National Grid ESO would need to forecast a variable that has never been considered within the methodology before. This will add another layer of forecasting uncertainty to the current level that exists today. This modification removes the 'dis-incentive' for generation to demand at times of high system stress. Current arrangements mean that when a triad period occurs, which is			

			a period of the highest demand between the winter months, HH demand TNUoS is charged to parties who import from the system in the relevant Settlement Period. This modification would remove the disincentive for unbeneficial system behaviour (from generation) and so could lead to generation demand at peak times, or create new triad periods at times that have never been considered triads as generators will not incur any			

			charges for this action. This would increase system stress further and so increase balancing costs. However, we do agree with this modification flooring the new tariff to 0, as this will remove a perverse incentive for generation to draw demand and be paid to do so. Whilst we do appreciate that the wholesale cost of power at the point of triad is likely to be high (in £/MWh) and therefore imports will still be financially dis-incentivised,			

			we are mindful that the concept of ‘peak’ charges is common across network Use of System charges and is designed to further ensure that market participants have the right signals to drive decisions. Furthermore, demand customers could be liable for the costs of a situation that was caused by generation customers, but generation customers are not liable to contribute towards the costs.			

Uniper	This promotes competition in the wholesale market by exposing storage and generation to similar charges and preventing them from being exposed to the demand residual and generation residual charges. We would note that it is unlikely that either generation or storage would be exposed to the current triad charges, as they would be unlikely to generate at peak times. However, should the charging regime develop so that the demand residual charge is recovered in a different manner, then it is possible that a storage or generation site could become more exposed to the charge. At this stage, it appears that the modification would be neutral against the other CUSC objectives.	Yes	Licensed storage and generation is a term which has been used in this consultation, but isn't quite correct, as a licence sits with a legal entity and not a particular site. Therefore, the solution should focus on application to "licensable" storage and generation, as well as generation and storage with a BCA. Licensable storage should meet the same definition used for licensable generation	No thank you as long as the solution applies to licensable generation and storage, plus generation and storage with a BCA.	If CMP280 is applied only to licensable generation and storage, plus generation and storage with a BCA, then there should be a limited impact for parties, as the system implications should be less involved. For example, if this were to apply to wider categories of generation and storage then it could lead to changes in retail settlement and billing systems then the implications would be expected to be more complicated. Essentially, exposure to the proposed Generator Demand TNUoS	Yes, it would seem to.

			under the CUSC and BSC.		Charge should be limited to those sites that are currently subject to the Generation TNUoS charge.	
Engie	Yes – CMP 280 better facilities: Objective a) Through not charging CVA generations twice for the Residual Tariff, CMP better facilities competition in the generation of electricity. Objective b) CMP 281 future proofs CVA generators to a change in how residual charges are levied. This will also promote efficiency better facilitating objective (e). Objective c) Ofgem has specifically stated that residual charge should be recovered from suppliers only as they ultimately pay all residual costs. The TCR will determine how this is achieved. CMP 280 will ensure that demand residual	Yes. ENGIE supports the proposed implementation approach.	ENGIE does not agree with the WG member who raised the concern that CMP280 will remove the deterrent for importing at TRIAD. There are other deterrents – the cost of importing at TRIAD is likely to be much higher than at other times, particularly as the embedded TRIAD benefit which dampened peak prices will have largely	No – ENGIE agrees with the workgroup that CMP280 should be limited to CVA generators.	Unless a WACM is developed that extends this change to SVA, limiting the scope to CVA should result in limited costs. As noted in the comments above, it is not clear why implementation costs are estimated to be so high and we would welcome further detail from National Grid once the preferred option is agreed.	Yes _ Ofgem has made clear that changes to the charging of storage should be taken forward ahead of wider changes to the demand residual tariff. Whilst the preferred option 2 addresses CVA generators, embedded storage does not directly pay the demand TNUoS tariff. We recognise that they may pay this via their supplier. The application to SVA generators could be dealt with separately through a further modification as part of the TCR which will address who in future should pay demand residual charges. In the meantime, CMP280 will give an incremental improvement for CVA generators.

	charges are not charged to CVA generators taking demand who may otherwise, depending on how supply is defined under the TCR, be captured . This modification therefore takes account of developments in transmission licensees' transmission businesses.		disappeared as result of the implementation of CMP264/265. Furthermore, the capacity mechanism non-delivery penalties create an incentive to be delivering where stress events are expected. Importing in a TRIAD would not only result in loss of capacity payments but also a penalty for the extent of the imports. If the SO does take a bid during a TRIAD which results in a transmission connected			

			generator taking demand during a TRIAD then this presumably has been done because either it is the economic action or to resolve a constraint. This should not be seen as a justification for retaining the current demand residual charge. ENGIE also considers that this modification will future proof generators against changes to the application of the demand residual that will arise out of the TCR SCR. If the TCR does widen			

			the time period over which the demand residual is allocated (and all indications are that it will), then there will in any case be costs arising from changes to the Charging and Billing System. Since these costs will have to be incurred, they should not be seen as a barrier to implementing CMP 280. ENGIE is surprised that National Grid has estimated costs of £1-2m to implement this modification given that the preferred option (option 2) only			

			applies to CVA generators – as a generic class it would appear to be an easy task to not charge this group the demand residual charge.			
Statera	We believe the decision to exclude SVA generation (including storage) creates a market distortion and will be detrimental to competition, therefore conflicting with CUSC objective A. The identified defect affects both SVA and CVA generation licensees. Therefore, in order for the workgroup to have fully addressed the defect (to be in line with Ofgem and BEIS statements) it is imperative a solution for SVA generation is included. Further, implementation of SVA & CVA solutions should be on the same date to prevent	Yes, but only if the Proposal is opened up to include SVA licensees (Option 4). Given the statements from Ofgem and BEIS, and the many MWs already operating in the market we believe a solution should be implemented as soon as possible. As mentioned above, if the workgroup believes a separate SVA workgroup should be formed we believe the implementation of CMP280 should	The consultation states that CVA Generation is liable for Generation TNUoS, however I understand this is only the case for sites over 100MWs. This is an important distinction as we expect much of the new storage to connect will be <100MWs (as seen in the first four T-4 Capacity Market auctions). Therefore, any	No. We acknowledge the wider market issues that make an enduring SVA solution difficult, and therefore suggest that a partial solution be permitted (such as the Supplier subtracting eligible SVA imports from their overall import) until an enduring, centralised solution be created.	No comments	No. We do not believe it is the intention of Government and Ofgem for CVA-only solution to be implemented. The proposal to take forward Option 2 would directly conflict with this and create a further market distortion.

	any market distortions and ensure industry arrangements are kept consistent. We feel any suggestion to run as a separate CUSC process would result in lengthy delay and duplication of work. Alternatively, if the workgroup believes that an SVA solution should be run through a separate workgroup we would suggest that the implementation date of CMP280 be aligned with the SVA solution workgroup implementation date to ensure parties aren't able to frustrate an SVA solution in order to maintain a competitive advantage. The workgroup consultation acknowledges that it is important to ensure CVA storage and CVA generation are treated the same to ensure a level playing field - this sentiment should continue to SVA storage & generation. Furthermore, the Proposal Defect	align with the implementation date of the new SVA workgroup	modifications should be consistent to maintain a level playing field. We do not believe that the implementation period of CMP264 is justification for excluding SVA generation from this defect. As acknowledged in the workgroup consultation recognises that market pricing is likely to deter import from Generation during triads and that the risk of import is through locational BM actions or ancillary services. Further, the implementation of a CMP280 solution is expected to be			

	specifically states the disadvantage of storage providers operating in ancillary services markets – this extends to both CVA and SVA licensees. To be clear, any decision to implement a solution that provided a solution for only CVA would result in a market distortion and create an unlevel playing field.		either April 2019 or 2020, meaning the embedded triad benefit will be in its final year (I.e. 1/3rd of full value), or gone altogether.			
RWE Supply & Trading GmbH	CMP280 better facilitates Applicable CUSC Objective (a). It will ensure that generators face cost reflective signals with respect to locational demand tariffs while removing the cost recovery element from these tariffs. There is a risk the removal of the residual from generator demand tariffs could marginally impact peak demand by reducing the incentive to offtake for large power stations during Triad periods. However, it is unlikely that generators will be importing during the Triad periods since these are times when generators should be seeking to maximise exports to capture high peak power prices.	Yes	No	No	CMP280 will have a marginal effect on demand TNUoS tariffs. There will be additional cost recovery of the demand residual from demand users (excluding generation). However, the effect is limited since it is unlikely that generators will be importing during the Triad periods since these are times when generators should be seeking to	CMP280 will have a marginal effect on the generation market. It is unlikely to have a material impact on levelling the playing field in the way that Ofgem and Government have intended in recent publications since it principally applies to existing large power stations. We note that the issue of residual cost recovery is subject to the Ofgem Significant Code Review and we anticipate there will be further developments in this area as Ofgem's thinking develops.

					maximise exports to capture high peak power prices.	

6 Workgroup Vote

The Workgroup believe that the Terms of Reference have been fulfilled and CMP280 has been fully considered.

The Workgroup met on 18 June 2019 and voted on whether the Original would better facilitate the Applicable CUSC Objectives than the baseline and what option was best overall. Vote 2 (does the WACM facilitate the objectives better than the Original) was also held.

The Workgroup voted against the Applicable CUSC Charging Objectives for the Original Proposal and 1 WACMs. The Workgroup voted and Workgroup members concluded that the Original Proposal is the best option. 5 Workgroup members believed that WACM1 is best. The Original Proposal received one vote.

The voting record is detailed below.

Options for WACMs

Member	Alternative 1 CVA and SVA Solution
Supported by:	**Name**
Harriet Harmon, National Grid ESO	Yes
James Anderson – Scottish Power	Yes
Simon Lord - Engie	Yes
Simon Vicary - EDF	Yes
Andrew Colley - SSE	Yes
Robert Longden - Cornwall	Yes
Paul Youngman – Drax Power	Yes

<u>Vote 1</u> – *does the original or WACM facilitate the objectives better than the Baseline?*

Workgroup Member	Better facilitates ACO (a)	Better facilitates ACO (b)	Better facilitates ACO (c)	Better facilitates ACO (d)	Better facilitates ACO (e)	Overall (Y/N)
	Paul Youngman – Drax (Proposer)					
Original	*Y*	*Y*	*Y*	*NA*	*Neutral*	*Y*
WACM 1	*Y*	*Y*	*Neutral*	*NA*	*Neutral*	*Y*
	We agree that the reformulated original solution is still better for competition and efficiency of the arrangements when compared with the baseline arrangements.					
	Andy Colley - SSE					
Original	*Y*	*Neutral*	*Y*	*Neutral*	*Neutral*	*Y*
WACM 1	*Y*	*Neutral*	*Y*	*Neutral*	*Neutral*	*Y*
	The proposal will remove a distortion in competition between different types of energy providers, ensuring that Storage providers are not exposed to disproportionate costs and/or risks that impacts their ability to compete, thereby better facilitating ACO a). *The proposal will also better facilitate ACO c) by ensuring that the use of system methodology is suitably adapted to deal with sharpened risks faced by Storage operators, as a result of a large growth in the TNUoS Demand Residual element of the tariff.* *Notwithstanding the need to limit the solution to Storage providers rather than all Generators due to the scope of the Significant Code Review for charging; WACM1 provides a more balanced solution than the proposal as it addresses the problem for all Storage providers, regardless of how the asset has been registered for Settlement purposes, and thereby avoids undue discrimination between different types of Storage provider. Therefore I support WACM1 as the preferred solution.*					
	Harriet Harmon – National Grid ESO					
Original	*Y*	*Neutral*	*Neutral*	*Neutral*	*Neutral*	*Y*
WACM 1	*Y*	*Neutral*	*Neutral*	*Neutral*	*Neutral*	*Y*

	CMP280 Original partially resolves the noted issue that Storage would pay TDR on import, as well as facing Gen TNUoS, but does not meet the Defect of the modification, which pertains to all generation technologies, and limits its effect to CVA storage. There would, therefore, be an improvement in competition between CVA storage providers and other generators liable for TNUoS (vs. baseline) but there would still be a distortion to competition ste *mming from i) the 'storage only' approach; and ii) the limiting of the mod to CVA sites. WACM1 delivers the same but resolves the potential discrimination between settlement types (per point (ii) above) and is also better against ACO (a). Neither the Original nor WACM1 have any effect on any other ACOs.*					
	Simon Vicary – EDF Energy					
Original	*Y*	*Neutral*	*Neutral*	*Neutral*	*Neutral*	*Y*
WACM 1	*Y*	*Neutral*	*Neutral*	*Neutral*	*Neutral*	*Y*
	Under the current charging methodology there is the potential for generator parties (including storage) to be contributing twice towards TNUoS residual charges. *Both the original and WACM1 address this defect by removing liability for the TNUoS Demand Residual tariff element from storage generator parties.*					
	Simon Lord – Engie					
Original	*Y*	*Y*	*Y*	*Y*	*Neutral*	*Y*
WACM 1	*Y*	*Y*	*Y*	*Y*	*Neutral*	*Y*
	As a principle cost recovery charges should only be recovered from end consumption so as not distort competition, established economic theory supports this position. In the energy market the TNUoS residual charge represents a cost recovery charge. Removing this from storage demand (intermediate demand) should lead to improved consumer benefits. We therefore agree that both the Original and the WACM1 both facilitate the CUSC objectives against the baseline and will ultimately lead to benefits to consumers driven by lower energy prices.					
	Robert Longden – Cornwall Energy					
Original	*Y*	*Neutral*	*Neutral*	*Neutral*	*Neutral*	*Y*
WACM 1	*Y*	*Neutral*	*Neutral*	*Neutral*	*Neutral*	*Y*
	The proposal seeks to rectify an anomaly in the charging arrangements for storage. As such, it will result in more effective competition					

	Bill Reed – RWE					
Original	*Y*	*Y*	*Y*	*NA*	*Neutral*	*Y*
WACM 1	*Y*	*Y*	*Neutral*	*NA*	*Neutral*	*Y*
	CMP280 will facilitate the deployment of storage facilities and enhance competition in the electricity market. However, it introduces a distortion in treatment under the CUSC with regard to the charging arrangements and Generation Licensees. Those with a storage facility will receive a benefit that is unavailable to other generation licensees. Given the current structure of charges the impact is likely to not be material. However, if the charging arrangements were to change significantly under the various Ofgem reviews of network charges then this issue may need to be revisited.					

<u>Vote 2</u> – Does the WACM facilitate the objectives better than the Original?

Workgroup Member	Better facilitates ACO (a)	Better facilitates ACO (b)?	Better facilitates ACO (c)?	Better facilitates ACO (d)?	Better facilitates AC (e)	Overall (Y/N)
	Paul Youngman – Drax (Proposer)					
WACM1	N	N	N	N	Neutral	N
Voting Statement	The WACM expands on the scope of the original which was prompted in line the BEIS/ Ofgem System flexibility plan. This expansion of scope may lead to extra development and implementation costs that are not part of the original solution.					
	Andy Colley - SSE					
WACM1	Y	Neutral	Neutral	Neutral	Neutral	Y
Voting Statement	No Statement received					
	Harriet Harmon – National Grid ESO					
WACM1	Y	Neutral	Neutral	Neutral	Y	Y
Voting Statement	*WACM1 is better than the Original, provided that:* *a) BSC P383 delivers an appropriate solution for the exchange of data between relevant parties; and* *b) The separate CMP being raised by the Proposer of CMP281, which will seek to introduce new definitions into S11 of CUSC is approved*					

	Whilst neither WACM1 or the Original deliver a solution in resolution of the noted defect, both are better against ACO (a) than baseline insofar as they remove a potential distortion to competition between storage providers and other generator technologies. WACM1 is better than Original against this ACO because it does discriminate on settlement type. *There is a marginal benefit to ACO (e) over the Original solution – whilst implementation is more complex, the longer-term benefit of WACM1 is the delivery of a single process for the treatment of all storage TNUoS charges; further, Ofgem were clear within the Workgroup that they would be more comfortable with a CVA-only approach if they knew an SVA solution was being developed – WACM1 prevents the need for a separate CUSC Modification Proposal.*					
	Simon Vicary – EDF Energy					
WACM1	Y	Neutral	Neutral	Neutral	Neutral	Y
Voting Statement	*WACM1 includes both CVA and SVA thereby avoiding the creation of a distortion between them. Therefore, WACM1 is considered to better overall facilitate the objectives than the Original.*					
	Simon Lord – Engie					
WACM1	Y	Y	Y	Neutral	Y	Y
Voting Statement	*As a principle cost recovery charges should only be recovered from end consumption so as not distort competition, established economic theory supports this position. In the energy market the TNUoS residual charge represents a cost recovery charge. Removing this from storage demand (intermediate demand) should lead to improved consumer benefits. Compared to the Original, WACM1 has the broader scope as it include SVA storage and as such will be better at facilitating the CUSC objectives.*					
	Robert Longden – Cornwall Energy					
WACM1	Y	Neutral	Neutral	Neutral	Neutral	Y
Voting Statement	*Both the original and WACM are better than the baseline. The WACM brings extra complexity but applies consistent principles to both CVA and SVA facilities*					
	Bill Reed – RWE					
WACM1	N	N	N	N	Neutral	N
Voting Statement	*No statement provided*					

<u>Vote 3</u> – *Which option is the best?*

Workgroup Member	BEST Option?
Paul Youngman – Drax (Proposer)	**Original**
Andy Colley - SSE	**WACM1**
Harriet Harmon – National Grid ESO	**WACM1**
Simon Vicary – EDF Energy	**WACM1**
Simon Lord – Engie	**WACM1**
Robert Longden – Cornwall Energy	**WACM1**
Bill Reed – RWE	**Original**

7 CMP280: Relevant Objectives

Impact of the modification on the Applicable CUSC Objectives (Charging):	
Relevant Objective	Identified impact
(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;	Positive. Removing a distortion in competition will better facilitate competition.
(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 licence condition C26 requirements of a connect and manage connection);	Positive/None As Residual charges are not intended to be cost reflective, this proposal will have little impact on cost reflectivity other than removing a distortion whereby some users pay a disproportionate amount of the costs.
(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;	Positive The large increase in the Allowed Revenues due to investment in the transmission system and consequential growth in the value of the TNUoS Demand Residual element of the tariff has increased the urgency of addressing this distortion. Addressing this issue will reflect these changes in the transmission licensees' businesses.
(d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence	None

under Standard Condition C10, paragraph 1*; and	
(e) Promoting efficiency in the implementation and administration of the CUSC arrangements.	None
*Objective (d) refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy Regulators (ACER).	

