National Grid

Conclusions Report to the Authority

Modification Proposal to the Connection Charging Methodology

CCM-M-07

Implementation of "PLUGS" –

Change to Connection Boundary and associated removal of Land Charges and Type B Termination Charges

AND

Change to Calculation of Site Specific Maintenance Charges

21 November 2003

Table of Contents

1. INTRODUCTION

A consultation document for modification proposal CCM-M-07 was issued on 12 September 2003. The document set out for consultation National Grid's proposed modification to the Connection Charging Methodology in line with its "Plugs" shallow connection charging methodology. The proposal specifically requires changes to:

(i) the connection boundary and associated removal of Land Charges and Type B Termination Charges;

(ii) the method of calculating Site Specific Maintenance Charges

It provides consistency with the proposed Connection and Use of System Code (CUSC) Amendments CAP052: "Removal of Land Charges" and CAP053 "Revision of Site Specific Maintenance Charges".

Comments on the modification proposal were invited by 10 October 2003.

2. TERMS OF THE ORIGINAL PROPOSED MODIFICATION

Description of proposed modification to the Connection Charging Methodology

The proposed modification incorporates two main areas of change to the methodology:

(i) the adoption of the so-called "Plugs" connection charging methodology, specifically a change in definition of the connection boundary and the consequent change in treatment of both land charges and termination charges; and
(ii) the proposed change to the method of calculating Site Specific Maintenance charges.

The "Plugs" methodology, described in detail below, would mean that those assets remaining within the connection boundary would be single User assets for which maintenance and construction activities could be contested. Assets which could be shared would be those assets which are currently shared or which would normally be shared if another User submitted a connection application related to that connection site.

In defining the connection boundary at a connection site, account is taken of any customer choice arrangements. Where an asset has been installed solely at the request of a connecting party and would not have otherwise been constructed, these assets would remain within the connection boundary. This would ensure that the boundary could not be artificially altered by customer driven configurations.

Explanation of the issues

Connection Boundary
Under the new "Plugs" proposals, National Grid would redefine the connection boundary such that all assets that are shared or could be shared are moved from connection into infrastructure. This results in substations and associated site infrastructure and land, generation only spurs, and shared transformer circuits moving into infrastructure. As a consequence of the boundary change proposal, changes are also required in other areas of the Connection Charging Methodology, specifically;

Land Charges
Due to the proposed change to the connection boundary under "Plugs", site infrastructure and land costs would move to be within infrastructure. It is therefore proposed to remove Land Charges from the Connection Charging Methodology.

Termination Charges
Also due to the proposed change to the connection boundary under "Plugs", there would no longer be any shared connection assets. "Type B" termination charges would therefore be obsolete and the Connection Charging Methodology needs to be modified accordingly.

Site Specific Maintenance Charges
National Grid proposes to levy the Site Specific Maintenance charge on a cost pass through basis, rather than using a 3 year historic average to apportion a total maintenance forecast.

Explanation for proposed changes to the Connection Boundary

Substation assets
Prior to and during the Charging Review Users raised issues with aspects of the Connection Charging Methodology which they felt were restricting competition and were barriers to new entrants. Many of these issues were caused by the unpredictability and volatility of connection charges, driven by factors outside of the User's control. Examples of such issues are described below.

New Connections
When another User joins an existing connection site the connection charges for each of the connectees will change. Each User's connection charges will depend on a number of factors including what new connection assets are required, whether there is any reconfiguration of the circuits connecting the substation, which type of connection assets are installed, and the attributes of both the new User and existing Users. The original User's connection charges could be higher or lower after the arrival of the new User, and whether the new User benefits at all from sharing may not be clear.

Disconnection
When a User partially or fully disconnects from a connection site the termination charges levied on the disconnecting party will depend on National Grid's assessment of which connection assets are made redundant. The departing User will then pay a termination charge for the assets made redundant, and a further charge for their allocated share of each of the remaining connection assets. This second payment is used to protect any remaining Users from an increase in the finance element of the connection charges on an asset by asset basis. Furthermore there is also a charge for removal and making good, which may be complicated if National Grid determines that it is more economic to defer the physical removal of the connection assets.

The termination charges can therefore be unpredictable for a disconnecting party, and the charges for the remaining Users are similarly uncertain. Each User's overall charge will depend on the commercial decisions of another, and potentially competing, party. In an extreme example, a longstanding User may be forced to pay termination charges for relatively new assets that were only installed recently due to the connection of a second User.

System Developments
National Grid's development of the transmission system can impact on connection charges both in the short and longer term.

Under the existing methodology substations which are connected by more than four circuits qualify as a bussing point. This results in infrastructure taking a share of the busbars, bus couplers, bus sections and outgoing feeder circuits. The share of these assets allocated to Transmission Network Use of System (TNUoS) charges will be at least equal to that allocated to other Users, but can in some cases be the majority share.

If National Grid is required to develop the system in such a way that the number of circuits connecting a substation moves through the bussing point threshold of four, the User's charges can change significantly.

National Grid may also conclude that in order to meet the Licence obligations it is

necessary to replace a substation at a different voltage. This would normally take the form of a 275kV substation being replaced with a 400kV arrangement. The higher voltage substation would normally be included within the User's connection charges at the appropriate time.

Sharing Incentives
It can be seen from the situations described above that there are both benefits and disadvantages of sharing a connection, and these pros and cons are seen only by the parties connected at the site. It is not therefore necessarily clear to a new User whether there will be a sharing incentive for connecting in any particular locality.

When considering a new connection, National Grid is required to connect the User in the most economic and efficient manner. National Grid does not provide connections on the basis of minimum connection charges. This is the well established and licence driven principle of design first, and charge second.

National Grid's Licence standards used to develop the transmission system will normally be the primary driver of the connection works and effectively therefore any benefit of sharing. The User's ability to respond to connection charging sharing incentives can therefore be limited.

Conclusions on Treatment of Substations
National Grid believes that the issues described above could restrict competition. Furthermore, Users should be reasonably protected against investment decisions driven by wider system developments and for new connections, the configuration of the existing network.

The change in connection boundary proposed under "Plugs", namely removal of substation and associated site infrastructure from Users' connection charges, would therefore provide a benefit such that it should be adopted as a change to the Connection Charging Methodology. The change would result in the retention of sharing incentives and with the benefits and disadvantages of asset sharing in general being realised by all infrastructure users rather than by individual connecting parties.

Generation Only Spurs
There are three main issues associated with the current arrangements for charging for generation only spurs:

- Could be perceived as a barrier to new entrants
- Discourages utilisation of existing spur capacity
- Users are exposed directly to additional costs associated with the existing network and National Grid's system development decisions

Each of these issues is discussed in more detail below.

Barriers to new entrants
Generation only Spurs raise a number of issues that may result in a perception of a barrier to new entry. A new generator requiring the construction of new spur capacity will be charged for the majority of the spur, including an allocation of any switchgear at the remote end of the spur, within the connection charge. The generator will also be liable for termination liabilities linked to the net asset value of the spur.

A new generator connecting to an existing spur will take a share of the charges and

liabilities for the spur, including an allocation of any switchgear at the remote end of the spur.

A generator is also exposed to the increase in charges associated with the asset replacement of a spur. A new entrant may connect to an existing spur which will shortly reach the end of its commercial life, and would therefore see a significant increase in charges upon completion of the asset replacement. New spur connected generators can therefore incur significantly higher charges than a non-spur connected power station.

The different treatment of remote and local transmission circuitry may also restrict competition. For example, under the current arrangements a new non-spur connected generator may require a new £100m double circuit overhead line in a distant part of the network, in which case cost reflectivity would be delivered via the TNUoS methodology. A second generator of comparable size may require a similar but spur connected double circuit costing £100m, but with no remote infrastructure requirements. In the spur connected example the generator would pay for the £100m spur directly through connection charges.

If, in both cases, the additional circuits had been infrastructure, a consistent cost message, not possible under the current methodology, would have been delivered.

