Modification proposal:	**Connection and Use of System Code (CUSC): TNUoS charging arrangements for infrastructure assets subject to one-off charges (CMP203)**		
Decision:	The Authority directs that CMP203 WACM 1 be made		
Target audience:	National Grid Electricity Transmission plc, all transmission system users, parties to the CUSC and all other interested parties		
Date of publication:	18 September 2012	Implementation Date:	1 April 2013

Background to the modification proposal

When users connect to the electricity transmission system they have the ability to exercise choice over certain works that facilitate their connection to, and flow of power across the network. This is normally to expedite their date of connection, e.g. by undergrounding transmission assets to avoid planning consent issues. The value of these additional "one-off" works is recovered directly from the requesting user through a one-off charge[1].

Once connected, all users pay Transmission Network Use of System (TNUoS) charges levied by National Grid Electricity Transmission plc (NGET) in its role as the System Operator (SO)[2]. These charges pay for the installation, reinforcement, maintenance and renewal of shared transmission infrastructure assets[3] that facilitate access to, and the flow of power across the network. NGET's methodology for calculating TNUoS charges does not currently reflect the fact that certain users may have paid an additional one-off charge in relation to certain assets recovered via ongoing TNUoS charges.

Further information on the background to this proposal is included at annex 1.

The modification proposal

In December 2011, NGET raised CMP203 to propose changes to the Use of System Charging Methodology[4] ("the Methodology") to ensure that users who have already paid for one-off works on infrastructure assets do not pay these costs through TNUoS charges.

CMP203 seeks to modify the Methodology to specify that, where infrastructure assets have been the subject of one-off works and a user has paid a related one-off charge, the circuit parameters (length, construction type, voltage, and rating) that determine the marginal cost of a circuit within NGET's Direct Current Load-Flow (DCLF) charging model will be adjusted to reflect the unpaid value of the relevant infrastructure assets.

CMP203 also proposes that additional explanatory text should be added to the Methodology to:

- set out the time limits and process for requesting changes to be made to the model to reflect one-off infrastructure works; and
- provide examples of works for which adjustments to DCLF inputs would typically apply.

The key features of the original proposal are -

- It applies to a one-off charge relating to specified one-off works relevant to the "local" infrastructure assets from a charging perspective for generators[5]. This reflects NGET's

[1] See CUSC Section 14 paragraph 14.4.2.
[2] A single SO is responsible for the operation of the national electricity system, and is the contractual interface for all transmission users.
[3] Transmission assets that cannot be attributed to a single user. Charges for transmission assets solely required to connect a user are calculated in accordance with the Connection Charging Methodology.
[4] Section 14 of the CUSC.
[5] Under the current TNUoS methodology, transmission infrastructure is divided into local infrastructure associated with individual generators and wider interconnected infrastructure for all generators across GB. There is no local distinction for demand users, meaning that demand users are only subject to a wider TNUoS tariff for use of the wider interconnected infrastructure.

view that a user is very unlikely to request one-off works on infrastructure assets in the deeper, or "wider", network from a charging perspective because the timing of their connection is no longer dependent on these works under the Connect and Manage access regime[6].
- It applies to a one-off charge relating to infrastructure works in relation to demand customer's connections[7].
- It removes the ability for a generator to pay an additional one-off charge in relation to specified works relevant to the infrastructure assets in the wider network from a charging perspective.

The CUSC Working Group developed ten alternative solutions to modify the Methodology to take account of upfront payments through a one-off charge[8]. The alternatives reflected the general split in views observed the CUSC Working Group discussion on:

- whether it is appropriate to adjust parameters for infrastructure assets considered wider from a charging perspective that have been subject to one-off works within the charging model used by NGET to calculate locational tariffs for generators; and
- whether the affected user should receive a targeted refund of the additional TNUoS charges they had already made, prior to CMP203 being implemented, for the one-off works they had paid for.

Of these alternative proposals, only Working Group Alternative CUSC Modification (WACM 1) was deemed to better meet the relevant objectives of the CUSC for the Methodology[9] ("the relevant objectives") and received unanimous support. WACM 1 would apply to specified one-off works on both the local and wider infrastructure assets from a charging perspective for both demand users and generators, but would not involve retrospective application and refunds.

A further two alternatives were regarded as better meeting the relevant objectives by some Working Group members, but did not receive the unanimous support of the Working Group or the Panel. The key features of these alternative proposals are briefly summarised below -

- WACM 3 – the same as WACM 1 but refunds would apply from the date the one-off works were completed.
- WACM 7 – the same as the original proposal but refunds would apply from the date that local charging was introduced (1 April 2009).