8 Implementation

The Proposal should be implemented to coincide with the start of a Charging Year (i.e. 1 April) and should be implemented in the first practical Charging Year following a decision by the Authority. Given the importance of promoting storage, we believe that, if at all possible, the change should be implemented in April 2021 and should be expedited accordingly.

9 Code Administrator Consultation Response Summary

The Code Administrator Consultation was issued on 31 July 2019 for 20 Working Days, with a close date of 28 August 2019.

Nine responses were received to the Code Administrator Consultation and are detailed in the table below

Respondent	Do you believe that CMP280 better facilitates the Applicable CUSC objectives?	Do you support the proposed implementation approach?	Do you have any other comments?
RWE Generation plc	*The modification proposal may better facilitate Objective (a) in relation to competition since it would facilitate the deployment of storage technologies in the electricity market where they operate under a Generation Licence.*	*We support the proposed implementation approach.*	*We are concerned that the modification proposal introduces discriminatory treatment with relation to a class of generation stations (i.e. those that operate under a Generation Licence and meet the storage definition). We do not believe that such discrimination has been justified in the modification proposal, though we note Ofgem's desire to create a new definition of storage under the generation licence.* *In addition one of the untended consequences of the proposals may be that market participants will seek a generation licence in order to avoid certain charges. This type of incentive may distort the electricity market.*
Uniper	*The modification should improve competition in the wholesale market and better promote relevant objective a).*	*Yes.*	*Yes. Just a typo in paragraph 14.14.14 of the legal text which should be tidied up. At present it contains the following sentence "The relevant zonal HH Demand Tariff shall be applied to the remaining Chargeable Demand Capacity (if applicable) for the Power Station will be based on the average of the net import over each Triad leg of the remaining BM Units associated with the Power Station (in Appendix C of its Bilateral Connection Agreement or Bilateral Embedded Generation Agreement, including metered additional load) during the Triad." Presumably the words "will be" should be removed after "Power Station".*
First Hydro Company	*Yes:- We believe that the original and the working group alternative proposal WACM1 both better facilitates CUSC*	*Yes*	*Yes see table below*

(Engie)	*objective a, b and c. Further details are contained in the table below. We prefer WACM1 (SAV and CVA storage) for the reasons indicated in the table below.*		In the table below, we provide a summary of our views on the key issue that are covered in the work group report or are relevant to this modification

Key Work Group issue	*Engie view*
The economic rationale for the solution.	We support the views that the proposer(s) put forward in the consultation and believe that this provides a strong economic case for storage and other non-end use consumption not being subject to residual network charges. We believe that this will lead to a lower cost for consumers. These issues are brought out in the consultations.
Should the modification apply to both CVA and SVA generation?	We believe that for consistency relief from residual charges should be applied to all classes of licenced storage but being mindful of the cost of implementation and the need to be able to identify storage use as opposed to own use consumption. Whilst the SVA solutions adds complexity given it is limited to licenced generation (as with relief from final consumption levies and other charges) we believe that the right balance has been drawn to include CVA and SVA storage. For this reason we prefer the working group alternative.
Should the modification include generation	We are supportive of the principle that demand used to support generation should also be excluded from Network residual charge and expect this to be the subject of a future modification. The difficulty of identifying demand associated with own use generation will lead to additional complexity and obligations but the systems and process that have been developed as part of this storage modification should help simplify any future modification

				demand	that might come forward in this area.
				How should storage be defined to limit the use to only include demand used for storage.	We support the definition of storage facility being principally based on the licence definition of storage augmented by the need to have metering systems that only measure imports and exports. These definitions have been set out in the CUSC principally to ensure that they are available prior to the draft licence conditions being approved. We support this approach.
				Should the storage provider need to hold a generation licence	We believe that the need to hold a generation licence is an appropriate condition and the work group has brought out the benefits of this.
				How is storage demand measured and should auxiliary demand be included	The solution requires that the imports and exports to the storage facilities are measured by appropriate metering systems. This requirement ensures data is available so that validation can confirm that the facility is operating as a storage facility and not an own use demand facility. The working group report also covers demand relating to auxiliary loads (cooling fans, pumps etc) that are required to ensure the facility can operate as a storage facility. We support this approach.
				(EU) 2019/943. Article	(EU) 2019/943. Article 18, para 1 sets the requirement that, " ...network charges shall not discriminate either positively or

			<table><tr><td>18,</td><td>negatively against energy storage" We believe that this modification is compatible with this article as the case for not applying residual network charges to storage is an economic one. Storage will still be subject to appropriate demand locational charges and is does not benefit from undue discrimination.</td></tr><tr><td></td><td></td></tr><tr><td>Should all locational tariff be floored at zero?</td><td>We agree that the locational tariff should be floored at zero this will provide consistency with other modification and also prevent storage be paid to consume demand over the triad periods.</td></tr></table>
EDF Energy	*Non-Standard (Charging) Objectives* *(a) That compliance with the use of system charging methodology facilitates effective competition in the generation and supply of electricity and (so far as is consistent therewith) facilitates competition in the sale, distribution and purchase of electricity;* *Yes. Under the current charging methodology there is the potential for generator parties (including storage) to be contributing twice towards TNUoS residual charges.*	*Yes*	*WACM1 is considered to better overall facilitate the objectives than the Original as it includes both CVA and SVA, thereby avoiding the creation of a distortion between them.*

	Both the original and WACM1 address this defect by removing liability for the TNUoS Demand Residual tariff element from storage generator parties. *(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 licence condition C26 requirements of a connect and manage connection);* *Neutral* *(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;* *Neutral* *(d) Compliance with the*		

	*Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1 *; and* *Neutral* *(e) Promoting efficiency in the implementation and administration of the CUSC arrangements.* *Yes. Changing the charging methodology so that generator parties (including storage) do not contribute twice towards TNUoS residual charges is more efficient in terms of implementation and administration.*		
Centrica	*Yes, the change will better facilitate Applicable CUSC objective (a) for the reasons set out in the consultation.*	*Yes*	*No*
InterGen (UK) Ltd.	*InterGen believes that the baseline proposal largely achieves the objectives as it will help address the current distortion in the market, which places storage at a competitive disadvantage. Whilst extending this immediately to SVA would seem to make sense, our concern is the additional complexity / cost and that this would cause delay to the timeline for implementation.*	*Subject to the above answer to Q1, InterGen supports the proposed implementation approach.*	*No*

ESB (Generation and Trading)	*We are supportive of CMP280 alternate that covers both SVA and CVA assets, specifically Option 4 CVA and SVA Storage and Generation. Our next preferred option is Option 3: CVA and SVA Storage only. We believe that both options will help address the current distortion and ensure a level playing field between storage and non-storage assets participating in the same energy and system services markets. The proposed modification (Option 3 or 4) will better facilitate the following Applicable CUSC Objective:* *(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* *Storage operators are exposed to demand TNUoS charges significantly more than non-storage generators due to the nature of the asset class. Removing the residual element from the Demand TNUoS paid by storage assets would ensure a level playing field and will remove the competitive disadvantage that storage operators face when bidding into balancing and ancillary services markets.* *Our preferred alternative would be Option 4. The advantage of storage as an asset class lies in its flexibility and ability to be used as a stand-alone asset as well as a co-located support asset. As co-location of generation*	*Yes, we support the proposed implementation approach*	*Our view is that the proposal would better facilitate and is in line with Ofgem's view on residual charging expressed in the TCR: SCR, which says: "To reduce the potential for distortion and improve competition between different types of generator, we think network residuals should be charged directly to final demand consumers". Imports from storage assets do not constitute final demand. Hence it would be sensible to remove the demand residual from storage assets, subject to defining the exact scope and definition of eligible storage, as discussed in the WG report.*

	assets with storage is anticipated to become more common in future, Option 4 would provide a more sustainable solution to the identified distortion. As such, if the removal of demand residual levies is applied equally to storage and generation as part of this mod, this will help avoid any future need for additional changes to address storage assets co-located with existing non-storage generators. *However, we believe that Option 3 also addresses the distortion efficiently since the primary focus of the modification and the most impacted party are covered by this alternative.*		
Drax Power Limited	The original proposal better facilitates the following relevant objectives: a) the modification promotes effective competition by removing a distortion in the current arrangements which disproportionately applies TNUOS residual charges to sites that store electricity (b) the proposals have little impact on cost reflectivity as they address the distortion in residual charges that disproportionately apply to sites that store electricity (c) The original proposal addresses the consequential effect of increase to the TNUOS charges that would	*If the alternative solution to CMP280 is implemented it will require extensive system and process changes as outlined in BSCP383 to be implemented by April 2021. If the original solution to apply to CVA only is implemented, we believe the necessary changes could be accommodated by April 2020 as there are limited changes to dataflows and processes.*	We have not additional comments to offer.

	disproportionately apply to sites that store electricity if the current arrangements were to remain in place unchanged The original proposal was raised in 2017 and reached workgroup consultation in June 2018 with a proposed implementation of April 2020. It applies to CVA sites only and requires few adjustments to current procedures and systems to implement. We believe it would be feasible to implement the original modification swiftly following approval from Ofgem. The alternative proposal which applies to both CVA and SVA shares many of the benefits of the original proposal but will require more extensive related system changes to be implementable. As a consequence we do not believe that the alternative benefits applicable objective (C) as CVA sites that store electricity will remain subject to the distortion for longer than is desirable compared with the original modification.		

Renewable Energy Association	Please see attached response in Annex 06		

10 Legal Text

The finalised versions of the legal text are available in full in Annex 3 of the report.

11 Impacts

Costs

Industry costs (Standard CMP)	
Resource costs	**£20,873** – 2 Consultation • 18 Workgroup meetings • 9 Workgroup members • 1.5 man days effort per consultation response • 11.5 consultation respondents
Total Industry Costs	**£167,888**

Annex 1: CMP280 Terms of Reference

nationalgrid

Workgroup Terms of Reference and Membership

TERMS OF REFERENCE FOR CMP280 WORKGROUP

CMP280 aims to remove liability from Generator and Storage Parties for the Demand Residual element of the TNUoS tariff.

Responsibilities

1. The Workgroup is responsible for assisting the CUSC Modifications Panel in the evaluation of CUSC Modification Proposal **CMP280 Creation of a New Generator TNUoS Demand Tariff which Removes Liability for TNUoS Demand Residual Charges from Generation and Storage Users'** raised by **Scottish Power** at the Modifications Panel meeting on 30 June 2017.

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

   Charging Applicable Objectives

   (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; and

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

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

Scope of work

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

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

   a) Consider interactions (if any) with the Ofgem's TCR (Panel noting the timelines associated with the TCR)
   b) Consider the practical implications of solution e.g. that all metered data is available to National Grid to support the proposed solution
   c) Consider what the interaction with other participants (e.g. Distribution storage)

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

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

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

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

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

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

    As appropriate, the Workgroup will be required to undertake any further analysis and update the original Modification Proposal and/or WACMs. All responses including any WG Consultation Alternative Requests shall be included within the final report including a summary of the Workgroup's deliberations and conclusions. The report should make it clear where and why the Workgroup chairman has exercised his right under the CUSC to

progress a WG Consultation Alternative Request or a WACM against the majority views of Workgroup members. It should also be explicitly stated where, under these circumstances, the Workgroup chairman is employed by the same organisation who submitted the WG Consultation Alternative Request.

12. The Workgroup is to submit its final report to the Modifications Panel Secretary on **7 December 2017** for circulation to Panel Members. The final report conclusions will be presented to the CUSC Modifications Panel meeting on **15 December 2017**.

Membership

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

Role	Name	Representing
Chairman	Caroline Wright	Code Administrator
National Grid Representative	Urmi Mistry	National Grid
Industry Representatives	Rupert Steele James Anderson Bill Reed Robert Longden Libby Glazebrook Paul Mott Andrew Colley Paul Youngman Fruzina Kemenes	Scottish Power (Proposer) Scottish Power RWE Cornwall Energy Engie EDF Energy SSE Drax Innogy
Authority Representatives	Judith Ross	OFGEM
Technical secretary	Heena Chauhan	Code Administrator
Observers	Nicholas Rubin	ELEXON

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

14. The chairman of the Workgroup and the Modifications Panel Chairman must agree a number that will be quorum for each Workgroup meeting. The agreed figure for CMP280 is that at least 5 Workgroup members must participate in a meeting for quorum to be met.

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

- Vote 1: whether each proposal better facilitates the Applicable CUSC Objectives;

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

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

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

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

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

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

Appendix 1 – Updated Timetable

Workgroup Stage

22 June 2017	CUSC Modification Proposal submitted
30 June 2017	Modification Presented to the Panel
30 June 2017	Request for Workgroup Members (10 working days)
w/c 31 July 2017	Meeting 1 via WebEx to ensure Workgroup members have a fully understanding of the context of the modification
w/c 18 September 2017	Circulate draft Workgroup Report
September to May 2018	Workgroup Meetings – Develop Proposal
June 2018	Workgroup Consultation issued to the Industry (15WD)
July 2018	Workgroup Meeting - Workgroup review consultation responses, agree options, finalise legal text and WG vote
August 2018	Workgroup Report issued to CUSC Panel
August 2018	CUSC Panel meeting to discuss Workgroup Report

Code Administrator Stage

September 2018	Code Administration Consultation Report issued to the Industry (15 WD)
October 2018	Draft FMR published for industry comment (3 Working days)
November 2018	Draft Final Modification Report presented to Panel
November 2018	CUSC Panel Recommendation vote
December 2018	Final Modification Report issued the Authority
January/February 2019 *	Indicative Decision for the Authority
1 April 2019 or 1 April 2020	Decision implemented in CUSC

* Note to allow for system changes to be made a decision by Summer 2018 is required for change to be applied to Charging Year 2019

Annex 2: Attendance Log

The Attendance log can be found in the CMP280 area of the National Grid ESO website here.

Annex 3: Legal Text

CMP280 – original

14.15.116 For the Peak Security background the initial tariff for generation is multiplied by the total forecast generation capacity and the PS flag to give the initial revenue recovery:

$$\sum_{Gi=1}^{n}\left(ITT_{Gi\,PS} \times G_{Gi} \times F_{PS}\right) = ITRR_{GPS}$$

Where

$ITRR_{GPS}$ = Peak Security Initial Transport Revenue Recovery for generation

G_{Gi} = Total forecast Generation for each generation zone (based on analysis of confidential User forecasts)

F_{PS} = Peak Security flag appropriate to that generator type

n = Number of generation zones

The initial revenue recovery for gross GSP group demand for the Peak Security background is calculated by multiplying the initial tariff by the total forecast metered triad gross GSP group demand:

$$\sum_{Di=1}^{14}\left(ITT_{DiPS} \times D_{Di}\right) = ITRR_{DPS}$$

Where:

$ITRR_{DPS}$ = Peak Security Initial Transport Revenue Recovery for gross GSP group demand

D_{Di} = Total forecast Metered Triad gross GSP group Demand for each demand zone (based on analysis of confidential User forecasts), minus the forecast Metered Triad gross GSP group Demand of Storage Facilities

14.15.137 The effective Transmission Network Use of System tariff (TNUoS) for generation and gross demand can now be calculated as the sum of the initial transport wider tariffs for Peak Security and Year Round backgrounds, the non-locational residual tariff and the local tariff:

$$ET_{Gi} = \frac{ITT_{GiPS} + ITT_{GiYRNS} + ITT_{GiYRS} + RT_{G}}{1000} + LT_{Gi}$$

and

$$ET_{Di} = \frac{ITT_{DiPS} + ITT_{DiYR} + RT_{D}}{1000}$$

Where

ET_{Gi}= Effective Generation TNUoS Tariff expressed in £/kW (ET_{Gi} would only be applicable to a Power Station with a PS flag of 1 and ALF of 1; in all other circumstances ITT_{GiPS}, ITT_{GiYRNS} and ITT_{GiYRS} will be applied using Power Station specific data)

ET_{Di}= Effective Gross Demand TNUoS Tariff expressed in £/kW

The effective Transmission Network Use of System tariff (TNUoS) for embedded exports can now be calculated by expressing the embedded export tariff in £/kW values:

$$ET_{EEi} = \frac{EET_{Di}}{1000}$$

Where
ET_{EEi}= Effective Embedded Export TNUoS Tariff expressed in £/kW

ET_{ST} = Effective Storage Demand TNUoS Tariff expressed in £/kW

The effective Transmission Network Use of System tariff (TNUoS) for demand to Storage Facilities can now be calculated by expressing the storage demand tariff in £/kW values:

$$ET_{ST} = ET_{Di} - RT_{Di}$$

Where ET_{ST} = Effective Storage Demand TNUoS Tariff expressed in £/kW. The Effective Storage Demand TNUoS Tariff shall be floored at £0/kW.