Utilisation of existing spur capacity
As described above, a new User connecting to an existing spur will pay connection charges for the spur. This arrangement encourages new entrants to use non-spur transmission assets over spur connections. However, once transmission assets are on the ground, it would seem appropriate to promote utilisation of them all equally by new connectees, rather than just non-spur circuitry. In addition to a spur connected generator incurring the cost of the spur, there is a lesser incentive on other Users to share the spur connection assets, which could alleviate the first User's higher charges.

Network interaction
The type of spur connection will have a significant impact on the level of connection charge and associated liability. Generally, there are four types of spur connection:

- Turn-in
- Tee
- Re-route
- Remote Substation

For the first three options a connection charge is currently levied for the additional circuitry, however for the fourth option, in addition to the spur charge for the new circuit, a share of the remote substation is included in the charge. The selection of the connection option may be influenced by factors outside of the control of the generator such as the existing network, actions of other Users, developments for wider system needs, planning issues, or minimum overall cost.

An example which illustrates this issue is that of a new generator connecting to an existing transmission circuit. If the closest point to the new power station is an existing substation, the preferred connection is likely to be into the existing facility. The spur connected generator would then pay a share of the existing substation in addition to the spur circuitry itself and the local substation. This would seem contrary to any principle aimed at encouraging the use of existing transmission equipment.

If there is no existing substation to connect into then it would normally be acceptable to connect via either a turn-in or a tee. With no substation at the remote end of the spur, the connection charge to the new entrant would be significantly lower.

In the scenario where there is an existing remote substation, the User may suggest that National Grid should tee the spur connections into the circuits just outside of the remote substation. This would involve a slightly longer spur, but this arrangement would allow the generator to avoid the connection charges for the remote substation. This would only be acceptable if the overall design was compliant with National Grid's licence obligations including the technical planning and operational standards.

Conclusions on Treatment of Generation Only Spurs
National Grid believes that the current rules for spur-connected generation could restrict competition. National Grid believes that in order to ensure consistent treatment of all transmission circuitry it would be appropriate to include all spurs within the TNUoS methodology.

Furthermore, Users should be reasonably protected against investment decisions driven by wider system developments and for new connections, the configuration of the existing network. The change in connection boundary proposed under "Plugs" would therefore provide a benefit by removing generation only spurs from Users' connection charges and as such it should be adopted as a change to the Connection Charging Methodology.

Explanation for Proposed Change to Land Charges
The current methodology provides for a land charge to be levied where National Grid is required to purchase or lease land as a result of a User application for new connection assets. The land charge is a direct pass through charge where the cost is in the form of an ongoing lease payment. Where the land has been purchased (or where land has become operational), the annual land charge is 6% of the land cost, which is re-valued each year by a measure of RPI.

There is no equivalent charge for any land costs incurred at existing sites, which can be significant. Pre-vesting land costs are effectively recovered through infrastructure charges.

Since the proposed change to the connection boundary under "Plugs" would result in substations and associated site infrastructure moving outside of the connection boundary, it is proposed to move all land charges into infrastructure. This would also have the benefit of removing the different treatment of land charges between pre-vesting and post vesting connections described above. National Grid therefore proposes to update the Connection Charging Methodology to remove land charges into infrastructure. This would also be consistent with the relevant objective in licence condition C7A 5(c) of taking account of developments in the transmission business.

Explanation for Proposed Change to Termination Charges
The current Connection Charging Methodology stipulates that Users are liable for Type A and Type B termination charges upon full or partial disconnection, along with any costs of making good. In addition, Users are required to provide security for any post vesting termination charge liabilities.

Type A terminations relate to connection assets made redundant by the

disconnection and reflect the Net Asset Values (NAV) of the appropriate connection assets.

Type B termination charges are also based on the NAV but are levied on the allocated NAV for any shared assets that are not made redundant. Type B termination charges are used to protect the remaining User's capital charges.

Users are refunded an appropriate proportion of the termination charge if the asset is subsequently reused either as a connection or infrastructure asset. Type B terminations may also be refunded if a new User connects at the site, or if a remaining User modifies their connection. As a result of the proposed changes to the connection boundary under "Plugs" there would be no shared connection assets, therefore Type B termination charges would not be required. Type A termination charges and making good charges would remain.

Hence, National Grid proposes to update the Connection Charging Methodology to reflect the fact that Type B termination charges would no longer be required. This would be consistent with the relevant objective in licence condition C7A 5(c) of taking account of developments in the transmission business.

Explanation for Proposed Change to Site Specific Maintenance
Changes to the Connection Charging Methodology are required to reflect National Grid's proposal to change the method for calculating Site Specific Maintenance charges. Specifically, National Grid proposes to levy the charge on a cost pass through basis.

Current Methodology
The current methodology calculates Site Specific Maintenance charges each year using the most up-to-date three complete years of actual maintenance cost information. This data is used to apportion a forecast of the total maintenance to derive a site specific charge. Specifically, in any given year N the Site Specific Maintenance charges are based on an analysis of the latest three full years of maintenance cost information (N-4, N-3, and N-2), which is used to apportion the total forecast maintenance cost for Year N.

Rationale for Change in Methodology
The current calculation process is deemed by some Users to be complex and non-transparent, leading to a barrier to contestability.

In addition, National Grid finds administering the process can be restrictive and onerous, particularly due to the restrictions placed on cost reporting systems, which for the methodology to work requires three years of costs being recorded and booked in a consistent manner. There is also a requirement for manual intervention in the charge calculation process each year to handle any changes to connection assets e.g. new assets which are in service for only one or two of the three years being utilised in the averaging process.

Furthermore, whilst the use of forecasts is consistent with the approach adopted for contestability it is not strictly cost reflective of the maintenance costs incurred by National Grid and this is deemed by National Grid to be of higher priority.

Proposed Methodology Change
The proposed change to the connection boundary would result in clearly defined connection assets for which the User could contest the maintenance. Currently the extent of the contestability is not visible to the User as the contestable assets and

services are a subset of the total maintenance, and a single maintenance charge is levied. The exact charges that would result from contesting site specific maintenance would be discussed with each User upon application for contestability.

With the increased visibility, it is appropriate to review Site Specific Maintenance charges against the Relevant Objectives, in particular to ensure the Site Specific Maintenance charge is as cost reflective as possible to ensure the appropriate messages are given to the User.

The new Site Specific Maintenance charge would be split into two elements;

- Asset Specific maintenance costs
- Non-Asset specific general overheads

Proposed Asset Specific Charge

National Grid intends that asset maintenance charges would remain site specific and would continue to be levied on an annual cost pass through basis. However, the proposal is that, in contrast to the current methodology, the actual annual site specific asset maintenance costs each year would be passed straight through in that year to the User.

Initially, an indicative charge based on an average apportionment of GAV would be levied across all sites. Subsequently, there would be a site specific adjustment made to reflect the actual costs incurred. The final asset specific maintenance charge would therefore be based upon costs booked against particular connection assets plus an allocation of general costs.

This process is necessary because the asset maintenance costs in any year are not known until after the event and it would therefore be necessary to bill the User initially on an indicative basis, with a reconciliation exercise once the final cost data is available in the following year. In line with National Grid's preference and following Users' responses to the options put forward in the July 2003 consultation document, National Grid proposes to apply a one-off reconciliation charge in July of year N+1. A consequential CUSC amendment proposal, CAP053 "Revision of Site Specific Maintenance Charges" has been raised to cover the reconciliation process within the CUSC.

Some Users suggested that National Grid could derive indicative Site Specific Maintenance charges for each individual connection site. However, whilst such an exercise is possible, it is a highly resource intensive and time consuming exercise for National Grid to undertake.

Given the relative magnitude of the charges and the small magnitude of likely variation from a national average figure, National Grid believes there is limited benefit to adopting such an administratively onerous process. It would be more appropriate to only undertake such a site specific exercise upon request from a User actively considering undertaking their own connection site maintenance for relevant contestable assets.