Other features common to the CMP203 proposals presented are -

- CMP203 does not propose to modify the core principles by which NGET calculates and derives TNUoS tariff levels for both demand users and generators.
- CMP203 applies to infrastructure one-off works and not to connection asset one-off works.
- Any new or existing users would be able to benefit from the proposal (subject to the claim deadline and claim process).
- No enduring operation and maintenance costs are included as part of the one-off charge for infrastructure works.
- The costs incurred by a user as a result of Third Party Works[10] are not included in the scope of works subject to a one-off charge.

[6] From 11 August 2010, the SO can offer terms for connection to the NETS based on a "connect and manage" approach. It enables new generation to connect to the network ahead of wider transmission reinforcement once all "enabling works" are complete. This approach does not extend to demand users.
[7] NGET confirmed that although one-off works will continue to be applicable to demand customers' connection requests, it believes that the impact would not be as material as those for generators because demand users do not pay local asset based charges.
[8] The different aspects are described in more detail in a summary matrix in Section 4 of the Final Modification Report.
[9] Set out in SLC C5 (5) of NGET's electricity transmission licence.
[10] The related costs of Third Party Works (such as constructing access tracks for substations) do not affect circuit parameters that are used in NGET's DCLF model.

The analysis provided by NGET indicates that, based on the applicable generator cases identified by NGET, the primary impact of the original proposal would be a reduction in local TNUoS tariffs for applicable generators together with a small increase in the generation residual element[11] of the TNUoS tariff paid by all generators.

CUSC Panel recommendation

The Panel voted on the original and alternative CMP203 proposals at its meeting on 27 July 2012. The Panel voted unanimously that both the original proposal and WACM 1 proposal better met the relevant objectives and so should be implemented. A majority of the Panel considered that the WACM 1 proposal best met the relevant objectives. On 13 August 2012, the Panel submitted a Final CUSC Modification Report (FMR) on CMP203 to us for a decision[12].

The Authority's decision

We have considered the issues raised by the original proposal and the alternative proposals as set out in the FMR. We have considered and taken into account the responses to the Workgroup and Code Administrator consultations, which are attached to the FMR.

We have concluded that:

1. the original proposal, WACM 1, WACM 3, and WACM 7 would better facilitate the achievement of the relevant objectives;
2. WACM 1 would best facilitate the achievement of the relevant objectives; and
3. WACM 1 should be approved and implemented. This is consistent with our principal objective and wider statutory duties[13].

Reasons for the Authority's decision

In making our decision, we have considered the views of the proposer, Panel members and consultation respondents. We set out below our reasoning against each of the relevant objectives.

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'

We agree with the proposer and the industry that the clarifications and changes to NGET's charging model associated with the original proposal and three alternatives (WACM 1, 3 and 7) would better achieve objective (a).

We consider that the changes proposed in the original proposal and the three alternatives the Working Group took forward further clarify the principles underpinning the TNUoS charging methodology. They do so by removing the ambiguities over the manner in which one-off works related to infrastructure assets will be treated by NGET when administering the TNUoS charging arrangements.

We consider the four CMP203 solutions presented in the FMR will facilitate competition by:

- reflecting the value of one-off works on infrastructure assets specifically requested by a user, thus making TNUoS charges more reflective of the costs imposed on the system arising from a user's commercial choices. This should ensure generators compete on a level playing field;

[11] This is a non-locationally varying element that recovers the total amount of revenue allowed to the TOs.
[12] The Report is available here: http://www.nationalgrid.com/NR/rdonlyres/3278A40D-4652-46EF-88BB-F9298340A5FC/55561/CMP203FinalModReportv10.pdf
[13] The Authority's statutory duties are wider than matters which the Panel must take into consideration and are detailed in the Gas Act 1986, the Electricity Act 1989 and the Utilities Act 2000, all as amended.

- having an impact on the costs of entry for users where an infrastructure asset has been the subject of one-off works at the specific request of a user. The primary impact of the existing modelling treatment applied by NGET has been that a user will pay the premium associated with the value of one-off works in the TNUoS charge levied by the SO. Removing this anomaly will reduce the costs of entry; and
- improving the predictability and stability of TNUoS tariffs. The removal of ambiguities over the treatment of cost categories related to one-off infrastructure works will ensure that the calculation of TNUoS charges is more predictable and should improve a user's ability to form their own view on future charges.

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

We agree with the proposer and the majority of industry that the clarifications and changes to NGET's charging model associated with the four CMP203 solutions presented in the FMR, in particular WACM 1 and WACM 3, better achieve objective (b).

We consider that TNUoS tariff levels and charges calculated by NGET should, as far as reasonably practicable, reflect the costs imposed on the system arising from a user's commercial choices. We recognise that any attempt by NGET to provide a more cost reflective signal to users will expose individual users to the cost implications of their decisions. The introduction of arrangements that facilitate the calculation of TNUoS tariff levels and charges that more accurately reflect the costs imposed by users would be expected to promote more effective competition. This in turn should ensure that the cost of delivery of the required transmission infrastructure is not higher than it needs to be. These costs will ultimately be borne by electricity consumers.