Parties Liable for Demand Charges

14.17.1 Demand charges are subdivided into charges for gross demand, energy and embedded export. The following parties shall be liable for some or all of the categories of demand charges:

- The Lead Party of a Supplier BM Unit;
- Power Stations with a Bilateral Connection Agreement;
- Parties with a Bilateral Embedded Generation Agreement

14.17.2 Classification of parties for charging purposes, section 14.26, provides an illustration of how a party is classified in the context of Use of System charging and refers to the paragraphs most pertinent to each party.

Basis of Gross Demand Charges

14.17.3 Gross Demand charges are based on a de minimis £0/kW charge for Half Hourly and £0/kWh for Non Half Hourly metered demand.

14.17.4 Chargeable Gross Demand Capacity is the value of Triad gross demand (kW). Chargeable Energy Capacity is the energy consumption (kWh). The definition of both these terms is set out below.

14.17.5 If there is a single set of gross demand tariffs within a charging year, the Chargeable Gross Demand Capacity is multiplied by the relevant gross demand tariff, for the calculation of gross demand charges.

14.17.6 If there is a single set of energy tariffs within a charging year, the Chargeable Energy Capacity is multiplied by the relevant energy consumption tariff for the calculation of energy charges.

14.17.7 If multiple sets of gross demand tariffs are applicable within a single charging year, gross demand charges will be calculated by multiplying the Chargeable Gross Demand Capacity by the relevant tariffs pro rated across the months that they are applicable for, as below,

$$Annual\ Liability_{Dema} \quad Chargeable\ Gross\ Demand\ Capacity \quad \times \left(\frac{(a \times Tariff\ 1)+(b \times Tariff\ 2)}{12}\right)$$

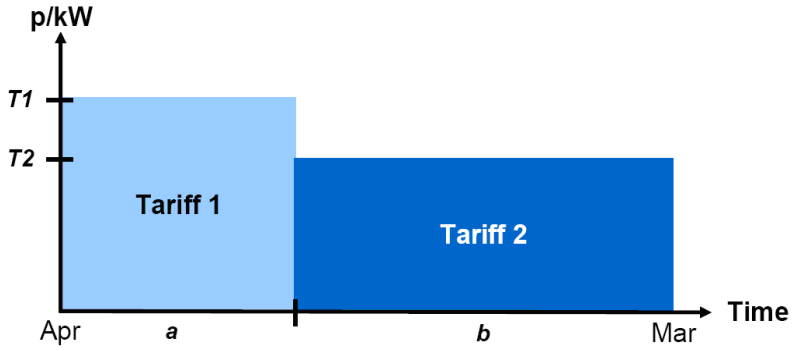
where:

Tariff 1 = Original tariff,

Tariff 2 = Revised tariff,

a = Number of months over which the original tariff is applicable,

b = Number of months over which the revised tariff is applicable.



14.17.8 If multiple sets of energy tariffs are applicable within a single charging year, energy charges will be calculated by multiplying relevant Tariffs by the Chargeable Energy Capacity over the period that that the tariffs are applicable for and summing over the year.

$$Annual\ Liability_{Energy} = Tariff\ 1 \times \sum_{T1_S}^{T1_E} Chargeable\ Energy\ Capacity + Tariff\ 2 \times \sum_{T2_S}^{T1_E} Chargeable\ Energy\ Capacity$$

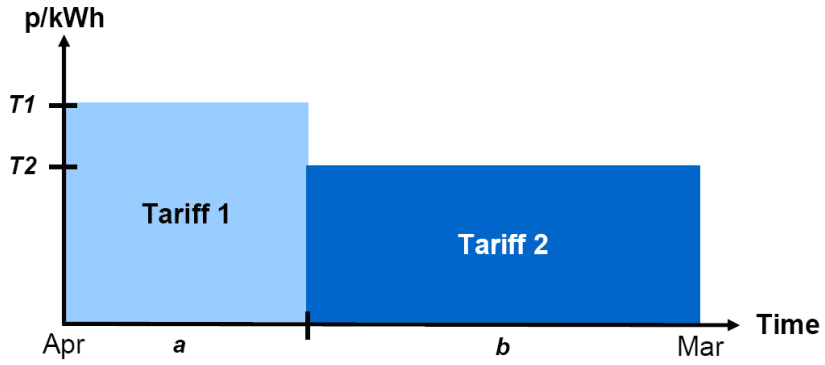
Where:

$T1_S$ = Start date for the period for which the original tariff is applicable,

$T1_E$ = End date for the period for which the original tariff is applicable,

$T2_S$ = Start date for the period for which the revised tariff is applicable,

$T2_E$ = End date for the period for which the revised tariff is applicable.



Basis of Embedded Export Charges

14.17.9 Embedded export charges are based on a £/kW charge for Half Hourly metered embedded export.

14.17.10 Chargeable Embedded Export Capacity is the value of Embedded Export at Triad (kW). The definition of this term is set out below.

14.17.11 If there is a single set of embedded export tariffs within a charging year, the Chargeable Embedded Export Capacity is multiplied by the relevant embedded export tariff, for the calculation of embedded export charges.

14.17.12 If multiple sets of embedded export tariffs are applicable within a single charging year, embedded export charges will be calculated by multiplying the Chargeable Embedded Export Capacity by the relevant tariffs pro rated across the months that they are applicable for, as below,

$$Annual\ Liability_{Demar} \quad \underset{Export\ Capacity}{Chargeable\ Embedded} \quad \times \left(\frac{(a \times Tariff\ 1) + (b \times Tariff\ 2)}{12} \right)$$

where:

Tariff 1 = Original tariff,

Tariff 2 = Revised tariff,

a = Number of months over which the original tariff is applicable,

b = Number of months over which the revised tariff is applicable.

Supplier BM Unit

14.17.13 A Supplier BM Unit charges will be the sum of its energy, gross demand and embedded export liabilities where:

- The Chargeable Gross Demand Capacity will be the average of the Supplier BM Unit's half-hourly metered gross demand during the Triad (and the £/kW tariff), *and*

- The Chargeable Embedded Export Capacity will be the average of the Supplier BM Unit's half-hourly metered embedded export during the Triad (and the £/kW tariff), *and*

- The Chargeable Energy Capacity will be the Supplier BM Unit's non half-hourly metered energy consumption over the period 16:00 hrs to 19:00 hrs inclusive every day over the Financial Year (and the p/kWh tariff).

Power Stations with a Bilateral Connection Agreement and Licensable Generation with a Bilateral Embedded Generation Agreement

14.14.14 ~~T~~The Chargeable Demand Capacity for a Power Station with a Bilateral Connection Agreement or Licensable Generation with a Bilateral Embedded Generation Agreement will be: based on

a) In the case of a Power Station which does not contain, or is not comprised of CVA Storage Facilities, the relevant zonal HH Demand Tariff will be applied to the average of the net import over each Triad leg of the BM Units associated with the Power Station (in Appendix C of its Bilateral Connection Agreement or Bilateral Embedded Generation Agreement, including metered additional load) during the Triad; or ~~.~~

~~a)~~b) Where a Power Station contains or is comprised of a CVA Storage Facility, the Storage Tariff ~~on~~ shall be applied to its average net imports over each Triad leg against its Chargeable Demand Capacity for the BM Unit/s that are comprised within that CVA Storage Facility. The relevant zonal HH Demand Tariff shall be applied to the remaining Chargeable Demand Capacity (if applicable) for the Power Station will be based on the average of the net import over each Triad leg of the remaining BM Units associated with the Power Station (in Appendix C of its Bilateral Connection Agreement or Bilateral Embedded Generation Agreement, including metered additional load) during the Triad.

Exemptible Generation and Derogated Distribution Interconnectors with a Bilateral Embedded Generation Agreement

14.17.15 The demand charges for Exemptible Generation and Derogated Distribution Interconnector with a Bilateral Embedded Generation Agreement will be the sum of its gross demand and embedded export liabilities where:

- The Chargeable Gross Demand Capacity for Exemptible Generation which is not comprised of or does not contain a CVA Storage Facility and Derogated Distribution Interconnectors with a Bilateral Embedded Generation Agreement will be based on the average of the metered gross demand of each BM Unit specified in Appendix C of the Bilateral Embedded Generation Agreement during the Triad.
- Exemptible Generation which is a CVA Storage Facility will be liable for the Storage Tariff against the average of the metered gross demand of each CVA Storage Facility BM Unit during the Triad. The remaining gross demand (if applicable) will be based on the average of the metered gross demand of each remaining BM Unit specified in Appendix C of the Bilateral Embedded Generation Agreement during the Triad
- The Chargeable Embedded Export Capacity for Exemptible Generation and Derogated Distribution Interconnectors with a Bilateral Embedded Generation Agreement will be based on the average of the metered embedded export of each BM Unit specified in Appendix C of the Bilateral Embedded Generation Agreement during the Triad.

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14.15.116 For the Peak Security background the initial tariff for generation is multiplied by the total forecast generation capacity and the PS flag to give the initial revenue recovery:

$$\sum_{Gi=1}^{n}\left(ITT_{Gi\,PS} \times G_{Gi} \times F_{PS}\right) = ITRR_{GPS}$$

Where

$ITRR_{GPS}$ = Peak Security Initial Transport Revenue Recovery for generation

G_{Gi} = Total forecast Generation for each generation zone (based on analysis of confidential User forecasts)

F_{PS} = Peak Security flag appropriate to that generator type

n = Number of generation zones

The initial revenue recovery for gross GSP group demand for the Peak Security background is calculated by multiplying the initial tariff by the total forecast metered triad gross GSP group demand:

$$\sum_{Di=1}^{14}\left(ITT_{DiPS} \times D_{Di}\right) = ITRR_{DPS}$$

Where:

$ITRR_{DPS}$ = Peak Security Initial Transport Revenue Recovery for gross GSP group demand

D_{Di} = Total forecast Metered Triad gross GSP group Demand for each demand zone (based on analysis of confidential User forecasts), minus the forecast Metered Triad gross demand of Storage Facilities

14.17.16 The effective Transmission Network Use of System tariff (TNUoS) for generation and gross demand can now be calculated as the sum of the initial transport wider tariffs for Peak Security and Year Round backgrounds, the non-locational residual tariff and the local tariff:

$$ET_{Gi} = \frac{ITT_{GiPS} + ITT_{GiYRNS} + ITT_{GiYRS} + RT_G}{1000} + LT_{Gi}$$

and

$$ET_{Di} = \frac{ITT_{DiPS} + ITT_{DiYR} + RT_D}{1000}$$

Where

ET_{Gi}= Effective Generation TNUoS Tariff expressed in £/kW (ET_{Gi} would only be applicable to a Power Station with a PS flag of 1 and ALF of 1; in all other circumstances ITT_{GiPS}, ITT_{GiYRNS} and ITT_{GiYRS} will be applied using Power Station specific data)

ET_{Di}= Effective Gross Demand TNUoS Tariff expressed in £/kW

The effective Transmission Network Use of System tariff (TNUoS) for embedded exports can now be calculated by expressing the embedded export tariff in £/kW values:

$$ET_{EEi} = \frac{EET_{Di}}{1000}$$

Where

ET_{EEi}= Effective Embedded Export TNUoS Tariff expressed in £/kW

ET_{ST} = Effective Storage Demand TNUoS Tariff expressed in £/kW

The effective Transmission Network Use of System tariff (TNUoS) for demand to Storage Facilities can now be calculated by expressing the storage demand tariff in £/kW values:

$$ET_{ST} = ET_{Di} - RT_{Di}$$

Where ET_{ST} = Effective Storage Demand TNUoS Tariff expressed in £/kW. The Effective Storage Demand TNUoS Tariff shall be floored at £0/kW

14.17 Demand Charges

Parties Liable for Demand Charges

14.17.14 Demand charges are subdivided into charges for gross demand, energy and embedded export. The following parties shall be liable for some or all of the categories of demand charges:

- The Lead Party of a Supplier BM Unit;
- Power Stations with a Bilateral Connection Agreement;
- Parties with a Bilateral Embedded Generation Agreement

14.17.15 Classification of parties for charging purposes, section 14.26, provides an illustration of how a party is classified in the context of Use of System charging and refers to the paragraphs most pertinent to each party.

Basis of Gross Demand Charges

14.17.16 Gross Demand charges are based on a de minimis £0/kW charge for Half Hourly and £0/kWh for Non Half Hourly metered demand.

14.17.17 Chargeable Gross Demand Capacity is the value of Triad gross demand (kW). Chargeable Energy Capacity is the energy consumption (kWh). The definition of both these terms is set out below.

14.17.18 If there is a single set of gross demand tariffs within a charging year, the Chargeable Gross Demand Capacity is multiplied by the relevant gross demand tariff, for the calculation of gross demand charges.

14.17.19 If there is a single set of energy tariffs within a charging year, the Chargeable Energy Capacity is multiplied by the relevant energy consumption tariff for the calculation of energy charges.

14.17.20 If multiple sets of gross demand tariffs are applicable within a single charging year, gross demand charges will be calculated by multiplying the Chargeable Gross Demand Capacity by the relevant tariffs pro rated across the months that they are applicable for, as below,

$$Annual\ Liability_{Dema} \quad Chargeable\ Gross\ Demand\ Capacity \quad \times \left(\frac{(a \times Tariff\ 1)+(b \times Tariff\ 2)}{12}\right)$$

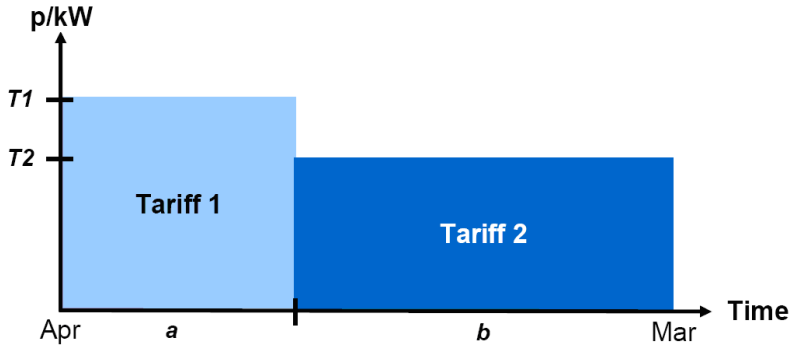
where:

Tariff 1 = Original tariff,

Tariff 2 = Revised tariff,

a = Number of months over which the original tariff is applicable,

b = Number of months over which the revised tariff is applicable.



14.17.21 If multiple sets of energy tariffs are applicable within a single charging year, energy charges will be calculated by multiplying relevant Tariffs by the Chargeable Energy Capacity over the period that that the tariffs are applicable for and summing over the year.

$$Annual\ Liability_{Energy} = Tariff\ 1 \times \sum_{T1_S}^{T1_E} Chargeable\ Energy\ Capacity + Tariff\ 2 \times \sum_{T2_S}^{T1_E} Chargeable\ Energy\ Capacity$$

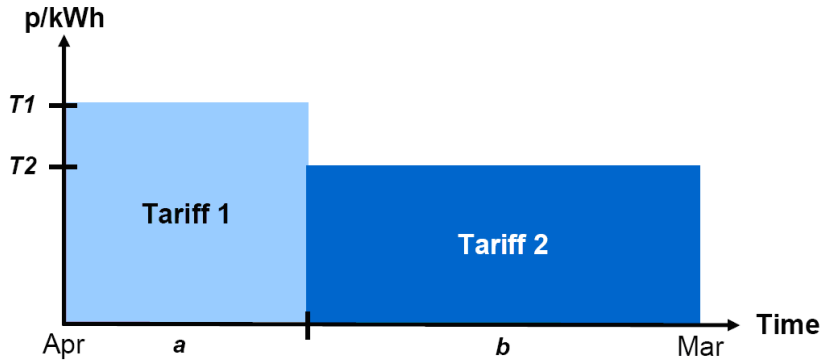
Where:

$T1_S$ = Start date for the period for which the original tariff is applicable,

$T1_E$ = End date for the period for which the original tariff is applicable,

$T2_S$ = Start date for the period for which the revised tariff is applicable,

$T2_E$ = End date for the period for which the revised tariff is applicable.



Basis of Embedded Export Charges

14.17.22 Embedded export charges are based on a £/kW charge for Half Hourly metered embedded export.

14.17.23 Chargeable Embedded Export Capacity is the value of Embedded Export at Triad (kW). The definition of this term is set out below.

14.17.24 If there is a single set of embedded export tariffs within a charging year, the Chargeable Embedded Export Capacity is multiplied by the relevant embedded export tariff, for the calculation of embedded export charges.

14.17.25 If multiple sets of embedded export tariffs are applicable within a single charging year, embedded export charges will be calculated by multiplying the Chargeable Embedded Export Capacity by the relevant tariffs pro rated across the months that they are applicable for, as below,

$$Annual\ Liability_{Demar} \quad \begin{matrix} Chargeable\ Embedded \\ Export\ Capacity \end{matrix} \quad \times \left(\frac{(a \times Tariff\ 1) + (b \times Tariff\ 2)}{12} \right)$$

where:

Tariff 1 = Original tariff,

Tariff 2 = Revised tariff,

a = Number of months over which the original tariff is applicable,

b = Number of months over which the revised tariff is applicable.