Hence, subject to individual Users' requests for contestable maintenance purposes, National Grid proposes to base the indicative site specific asset maintenance charge for all Users on a flat percentage of the GAV. The use of an average indicative charge will minimise the overall reconciliation payments. Based on the average of maintenance charges, a figure of 0.5% is anticipated for 2004/2005.

Proposed non-Asset Specific Charge
The proposed non asset specific cost apportionment process is aimed to provide as transparent a mechanism as possible to recover those general maintenance overheads not covered by site specific asset maintenance costs, such as maintenance planning & management activities and would operate as follows:

- collate total general site overheads for Year N
- apportion costs between infrastructure and connection assets on the basis of the ratio of total connection GAV to total system GAV
- allocate connection asset costs on the basis of the ratio of connection site GAV to total connection GAV

Site Specific Maintenance Charging Process
In summary, the proposed new methodology for Site Specific Maintenance charges would be:

- in Autumn/Winter of Year N-1 set indicative Site Specific Maintenance charge for Year N for all customers as flat % of GAV (c. 0.5% for 2004/05)
- recover the indicative maintenance charge monthly during Year N
- in July of Year N+1 National Grid would reconcile maintenance charges for each site and issue reimbursement or further payment requests as appropriate within the current October invoice process
- following the reconciliation, Users would effectively have been charged for the outturn Site Specific Maintenance costs incurred by National Grid relating to their site as undertaken in Year N.

This proposal could result in more volatile charges as the volume of work at a site can vary significantly year on year. However, the materiality of this volatility is very low in the context of other transmission charges. Furthermore most Users will benefit from a portfolio effect where the volatility of charges at different sites will offset each other around the average to effectively dampen the overall volatility seen by the User.

National Grid believes at this time that the proposal outlined above would be more cost reflective than the current methodology, would better facilitate competition and therefore better meet the Relevant Objectives.

Justification for proposed modification

Change to Connection Boundary, Land charges and Termination Charges
To better meet the relevant objective in Licence Condition C7A 5(a) of ensuring National Grid facilitates effective competition in the generation and supply of electricity and (so far as is consistent therewith) to facilitate competition in the sale, distribution and purchase of electricity. With regard to the specific changes relating to Land charges and Termination charges, to better meet the relevant objective in Licence Condition C7A 5(c) of taking account of developments in National Grid's transmission business.

The proposed change to the connection boundary would result in assets and the associated revenue moving from connection into infrastructure and therefore being recovered through Transmission Network Use of System tariffs. In its consultation document to CCM-M-07, National Grid stated that it believes that this would require an adjustment to National Grid's allowed revenue via an amendment to the Transmission Licence. National Grid believes that such a Licence change is required to ensure the proposals better meet the Relevant Objective in Licence

Condition C7A 5(b) to ensure National Grid levies charges which reflect, as far as is reasonably practicable, the costs incurred by National Grid in its transmission business.

Such a change to National Grid's licence was discussed in Ofgem's October 2003 consultation document, "Potential Changes to NGC's transmission licence consequential to possible changes to its transmission charging methodologies". Following consultation on this issue, Ofgem published a further consultation detailing final proposals to modify National Grid's transmission licence on 19 November 2003[1]. National Grid believes that the provisions in Ofgem's final proposals and the Notice under Section 11(2) of the Electricity Act are sufficient to ensure that National Grid is able to comply with its licence objective of charging in a cost reflective manner. Following the statutory licence notice consultation period (28 days), if the licence changes are modified from those contained in the original notice, National Grid may need to review the charging methodology modification proposals against the relevant licence objectives.

Change to Site Specific Maintenance Charge
To better meet the Relevant Objectives in Licence Conditions C7A 5(b) and C7B 11(b), namely to ensure National Grid levies charges which reflect, as far as reasonably practicable, the costs it incurs in its Transmission Business and facilitates competition in the carrying out of works for connection to National Grid's Transmission system.

Suggested alternatives

None.

Implementation date

1 April 2004.

Proposed changes to the Statement of the Connection Charging Methodology

To accommodate this modification, an illustration of the impact on the Statement of the Connection Charging Methodology was provided in a separate Appendices document, published with the consultation document for CCM-M-07. The illustrative drafting reflects the changes proposed in "Explanation of the Issues" above.

The proposed change to the calculation of Site Specific Maintenance charges affects paragraphs 2.15 – 2.20 of Chapter 2 only, as illustrated in the Appendices document.

Impacts on existing Connection charges

Impact of connection boundary change
The shallower definition of connection boundary introduced by "Plugs", the associated removal of land charges from connection and the consequent elimination of Type B termination charges will impact on Connection Charges of Users at each connection site.

[1] "Modification to the National Grid Company's Transmission Licence: Consequential changes following a possible change to its charging methodology – consultation under section 11(2) of the Electricity Act 1989"

The indicative impact on Connection Charges has been assessed for all Users and has been provided to those Users who have requested them. Users who wish to receive their indicative charges but have not yet done so are asked to contact National Grid in writing, including their contact details and an email address, to ensure confidentiality is maintained and that the relevant information is sent directly to the most appropriate individual.

Impact of revised site specific maintenance charge
The initial Site Specific Maintenance charges for 2004/05 are expected to be circa 0.5% of GAV.

There is potential for more volatile charges as the volume of work at a site will vary year on year so the impact on Connection Charges of Users at each connection site will vary. However, for the majority of Users the volatility/variation from the initial 0.5% figure should not be overly high, due to the portfolio effect dampening differences at individual sites. Final "outturn" charges for most Users would therefore be expected to be reasonably close to the initial average charge levied.

Impacts on other Industry Documents

Amendments will need to be made to the CUSC to reflect the removal of land charges from connection and reconciliation of Site Specific Maintenance charges. These have been proposed in CAP052: Removal of Land Charges and CAP053: Revision of Site Specific Maintenance Charges respectively. In addition, Ofgem has proposed changes to National Grid's Transmission Licence in its Final Proposals and Notice document published on 19 November 2003, referenced on the previous page of this report.

3. RESPONSES TO THE MODIFICATION PROPOSAL

Comments and views were invited on all the issues raised in the Modification Proposal up to 10 October 2003. National Grid received 22 responses, of which two were marked confidential. The non-confidential responses are included in Appendix 1 to this document. Prior to consultation on proposal CCM-M-07, Users were invited to respond to National Grid's initial charging methodologies consultation, which closed in August 2003[2]. Users' responses to this initial consultation were included in the consultation document for CCM-M-07.

Any comments made by Users in response to modification proposal CCM-M-07 that refer to changes proposed to the Use of System Charging Methodology by modification proposal UoSCM-M-10 are referenced in the Conclusions Reports for modification UoSCM-M-10 to ensure that relevant points are considered for the appropriate charging methodology.

13 respondents supported the proposals to introduce a change to the connection boundary and site specific maintenance charge in principle. 9 respondents raised issues with certain aspects of the methodology change proposal.

Support for the proposal
Thirteen respondents offered support for the proposal. Six respondents expressed firm support for the proposal on the grounds that moving the costs of shared assets into infrastructure would benefit competition in generation as it would remove some of the risk associated with sharing assets. This would make it easier for generators to enter and exit the market and would also simplify the current charging arrangements.

The proposal was deemed to offer more transparent and simpler arrangements for connection charging by four respondents. Another respondent suggested that the changes to the methodology would remove existing shortcomings in respect of system wide economic efficiency. The movement of assets from connection to infrastructure had the advantage of simplifying the asset change process in the view of one respondent, as NGC owned assets would be in NGC's control. Two respondents felt that the proposed methodology would be more cost reflective.