We note that the clarifications and changes to NGET's charging model associated with CMP203 will ensure that users who have already paid for one-off works on infrastructure assets do not pay these costs through ongoing TNUoS charges. Hence, the modification is more cost reflective as it seeks to reflect the value of one-off works on infrastructure assets specifically requested by a user in the level of TNUoS charge.

We consider that WACM 1 and 3 are more cost reflective than the solutions presented under the original proposal and WACM 7 as they seek to ensure that users (both demand users and generators) who have already paid for one-off works on infrastructure assets pay TNUoS charges that reflect the unpaid value of the relevant infrastructure assets.

We also consider that the improved cost reflectivity provided by WACM 1 outweighs the perceived additional complexity of extending the solution to include specified one-off works relevant to the wider infrastructure assets from a charging perspective for generators.

Objective (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'

We consider that the changes to NGET's charging model associated with the WACM 1 proposal presented in the FMR would better achieve objective (c).

We consider that WACM 1 is compatible with NGET's role and responsibilities as the SO. It also complements the changing nature of the transmission network, in particular clarifying the use of system arrangements following the implementation of the enduring Connect and Manage access regime. In the case of generators, this means reflecting in the TNUoS calculation the ability of one-off infrastructure works to apply to "enabling works" that have the potential to fall within the definition of local and wider works from a charging perspective.

Assessment having regard to the Authority's statutory objectives and duties

We have evaluated the original and alternative proposals against the relevant objectives and of the options presented in the FMR we think that WACM 1 best facilitates the relevant objectives. We have also considered whether implementation of WACM 1 is consistent with our principal objective and statutory duties.

In our view, the WACM 1 proposal:

- is likely to support more effective competition. In this instance, the improvement in cost reflectivity is likely to lead to more efficient development of the network. This in turn ensures that the cost of delivery of the required transmission infrastructure is not higher than it needs to be, or the costs which will ultimately be borne by electricity consumers;
- will not have a material impact on sustainable development; and
- may encourage the construction of new projects which in turn could improve security of supply and increase competition overall.

We set out below some further thoughts relating to this decision.

Longer term cost signals

We note that NGET has concerns over the ability of generators to exercise choice over specified infrastructure works applicable to the wider infrastructure from a charging perspective. This is a feature of WACM 1 and WACM 3. NGET considers that the ability of users to request additional one-off works on the wider network would not be an efficient outcome in longer timescales following any subsequent reinforcement to this part of the wider network. NGET believes that this could be harmful to consumers in these longer timescales.

For example, if an underground cable is in situ on the wider network as a result of a specific user request, once its asset-life has expired, or it is identified as needing to be reinforced, then it is likely to be replaced with another underground cable (and not the original design, such as overhead line, offered by the relevant licensee as part of the original offer to connect). This could mean higher costs to future users from more expensive solutions (relative to the overhead line solution which would have gone ahead in the absence of one-off works).

In response, we make the following observations -

- The current framework permits the use of one-off works and allows this to apply to one-off works on transmission infrastructure assets for both demand users and generators. The changes proposed in WACM 1 and WACM 3 are intended to make the charging arrangements more consistent with the scope of the current application of one-off works and the totality of the charging regime.
- One-off infrastructure works applying to "enabling works" have the potential to fall within the definition of local and wider works from a charging perspective.
- It is not cost reflective to have arrangements that do not reflect the value of any infrastructure assets that are subject to one-off works.
- We note NGET's view that the frequency and likelihood of effects on the wider tariff are expected to be very low and spread across all users through a recalibration of the residual element of the TNUoS tariff.

We therefore favour WACM 1. We note that NGET has an obligation to keep the charging methodologies under constant review and that there can be no expectation that the current Methodology is immutable. Hence, if there are issues that any party under the open CUSC governance process believes there is merit in exploring or developing further then these can be raised in a separate CUSC modification proposal.

Retrospectivity

We note that retrospective implementation is an element common to WACM 3 and WACM 7[14].

Our general principle is that retrospective implementation should only be considered in exceptional circumstances, as described in our guidance document[15]. Based on the evidence and justification provided through the FMR, we do not consider there to be reasonable grounds that warrant the retrospective application of the proposed changes to the settlement of capital contributions paid in respect of user-choice infrastructure works. This is because:

- the TNUoS charges levied to date have been implemented in line with the current TNUoS charging methodology;
- the issue being tackled by CMP203 differs from a situation in which manifest errors have occurred;
- the magnitude of the potential effect on charges is small (initial analysis suggests an estimated impact is within a maximum range of +/- £1kW for both demand and generation charging zones); and
- a recalibration of charges is a necessary consequence of facilitating the desired improvement in the cost reflectivity of the Methodology.