Supplier BM Unit

14.17.26 A Supplier BM Unit charges will be the sum of its energy, gross demand and embedded export liabilities where:

- The Chargeable Gross Demand Capacity will be the average of the Supplier BM Unit's half-hourly metered gross demand, excluding imports to any SVA Storage Facility of which the Supplier is the Registrant, during the Triad (and the £/kW tariff), *and*
- The Chargeable Gross Demand Capacity for a SVA Storage Facility will be the storage facility demand, during the Triad period, as provided to The Company and subject to the Storage Tariff.

- The Chargeable Embedded Export Capacity will be the average of the Supplier BM Unit's half-hourly metered embedded export during the Triad (and the £/kW tariff), *and*

- The Chargeable Energy Capacity will be the Supplier BM Unit's non half-hourly metered energy consumption over the period 16:00 hrs to 19:00 hrs inclusive every day over the Financial Year (and the p/kWh tariff).

Power Stations with a Bilateral Connection Agreement and Licensable Generation with a Bilateral Embedded Generation Agreement

14.17.27 Except where a Power Station is comprised of, or contains a Storage Facility, ~~T~~the Chargeable Demand Capacity for a Power Station with a Bilateral Connection Agreement or Licensable Generation with a Bilateral Embedded Generation Agreement will be based on the average of the net import over each Triad leg of the BM Units associated with the Power Station (in Appendix C of its Bilateral Connection Agreement or Bilateral Embedded Generation Agreement, including metered additional load) during the Triad.

14.17.28 Where a Power Station is comprised of or contains a CVA Storage Facility, it will be charged the Storage Tariff on its average net imports over each Triad leg against its Chargeable Demand Capacity for the BM Unit/s that are comprised within that CVA Storage Facility. The remaining Chargeable Demand Capacity (if applicable) for the Power Station will be based on the average of the net import over each Triad leg of the remaining BM Units associated with the Power Station (in Appendix C of its Bilateral Connection Agreement or Bilateral Embedded Generation Agreement, including metered additional load) during the Triad.

Exemptible Generation and Derogated Distribution Interconnectors with a Bilateral Embedded Generation Agreement

~~14.17.27~~14.17.29 The demand charges for Exemptible Generation and Derogated Distribution Interconnector with a Bilateral Embedded Generation Agreement will be the sum of its gross demand and embedded export liabilities where:

- The Chargeable Gross Demand Capacity for Exemptible Generation which is not comprised of or does not contain a CVA Storage Facility and Derogated Distribution Interconnectors with a Bilateral Embedded Generation Agreement will be based on the average of the metered gross demand of each BM Unit specified in Appendix C of the Bilateral Embedded Generation Agreement during the Triad.
- Exemptible Generation which is a CVA Storage Facility will be liable for the Storage Tariff against the average of the metered gross demand of each CVA Storage Facility BM Unit during the Triad. The remaining gross demand (if applicable) will be based on

the average of the metered gross demand of each remaining BM Unit specified in Appendix C of the Bilateral Embedded Generation Agreement during the Triad

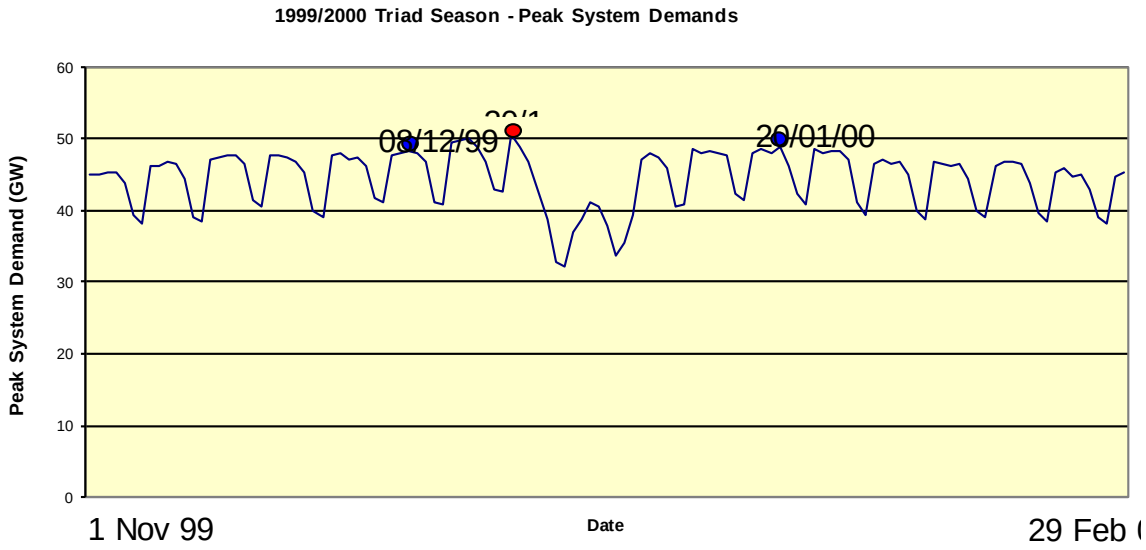
- The Chargeable Embedded Export Capacity for Exemptible Generation and Derogated Distribution Interconnectors with a Bilateral Embedded Generation Agreement will be based on the average of the metered embedded export of each BM Unit specified in Appendix C of the Bilateral Embedded Generation Agreement during the Triad.

Small Generators Tariffs

~~14.17.28~~14.17.30 In accordance with Standard Licence Condition C13, any under recovery from the MAR arising from the small generators discount will result in a unit amount of increase to all GB gross demand tariffs.

The Triad

~~14.17.29~~14.17.31 The Triad is used as a short hand way to describe the three settlement periods of highest transmission system demand within a Financial Year, namely the half hour settlement period of system peak net demand and the two half hour settlement periods of next highest net demand, which are separated from the system peak net demand and from each other by at least 10 Clear Days, between November and February of the Financial Year inclusive. Exports on directly connected Interconnectors and Interconnectors capable of exporting more than 100MW to the Total System shall be excluded when determining the system peak netdemand. An illustration is shown below.



Half-hourly metered demand charges

~~14.17.30~~14.17.32 For the purposes of this Paragraph 14.17, the volumes imported by, or supplied to SVA Storage Facilities shall be determined by BSCCo and communicated to The Company from time to time. For Supplier BMUs and BM Units associated with Exemptible Generation and Derogated Distribution Interconnectors with a Bilateral Embedded Generation Agreement, if the average half-hourly metered gross demand volume, excluding those volumes imported by SVA Storage Facilities, over the Triad results in an

import, the Chargeable Gross Demand Capacity will be positive resulting in the BMU being charged.
If the average half-hourly metered embedded export volume over the Triad results in an export, the Chargeable Embedded Export Capacity will be negative resulting in the BMU being paid the relevant tariff; where the tariff is positive. For the avoidance of doubt, parties with Bilateral Embedded Generation Agreements that are liable for Generation charges will not be eligible for payment of the embedded export tariff.

Monthly Charges

~~14.17.31~~14.17.33 Throughout the year Users will submit a Demand Forecast. A Demand Forecast will include:

- half-hourly metered gross demand to be supplied during the Triad for each BM Unit, excluding any volumes to be supplied to Storage Facilities;
- half-hourly metered embedded export to be exported during the Triad for each BM Unit
- non-half hourly metered energy to be supplied over the period 16:00 hrs to 19:00 hrs inclusive every day over the Financial Year for each BM Unit

~~14.17.32~~14.17.34 Throughout the year Users' monthly demand charges will be based on their Demand Forecast of:

- half-hourly metered gross demand to be supplied during the Triad for each BM Unit, (subject to 14.17.19) multiplied by the relevant zonal £/kW tariff; and
- half-hourly metered embedded export to be supplied during the Triad for each BM Unit, multiplied by the relevant zonal £/kW tariff; and
- non-half hourly metered energy to be supplied over the period 16:00 hrs to 19:00 hrs inclusive every day over the Financial Year for each BM Unit, multiplied by the relevant zonal p/kWh tariff

Users' annual TNUoS demand charges are based on these forecasts and are split evenly over the 12 months of the year. Users have the opportunity to vary their demand forecasts on a quarterly basis over the course of the year, with the demand forecast requested in February relating to the next Financial Year. Users will be notified of the timescales and process for each of the quarterly updates. The Company will revise the monthly Transmission Network Use of System demand charges by calculating the annual charge based on the new forecast, subtracting the amount paid to date, and splitting the remainder evenly over the remaining months. For the avoidance of doubt, only positive demand forecasts (i.e. representing a net import from the system) will be used in the calculation of charges.

Demand forecasts for a User will be considered positive where:

- The sum of the gross demand forecast and embedded export forecast is positive; and
- The non-half hourly metered energy forecast is positive.

~~14.17.33~~14.17.35 Users should submit reasonable demand forecasts of gross demand, embedded export and energy in accordance with the CUSC. The Company shall use the following methodology to derive a forecast to be used in determining whether a User's forecast is reasonable, in accordance with the CUSC, and this will be used as a replacement forecast if the User's total forecast is deemed unreasonable. The Company will, at all times, use the latest available Settlement data.

For existing Users:

i) The User's Triad gross demand, excluding those volumes supplied to Storage Facilities, and embedded export for the preceding Financial Year will be used where User settlement data is available and where The Company calculates its forecast before the Financial Year. Otherwise, the User's average weekday settlement period 35 half-hourly metered (HH) gross demand, excluding those volumes supplied to Storage Facilities, and embedded export in the Financial Year to date is compared to the equivalent average gross demand and embedded export for the corresponding days in the preceding year. The percentage difference is then applied to the User's HH gross demand, excluding volumes supplied to Storage Facilities, and embedded export at Triad in the preceding Financial Year to derive a forecast of the User's HH gross demand and embedded export at Triad for this Financial Year.

ii) The User's non half-hourly metered (NHH) energy consumption over the period 16:00 hrs to 19:00 hrs every day in the Financial Year to date is compared to the equivalent energy consumption over the corresponding days in the preceding year. The percentage difference is then applied to the User's total NHH energy consumption in the preceding Financial Year to derive a forecast of the User's NHH energy consumption for this Financial Year.

For new Users who have completed a Use of System Supply Confirmation Notice in the current Financial Year:

iii) The User's average weekday settlement period 35 half-hourly metered (HH) gross demand and embedded export over the last complete month for which The Company has settlement data is calculated, excluding metered volumes of Storage Facilities. Total system average HH gross demand and embedded export for weekday settlement period 35 for the corresponding month in the previous year is compared to total system HH gross demand and embedded export at Triad in that year and a percentage difference is calculated. This percentage is then applied to the User's average HH gross demand, excluding metered volumes of Storage Facilities, and embedded export for weekday settlement period 35 over the last month to derive a forecast of the User's HH gross demand and embedded export at Triad for this Financial Year.

iv) The User's non half-hourly metered (NHH) energy consumption over the period 16:00 hrs to 19:00 hrs every day over the last complete month for which The Company has settlement data is noted. Total system NHH energy consumption over the corresponding month in the previous year is compared to total system NHH energy consumption over the remaining months of that Financial Year and a percentage difference is calculated. This percentage is then applied to the User's NHH energy consumption over the month described above, and all NHH energy consumption in

previous months is added, in order to derive a forecast of the User's NHH metered energy consumption for this Financial Year.

~~14.17.34~~14.17.36 14.28 Determination of The Company's Forecast for Demand Charge Purposes illustrates how the demand forecast will be calculated by The Company.

Reconciliation of Demand Charges

~~14.17.35~~14.17.37 The reconciliation process is set out in the CUSC. The demand reconciliation process compares the monthly charges paid by Users against actual outturn charges. Due to the Settlements process, reconciliation of demand charges is carried out in two stages; initial reconciliation and final reconciliation.

Initial Reconciliation of demand charges

~~14.17.36~~14.17.38 The initial reconciliation process compares Users' demand forecasts and corresponding monthly charges paid over the year against actual outturn data (using latest Settlement data available at the time) and corresponding charges. Initial reconciliation is carried out in two parts; Initial Reconciliation Part 1 deals with the reconciliation of half-hourly metered demand charges and Initial Reconciliation Part 2 deals with the reconciliation of non-half-hourly metered demand charges.

Initial Reconciliation Part 1– Half-hourly metered demand

~~14.17.37~~14.17.39 The Company will identify the periods forming the Triad once it has received Central Volume Allocation data from the Settlement Administration Agent for all days up to and including the last day of February. Once The Company has notified Users of the periods forming the Triad they will not be changed even if disputes are subsequently resolved which would change the periods forming the Triad.

~~14.17.38~~14.17.40 Initial outturn charges for half-hourly metered gross demand will be determined using the latest available data of actual average Triad gross demand (kW) , excluding volumes supplied to Storage Facilities, multiplied by the zonal gross demand tariff(s) (£/kW) applicable to the months concerned for each zone for that Financial Year. These actual values are then reconciled against the monthly charges paid in respect of half-hourly gross demand.

~~14.17.39~~14.17.41 Initial outturn charges for half-hourly metered embedded export will be determined using the latest available data of actual average Triad embedded export (kW) multiplied by the zonal embedded export tariff(s) (£/kW) applicable to the months concerned for each zone for that Financial Year. These actual values are then reconciled against the monthly charges paid in respect of half-hourly embedded exports.

Initial Reconciliation Part 2 – Non-half-hourly metered demand

~~14.17.40~~14.17.42 Actual payments for non-half-hourly metered demand will be determined using the latest available actual energy consumption data (kWh) for the period 16:00 hrs to 19:00 hrs inclusive (i.e. settlement periods 33 to 38) over the year multiplied by the energy consumption tariff(s) (p/kWh) applicable to the months concerned for each zone. These actual values are then reconciled against the monthly charges paid in respect of non-half-hourly energy consumption.

Final Reconciliation of demand charges

~~14.17.41~~14.17.43 The final reconciliation process compares Users' charges (as calculated during the initial reconciliation process using the latest available data) against final outturn demand charges (based on final settlement data of half-hourly gross demand net of any volumes supplied to Storage Facilities, embedded exports and non-half-hourly energy consumption).

~~14.17.42~~14.17.44 Final actual charges will be determined using the final demand reconciliation data taken from the Final Reconciliation Settlement Run or the Final Reconciliation Volume Allocation Run.

Annex 4: Elexon Discussion Paper

CMP280/281 - CONSISTENT TREATMENT OF GENERATION – DISCUSSION PAPER

Ofgem and BEIS set out actions in their Smart Systems and Flexibility Plan (SSFP)[1] to clarify the arrangements for charging electricity storage for Final Consumption Levies (FCLs) and network charges. To give effect to the actions in the SSFP, Ofgem consulted on changes to the standard conditions of the Generation Licence. Additionally, Scottish Power proposed changes to how the Transmission Company calculates network charges in accordance with the Connection and Use of System Code (CUSC).

These changes need to be made in a coordinated way, or it will further increase the complexity of the industry codes and regulations. Furthermore, if uncoordinated it will result in more costly and inefficient operations as industry participants manage inconsistencies. We believe it would be better to implement changes that adopt a consistent approach to defining and identifying affected sites, and collecting, aggregating and sharing metered data for calculating FCLs and network charges. This will enable innovation from new business models, new technologies and new services, which is in the interests of consumers.

We believe that industry should adopt a common approach to FCL and network charging based on that outlined in the Ofgem/BEIS Smart Systems and Flexibility Plan. We have developed a proposed approach and will discuss this with industry and interested parties. Furthermore, we propose that this approach can be supported by ELEXON's new systems architecture.

Charging electricity storage providers is changing: FCLs and network charges

In July 2017, Ofgem and BEIS jointly published the SSFP. In it they explained how they expected the industry arrangements to change to better facilitate the participation of electricity storage. Amongst other things, the SSFP covered the following issues:

- Network charges (Transmission Use of System (TNUOS), Balancing Services Use of System (BSUOS) and Distribution Use of System (DUOS)) put electricity storage at a disadvantage compared to other forms of generation; and
- Electricity storage operated by a generation licence holder ought to be exempt from paying Final Consumption Levies (such as for the Renewables Obligation (RO), and Capacity Market (CM)/Contract for Difference (CFD) arrangements).

In the SSFP, Ofgem and BEIS set out their view that any electricity supplied by a licensed Supplier to storage facilities operated by a Generation Licence holder should not be subject to Final Consumption Levies (FCLs):

'Electricity supplied to generation licence holders is excluded from the supply volumes used to calculate the costs of the Renewables Obligation (RO), Contracts for Difference (CFD), Feed in Tariffs (FITs) and Capacity Market auctions. Holders of either a generation licence or the new storage licence to be consulted on by Ofgem will, as a result, not be liable for such levies.'

In September 2017, Ofgem reinforced this point when it consulted on changes to the standard conditions of the Generation Licence[2]. However, in practice there are currently inconsistencies between the way certain FCLs are charged, and the approach set out by BEIS and Ofgem in the SSFP. In particular, the CFD and CM charges levied on Suppliers do include imports to plant that are exemptible[3] but operated by a licensee[4]. Therefore, in order to give

[1] Ofgem and BEIS, 'Upgrading our Energy System – smart systems and flexibility plan' (July 2017)
[2] Ofgem, 'Clarifying the regulatory framework for electricity storage: Licensing' (September 2017).
[3] The CM and CFD arrangements rely on the BSC defined term 'Exemptable Generating Plant', which means 'Generating Plant where the person generating electricity at that Generating Plant is, or would (if it generated electricity at no other Generating Plant and/or did not hold a

full effect to Ofgem and BEIS' policy intent, we believe the CM and CFD arrangements will need to change, so that imports for the explicit operation[5] of any plant operated by a generation licensee are excluded from the calculation of CM and CFD charges. This represents a change to charging arrangements primarily for storage (and other generating plant) that is exemptible[6] but licensed (as illustrated in the Venn diagram in Figure 1).