Proposal will not facilitate competition
Six respondents raised issues over the ability of the proposal to better facilitate competition in the generation and supply of electricity. The modification was deemed by three respondents to provide no additional benefit in terms of facilitating competition. It was suggested by a further respondent that competition would be hindered as the cost of new connections and system reinforcement works would be levied on existing Users who had already paid a considerable amount in their own connection charges. Two respondents suggested that competition would not be facilitated due to the abrupt changes to TNUoS tariffs resulting from the movement of connection revenue into infrastructure and associated use of system changes. A further issue regarding timing of charges was raised by one respondent who noted that revised transmission charges would not be available to DNOs in time for their tariff setting process, thereby also impacting on DNO customers, which it considered to be harmful to competition.

National Grid believes that this proposal will better meet its objective of facilitating competition in the generation and supply of electricity. There are a number of areas

[2] "National Grid Charging Review: Initial Charging Methodologies Consultation, July 2003"

within the current connection charging methodology that could be seen to restrict competition in terms of sharing assets, new connections to the system, disconnecting from the system and generation only spurs. These areas were described in some detail in the consultation document and are repeated in Section 2 of this conclusions report. The proposed methodology would ease the restrictions on competition by removing the complex sharing rules that may impact on charges to Users joining or leaving a shared site and would reduce the volatility caused by this impact. In addition, moving the connection boundary would protect Users from the risk of wider system developments impacting on connection charges. The change would result in the retention of sharing incentives and with the benefits and disadvantages of asset sharing in general being realised by all infrastructure users rather than by individual connecting parties.

With regard to the issue of cross subsidisation of assets by existing Users, National Grid does not agree that the new boundary definition would prevent competition. National Grid agrees that all Users would pay for network reinforcement costs as currently happens under the existing arrangements. However, existing Users liable for connection and infrastructure charges would see the benefit of reduced risk of sawtoothed connection charges that currently arise when asset replacement occurs. The removal of this risk would promote competition. In addition, those Users who have paid connection charges have received the benefit of those connection assets over the period for which they have paid the charges. Once the boundary moves, the benefit of those assets will be shared between all system Users and the charges for those assets will change in line with the change of usage. It would not be fair for a User to be exempted from paying infrastructure charges on an asset that he has previously paid for and received benefit from if he is to continue receiving a benefit from it.

In response to comments made regarding timing of the proposals with regard to provision of information to DNOs for tariff setting purposes, National Grid has given as much information as possible to DNOs to assist with charge setting. National Grid does not believe that the changes to charges as a result of the movement of the connection boundary would have a detrimental effect on competition.

Proposal will discriminate against generators with older assets

In the CCM-M-07 consultation document and in this conclusions document above, National Grid states that it believes the movement of the connection boundary would not discriminate against Users with older assets, as the sawtooth effect of connection charges would be evened out within the infrastructure charge. In its response to the consultation, one User commented that this argument is only valid if assets are replaced upon reaching the end of their economic life. If assets were not replaced, the User argues, those with older assets would face discrimination through receiving a charge but not the benefit of a new asset to replace the old one.

Transmission assets are not replaced automatically at the end of their economic life. The primary driver for asset replacement is the condition of the asset and its replacement can in theory occur at any time. There is therefore a fair degree of unpredictability, especially in the medium to longer term regarding planned or unplanned asset replacement.

Whilst a User may see a lower connection charge for a connection asset where it is acceptable to keep the asset in service beyond its normal commercial life, it is National Grid that would decide whether there is a requirement to replace an asset. Users are therefore not in a position to influence the initial identification of assets requiring replacement. National Grid believes that competition is therefore better

facilitated by sharing the uncertainty associated with asset replacement by all Users within TNUoS, as occurs with other system developments.

Proposals represent a reduction in competition in electricity supply
The proposals were also deemed to reduce competition specifically in the supply of electricity as the resultant increase in TNUoS was considered to have a detrimental impact on suppliers who offer aggregated prices, products based round Triads and load management and the customers of those suppliers. The benefits offered by the proposal were not deemed to justify the perceived additional risk and cost on suppliers. One respondent also suggested that the increase in TNUoS monthly charges might encourage suppliers to submit "conservative" TNUoS demand forecasts to reduce their monthly payments.

National Grid recognises concerns regarding increases in costs and risk to suppliers, but does not feel that the proposal would have a negative impact on competition as all suppliers will see the same cost (and cost increase) for any given area. With regard to the provision of product based on Triads and load management, it can be argued that any increase in demand charges will increase the market for such products and provide additional opportunities for suppliers.

The issue of potential underforecasting of demand is recognised by National Grid and a CUSC Amendment Proposal CAP055: "Users' Demand Forecasts for TNUoS Charging" has recently been submitted to a Working Group for consideration. The proposal would make it clear that these forecasts should be reasonable, and, if they are deemed unreasonable by National Grid, National Grid will instead be entitled to use its own fair and reasonable estimates, as defined in a transparent methodology.

Proposal is not cost reflective
Three respondents commented that it was not clear that the proposed modification to the methodology would better reflect costs incurred by National Grid's transmission business than the existing methodology.

As stated above, National Grid believes that this proposal will primarily better meet the relevant objective of facilitating competition in the generation and supply of electricity. The connection boundary move will require the movement of connection revenue into infrastructure, where it will be recovered via Transmission Network Use of System (TNUoS) charges. The current Use of System charging methodology is designed to be cost reflective, however National Grid believes that proposal UoSCM-M-10 will make the methodology more cost reflective, as described in the consultation document.

With regard to the changes to the calculation of Site Specific Maintenance charges, the proposed methodology will provide increased transparency and cost reflectivity from the current methodology by using the cost pass through method.

Proposal will encourage economic inefficiency
Two respondents commented that the connection boundary proposal had no clear economic efficiency driver and would result in a lack of incentive for Users to minimise the costs of individual connections. One of the Users suggested that this could result in some connections, previously considered uneconomic, to be progressed with costs levied on the whole market. A further User responded that although it recognised that National Grid would still seek to find the most economic solution, as noted in the consultation document, Users themselves would receive less accurate locational signals for connection and therefore their decisions would become less efficient.

National Grid does not agree that changing the connection boundary would result in the connection process becoming economically inefficient for a number of reasons, as previously stated in the consultation document. National Grid believes that the rationale presented in the consultation document and reproduced below is equally valid for the example presented above. A connection considered uneconomic under the existing arrangements would not be reconsidered under the new arrangements simply because the costs could be spread over a wider charging base.

- *National Grid has a licence obligation to maintain and develop an efficient and economic transmission system. This obligation would not allow National Grid to make different investment decisions just because of the movement in the charging boundary*

- *Capital investment decisions are driven by the requirement to maintain the transmission system to meet the appropriate licence standards. Unless there is a change to these standards, there can be no change to the level of investment required to maintain compliance*

- *In addition to the licence objective noted above, National Grid is also financially incentivised to develop an economic and efficient transmission system. Assumptions are made regarding National Grid's capital expenditure by the regulatory Price Control and therefore, if there were any increases in investment costs, there would be no corresponding automatic increase in revenue*

- *National Grid makes the decisions regarding investment in the transmission system. If a User requests a transmission investment which National Grid believes is not economic or efficient, National Grid would be required to make an offer to the user based on their requirements, under the terms of the transmission licence. However, the connection and use of system charging methodologies would give appropriate signals to the User in line with its uneconomic or inefficient nature.*

With regard to the locational signals provided to Users for their own connections, National Grid believes that locational signals will appropriately transfer into TNUoS charges. This would ensure that Users will still receive locational messages and their decisions will retain the efficiency that the respondent feared would be lost. One example, as discussed in the consultation document, is that of a new generator looking to connect to the network via a long or expensive generation spur. It is recognised that this generator would not see a large connection charge for its connection, however under the TNUoS charging methodology it would see a large difference in its nodal cost from its nearest neighbouring nodes. Given the zoning criteria applied in the TNUoS charging methodology this will lead to it either being included within a redefined small, more expensive generation zone or potentially in its own zone, thereby ensuring appropriate cost signals are retained. This locational TNUoS signal is readily apparent to new connectees from the TNUoS charging methodology and/or if requested as part of any Use of System Agreement application.