Decision notice

In accordance with standard condition C5 of NGET's Transmission Licence, the Authority hereby directs that the **WACM 1** alternative to modification proposal CMP203 *'TNUoS charging arrangements for infrastructure assets subject to one-off charges'* be made.

We expect NGET to implement WACM 1 to take effect on 1 April 2013 and for it to apply from the charging year beginning 1 April 2013, as requested by NGET.

Andrew Burgess
Associate Partner, Transmission and Distribution Policy
Signed on behalf of the Authority and authorised for that purpose

[14] Affected user would receive a refund of the additional TNUoS charges they had already made, prior to CMP203 being implemented, for the one-off works they had paid for.
[15] Available from the Ofgem website: http://www.ofgem.gov.uk/Licensing/IndCodes/Governance/Documents1/Ofgem%20Guidance%20on%20Code%20Modification%20Urgency%20Criteria.pdf

Annex 1 - Background to the modification proposal

Under the terms of its licence[16], NGET, in its role as SO for the national electricity transmission system (NETS)[17], is required to produce charging methodology statements setting out the methods by which it levies charges on users for connection to and use of the NETS. In addition, NGET is required to keep the charging methodologies under constant review.

NGET's TNUoS methodology determines a locationally varying component of the generation and demand TNUoS tariffs using a DCLF model, based on the principle of ICRP[18]. The model produces charges that vary by location to reflect the cost of capital investment in, and the operation and maintenance of, infrastructure assets that users impose on the network[19].

The underlying principle behind NGET's TNUoS charging methodology is that efficient and economic signals are provided to transmission users that reflect the costs of transmission infrastructure associated with a particular location on the network. This allows users to make an informed decision on their infrastructure requirements and is considered the best way to promote the efficient use and development of the network at the lowest cost to the consumer (both current and future).

Under the Electricity Act 1989[20], owners of high voltage electric wires (Transmission Owners, or TOs) are duty bound to make economic and efficient investments. This duty is discharged through the requirements set out in the electricity transmission licence. The obligation is further reflected in the requirements set out in the industry codes in the design of the connection and the infrastructure of their transmission systems. This includes provision for any "one-off" works that have been specifically requested by a user.

One-off works reflect the ability of a user to exercise choice over the design of their connection to, and to request transmission works to facilitate their flow of power across, the network which the TO do not consider to be the most economic and efficient option to accommodate a user's connection request. Hence, one-off works are those required to facilitate or modify the transmission works associated with a user's request for connection that are not recoverable by the SO through the Connection or TNUoS charging arrangements. One-off charges are the mechanism by which the SO recovers the costs of one-off works from users on behalf of TOs.

While the current contractual framework permits the use of one-off works, the text of NGET's TNUoS charging methodology statement is currently silent on the existence of one-off works, and the treatment of one-off charges, relating to infrastructure works within the DCLF model. The payment of a one-off charge for one-off works on infrastructure assets is not reflected in the current DCLF model that NGET uses to calculate the level of TNUoS charges. Instead, in the applicable cases identified by NGET, the DCLF model has incorporated the modified design of the connection and the infrastructure of its system specifically requested by a user (e.g. undergrounding of circuits) and not the design provided by the relevant licensee to give effect to the request[21] (e.g. the TO may have offered an overhead line design). While a user would have paid the difference in cost between the solutions as a one-off charge, the DCLF will allocate the appropriate cable cost to the circuit (via the use of an expansion factor[22]). This cost is then used in the calculation of TNUoS charges. Hence, NGET's methodology for calculating TNUoS charges does not currently reflect the fact that certain users may have paid an additional one-off charge in relation to certain assets that are recovered via ongoing TNUoS charges.

[16] Standard licence condition (SLC) C4 ('Charges for use of system') of the electricity transmission licence and SLC C6 ('Connection Charging Methodology') requires a statement setting out the basis of charges.
[17] The NETS is the electricity system within Great Britain that consists (wholly or mainly) of high voltage electric wires owned or operated by transmission licensees. The NETS was extended into offshore waters in March 2011.
[18] This seeks to estimate the incremental transmission usage at each point in the transmission network. This is expressed in terms of the relevant costs of infrastructure assets necessary to accommodate this flow (MWkm).
[19] Where a change in demand of generation increases (decreases) power flows, the locational element of tariffs increase (reduce) to reflect the need to invest to accommodate the increased (decreased) flows.
[20] Section 9(2) of the Electricity Act 1989.
[21] Each licensee is responsible for the design of the connection and the infrastructure of its transmission system and for making the construction offer (TOCO) to NGET in its role as SO.
[22] See CUSC Section 3 paragraph 14.15.10.