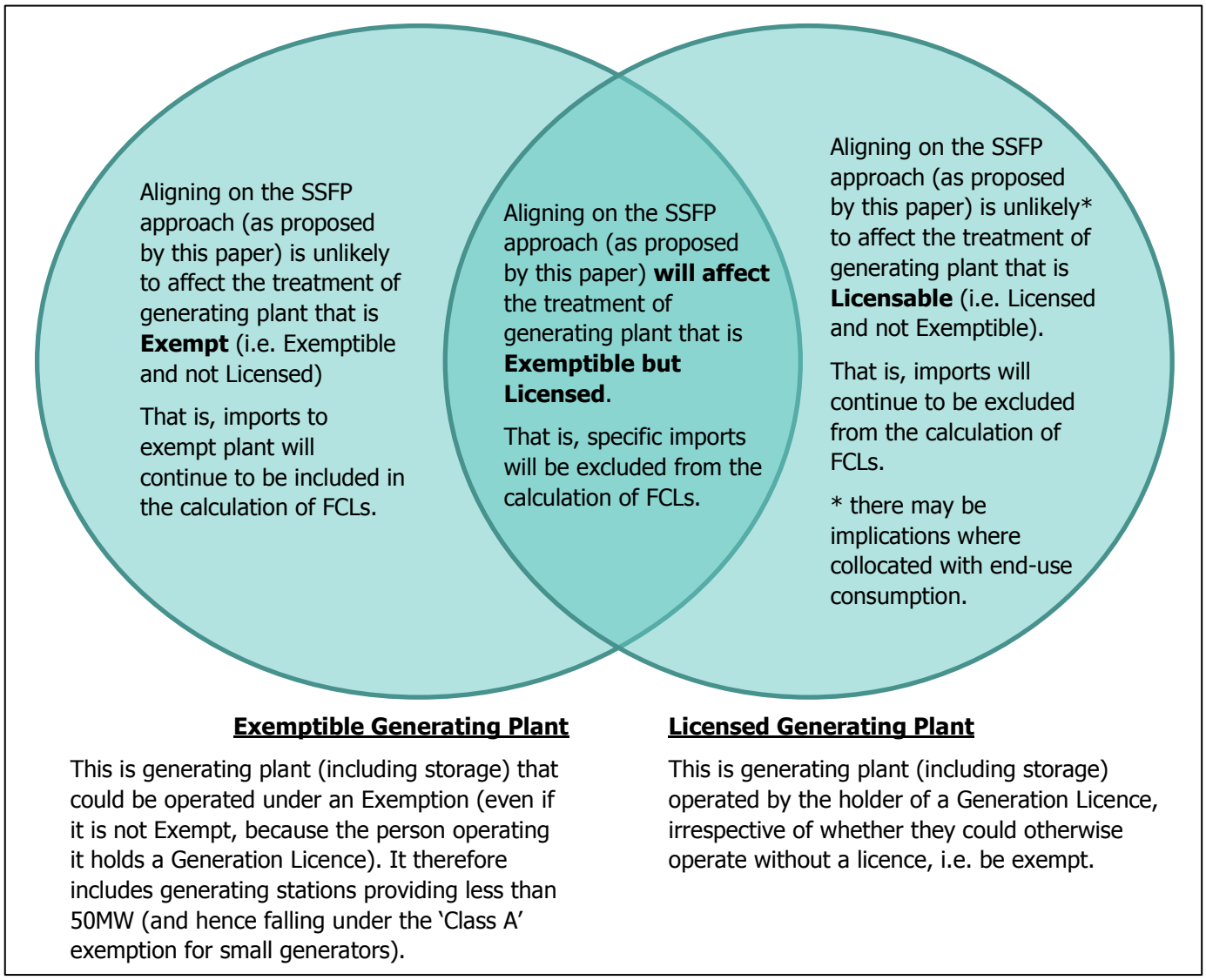


Figure 1

Generation Licence) be, exempt from the requirement to hold a Generation Licence'. The terms 'exemptible' and 'Exemptable Generating Plant' do not have an explicit basis in relevant legislation, e.g. the Electricity Act 1989.

[4] LCCC and Electricity Settlements Company, 'G2 – Calculation of Supplier Demand for EMR Charging - EMRS Guidance' (March 2018) – paragraph 6.4

[5] For a more detailed explanation, please see the subsection entitled 'Scope of revised charging arrangements' below.

[6] The Connection and Use of System Code (CUSC) uses the term 'Exemptible', while the BSC uses the term 'Exemptible', but the meaning is the same.

In June 2017, Scottish Power raised CUSC Modifications CMP280[7] and CMP281[8] in response to Ofgem and BEIS' views on how storage providers are charged network charges. CMP280 currently seeks to create a new Generator Demand TNUoS tariff consisting of only the locational elements of the Demand TNUoS tariff, thereby excluding all imports by Central Volume Allocation[9] (CVA) registered generators (including storage) from the calculation of the Demand Residual Charge. CMP281 currently seeks to exclude the imports to 'exemptible storage BM [Balancing Mechanism] Units' from the calculation of BSUOS charges. As it stands, CMP281 proposes to define 'exemptible storage BM Units' as a BMU that consists of only plant and apparatus capable of storing energy from electricity imported from the Transmission System and wholly or mainly converting stored energy back to electricity for the purpose of exporting it back to the Transmission System, i.e. CVA registered.

Ofgem and BEIS' SSFP and consultation on changes to the Generation Licence are based on the idea that electricity storage constitutes a form of generation and so should be subject to the same industry arrangements where these are appropriate. We are concerned that the FCL and CUSC arrangements are heading in different directions. Our understanding is that in practice Ofgem and BEIS' policy means imports for the explicit operation[10] of any generating plant operated by a licensee should be excluded from FCLs – regardless of whether the site is connected to a Transmission System or Distribution System, and whether the site's meters are registered in the BSC's Supplier Volume Allocation (SVA) or CVA arrangements. However, both CUSC modifications seek a more limited effect. That is, CMP280 applies to all generation registered in the BSC's CVA arrangement, and CMP281 applies to 'Exemptible Storage BM Units' only, which would also only apply to plant connected to the Transmission System and registered in the BSC's CVA arrangements.

One of the key issues raised by respondents to the SSFP Call for Evidence[11] was that complexity and lack of consistency in charging arrangements is a barrier to investment in storage. In order to improve rather than worsen this situation, we propose that parties, code administrators and others involved in the development of charging arrangements should seek to converge on the approach outlined in the SSFP. In particular that:

- Imports to storage (and other generation) operated by a generation licensee should be excluded from the calculation of FCLs, network charges and other charges levied on demand, irrespective of whether the generation is 'exemptible', or whether it is registered in Supplier Volume Allocation (SVA) or CVA); but
- Imports to storage (and other generation) that is operated by an unlicensed person should be treated like an ordinary 'supply' and included in the calculation of FCLs, network charges and other charges levied on demand.

For example, we believe the CMP280 and 281 workgroups should consider Workgroup Alternative CUSC Modifications (WACMs) that are consistent with Ofgem and BEIS' approach. In particular, that changes to the rules for charging TNUOS and BSUOS are, as far as possible, implemented so they apply to all licensed storage providers (and possibly generators) whether or not they are connected to the Transmission System and registered in CVA.

As well as facilitating fair treatment, we believe common or at least consistent industry arrangements would likely keep the cost of changes to central and individual parties' processes and systems to a minimum, rather than requiring the design of solutions that substantively differ from code to code, agreement to agreement.

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[7] CMP280 'Creation of a New Generator TNUoS Demand Tariff which Removes Liability for TNUoS Demand Residual Charges from Generation and Storage Users'

[8] CMP281 'Removal of BSUoS Charges From Energy Taken From the National Grid System by Storage Facilities'

[9] The terms Central Volume Allocation (CVA) and Supplier Volume Allocation (SVA) refer to different sets of BSC rules for registering metering systems and collecting and aggregating corresponding metered data for Settlement purposes. SVA arrangements apply to metering systems registered by Suppliers, where metered data is collected and aggregated by Supplier Agents. The CVA arrangements apply to larger and individual sites registered by a BSC Party (typically generators), where metered data is collected and aggregated by central agents managed by ELEXON.

[10] For a more detailed explanation, please see the subsection entitled 'Scope of revised charging arrangements' below.

[11] The issues raised by respondents are summarised in the SSFP 'Call for Evidence question summaries and response from the Government and Ofgem' (July 2017)

Detailed implementation issues

In order for market participants to benefit from a consistent approach to charging, it is important that different codes and charging arrangements adopt a consistent approach not just to principles, but to the details of implementation. In the context of aligning charging arrangements on the approach outlined in the SSFP, these important details include clear and consistent definitions of the following (which are discussed in more detail in the remainder of this paper):

1. The **scope of revised charging arrangements**, e.g. the extent to which imports to other loads associated/co-located with the licensed storage (or generation) can be excluded from the supply volumes used to calculate FCLs and network charges;
2. The **metering arrangements** necessary to collect metered volumes for such storage or generation; and
3. The industry processes for licensed generators (or other parties acting on their behalf) to **register which Metering Systems** should be excluded from the calculation of import charges, and for data from those Metering Systems to be **collected and aggregated** for charging purposes.

Scope of revised charging arrangements

Although the principle of not charging for imports to storage (and other generation) operated by licence holders seems clear, consideration is needed of what happens when generating units are co-located with end-use consumption. Imports to the end-use consumption should still be charged for (on grounds of fairness, and to avoid creating perverse incentives for all consumers to install storage or other generation as a way of avoiding charges).

In October 2017, Ofgem recognised this point in its consultation on changes to the generation licence. They proposed a licence condition that licensees operating a storage facility must primarily export back to the system, thereby limiting the types of electricity storage provider that could hold a licence. However, this does not entirely solve the problem, as licensees operating other forms of generation would not be subject to the same constraint.

Earlier this year ELEXON discussed these points of definition with Ofgem and BEIS. Our understanding is that Ofgem and BEIS had meant only electricity imported for the specific purpose of operating a generating asset operated by a licensee should be exempt from FCLs and other charges. In other words, it is only imports to licensed storage units and generating units (and any directly associated load) for the eventual purpose of exporting electricity back to a Transmission or Distribution System that should be excluded from import charges.

In order to implement the above, industry would need to agree a clear definition of what load can be treated as directly associated with a generating unit. We suggest that it may be appropriate to follow existing Low Carbon Contracts Company (LCCC) guidance on what load should be included in the registration of a CFD Facility i.e. the licensed generating unit(s) and any auxiliary equipment required to operate the generating unit(s) for a sustained period of time safely and efficiently at the maximum capacity possible and without causing damage to it.

Metering Arrangements

The majority of FCLs and network charges are calculated using data from Settlement metering installed in accordance with the provisions of the BSC. The approach outlined above therefore implies that licensed generators wishing to avoid charges on imports to their generating units will need to ensure that those generating units (and any directly associated load) is metered separately to any other on-site load.

- Single purpose sites - existing Settlement metering may be sufficient for collecting and reporting metered data for straightforward sites where the imports are explicitly for the operation of the generating unit(s).
- Mixed purpose sites - however, a party may need to install additional metering where a site is complex, so the metering differentiates between electricity imported for operating licensed generating unit(s) and for other purposes.

- Rely on existing Settlement metering – that is, because existing Settlement metering may not differentiate between how the electricity is used on site, the metered data for mixed purpose sites cannot be used to exclude the site from the calculation of FCLs or network charges;
- Register additional Settlement meters – parties could use existing BSC provisions to register additional Metering Systems in Settlement that explicitly record the different imports at a mixed purpose site; or
- Operational metering - a party might install non-Settlement metering 'behind-the-meter', to record the different sub-flows of electricity use. However, the metered data from these non-Settlement meters is not currently collected and aggregated for Settlement purposes and reported by ELEXON to Network Businesses, Suppliers and EMRS Ltd. Therefore, parties would need to collect this metered data themselves and report it directly to whomever is responsible for calculating FCLs or network charges. Furthermore, the charging arrangements would need to change to allow this alternative source of metered data to be used in the calculation of charges.
- Incorporate 'behind-the-meter' activities into the BSC - ELEXON recognises that future charging and market arrangements, e.g. Peer to Peer trading and market aggregation services, require greater visibility and control of 'behind-the-meter' activities. As such we are already exploring how the industry arrangements might be modified to enable the registration, assurance and aggregation or differencing of sub-metering, which traditionally has not been necessary for Settlement purposes. By extending the BSC to cover non-Settlement meters, metered data could be collected, aggregated and reported using existing or amended BSC provisions.

Industry processes for registration, data collection and data aggregation

The processes for calculating network charges and FCLs are specified in industry codes (CUSC, DCUSA and BSC) for network charging, and secondary legislation for FCLs (such as RO, CM and CFD charges). In general, all these processes rely on BSC registration, data collection and data aggregation processes to obtain the aggregated metered data needed for charging purposes.

As a result, changing the charging arrangements to differentiate between licensed storage and generation and exempt storage and generation will require changes to BSC processes (including in particular the development of processes for licensed generators, or parties acting on their behalf, to identify Metering Systems associated with licensed generating plant).

We believe that a BSC Modification to deliver these changes would be relatively straightforward, as it would build on the solution we are delivering next year for Modification Proposal P344 ('Project TERRE implementation into GB market arrangements'). The P344 solution includes processes for registering information about individual Metering Systems, and aggregating metered data related to them. These processes are being delivered on a new data platform, implemented on the public cloud using micro-services and Software as a Service (SAAS) solutions. This architecture gives us the ability to adapt our business processes flexibly and quickly, and would therefore facilitate re-purposing the P344 solution to also collect and aggregate data related to licensed generation for network charging and FCL purposes.

Possible wider implications – remove the distinction between exemptible and licensable plant?

Ofgem and BEIS' intent is to differentiate between generating units that are operated by parties that either hold a licence or not. They have told us that they do not differentiate between exemptible and licensable plant.

As stated above, we believe it is in the interest of parties and consumers that changes to the arrangements for FCLs and network charges should be implemented as consistently as possible across the industry codes. With this in mind we believe that Ofgem and BEIS' policy intent could require further consideration of how the wider industry arrangements apply to generators.

For example, the BSC differentiates between exemptible and licensable plant. The purpose of this distinction is to enable exemptible plant to be registered by a Supplier in the SVA arrangements, who then accrues embedded benefits (for example reduced BSUOS charges), which they may share with the generator.

Ofgem and BEIS' policy intent in relation to FCLs suggest that we should differentiate between plant operated by a licensee or not, rather than between exemptible and licensable plant. In order that the overall treatment of generators is consistent, it may be appropriate to modify the BSC and other industry codes to align with this treatment. Whilst such a change might enable consistency and simplify the treatment of generators, it could have considerable practical and financial implications for generators and suppliers.

Summary and Next Steps

In summary, we propose that parties, code administrators and others involved in the development of charging arrangements should seek to converge on the following approach, which is based on that outlined in the SSFP:

- Imports to generation (including storage) operated by a generation licensee should **not** be subject to FCLs or demand charges, provided that there is dedicated Settlement Metering of the imports to licensed generating units (and any auxiliary equipment required to operate them for a sustained period of time safely and efficiently at the maximum capacity possible and without causing damage to them) separately from any other on-site demand; and
- Imports to generation (including storage) operated by an unlicensed person should be treated like normal demand for the purposes of FCLs and charging.

In the first instance, we intend to work towards this by:

- Discussing with the CMP280/281 Workgroups the possibility of raising WACMs consistent with the above approach; and
- Discussing with BSC Parties (and LCCC) the possibility of raising a BSC Modification Proposal that would put in place the registration and aggregation processes necessary to fully implement the above approach.

Want to know more?
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Annex 5: Workgroup Consultation Responses

Table 1: Workgroup Consultation Responses – Standard Questions

Response from	Q1: Do you believe that CMPXXX Original proposal or either of the potential options for change better facilitates the Applicable CUSC Objectives?	Q2: Do you support the proposed implementation approach?	Q3: Do you have any other comments?	Q4: Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?
Paul Youngman, Drax	It is recognised that Ofgem believe that network charges create a relative disadvantage for electricity storage compared to other forms of generation, and have asked industry to address this issue. Within this context the proposal can be seen as better than the baseline in facilitating ACO (a) in that it removes TNUoS residual demand charges from all CVA Generators, but retains an element of cost reflective charging. We can see that in theory the proposal also better reflects and facilitates ACO (c) in appropriately apportioning TNUoS residual demand charges and reflecting changes to the transmission licensee's business. We would however like to see some supporting analysis on the distributional effects of the change to these charges to assure that the new arrangements are in the interests of consumers. On all other ACO we believe the proposal is neutral	The approach to implementation appears appropriate in that the change can be introduced clearly without crafting additional definitions within CUSC. We would recommend that consideration should be given to interactions and priorities identified from the TCR Significant Code Review and Charging Futures Forum work when implementing the proposed solution	We can see how the proposal may improve arrangements and potentially remedy the perceived distortion. The proposal does dilute the principle of paying to transport energy across the system in exempting primarily storage from TNUoS demand residual costs. We would be better assured that this is in the interests of consumers if there were clarity as to the wider benefits for all consumers of this approach.	No
Laurence Barrett,	• E.ON believes that storage facilities	• E.ON does not support	• No thank you	• As mentioned in our answer

Response from	Q1: Do you believe that CMPXXX Original proposal or either of the potential options for change better facilitates the Applicable CUSC Objectives?	Q2: Do you support the proposed implementation approach?	Q3: Do you have any other comments?	Q4: Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?
E.Om	should not have to pay both generation residual and demand residual tariffs, and therefore removal of the demand residual tariff by applying a specific "Generator TNUoS Demand Tariff" will remove this distortion in competition. • However, in removing the distortion for CVA registered storage, the proposal creates a new distortion between CVA and SVA registered storage. In a future world of decentralised energy with customers having personalised energy solutions which include storage options, this distortion is likely to become increasingly significant. Whilst we recognise the complexity that could be involved in extending the solution to cover SVA storage facilities, it seems sensible to address this issue in one go, rather than having to re-visit this in the future. • The workgroup report highlights that it is unlikely that storage will import at times of peak demand given the current market drivers (energy and balancing market) and hence the current materiality is limited. The workgroup report further says that the impact on generation is even more limited. It therefore appears that	the current implementation timescale as it appears to prohibit the development of a robust and comprehensive solution that encompasses not only CVA but SVA registered storage facilities. We would therefore propose implementation be pushed back to allow such a solution to be developed. • It is also worth noting that the DCUSA proposals DCP319 and DCP321, which seek to remove the same demand residual distortion that arises from DUoS (CDCM and EDCM respectively) both have later implementation dates than CMP280 and therefore delay to CMP280 would more		to question 1, E.ON strongly recommends that the workgroup develop an alternative proposal to extend the solution to SVA registered storage facilities, as originally intended by Ofgem. The initial suggestions by Elexon appear to be a sound basis for this, and E.ON hopes that these will be developed further. • In addition, new information/data flows with regards to metering are being developed under BSC mods P354 and P344. E.ON would recommend the workgroup look to understand how these new processes could be used or adapted to facilitate an SVA solution.