Overall, National Grid believes that these proposals facilitate competition whilst retaining cost reflectivity.

Termination Charges
One respondent noted that the obsolescence of type B termination charges could remove the incentive on Users regarding efficient usage and design of new connections.

National Grid does not believe that the removal of Type B termination charges from the connection charging methodology in line with the connection boundary move would reduce the incentive on Users for efficiency in new connections. The arguments presented by National Grid above in response to the removal of locational signals for new connections as a result of the boundary move also apply.

Volatility of Site Specific Maintenance Charges
Concerns were raised by 2 parties regarding potential volatility of site specific maintenance proposals year on year, resulting in unpredictability of charges.

This issue was raised during the initial charging methodologies consultation. National Grid recognises the concerns expressed by Users regarding potential volatility of charges and that Users would prefer to avoid such volatility. With regard to its licence obligations, National Grid believes that this proposal offers the benefits of increased cost reflectivity and improved potential for contestability and that these will outweigh the potential increase in variance in charges year on year. The associated CUSC amendment, CAP053 – Revision of Site Specific Maintenance Charges[3], details timescales for reconciliation. This will allow Users to plan and budget accordingly.

Site Specific Maintenance proposal requires further consultation
One respondent suggested that National Grid should consult with CUSC parties on the likely implementation costs of the SSM proposals and undertake cost benefit analysis prior to making any changes to the existing arrangements. The User considered the proposal to offer limited benefits to Users.

National Grid believes that the proposed revision to the site specific maintenance process offers Users the clear benefits of increased transparency and cost reflectivity of charges, thereby better meeting relevant objective C7A 5(b). National Grid is not required by its licence to undertake cost benefit analysis on behalf of Users, but notes that Users have not actually supplied any information to National Grid regarding significant implementation costs that would prove prohibitive to competition. National Grid also notes that its own costs relating to the administration of the site specific maintenance charging process should be reduced under the proposed new methodology.

Site Specific Maintenance proposal requires transparency process
In its response to the initial charging methodologies consultation, one respondent suggested that the site specific maintenance proposal would require an associated "CAP012-style" process to ensure transparency of the requirements for any works carried out. In the CCM-M-07 consultation document, National Grid rejected this proposal on the grounds that such a process would likely be bureaucratic, inefficient and impractical and may have HSE implications for National Grid as owner of the assets. The User responded to this rationale in its response to the CCM-M-07 consultation by suggesting that the process would require only a slight extension of National Grid's existing internal approval process to include the impacted User and that this should not be difficult nor time consuming and should incur only minor administration costs.

[3] Available on National Grid's CUSC website at www.nationalgridinfo.co.uk/cusc.

National Grid believes that the number of assets that would be covered by such a process would be significant and would require not insignificant time and resource on both the part of National Grid and the Users affected. It should be noted that the CAP012 process requires agreement between National Grid and the User prior to any work being carried out and it is likely, therefore, that administration costs would not be minor as this process would have to be undertaken for every piece of maintenance work, both planned and unplanned. It should also be noted that the replacement of connection assets would probably occur once every 40 years, but maintenance occurs every year on every site. In light of the comments above made by Users regarding cost benefit analysis, National Grid believes that most Users would wish to see the minimum implementation and administration costs possible.

Proposal discriminates between shared and non-shared sites

One respondent reiterated comments made during the initial charging consultation that the proposed connection methodology would discriminate between the treatment of shared sites and non-shared sites. The respondent called upon National Grid to demonstrate that an asset could never be shared at any point in the future or to allow the User to deem that asset shareable.

National Grid has developed its proposed connection boundary and definition of a connection asset on the basis of how a standard connection would be treated were a new User to apply to connect to an existing site. This would normally be driven by the ownership of the substation. National Grid does not believe that it is appropriate for Users to deem assets shareable as the boundary should be defined with reference to the connection charging methodology and not be influenced by customer choice connections or non-standard arrangements. It is recognised that there may be some existing non-standard site configurations which would not be as straightforward were a new party to apply to connect. Ultimately, the connection boundary will be confirmed on a site level by the assets listed in the Appendix A to a User's Bilateral Connection Agreement. The revised boundary will be drawn around the existing connection assets, i.e. National Grid does not intend to break down individual connection assets when drawing the new boundary.

Proposal would no longer reflect cost of service to different classes of Users

One respondent suggested that the proposal would raise issues regarding licence condition C7C (non-discrimination) as different classes of Users would not receive charges that directly reflected the cost of service received. An example of the transfer of generation only spur costs into infrastructure was given to support the comments.

Transmission Licence C7C requires National Grid not to discriminate between any persons or class or classes of person in the provision of use of system or carrying out connection works. In addition, it states that National Grid should not set use of system charges that differ between parties unless the differences reasonably reflect differences in the costs associated with the provision of use of the transmission system. National Grid believes that the proposal to recover costs of generation only spurs through the infrastructure charge is not discriminatory, as Users with peripheral connections would see significant differences in the nodal charges provided by the TNUoS charging methodology which, once the zonal criteria had been applied, would result in the generator either being included within a redefined small, more expensive generation zone or potentially in its own zone. National Grid believes that the inclusion of spur connections within the TNUoS methodology will result in a more consistent cost reflective charging structure for transmission circuits and overhead

lines. In such a manner, charges that reflect the cost of the service received would be levied on the User.

Renewable and Embedded generation would incur discriminatory costs
Two respondents noted that the proposal would result in renewable and embedded generation liable for TNUoS charges facing an increase in those TNUoS charges without any corresponding decrease in connection charges, likely to be seen by a generator directly connected to the Transmission system. One respondent suggested that this would result in embedded generation subsidising transmission connected generators within a generation zone and would not, therefore, facilitate competition for all generation.

Large embedded generators could see an increase in TNUoS charges without an associated reduction in connection charges. National Grid believes that this is due to the pass through mechanism employed by DNOs which can result in embedded generation avoiding transmission connection charges. National Grid believes that it is appropriate for all generation to pay TNUoS charges which reflect substation infrastructure costs. In addition, under the existing methodology, small embedded generators that are capable of exporting less than 100MW onto the system and are registered in CVA who have a net export over the Triad would be liable for negative TNUoS demand charges. Therefore, an increase in TNUoS demand charges would be beneficial to this category of embedded generation.

National Grid believes that its proposed transmission connection charges are not discriminatory and that they better meet its relevant licence objectives.

Definition of Generation Only Spurs
The issue of the lack of clarity in the definition of a generation only spur was raised by one party, who referenced an unsuccessful referral to the Authority in March 1997 regarding this issue.

The movement of the cost of generation only spur circuits from connection into infrastructure renders their definition unnecessary. Their treatment within the use of system charging methodology will ensure that Users will be provided with appropriate and clearly defined cost reflective signals.

Changes are not required
The changes proposed were deemed unnecessary by one respondent.

National Grid is required by its Transmission Licence to keep the charging methodologies under constant review and to bring forward modification proposals that it considers would better meet its licence objectives. National Grid believes that this modification would better meet the relevant objective in C7A 5(a) and has therefore proposed the change in accordance with its Transmission Licence. National Grid would be in breach of its licence by not bringing forward these proposals. If the Authority does not agree then the changes will be vetoed in accordance with the process laid out in National Grid's Transmission Licence.

Insufficient information to support modifications
One User felt that National Grid had not given the impact of the modifications sufficient consideration, either individually or in total. In addition, the User considered that insufficient information had been made available to allow Users to assess the impact of the changes on their businesses. This view was mirrored by another respondent who commented that the proposals highlighted the unnecessary complexity of the current charging methodologies and that the modification proposals

were so complex that it was impossible for industry parties to understand the detail or assess the implications of the proposals on their businesses.

It has been National Grid's intention to make the Charging Review process as inclusive as possible to ensure that industry participants are aware of the potential impact of any modification proposals. To this end, National Grid presented information on potential methodology modifications at the Transmission Charging Methodologies Forum (TCMF) meetings in March and April 2003, as well as holding a "Boundary Seminar" that covered connection and use of system issues on 8 April 2003, with feedback provided at the June TCMF.

Prior to undertaking the formal methodology modification process, National Grid held an initial charging methodologies consultation in July 2003 to allow Users an opportunity to understand and respond to potential change proposals, before the formal process commenced. National Grid also presented these initial proposals at the July 2003 TCMF. In addition, National Grid made indicative connection charges under the "plugs" methodology available to those connected parties who requested them.

All documentation from the aforementioned TCMF meetings and seminars and the workshops, seminars and consultations undertaken during 2002 is available on National Grid's Charging website[4].

Interaction with BETTA

Seven respondents raised issues over the interaction of the charging methodology proposals with BETTA. Four respondents offered support in principle for the movement of the connection boundary, but expressed a preference that changes to the methodologies should be left until post-BETTA implementation or that the impact of the proposals on a GB system should be considered. Two respondents suggested that the proposal should not be progressed until the BETTA proposals are consulted upon.

National Grid recognises the concerns that have been raised throughout the charging review regarding interaction of change proposals with BETTA implementation and the development of a GB market. In particular, National Grid accepts that Users may have concerns over the timing of changes proposed to the England and Wales methodologies, with arrangements for BETTA currently under initial consultation. However, as previously stated, National Grid has obligations under the current regulatory framework through its Transmission Licence to keep the charging methodologies under constant review and to bring forward proposals that it believes would better meet the relevant objectives. National Grid cannot ignore this obligation. Ultimately, any changes to the existing charging methodologies must be approved by the Authority, which is fully aware of the potential interactions with BETTA.

Concern over cost pass through

Three respondents reiterated their concerns raised during the initial charging methodology consultation process that reductions in DNOs' transmission connection charges may not be reflected in the pass through of those charges via DUoS charges. Although this issue was deemed to be ultra vires by National Grid during the initial consultation, a number of the Users wished to highlight their concerns to Ofgem.

[4] www.nationalgrid.com/uk/indinfo/charging

National Grid notes Users' ongoing concerns and their wish to bring this issue to Ofgem's attention through the formal charging methodology consultation process. National Grid continues to believe that this issue should be dealt with through direct discussions between affected Users, DNOs and the Authority.

Legacy Issues

Four respondents commented on Legacy issues referred to by National Grid in the consultation document. One raised a concern that National Grid appeared unwilling to establish principles for dealing with legacy issues prior to receiving approval for the proposals. The User expressed the view that firm price connection agreements should remove any exposure to year on year charge changes, but that in circumstances where the charging methodology is subject to a more fundamental revision, firm prices should be adjusted in a manner consistent with the new arrangements. The User suggested that if firm prices were not adjusted, parties with firm price connection agreements would face disproportionate charges compared to parties with standard agreements, resulting in an adverse effect on facilitation of competition in generation and discrimination.

National Grid recognises the concerns raised by Users in relation to the treatment of non-standard agreements. In response to the observation that principles for dealing with non-standard agreements prior to receiving approval of the methodologies have not been established, National Grid felt that it would not be possible to provide any meaningful detail on principles for non-standard agreements without compromising the confidentiality of those agreements. Where discrimination of the nature described above might occur, National Grid would review the specific agreements on a bilateral basis with the parties concerned to try to achieve an equitable solution agreeable to all parties concerned.

A further respondent commenting on the potential for refunds of capital contributions suggested that any rebates made may result in higher charges to all Users.

The impact of these proposals on National Grid's regulated revenue is the subject of a separate Ofgem Licence consultation process. It is National Grid's view that where costs move from connection into infrastructure, it is necessary to increase TNUoS charges to ensure cost reflectivity is retained.

4. CHANGES TO THE PROPOSAL IN LIGHT OF REPRESENTATIONS MADE

National Grid recognises that a modification proposal of this magnitude will raise a number of significant issues that need to be addressed. It has been our aim to respond to concerns raised by industry participants throughout the Charging Review and initial charging methodology change process. To this end, issues raised in the initial consultation and National Grid's response to them were published in the consultation document for this modification proposal, available on our Charging website at http://www.nationalgrid.com/uk/indinfo/charging/mn_modifications.html.

National Grid has responded to relevant issues raised by parties in their responses to this consultation, with regard to the obligations placed upon National Grid by its Transmission Licence, in section 3 of this document. National Grid's conclusions are summarised below.

National Grid Conclusions

National Grid does not believe that the proposal to move the connection boundary will result in an overall loss of cost reflectivity, as this will be provided through the locational signals provided under the use of system charging methodology.

With regard to issues of potential discrimination, National Grid reiterates its statement that it believes that the proposals are non-discriminatory, with respect to any specific User or class of Users in accordance with Licence Condition C7C. Users will continue to face charges that are appropriate for their connection to or usage of the transmission system and that only differ between the same type of User where the difference reflects the costs associated with their connection or usage.

National Grid disagrees that the proposal represents a barrier to competition and in fact believes that the modifications will have the opposite effect of better facilitating competition than the current methodology by removing existing barriers to entry. In addition, National Grid notes that the boundary move will not remove the existing 25/75 split between generation and demand charges across connection and TNUoS charges. In order to maintain the split it will be necessary to review the current 27/73 split within TNUoS as part of the charge setting process for 2004/05. Once calculated, National Grid will publish this ratio with the final TNUoS tariffs for 2004/05 in January 2004.

National Grid believes that one of the benefits to Users of the connection boundary proposal is to increase the clarity of contestability arrangements, thereby making it easier for Users to consider undertaking maintenance themselves and improving the potential for competition in this area. National Grid believes that this benefit, in addition to the primary function of the site specific maintenance modification to increase cost reflectivity and transparency, outweighs the potential volatility that Users may see in their maintenance charges.

National Grid recognises concerns raised by some parties that reductions in transmission connection charges resulting from the connection boundary move may not be passed on to consumers and suppliers through reduced Distribution Use of System charges. However, National Grid does not agree that this should prevent this modification from being implemented, as it falls outside National Grid's sphere of influence or relevant objectives for proposing modifications to the charging methodologies.

In conclusion, National Grid does not intend to make any changes to the modification proposal in light of the responses received to the consultation.

5. HOW THE PROPOSED MODIFICATIONS BETTER MEET THE RELEVANT OBJECTIVES

Change to Connection Boundary

To better meet the Relevant Objective in Licence Condition C7A 5(a) of ensuring National Grid facilitates effective competition in the generation and supply of electricity and (so far as is consistent therewith) to facilitate competition in the sale, distribution and purchase of electricity.

The proposed change to the connection boundary would result in assets and the associated revenue moving from connection into infrastructure, and therefore recovered through Transmission Network Use of System tariffs. This would require an adjustment to National Grid's allowed revenue via an amendment to the Transmission Licence.

National Grid believes that such a Licence change is required to ensure the proposals better meet the Relevant Objective in Licence Condition C7A 5(b) to ensure National Grid levies charges which reflect, as far as is reasonably practicable, the costs incurred by National Grid in its transmission business.

National Grid therefore considers this change to the methodology to be conditional upon an appropriate change to the Transmission Licence being approved before this modification is implemented.

Change to Site Specific Maintenance Charge

To better meet the Relevant Objectives in Licence Conditions C7A 5(b) and C7B 11(b), namely to ensure National Grid levies charges which reflect, as far as reasonably practicable, the costs it incurs in its Transmission Business and facilitates competition in the carrying out of works for connection to National Grid's Transmission system.

National Grid believes this modification is non-discriminatory, with respect to any specific User or class of Users in accordance with Licence Condition C7C.

6. TIMETABLE FOR IMPLEMENTATION

The consultation document proposed an implementation date of 1 April 2004, dependent upon a change to the Transmission Licence to allow National Grid to recover revenue moving from connection into infrastructure through Transmission Network Use of System tariffs.