Response from	Q1: Do you believe that CMPXXX Original proposal or either of the potential options for change better facilitates the Applicable CUSC Objectives?	Q2: Do you support the proposed implementation approach?	Q3: Do you have any other comments?	Q4: Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?
	there is no significant degree of urgency in terms of implementation and hence the extra time should be taken to develop a robust and comprehensive solution that works for all storage, regardless of how they are registered. • Overall, E.ON therefore believes the Original proposal is negative against CUSC Charging Objective (a). • Furthermore, the proposal suggest that the demand locational charge should still be applied to imports that occur during peak times as this charge is supposedly cost-reflective and therefore covers the marginal cost impact of such imports. However, the proposal then perversely suggests that this "cost-reflective" locational charge should be floored at zero to avoid what the report describes as a "detrimental impact on system costs". This appears highly illogical as to ignore what has been assumed to be a cost-reflective charge by flooring at zero would have precisely the opposite effect. • Therefore, applying the floor at zero to the locational charge means the proposal is negative against CUSC Charging Objective (b).	closely align to those proposals.		

Response from	Q1: Do you believe that CMPXXX Original proposal or either of the potential options for change better facilitates the Applicable CUSC Objectives?	Q2: Do you support the proposed implementation approach?	Q3: Do you have any other comments?	Q4: Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?
	• Should the workgroup truly believe that the signal that is created by the locational charge being negative in some areas			
Giulia Barranu, Gazprom	We believe that the proposed Modification will better facilitate objectives a) and c) as it will improve competition and address the current distortion in the transmission licensees' business.	Yes, we agree with the Implementation approach.	N/A	See Answer 280 to CMP280 specific questions
Nicola Percival, Innogy Renewables Ltd	For reference, the Applicable CUSC Objectives for the Use of System Charging Methodology are: ((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; Negative. For reasons described throughout my response this proposal could introduce discrimination and constitutes a 'sticking plaster' for a problem which could be better dealt with properly as part of the Targeted Charging Review Significant Code Review. (b) That compliance with the use of system charging methodology results in	No. This proposal is a 'sticking plaster' for a problem which could be better dealt with properly as part of the Targeted Charging Review Significant Code Review. Ofgem should consider assessing CMP280 alongside DCP319 and DCP321 to ensure there are no gaps or undue differences between the proposals for the Transmission and Distribution networks before making a decision. If there is discrimination arising within the two proposals or any gaps not covered between them then Ofgem	On page 8 of 49 there is a quote from Ofgem: "the current framework for residual charging may result in inefficient use of the networks. They may drive actions from some network users that result in adverse impacts on other network users". This proposal will not resolve that problem. The defect runs much deeper than this – and the TCR SCR should resolve that deeper defect. The CMP280 Original proposal may have merit in a post-TCR world, depending upon the	No.

Response from	Q1: Do you believe that CMPXXX Original proposal or either of the potential options for change better facilitates the Applicable CUSC Objectives?	Q2: Do you support the proposed implementation approach?	Q3: Do you have any other comments?	Q4: Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?
	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 licence condition C26 requirements of a connect and manage connection); There is possibly merit in generation and storage sites paying only one set of residual costs (where this is deemed appropriate). However, this is only acceptable where the residual costs are not driving behaviour and are purely for cost-recovery purposes. The quote from Ofgem (on page 8 of 39, and referred to elsewhere within this response) confirms that Ofgem themselves recognise that the baseline does not achieve this. This Mod does not seek to resolve the root of that problem, as it is being looked at through the Targeted Charging Review Significant Code Review. Rather this Mod seeks to 'get around' the problem for a subset of generators only.	should be sending back to parties for changes to be made, and also considering whether some or all of this work is better placed within the scope of the Targeted Charging Review Significant Code Review. Ofgem's recent consultation regarding storage and the generation licence is also highly relevant, and we would expect any decisions to be made	direction the TCR takes.	

Response from	Q1: Do you believe that CMPXXX Original proposal or either of the potential options for change better facilitates the Applicable CUSC Objectives?	Q2: Do you support the proposed implementation approach?	Q3: Do you have any other comments?	Q4: Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?
	Therefore this proposal does not offer a better solution than the baseline. (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; None. (d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1*; and None. (e) Promoting efficiency in the implementation and administration of the CUSC arrangements. None. *Objective (d) refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy Regulators (ACER).			

Response from	Q1: Do you believe that CMPXXX Original proposal or either of the potential options for change better facilitates the Applicable CUSC Objectives?	Q2: Do you support the proposed implementation approach?	Q3: Do you have any other comments?	Q4: Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?
Nicholas Rubin, Elexon	No, as this will introduce new distortions in the market. Although the proposed solution may remove certain distortions in competition, we believe it will introduce new ones, which the Workgroup has not fully considered or assessed: • The proposed solution is not clear on how / whether demand residual charges would be levied on BM Units that include both end-use demand (e.g. industrial or commercial load) and a Power Station with a BEGA or BCA. This lack of certainty is in itself a potential barrier to competition, and could also create artificial incentives for the Lead Parties of such BM Units to claim that they are Power Stations and not "Supplier BM Units". See our answer to the 'Other Comments' question below for more information. • Because the proposed solution only applies to CVA BM Units, it discriminates arbitrarily between power stations registered in Central Volume Allocation (CVA), and those registered in Supplier Volume Allocation (SVA). If an Exemptible generator asks a Supplier to register their power station in CVA, the	Yes	As noted above, we believe the proposed solution is unclear on how / whether demand residual charges would be levied on BM Units that include both end-use demand and a Power Station. Based on public registration data, examples of BM Units whose treatment under CMP280 seems very unclear include the following: • T_MEADD-1 (Caledonian Paper) has TEC=20 MW, GC=22 MW, DC=–48MW • T_WILCT-1 (Wilton) which has TEC=141 MW, GC=182 MW, DC=-120 MW It seems to us the proposed solution is silent on whether BM Units such as these should be treated for charging purposes as Power Stations, Supplier BM Units or both. The fact that the CUSC appears to have no	Yes, we would like the Workgroup to consider Alternatives which treat SVA and CVA more consistently. Under the original proposal, the criteria for whether a given generation or storage user is required to pay demand residual charges on their imports depends primarily on whether they (or the BSC Party acting on their behalf) have registered the meters in SVA or CVA. The Workgroup's justification for this approach is that a CVA solution is more straightforward to implement than an SVA solution. But actually – we suggest – it's the degree of aggregation (rather than registration in SVA or CVA) that makes implementation difficult. A BM Unit containing a single 49 MW generation or storage site is easy to include in the solution, irrespective of

Response from	Q1: Do you believe that CMPXXX Original proposal or either of the potential options for change better facilitates the Applicable CUSC Objectives?	Q2: Do you support the proposed implementation approach?	Q3: Do you have any other comments?	Q4: Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?
	Supplier will not be required to pay demand residual charges; but if an identical Exemptible generator asks the same Supplier to register their power station in SVA, the Supplier will be required to pay demand residual charges. This introduces entirely artificial distortions into the generation market, favouring power stations registered in CVA over those registered in SVA. We believe that the dis-benefit of creating these new distortions outweighs the benefits the proposed Modification seeks to achieve. One of the key issues raised by respondents to the BEIS/Ofgem Smart Systems and Flexibility Plan (SSFP) Call for Evidence was that complexity and lack of consistency in charging arrangements is a barrier to investment in storage. We are concerned that by differentiating between SVA and CVA generators, the Original Proposal reinforces, and possibly exacerbates the concern, that storage/generators are treated differently depending on where they are connected and how they are registered (in SVA or CVA).		definition of Supplier BM Unit (but uses the term in a different way to the BSC, which does have a definition) worsens the confusion. Broadly speaking there would seem to be two approaches to handling such BM Units: • Using a transparent process or criteria to decide which BM Units should be treated as Power Stations and which as 'Supplier BM Units'. Great care would be needed to ensure that such an approach did not create perverse incentives (e.g. for demand sites to pay Power Stations to co-locate, in order to avoid demand residual charges); • A 'sub-metering' approach, in which metering data beneath the level of the BM Unit was used to separate the Power Station	whether it's an Additional BM Unit (in SVA) or an Embedded BM Unit (in CVA). We therefore request that the Workgroup progresses an Alternative which does not discriminate between SVA and CVA registrations, and which leaves it up to BSC processes to 'untangle' the different types of import to each BM Unit – see attached document.

Response from	Q1: Do you believe that CMPXXX Original proposal or either of the potential options for change better facilitates the Applicable CUSC Objectives?	Q2: Do you support the proposed implementation approach?	Q3: Do you have any other comments?	Q4: Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?
			metered volume from that of the remainder of the site. We suggest that the Workgroup needs to agree which approach is intended – otherwise the nature of the proposed Modification (and its impact on parties) is unclear and will introduce distortions and dis-benefits to the market. We believe that our proposed Alternative would address this issue.	
Tom Chavalier, Power Data Associates Ltd.	For reference, the Applicable CUSC Objectives for the Use of System Charging Methodology are: ((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; No – the proposed approach appears to introduce a more complex and less transparent charging system. (b) That compliance with the use of	No. As highlighted by some members of the workgroup the proposal is a 'sticking plaster' to attempt to fix a perceived concern. The TCR is in progress, it would be better to let it conclude with a market wide solution to this concern, rather than attempt to implement a partial solution. The TCR may conclude that Triads are no longer appropriate (I hope so!) as they are a crude	Probably said enough	No

Response from	Q1: Do you believe that CMPXXX Original proposal or either of the potential options for change better facilitates the Applicable CUSC Objectives?	Q2: Do you support the proposed implementation approach?	Q3: Do you have any other comments?	Q4: Do you wish to raise a Workgroup Consultation Alternative request for the Workgroup to consider?
	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 licence condition C26 requirements of a connect and manage connection); No – the proposed approach appears to introduce a more complex and less transparent charging system which will incur material cost to implement with undefined ongoing costs. (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	mechanism that is no longer fit for purpose. The proposer believes that most storage sites generate during the times they might incur charges, so the apparent financial benefit appears small. The import revenue described in para 23 is not material. The indicative cost of making the change is in the similar order to the annual charges. This does not appear to provide a suitable justification, unless the work group believes the benefits to parties will increase in some way not identified in the current report. I see considerable ambiguity about defining sites with or without storage derived generation. If there is a benefit to have storage-based generation will there be a business case for a site to install some storage generation simply to avoid TUoS at the site? Does a		

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	Electricity Transmission plc Licence under Standard Condition C10, paragraph 1*; and (e) Promoting efficiency in the implementation and administration of the CUSC arrangements. No – the proposed approach appears to introduce a more complex and less transparent charging system which will incur material cost to implement with undefined ongoing costs. *Objective (d) refers specifically to European Regulation 2009/714/EC. Reference to the Agency is to the Agency for the Cooperation of Energy Regulators (ACER).	proposed storage derived generation definition include the proportion of the site attributable to storage as opposed to other generation types. Sites which combine wind and storage or diesel generation and storage do exist. There are several potential 'gaming' opportunities that this change may reveal. None appear to have been captured or considered in the consultation document. Applying the nil TUoS charges to all generators then reveals an opportunity to retain the generator licence in place while supplying via a 'private wire' several import customers. There are many rather 'odd' supply arrangements in existence which are "non-standard". Applying this logic to all of them has not been documented or apparently considered how this 'import consumption' would be treated.		

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		Applying any 'behind the meter' solutions is fraught with difficulty. As a member of BSC Metering Dispensation Review Group I have reviewed many complicated metering arrangements. The greatest problems with metering different bits of equipment at one site is that they are typically connected at different voltages. So to reflect equipment with a 33kV connection/metering to a 400kV transmission connection requires some estimation of transformer and/or cable losses. By definition the estimation is inaccurate. Also, many sites are metered for the 'normal operation', whereas there are opportunities for abnormal electrical arrangements that are not metered appropriately, in which case errors occur. Introducing more complex metering arrangements of deducting consumption to		

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		add to another BM units, estimating losses, etc. Increases the opportunity for metering/settlement error. The ELEXON paper refers to behind the meter solutions. Although these have been mentioned in concept no-one has resolved the lack of governance/legalities of metering behind the settlement meter located on a customers' site, the different voltage levels (losses compensation), the additional consumption data sources and registration information. All these add complexity to any solution using anything other than the current BSC boundary meter. My own discussions with Ofgem have expressed a desire to use data from behind the settlement meter, but a recognition that use of any further metering (behind the settlement meter) expands the		

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		governance/legalities into an aspect that is practically impossible to achieve.		
Andrew Colley, SSE PLC	Yes. SSE believes that the proposal will remove a distortion in competition between different types of energy producers, ensuring that certain users do not pay disproportionate costs and thereby better facilitating objective a). SSE also agree that the proposal will better facilitate objective c) to ensure that use of system arrangements properly address the impact of the large growth in the value of the TNUoS Demand Residual as a result of increased Allowed Revenues for transmission system investment.	Yes	No	NO
Colin Prestwich, Smartest Energy	No. We do not think competition is better served by the Original proposal because it does not resolve any differences between CVA and SVA nor between Storage and Generation.	No	Please see answer to Specific Question 2 below	No, but we would be supportive of Option 3
Urmi Mistry, National Grid	We believe that the proposed original creates some unintended consequences and so does not better facilitate the applicable CUSC Objectives: • (A) This proposed modification will have	Yes, if this modification is approved, we would support the approach detailed in section 7. This would only be practical if	We have a few comments for the Workgroup to consider. 1. TCR/SCR: Looking at this topic in	Not at this time. There is a preference to wait for more clarity on other industry work-streams. We have looked into potential SVA options, from a National

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	a negative impact on this objective as this will shift demand residual charges from generator parties to pure demand customers, and so this will add extra costs to these parties potentially affecting the competitiveness of demand side providers when considered against generation and storage assets. • (B) This modification will remove some of the disincentive for generation to consume rather than produce at peak and so may lead to a change of behaviour which might, in itself, lead to additional cost for some parties - a slight negative impact on Applicable Objective (b) • (C) This modification will impact this objective negatively as the costs of the ETOs (including OFTOs) will not be fully reflected within charges for generation. Whether demand is taken for the express purpose of furthering/ensuring the output of a relevant generating station, or it is taken for final consumption the effect on the system is the same and we consider the cost base should be the same. In our view this CMP is potentially discriminatory, which we elaborate on further in this response	there was an Authority decision in the August before the start of a Charging Year. If a decision is received later than August 2018 then implementation should be no earlier than April 2020, owing to the significant system changes required to facilitate this CMP.	isolation from work that is being conducted as part of Ofgem's TCR/SCR work may lead to disjointed approaches as to the treatment of the demand and generation residual. There is therefore a risk that this modification develops in isolation and needs to be unwound once the TCR is concluded. Any such unwinding would result in wasted cost for all parties through unnecessary system changes and inefficient use of time. 2. Definition of 'storage' and possible discrimination: We believe that any solution should be applied to all generation and not limited to storage as this ensures that there is no risk of discrimination. We are mindful of our ESO obligation to ensure that no technology is subject to	Grid ESO perspective, to ensure that we look at the whole system holistically and cover all possible options. In summary, as ESO, we are not in receipt of granular HH data (as it is aggregated by Supplier and by GSP Group), and cannot differentiate between different 'types' of demand (although we would reiterate that

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	• (D) None. • (E) None.		discrimination, positive or negative, and therefore can only support a solution which applies to all generation technologies. We are, however not comfortable that the solution as written extends a TDR exemption to all imports by a Generator (legal entity) rather than those which are attributable to a generating station (power plant) and therefore does not fulfil this principle. This is because this modification introduces discrimination between HH metered demand customers. Where a Generator imports for the purposes of powering an office, there is no difference between that import and the import of any other business powering an office and it is discriminatory to treat two similar things as though they are different – exempting	

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			the Generator from the TDR whilst requiring any other business to pay it in the instance where the imports are for the same express purpose is not appropriate in our view. Adding to this, the original solution does not address the issue of behind-the-meter generation (where there is no exposure to Use of System charges) or the situation where large demand parties add generation to their sites and so, under this modification, are no longer liable to pay the TNUoS demand residual. This could lead to possible gaming behaviour from parties trying to amend/avoid their liability to Use of System charges. Therefore, it is imperative to get the definition of parties liable for demand charges under this change proposal	

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			correct. Last year (October 2017) Ofgem released a Generation Licence consultation with the aim of including Storage as a subset of generation licensee – which is now closed and awaiting a final decision from Ofgem. This will impact the definition of affected generation and potentially the treatment of Storage. This would impact the parties and type of demand that this modification is applicable to and so will need to be considered when developing the solution. It would be prudent to wait until the direction is much clearer from The Authority in these areas of work before a firm solution is proposed for this modification. 3. Complexity in TNUoS arrangements:	

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			National Grid has a concern that this modification will add a further layer of complexity into the tariff setting and forecasting process as generator demand will now need to be considered as part of these calculations where it has not been previously. This essentially means a short-term increase in tariff volatility as National Grid ESO would need to forecast a variable that has never been considered within the methodology before. This will add another layer of forecasting uncertainty to the current level that exists today. This modification removes the 'dis-incentive' for generation to demand at times of high system stress. Current arrangements mean that when a triad period occurs, which is a period of	

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			the highest demand between the winter months, HH demand TNUoS is charged to parties who import from the system in the relevant Settlement Period. This modification would remove the disincentive for unbeneficial system behaviour (from generation) and so could lead to generation demand at peak times, or create new triad periods at times that have never been considered triads as generators will not incur any charges for this action. This would increase system stress further and so increase balancing costs. However, we do agree with this modification flooring the new tariff to 0, as this will remove a perverse incentive for generation to draw demand and be paid to do so. Whilst we do appreciate that the wholesale cost of	

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			power at the point of triad is likely to be high (in £/MWh) and therefore imports will still be financially dis-incentivised, we are mindful that the concept of 'peak' charges is common across network Use of System charges and is designed to further ensure that market participants have the right signals to drive decisions. Furthermore, demand customers could be liable for the costs of a situation that was caused by generation customers, but generation customers are not liable to contribute towards the costs.	
Paul Jones, Uniper	This promotes competition in the wholesale market by exposing storage and generation to similar charges and preventing them from being exposed to the demand residual and generation residual charges. We would note that it is unlikely that either generation or storage would be exposed to the current triad	Yes	Licensed storage and generation is a term which has been used in this consultation, but isn't quite correct, as a licence sits with a legal entity and not a particular site. Therefore, the solution should focus on	No thank you as long as the solution applies to licensable generation and storage, plus generation and storage with a BCA.

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	charges, as they would be unlikely to generate at peak times. However, should the charging regime develop so that the demand residual charge is recovered in a different manner, then it is possible that a storage or generation site could become more exposed to the charge. At this stage, it appears that the modification would be neutral against the other CUSC objectives.		application to "licensable" storage and generation, as well as generation and storage with a BCA. Licensable storage should meet the same definition used for licensable generation under the CUSC and BSC.	
Libby Glazebrook, Engie	Yes – CMP 28- better facilities: Objective a) Through not charging CVA generations twice for the Residual Tariff, CMP better facilities competition in the generation of electricity. Objective b) CMP 281 future proofs CVA generators to a change in how residual charges are levied. This will also promote efficiency better facilitating objective (e). Objective c) Ofgem has specifically stated that residual charge should be recovered from	Yes. ENGIE supports the proposed implementation approach.	ENGIE does not agree with the WG member who raised the concern that CMP280 will remove the deterrent for importing at TRIAD. There are other deterrents – the cost of importing at TRIAD is likely to be much higher than at other times, particularly as the embedded TRIAD benefit which dampened peak prices will have largely disappeared as result of the implementation of CMP264/265.	No – ENGIE agrees with the workgroup that CMP280 should be limited to CVA generators.

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	suppliers only as they ultimately pay all residual costs. The TCR will determine how this is achieved. CMP 280 will ensure that demand residual charges are not charged to CVA generators taking demand who may otherwise, depending on how supply is defined under the TCR, be captured . This modification therefore takes account of developments in transmission licensees' transmission businesses.		Furthermore, the capacity mechanism non- delivery penalties create an incentive to be delivering where stress events are expected. Importing in a TRIAD would not only result in loss of capacity payments but also a penalty for the extent of the imports. If the SO does take a bid during a TRIAD which results in a transmission connected generator taking demand during a TRIAD then this presumably has been done because either it is the economic action or to resolve a constraint. This should not be seen as a justification for retaining the current demand residual charge.	

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			ENGIE also considers that this modification will future proof generators against changes to the application of the demand residual that will arise out of the TCR SCR. If the TCR does widen the time period over which the demand residual is allocated (and all indications are that it will), then there will in any case be costs arising from changes to the Charging and Billing System. Since these costs will have to be incurred, they should not be seen as a barrier to implementing CMP 280. ENGIE is surprised that National Grid has estimated costs of £1-2m to implement this modification given that the preferred option (option 2) only applies to CVA generators – as a generic class it would appear to be	

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			an easy task to not charge this group the demand residual charge.	
Lewis Elder, Statera Energy Limited	We believe the decision to exclude SVA generation (including storage) creates a market distortion and will be detrimental to competition, therefore conflicting with CUSC objective A. The identified defect affects both SVA and CVA generation Licensees. Therefore, in order for the workgroup to have fully addressed the defect (to be in line with Ofgem and BEIS statements) it is imperative a solution for SVA generation is included. Further, implementation of SVA & CVA solutions should be on the same date to prevent any market distortions and ensure industry arrangements are kept consistent. We feel any suggestion to run as a separate CUSC process would result in lengthy delay and duplication of work. Alternatively, if the workgroup believes that an SVA solution should be run through a separate workgroup we would suggest that the implementation date of CMP280 be aligned with the SVA solution workgroup implementation date to ensure parties aren't able to frustrate an SVA solution in order to maintain a competitive advantage. The workgroup consultation acknowledges that it is important to ensure	Yes, but only if the Proposal is opened up to include SVA licensees (Option 4). Given the statements from Ofgem and BEIS, and the many MWs already operating in the market we believe a solution should be implemented as soon as possible. As mentioned above, if the workgroup believes a separate SVA workgroup should be formed we believe the implementation of CMP280 should align with the implementation date of the new SVA workgroup.	The consultation states that CVA Generation is liable for Generation TNUoS, however I understand this is only the case for sites over 100MWs. This is an important distinction as we expect much of the new storage to connect will be <100MWs (as seen in the first four T-4 Capacity Market auctions). Therefore, any modifications should be consistent to maintain a level playing field. □ We do not believe that the implementation period of CMP264 is justification for excluding SVA generation from this defect. As acknowledged in the workgroup consultation recognises that market pricing is likely to deter import from Generation during triads and that the risk of import is through locational BM actions or	No. We acknowledge the wider market issues that make an enduring SVA solution difficult, and therefore suggest that a partial solution be permitted (such as the Supplier subtracting eligible SVA imports from their overall import) until an enduring, centralised solution be created.

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	CVA storage and CVA generation are treated the same to ensure a level playing field - this sentiment should continue to SVA storage & generation. Furthermore, the Proposal Defect specifically states the disadvantage of storage providers operating in ancillary services markets – this extends to both CVA and SVA licensees. To be clear, any decision to implement a solution that provided a solution for only CVA would result in a market distortion and create an unlevel playing field.		ancillary services. Further, the implementation of a CMP280 solution is expected to be either April 2019 or 2020, meaning the embedded triad benefit will be in its final year (I.e. 1/3rd of full value), or gone altogether.	
Bill Reed, *RWE Supply & Trading GmbH*	CMP280 better facilitates Applicable CUSC Objective (a). It will ensure that generators face cost reflective signals with respect to locational demand tariffs while removing the cost recovery element from these tariffs. There is a risk the removal of the residual from generator demand tariffs could marginally impact peak demand by reducing the incentive to offtake for large power stations during Triad periods. However, it is unlikely that generators will be importing during the Triad periods since these are times when generators should be seeking to maximise exports to capture high peak power prices.	We support the proposed implementation approach	No	No

CMP280 Specific Questions

Response from	Q1: Can you confirm how CMP280will impact CUSC Parties (for example, operations, billing, contractual, tariff stability, processes and information flows)?	Q2. Do you believe CMP280 original proposal would level the playing field in the way that Ofgem and Government have intended in recent publications?
Paul Youngman, Drax	N/A	It may. The proposal has been designed to reduce distortions and would benefit further from an articulation as to how it will benefit end consumers
Laurence Barrett, E.On Energy	Should the solution be developed for SVA storage facilities, then a degree of sub-metering (use of operational meters) would be necessary. In order to facilitate this, it is likely that some form of metering dispensation would be required, as well as a need to develop an appropriate methodology for agreeing the calculation of losses between boundary meters and the operational meters. As described above, the workgroup should assess whether new information flows and metering options developed for P354 and P344 can facilitate an SVA solution.	The proposal would not level the playing field in the way that Ofgem and BEIS have intended as it creates a new distortion between CVA and SVA registered storage facilities.
Giullia Barranu, Gazprom	N/A	We believe that the CMP280 original proposal partially level the playing field in the way that Ofgem/BEIS intended. To be completed, the solution should remove liability for TNUoS demand residual charges from generators and storages registered in SVA, not only in CVA. This will be consistent with Ofgem/BEIS publications which do not differentiate between the two systems. We understand that this solution might be more costly and complex, but this is not a sufficient reason to keep discriminating

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		between CVA and SVA licenced storages/generators. We support ELEXON's discussion paper (annex 4) and we encourage the CMP280 Workgroup to consider raising a WACM to extend the solution. In addition, ELEXON noted that they are discussing the possibility to adapt the P344 solution to facilitate changes to how ELEXON reports Supplier imports to EMRS for Final Consumption Levies. Therefore, we believe that CUSC arrangements should follow the same direction of FCLs.
Nicola Percival, Nicola Percival, Innogy Renewables Ltd	We would expect responsible Suppliers to have an existing process in place to confirm customer connection agreement / licence status when on-boarding new customers.	Not as it is currently proposed. It discriminates between generation and storage settled in Central Volume Allocation and Supplier Volume Allocation. As this response has set out, we believe it is a 'sticking plaster' which does not go to the root of the defect.
Nicholas Rubin, Elexon	No View	No, as noted above, we believe that the Original Proposal will have a limited benefit and introduce new distortions. That is, it will level the playing field between storage and other generators, so long as they are registered for CVA purposes. Consequently SVA storage (and generators) will be treated unfairly and differently to CVA storage (and generators).
Tom Chevalier, Power Data Associates Ltd	It adds further complexity to the charging arrangements, which reduces transparency. Only a small number (handful) of people in the country can actually understand the transmission charging arrangements.	No. The TCR needs to complete its analysis. The early 2017 views have evolved based on a greater understanding of the issues and complexities.
Andrew Colley, SSE PLC	The main impact for users will be a redistribution of costs as liabilities are removed from storage and generators parties, albeit current costs are relatively limited in the scheme of things. Generator	Yes. Under the current methodology storage operators and generators contribute to both the Demand and Generation TNUoS Residual tariff elements, thereby contributing more to the residual cost of the

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	and storage parties will reduce risk by removing exposure to potential disproportionate recovery of residual costs, thereby giving greater tariff stability. There will be some system and process changes required to reflect the revised charging structure, but our view is that the main impact of this will be upon National Grid as the settlement agent.	network when compared with other users. CMP280 is a step in the right direction and will contribute to levelling the playing the field by removing liability to this potential double charge in certain circumstances. Storage operators and generators would therefore mitigate the risk of contributing twice towards TNUoS residual charges by removing the liability for TNUoS Demand Residual. Residual charges should be recovered on a basis which reduces distortions, is fair and is proportional and practical in its application. SSE believes that the solution better meets these principles.
Colin Prestwich, SmartestEnergy	We do not envisage that there will be much of an impact on billing operations.	No. The defect as stated in the consultation document is as follows: "Under the current Charging Methodology, generator and storage parties contribute to both the Generation and Demand TNUoS Residual tariff elements; these parties are therefore contributing more towards the residual cost of the network when compared with other users. Storage users in particular, who compete with generators in the provision of ancillary services, may therefore be at a competitive disadvantage due to their much higher exposure to TNUoS Demand Residual tariff elements." Ironically, the proposed solution reduces charges for generation and storage but does nothing to level the playing field between generation and storage as they are effectively in the same position comparative to each other. More generally, the original proposal probably is moving towards Ofgem's and

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		Govt's intentions with regards to placing network costs on demand, but it does nothing for the "double charging" of network costs which end-consumers see when using electricity which has been stored. We are inclined to agree with the comment that the original proposal jumps the gun of the TCR. Ofgem recommended in the Targeted Charging Review consultation that changes to charging for storage should be taken forward ahead of any wider changes to residual charging. This proposed solution does not fulfil that requirement. Option 3 (removal of residual charges for storage only in both SVA and CVA) would level the playing field.
Urmi Mistry, National Grid	Changes needed to National Grid ESO's systems to facilitate this modification, which introduces a new tariff, include changes to the charging and billing system to ensure correct monthly and reconciliation billing, a new tariff will need to be added to the system and reporting will need to be updated. These IS changes will take a minimum of 6 months to complete (based on the original solution). Following on from this other impacts to consider are:	The original proposal would not level the playing field in the way that Government and Ofgem have intended in recent publications. Our reasoning for this statement is that this modification looks to remove all obligation to pay residual demand TNUoS charges from generation, irrespective of whether that demand is to power an office somewhere or to power a storage asset. It is not appropriate that a generator has total exemption from the TDR when that exemption means they are off-taking for the purposes of powering an office or a security facility rather than for the purposes of operating their station. There is no difference between a Supplier's office block and a Generator's office block and it is not reasonable

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	• The correct data provided by Elexon to allow the correct amount of volume to be excluded from the demand residual charge. If this data was not provided by Elexon, National Grid will have to create a process and system to be able to correctly identify this volume which will increase cost of implementation, especially if a solution is developed that includes SVA generation. • It is important to note that if an SVA solution is developed this would dramatically increase the amount of data National Grid would receive, increasing workload and the need for resource. Additional systems and processing power would also be needed, meaning a system upgrade and so pushing the cost of implementation higher. • This modification would have an impact on tariff stability and forecasting. It could change how the system is used today as the disincentive to demand at peak times would be reduced. The proposal could lead to unpredictable generator behaviour which is out of kilter with previous ESO forecasts. The unexpected behaviour could potentially create unforeseen peaks (shift away from current triad periods). Also, it would be impossible to accurately predict how generators will take advantage of this modification. Therefore, tariff predictability/stability could become harder to forecast and more volatile. Week 24 demand would	to state that one should face a cost on demand from which the other is exempt. In recent publications, Ofgem have alluded to a distinction between 'final demand' and 'demand for the purposes of generation'. This has not been considered as part of the solution as of yet but should be considered by the Workgroup.

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	be impacted. There also needs to be an understanding of what volume of demand is actually chargeable and what isn't as there will be a new tariff to predict going forward. These IT changes and wider impacts would cost up to £1 million based on the original solution. If there were to be variations which increase the complexity, this cost would increase. Therefore, we believe it is very important for the Workgroup to consider that revenue collected from CVA imports is quite small in relation to total revenue collected from chargeable demand (please see table on page 21 of the Workgroup consultation document for historic figures). So, this gives rise to a disproportionally high cost to the consumer of implementing this solution, which would drive up their TNUoS exposure and doesn't deliver any clear benefits, at present, compared to the amount of revenue this modification is due to collect.	
Paul Jones, Uniper	If CMP280 is applied only to licensable generation and storage, plus generation and storage with a BCA, then there should be a limited impact for parties, as the system implications should be less involved. For example, if this were to apply to wider categories of generation and storage then it could lead to changes in retail settlement and billing systems then the implications would be expected to be more complicated. Essentially,	Yes it would seem so.

Response from	Q1: Can you confirm how CMP280will impact CUSC Parties (for example, operations, billing, contractual, tariff stability, processes and information flows)?	Q2. Do you believe CMP280 original proposal would level the playing field in the way that Ofgem and Government have intended in recent publications?
	exposure to the proposed Generator Demand TNUoS Charge should be limited to those sites that are currently subject to the Generation TNUoS charge.	
Libby Glazebrook, Engie	Unless a WACM is developed that extends this change to SVA, limiting the scope to CVA should result in limited costs. As noted in the comments above, it is not clear why implementation costs are estimated to be so high and we would welcome further detail from National Grid once the preferred option is agreed.	Yes _ Ofgem has made clear that changes to the charging of storage should be taken forward ahead of wider changes to the demand residual tariff. Whilst the preferred option 2 addresses CVA generators, embedded storage does not directly pay the demand TNUoS tariff. We recognise that they may pay this via their supplier. The application to SVA generators could be dealt with separately through a further modification as part of the TCR which will address who in future should pay demand residual charges. In the meantime, CMP280 will give an incremental improvement for CVA generators.
Lewis Elder	No Comments	No. We do not believe it is the intention of Government and Ofgem for CVA-only solution to be implemented. The proposal to take forward Option 2 would directly conflict with this and create a further market distortion.
Bill Reed, Bill Reed, *RWE Supply & Trading GmbH*	CMP280 will have a marginal effect on demand TNUoS tariffs. There will be additional cost recovery of the demand residual from demand users (excluding generation). However, the effect is limited since it is unlikely that generators will be importing during the Triad periods since these are times when generators should be seeking to maximise exports to capture high peak power	CMP280 will have a marginal effect on the generation market. It is unlikely to have a material impact on levelling the playing field in the way that Ofgem and Government have intended in recent publications since it principally applies to existing large power stations. We note that the issue of residual cost recovery is subject to the Ofgem Significant Code Review and we anticipate there will be further developments in this area as Ofgem's thinking develops.