Ofgem issued its consultation on potential changes to NGC's transmission licence[5] on 13 October 2003 for a two week consultation period. Following this initial

[5] *"Potential changes to NGC's transmission licence consequential to possible changes to its transmission charging methodology" – 120/03*

consultation, Ofgem issued a final proposals document including legal drafting for the proposed modification on 19 November 2003[6].

National Grid believes that the changes to the licence recommended in Ofgem's Final Proposals document would provide the necessary changes to allow National Grid to recover its allowed revenue set as part of the five year price control.

In light of the proposals made in Ofgem's document and subject to their implementation, National Grid proposes that the connection charging methodology and the Statement of the Connection Charging Methodology be modified from **1 April 2004**.

[6] "Modification to the National Grid Company's Transmission Licence: Consequential changes following a possible change to its charging methodology – consultation under section 11(2) of the Electricity Act 1989".

APPENDIX 1 – RESPONSES TO MODIFICATION PROPOSAL

AEP Energy Services Ltd

Proposed Connection Charging Methodology

Thank you for your letter on 12 September 2003 inviting comments on the above consultation.

AEP Energy Services does not fully support the proposed modifications.

CCM-M-07: Implementation of "Plugs"

The proposed 'plug' methodology for definition of boundaries is a more simplistic and transparent approach. The principal may encourage new connections and therefore may facilitate competition in generation and supply. However, AEP are not of the opinion this is the case nor is it reflective of the true cost of system development nor does it meet the criteria of the Licence Objective C7A (5a).

The cost of connection for participants who locate near to current transmission assets would be better reflected by a 'plug' approach. But existing users will subsidise participants who are a significant distance from existing transmission assets. As the distant connectee will not incur any connection charge, the economic signals for location of new assets will be lost, invariably existing connectee pick up the cost via the Use of System charge.

National Grid believes that locational signals will be transferred into the TNUoS charge by modifications to the zoning criteria applied to the TNUoS charging methodology. AEP of the opinion that this does not facilitate Licence Objective C7A (5a) by promoting competition as the zoning criteria utilises a bandwidth principal and zoning by nature will have a cross subsidy on other local zones.

Also AEP do not believe that the proposal meets Licence Objective C7A (5c) of promoting efficient transmission development, again due to the cross subsidy effect and the effect creation of a additional zones will have on locally adjacent zones.

AEP do not believe that this meets the criteria of Licence Objective C7A (5a) in promoting competition between existing and new participants.

With reference to the Environmental Audit Committee – Eighth report[7] recognizes that large-scale investment is likely to be needed to modernize the grid to accommodate higher levels of distributed processing and major new sources as offshore wind farms.

The plans for increase in renewable energy, especially offshore wind farms[8] will drive large investment at the fringe of the transmission system. The proposal would create an environment where existing users subsidize new participants on the fringe of the transmission system – by increasing the system charges. Again, Licence Objective C7A (5a), this does not facilitate effective competition within the industry, neither does the proposal reflect of the true cost of system developments if a new entrant

[7] Environmental Audit – Eighth Report, Fuel Poverty, note 58
http://www.parliament.the-stationery-office.co.uk/pa/cm200203/cmselect/cmenvaud/618/61802.htm
[8] DTI, Energy White Paper, section 4.47 http://www.dti.gov.uk/energy/whitepaper/ourenergyfuture.pdf

does not have to consider location or location of connection to the transmission system.

We understand the need for renewable energy producers and appreciate that the periphery location of these participants is unavoidable. Yet we believe that there is a need to reflect the true cost of infrastructure improvements and incentives for encouraging renewable energy that is not detrimental to existing participants.

AEP understands that a simplified and transparent methodology has benefits, and would recommend that transmission connections specific for remote generators – generator only spurs - are not included in the infrastructure charge. We would also recommend that termination charges remain as this method ensures the true cost of system development is considered with the additional benefit of preventing unnecessary system development that would be passed to existing users.

AEP does not agree with the National Grids view that site-specific charges should be reconciled on an annual basis. Maintenance is generally predictable and a forecast should be made on expected expenditure. We believe the site-specific maintenance charge should be smoothed across a defined time period.

We appreciate that reconciliation will be required as an exact charge will not be available, but through reconciliation the full revenue would be recovered. Increasing volatility creates more uncertainty to the users existing charges. By implementing a recovery factor the annual charge can be adjusted so full recovery is smoothed over a set period (for example 3 to 5 years).

UoSCM-M-10: Calculation of Locational TNUoS Tariffs

AEP believes that the total elimination of termination charges will not drive efficient transmission development – Licence Objective C7A (5c). Without some form of financial obligation from new entrants, existing participants will be exposed to additional increases in charging to cover developments where the new entrant fails to materialise.

AEP supports moving substation assets to infrastructure and agree that this action would better facilitate the licence objectives. We also support the approach of flat charging for these assets. We understand that shared sites may cause uncertainty for existing and new users at that particular site, and the proposals will create stability and transparency with the charging regime.

AEP, in principal, does support the transition from a transport model to a load flow model. Although a DC load flow model will increase complexity, the benefits from a more realistic model will reflect the true costs of use of system

The concept of a security factor against a more complex secure load flow model is desirable. However, we are concerned that a security factor is being included on a locational basis via the expansion constant. The principal of a locational security factor seems perverse. As National Grid apply the same security standards to all users, it would be fitting that the security factor is applied as a flat charge across all users. The inference that a higher level of security is required in the north of England and Wales than the south does not match the justification given in the consultation report where the differentials between the normal DC load flow and Secure DC load flow are approximately 1.9 nationally.

Under the current arrangements zones are created using a fiscal and locational bandwidth principal. The principals behind the zoning criteria use sound methodology and simplify the tariff process.

UoSCM-M-11: Introduction of Year Round TNUoS Charges

AEP is supportive of within year tariffs. The nature of a within year charge shows that the system is designed for more than demand system MW peak. We appreciate that a high proportion of the system is required for system peak and this will be the main developmental driver for the transmission system.

The current methodology considers exports from the UK as demand. The Triad charging scheme sets the charge for supply companies. This charge can be derogated by reducing the demand taken at the time of triad, or for Interconnector users, not exporting during possible triad periods. It does not meet Licence Objective C7A (5c) as the true cost of development is avoided by managing over triads.

AEP believe that a charging regime for imports or exports should be levied on an annual energy basis. The current triad charging methodology on the Interconnector is neither cost reflective nor takes into account the cost of development.

An annual energy charge, levied on exports and imports would meet the two Licence Objectives of costs incurred with developments – C7A (5b) and accounting for system developments – C7A (5c). It would also create stability in the charging regime. The charge should be levied on a continuous basis so that the full recovery reflects the true nature of the imports and exports rather than charging during peak periods during the day.

Yours Sincerely

Mick Walbank
Transmission Analyst

BOC Gases

1. INTRODUCTION

BOC has owned and operated industrial gas producing plants in England and Wales for many years and presently operates six very large complexes with an annual consumption approaching 2TWh making BOC amongst the very largest industrial electricity customers in Britain.

The production of industrial gases by air separation is a very energy intensive and the electricity required to drive the process can be considered our raw material. The level of electricity prices is thus of the utmost concern to BOC and its customers many of whom such as those in the steel and chemical industries are battling to survive in tough global markets. Therefore access to internationally competitive electricity prices are vital.

BOC does not have objections to the broad principle of Plugs provided 1) OFGEM agrees with NGC that the new methodology more nearly achieves the objectives set out for it namely: -

- Simplicity
- Transparency
- Long term robustness
- Improved visibility of contestability
- Consistency with regulatory vision;

And 2) BOC is not disadvantaged by way of higher costs.

2. SPECIFIC COMMENTS (USING NGC PARAGRAPH NUMBERING)

4.1.2 Generation Only Spurs

BOC does not agree that the generation only spurs should be transferred to infrastructure. These spurs are used by specific generators then they should be paid for by them, this is cost reflective. New generators have choices to where they locate and can as part of their planning inform themselves of the situation relating to any spurs. BOC supports leaving the present charging methodology unchanged.