Response from	Q1: Can you confirm how CMP280will impact CUSC Parties (for example, operations, billing, contractual, tariff stability, processes and information flows)?	Q2. Do you believe CMP280 original proposal would level the playing field in the way that Ofgem and Government have intended in recent publications?
	prices.	

Annex 6: Code Administrator Consultation Responses

CUSC Code Administrator Consultation Response Proforma

CMP280 – Creation of a New Generator TNUoS Demand Tariff which Removes Liability for TNUoS Demand Residual Charges from Generation and Storage Users'

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

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Respondent:	*Morris Van Looy, Head of Growth and Strategy* *mvanlooy@intergen.com*
Company Name:	*InterGen (UK) Ltd*
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	*InterGen believes that the baseline proposal largely achieves the objectives as it will help address the current distortion in the market, which places storage at a competitive disadvantage. Whilst extending this immediately to SVA would seem to make sense, our concern is the additional complexity / cost and that this would cause delay to the timeline for implementation.*
Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	*Subject to the above answer to Q1, InterGen supports the proposed implementation approach.*
Do you have any other comments?	*No*

InterGen (UK) Ltd
2nd Floor
81 George Street
Edinburgh
EH2 3ES
United Kingdom

CMP280
Code Administrator Consultation
cusc.team@nationalgrideso.com

29 Aug 2019

Dear Code Administrator,

CMP280: 'Creation of a New Generator TNUoS Demand Tariff which Removes Liability for TNUoS Demand Residual Charges from Generation and Storage Users'

InterGen is one of the UK's largest independent generators, with a track record of developing, constructing and operating large scale power generation projects. We have been active in the market since the 1990s.

In the GB market, we operate a portfolio of four flexible gas-fired power stations totalling around 2.8GW; an investment of some £2.2bn. These comprise 3 CCGTs located at Rocksavage (Cheshire), Spalding (Lincolnshire) and Coryton (Essex) and an OCGT also located at Spalding. Together they represent almost 2.8% of GB generating capacity.

InterGen is owned by major international investors looking to continue to invest in major infrastructure projects in the UK including China Huaneng – one of the world's largest power generators with around 170GW of installed capacity – and Seven.En Energy. As part of these plans InterGen is seeking to develop world leading grid scale energy storage projects at two of its sites, namely: a) at Spalding for a 175MW project (up to 700MWh; consented and construction ready); and Gateway 320MW (up to 1.3GWh; planning consent variation currently being determined by BEIS). We see system benefits to operating storage alongside conventional gas as a "hybrid" facility and appreciate the opportunity to participate in consultations such as this as we are keen to ensure that energy storage projects and such hybrid benefits are afforded a level playing field in the market. Given this, we fully support the intent and direction of CMP280 – in particular as we believe energy storage will in the future play a key role in delivering value for money to consumers and flexibility and reserve/ancillary support for the electricity system.

Please do not hesitate to get in touch with me should you have any questions regarding any of the points raised in this response, or if you wish to discuss our energy storage plans in more detail.

Yours sincerely,

Morris Van Looy
Head of Growth and Strategy
mvanlooy@intergen.com
Mobile: + 44 (0) 7771 813 830

REA Response to CUSC Consultation on Proposed Modifications CMP 280 and CMP 281

Introduction & Context

The REA is the largest trade body in the UK for renewables and also for energy storage technologies and the development of energy storage projects, representing over 200 companies active in the storage sector.

The proposed CMP280 modification aims to remove liability from Generator and Storage Parties for the Demand Residual element of the TNUoS tariff.

CMP281 aims to remove liability from storage facilities for Balancing Services Use of System (BSUoS) charges on imports.

The REA fully supports these proposals, as energy storage is vital to the future of the UK's electricity grid, and has in the past faced barriers to its full deployment through issues such as the double charging of grid levies.

It should also be noted however, that a successful energy storage and flexibility market relies on time-specific grid charges, which are being removed through the loss of TRIADs and the reforms in the Targeted Charging Review (TCR) – these time sensitive (ie peak energy use reflecting) signals must be re-introduced to ensure effective price signals to the market, via the Access and Forward looking charges review currently ongoing.

This modification provides a positive step in the right direction towards ending this barrier to energy storage on the system and enabling this transition, therefore we strongly support the proposed modifications.

The modifications also support the delivery of the Smart Systems and Flexibility Plan, a roadmap for flexibility services that could save the UK over £8 billion by 2040, therefore forming an essential element in the transformation of the UK's energy system.

Moreover, the power cuts seen across England and Wales on the 9th August 2019 served to highlight the capabilities and potential for energy storage to 'keep the lights on' and secure the UK's electricity supplies, by responding within fractions of a second to power outages and providing artificial inertia for the system.

National Grid ESO have said that they will be capable of running a zero carbon electricity system by 2025 and flexibility assets will be central to helping enable this.

Expanding the Scope of the modifications

80 Strand,
London, WC2R 0DT
Tel: 020 7925 3570
http://www.r-e-a.net/

While we support the modifications, we believe that there is scope for a broader application of the intended rule change, to include all renewable embedded generation, given the system benefits and generation capacity they provide.
We understand that there were previously discussions around including such assets in these modifications but they were not, so we believe these should proceed as proposed and there is scope for another modification in the future along such lines, which we would support.

Summary

The REA support the proposed modifications CMP 280 and CMP 281. We believe the rule change could be applied to all renewable embedded capacity but this could be the subject of separate modifications given the history if these modifications.

Please do not hesitate to contact us (Frank Gordon) to discuss any of the content in this response further.

REA, August 2019

CUSC Code Administrator Consultation Response Proforma

CMP280 – Creation of a New Generator TNUoS Demand Tariff which Removes Liability for TNUoS Demand Residual Charges from Generation and Storage Users'

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

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Respondent:	*Paul Youngman paul.youngman@drax.com*
Company Name:	*Drax Power Limited*
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	For reference, the Applicable CUSC objectives are: **Non-Standard (Charging) Objectives** **(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 licence condition C26 requirements of a connect and manage connection); **(c)** That, so far as is consistent with sub-paragraphs (a) and (b), the use of system charging methodology, as far as is reasonably practicable, properly takes account of the developments in transmission licensees' transmission businesses; **(d)** Compliance with the Electricity Regulation and any relevant legally binding decision of the

	European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1 *; and **(e)** Promoting efficiency in the implementation and administration of the CUSC arrangements. The original proposal better facilitates the following relevant objectives: a) the modification promotes effective competition by removing a distortion in the current arrangements which disproportionately applies TNUOS residual charges to sites that store electricity (b) the proposals have little impact on cost reflectivity as they address the distortion in residual charges that disproportionately apply to sites that store electricity (c) The original proposal addresses the consequential effect of increase to the TNUOS charges that would disproportionately apply to sites that store electricity if the current arrangements were to remain in place unchanged The original proposal was raised in 2017 and reached workgroup consultation in June 2018 with a proposed implementation of April 2020. It applies to CVA sites only and requires few adjustments to current procedures and systems to implement. We believe it would be feasible to implement the original modification swiftly following approval from Ofgem. The alternative proposal which applies to both CVA and SVA shares many of the benefits of the original proposal but will require more extensive related system changes to be implementable. As a consequence we do not believe that the alternative benefits applicable objective (C) as CVA sites that store electricity will remain subject to the distortion for longer than is desirable compared with the original modification.
0 Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	If the alternative solution to CMP280 is implemented it will require extensive system and process changes as outlined in BSCP383 to be implemented by April 2021. If the original solution to apply to CVA only is implemented, we believe the necessary changes could be accommodated by April 2020 as there are limited changes to dataflows and processes.
Do you have any other	We have no additional comments to offer.

comments?	

CUSC Code Administrator Consultation Response Proforma

CMP280 – Creation of a New Generator TNUoS Demand Tariff which Removes Liability for TNUoS Demand Residual Charges from Generation and Storage Users'

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Respondent:	*Kirsty Ingham kirsty.ingham@esb.ie* *Kamila Nugumanova kamila.nugumanova@esb.ie*
Company Name:	*ESB (Generation and Trading)*
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	We are supportive of CMP280 alternate that covers both SVA and CVA assets, specifically Option 4 *CVA and SVA Storage and Generation*. Our next preferred option is Option 3: *CVA and SVA Storage only*. We believe that both options will help address the current distortion and ensure a level playing field between storage and non-storage assets participating in the same energy and system services markets. The proposed modification (Option 3 or 4) will better facilitate the following Applicable CUSC Objective: *(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* Storage operators are exposed to demand TNUoS charges significantly more than non-storage generators due to the nature of the asset class. Removing the residual element from the Demand TNUoS paid by storage assets would ensure a level playing field and will remove the competitive disadvantage that storage operators face when bidding into balancing and ancillary services markets. Our preferred alternative would be Option 4. The advantage of storage as an asset class lies in its flexibility and ability to be used as a stand-alone asset as well as a co-located support asset. As co-location of generation assets with storage is anticipated to become more common in future, Option 4 would provide a more sustainable solution to the identified distortion. As such, if the removal of demand residual levies is applied equally to storage and generation as part of this mod, this will help avoid any future need for additional changes to address storage assets co-located with existing non-storage generators.

	However, we believe that Option 3 also addresses the distortion efficiently since the primary focus of the modification and the most impacted party are covered by this alternative.
Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	Yes, we support the proposed implementation approach
Do you have any other comments?	Our view is that the proposal would better facilitate and is in line with Ofgem's view on residual charging expressed in the TCR: SCR, which says: "To reduce the potential for distortion and improve competition between different types of generator, we think network residuals should be charged directly to final demand consumers". Imports from storage assets do not constitute final demand. Hence it would be sensible to remove the demand residual from storage assets, subject to defining the exact scope and definition of eligible storage, as discussed in the WG report.

CUSC Code Administrator Consultation Response Proforma

CMP280 – Creation of a New Generator TNUoS Demand Tariff which Removes Liability for TNUoS Demand Residual Charges from Generation and Storage Users'

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Respondent:	*George Moran (George.moran@centrica.com)*
Company Name:	*Centrica*
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	For reference, the Applicable CUSC objectives are: **Non-Standard (Charging) Objectives** **(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 licence condition C26 requirements of a connect and manage connection); **(c)** That, so far as is consistent with sub-paragraphs (a) and (b), the use of system charging methodology, as far as is reasonably practicable, properly takes account of the developments in transmission licensees' transmission businesses; **(d)** Compliance with the Electricity Regulation and any relevant legally binding decision of the

	European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1 *; and **(e)** Promoting efficiency in the implementation and administration of the CUSC arrangements. *Yes, the change will better facilitate Applicable CUSC objective (a) for the reasons set out in the consultation.*
Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	*Yes*
Do you have any other comments?	*No*

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Respondent:	Simon Vicary simon.vicary@edfenergy.com
Company Name:	EDF Energy
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	For reference, the Applicable CUSC objectives are: **Non-Standard (Charging) Objectives** **(a)** That compliance with the use of system charging methodology facilitates effective competition in the generation and supply of electricity and (so far as is consistent therewith) facilitates competition in the sale, distribution and purchase of electricity; Yes. Under the current charging methodology there is the potential for generator parties (including storage) to be contributing twice towards TNUoS residual charges. Both the original and WACM1 address this defect by removing liability for the TNUoS Demand Residual tariff element from storage generator parties. **(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 licence condition C26 requirements of a connect and manage connection);

	Neutral **(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; Neutral **(d)** Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1 *; and Neutral **(e)** Promoting efficiency in the implementation and administration of the CUSC arrangements. Yes. Changing the charging methodology so that generator parties (including storage) do not contribute twice towards TNUoS residual charges is more efficient in terms of implementation and administration.
Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	Yes
Do you have any other comments?	WACM1 is considered to better overall facilitate the objectives than the Original as it includes both CVA and SVA, thereby avoiding the creation of a distortion between them.

CUSC Code Administrator Consultation Response Proforma

CMP280 – Creation of a New Generator TNUoS Demand Tariff which Removes Liability for TNUoS Demand Residual Charges from Generation and Storage Users'

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Respondent:	*Simon Lord simon.lord@engie.com* *07980793692*
Company Name:	*First Hydro Company (Engie)*
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	For reference, the Applicable CUSC objectives are: **Non-Standard (Charging) Objectives** Etc.… Yes:- We believe that the original and the working group alternative proposal WACM1 both better facilitates CUSC objective a, b and c. Further details are contained in the table below. We prefer WACM1 (SAV and CVA storage) for the reasons indicated in the table below.
Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	*Yes*
Do you have any other comments?	*Yes see table below*

In the table below, we provide a summary of our views on the key issue that are covered in the work group report or are relevant to this modification

Key Work Group issue	*Engie view*
The economic rationale for the solution.	We support the views that the proposer(s) put forward in the consultation and believe that this provides a strong economic case for storage and other non-end use consumption not being subject to residual network charges. We believe that this will lead to a lower cost for consumers. These issues are brought out in the consultations.
Should the modification apply to both CVA and SVA generation?	We believe that for consistency relief from residual charges should be applied to all classes of licenced storage but being mindful of the cost of implementation and the need to be able to identify storage use as opposed to own use consumption. Whilst the SVA solutions adds complexity given it is limited to licenced generation (as with relief from final consumption levies and other charges) we believe that the right balance has been drawn to include CVA and SVA storage. For this reason we prefer the working group alternative.
Should the modification include generation demand	We are supportive of the principle that demand used to support generation should also be excluded from Network residual charge and expect this to be the subject of a future modification. The difficulty of identifying demand associated with own use generation will lead to additional complexity and obligations but the systems and process that have been developed as part of this storage modification should help simplify any future modification that might come forward in this area.
How should storage be defined to limit the use to only include demand used for storage.	We support the definition of storage facility being principally based on the licence definition of storage augmented by the need to have metering systems that only measure imports and exports. These definitions have been set out in the CUSC principally to ensure that they are available prior to the draft licence conditions being approved. We support this approach.
Should the storage provider need to hold a generation licence	We believe that the need to hold a generation licence is an appropriate condition and the work group has brought out the benefits of this.
How is storage demand measured and should auxiliary demand be included	The solution requires that the imports and exports to the storage facilities are measured by appropriate metering systems. This requirement ensures data is available so that validation can confirm that the facility is operating as a storage facility and not an own use demand facility. The working group report also covers demand relating to auxiliary loads (cooling fans, pumps etc) that are required to ensure the facility can operate as a storage facility. We support this approach.
(EU) 2019/943. Article 18,	(EU) 2019/943. Article 18, para 1 sets the requirement that, " ...network charges shall not discriminate either positively or negatively against energy storage" We believe that this modification is compatible with this article as the case for not applying residual network charges to storage is an economic one. Storage will still be subject to appropriate demand locational charges and is does not benefit from undue discrimination.

Should all locational tariff be floored at zero?	We agree that the locational tariff should be floored at zero this will provide consistency with other modification and also prevent storage be paid to consume demand over the triad periods.

CUSC Code Administrator Consultation Response Proforma

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Respondent:	*Paul Jones paul.jones@uniper.energy*
Company Name:	*Uniper*
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	*The modification should improve competition in the wholesale market and better promote relevant objective a).*
Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	*Yes.*
Do you have any other comments?	*Yes. Just a typo in paragraph 14.14.14 of the legal text which should be tidied up. At present it contains the following sentence "The relevant zonal HH Demand Tariff shall be applied to the remaining Chargeable Demand Capacity (if applicable) for the Power Station will be based on the average of the net import over each Triad leg of the remaining BM Units associated with the Power Station (in Appendix C of its Bilateral Connection Agreement or Bilateral Embedded Generation Agreement, including metered additional load) during the Triad." Presumably the words "will be" should be removed after "Power Station".*

CUSC Code Administrator Consultation Response Proforma

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Respondent:	*Please insert your name and contact details (phone number or email address) Bill Reed*
Company Name:	*Please insert Company Name RWE Supply & Trading GmbH, RWE Generation plc*
Do you believe that the proposed original or any of the alternatives better facilitate the Applicable CUSC Objectives? Please include your reasoning.	For reference, the Applicable CUSC objectives are: **Non-Standard (Charging) Objectives** **(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 licence condition C26 requirements of a connect and manage connection); **(c)** That, so far as is consistent with sub-paragraphs (a) and (b), the use of system charging methodology, as far as is reasonably practicable, properly takes account of the developments in transmission licensees' transmission businesses;

	(d) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency. These are defined within the National Grid Electricity Transmission plc Licence under Standard Condition C10, paragraph 1 *; and **(e)** Promoting efficiency in the implementation and administration of the CUSC arrangements. *The modification proposal may better facilitate Objective (a) in relation to competition since it would facilitate the deployment of storage technologies in the electricity market where they operate under a Generation Licence.*
Do you support the proposed implementation approach? If not, please state why and provide an alternative suggestion where possible.	*We support the proposed implementation approach.*
Do you have any other comments?	*We are concerned that the modification proposal introduces discriminatory treatment with relation to a class of generation stations (i.e. those that operate under a Generation Licence and meet the storage definition). We do not believe that such discrimination has been justified in the modification proposal, though we note Ofgem's desire to create a new definition of storage under the generation licence.* *In addition one of the untended consequences of the proposals may be that market participants will seek a generation licence in order to avoid certain charges. This type of incentive may distort the electricity market.*