5.1.2 Reduction in Distribution Network Operator (DNO) cost pass through concern

NGC mentions it recognised the concerns expressed by users that there did not appear to be a mechanism by which DNO's would be required to pass through the benefits of lower connection charges to their customers through DUoS charges. NGC stated that such issues were ultra vires.

BOC was one of the respondents raising this point and we now understand from OFGEM that it a licence condition that DNO should pass through changes in NGC connection charges into DUoS charges. BOC's concern is therefore now primarily focused on the treatment of the particular rather than DUoS charges in aggregate. BOC's particular concern is the effect on EHV charges at its large power consuming plants and we would not wish to have the net sum of our TNUoS and DUoS charges increased as a result of the Plugs modification.

Also EHV charges are outside the DNO regulatory cap and BOC's option for redress of any perceived unfair charges or application of charges is via an OFGEM determination which can be a lengthy process.

BOC has discussed with some DNOs (via its suppliers or directly) the predicted effect of lower Connection charges on BOC's DUoS charges. There remains a degree of uncertainty in how these would pass through and no firm figures are available. BOC believes that the DNOs in question have been as helpful as possible. From a BOC viewpoint the indicated increased NGC demand tariff is much clearer than any reductions via DUoS charges which may or may not balance out.

BOC wishes OFGEM to bear this in mind when considering its right to veto the modification.

Hugh Mortimer, 9 October 2003

British Energy Generation Ltd

Response to National Grid's Consultation Documents: Modification Proposal to the Connection Charging and Use of System Methodologies UoSCM-M10; UoSCM-M-11 and CMM-M-07

Thank you for the opportunity to comment on the above.

With respect to the current National Grid Transmission Charging Review process, BE has continuously expressed concerns at appropriate industry fora (TCMF and Charging Review Seminars). These concerns are re-iterated in this response to NGT's current consultation on the derivation of use of system tariffs and connection charges.

Currently DTI, Ofgem, National Grid, Elexon and the wider industry are engaging in BETTA consultations. It is notable that the effects of NGT's far reaching changes have not been considered in the context of BETTA. Therefore it is essential that a subsequent review of the charging methodology would be undertaken prior to any implementation for GB. This would be consistent with National Grid's specific licence obligations, Ofgem's wider statutory powers, and is in the interests of economic efficiency and the protection of consumers.

Key Generic Points:

- These transmission charging developments do not take account of the creation of the single GB market being developed under the BETTA reforms. Should these reforms to the England and Wales arrangements be introduced it will be important to re-assess the position in a GB context ahead of BETTA go-live.

- The overarching objectives of any charging arrangement should be economic efficiency and stability. Cost-reflectivity is problematic as an objective in the context of a mature network where the vast majority of costs are sunk and cannot be specifically identified.

- The development of the charging methodologies should avoid creating windfall winners and losers. Transitional relief arrangements should be introduced if there are significant changes to the costs to be recovered.

- The arrangements for cost recovery in England and Wales must be consistent with the broad direction of transmission charging policy across the EU.

- BE maintains that any changes to transmission charging should be fully justified on economic efficiency grounds via a full regulatory impact assessment, as we have previously commented to Ofgem.

- The current review has highlighted the need for a more inclusive governance regime for the Charging Methodologies.

- The timescales for completion of the review to allow the potential implementation of proposals from 1st April 2004 is ambitious. The current programme will only provide a decision for approval during November.

- The extent and complex nature of the review to date has inevitably meant that key information has been either unavailable, limited or provided progressively

during the process making it extremely difficult to understand and therefore comment in an informed manner. This raises concerns about the consultation process itself.

If you have any queries associated with this response, please do not hesitate to contact me to discuss further. A copy of this response has been supplied to both DTI and Ofgem.

Yours sincerely,

Gayle Cairns
Trading Consultant
Market Development
British Energy Power & Energy Trading

Consultation Document: Modification Proposal to the Connection Charging Methodology: CCM-M-07

Key Point

- **British Energy supports the shallow connection or "Plugs" model in principle.**

Specific comments on National Grid's Detailed Proposals

This modification is predicated on the use of the super-shallow "plugs" model for the allocation of connection assets. British Energy supports the "plugs" model in principle, but we have some comments on the document.

Connection Charging Proposals

- Fundamental changes to the existing balance of connection charges and zonal use of system charges should proceed only where it can be shown that the proposed new structure is demonstrably more efficient than the structure it replaces.

Connection Boundary

- The redefinition of the connection boundary results in substations and associated site infrastructure and land, generation only spurs, and shared transformer circuits moving into infrastructure. This super-shallow connection boundary will be achieved through the changes proposed in the appendix document. This will have the effect of decreasing pricing volatility (in particular at shared sites) which improves the economic efficiency of the methodology.
- On the other hand the potential is created though for new entrants to use less efficient configurations or sites as the cost will be ameliorated throughout the network. The existing incentives and obligations on NGT will therefore need to be carefully monitored to ensure such an outcome is avoided.

Land Charges

- Due to the proposed change to the connection boundary under "Plugs" it is necessary to remove Land Charges from the Connection Charging Methodology. The amendments in the appendices document achieve this objective satisfactorily.

Termination Charges

- Due to the proposed change to the connection boundary under “Plugs”, there would no longer be any shared connection assets. “Type B” termination charges are therefore obsolete and the methodology amendments reflect this. This will improve the efficiency and the clarity of the methodology and provides a more stable framework for users.
- There is the potential for this to increase system costs for all users however as it removes some of the impetus for efficient use and design of new connections. As with new connections this aspect will need careful monitoring.

Site Specific Maintenance Charges

- National Grid proposes to account for the Site Specific Maintenance charge on a cost pass through basis, rather than using the current 3 year historic average to apportion a total maintenance forecast. This would appear to be a more 'cost reflective' methodology than the current system and the changes in the appendix will accomplish the objective.
- There is, however, the potential for significant year to year price volatility in the SSM charge as a result of this change. Generally users would wish to avoid any charging 'shocks' hence this aspect of the change will also require monitoring.

Treatment of Substations

- The removal of substation costs from the locational element of the charge is justified on the grounds that these costs do not vary by location. BE agrees with this conclusion particularly with respect to incumbents who are unable to respond sensibly to locational signals in any event.

Treatment of Generation Only Spurs

- The proposed treatment of Generation Only Spurs will remove the existing 'deeper' connection costs associated with certain locations. British Energy supports this change as it will result in the economic development of this mature transmission system. The present arrangements can be seen as a barrier to new entrants which also discourages the utilisation of existing spur capacity.

British Gas Trading Ltd

National Grid Transco Charging Modifications

British Gas Trading (BGT) welcomes the opportunity to provide comments to NGT on their recently published Charging Modification Proposals.

We are very disappointed that there is a severe lack of detail in NGT's justification for these modifications measured against the relevant objectives. We suggest that the process for raising charging modifications needs to be more formal in this respect (following the example set by code modifications). We believe that NGC should publish a detailed description, detailed justifications and impact assessment as early as possible within the process, this document could then be updated reflecting any minor ongoing changes. This would ensure that all users were aware of the all the implications of any proposals at the very beginning of the process and would also ensure that every modification raised had associated unambiguous detailed justifications published. Furthermore, we fail to see the connection between a ratio of support of 2:1 by respondents and reinforcement of the view that the change better meets the relevant objectives.

We still have major concerns over the implementation of these modifications with regard to the GB wide transmission charging regime. We are concerned that if these changes are implemented, then largely unproven and untested methodologies will be used as the basis of the charging arrangements for GB. In addition to this, the impact both to the Scottish transmission users and their associated impact on the England & Wales parties are unquantified at this time. Although, NGT do have a Licence requirement to keep the charging methodologies under review at all times in line with the relevant objectives, we fail to see how some of these proposed modifications materially better these objectives, as such we cannot offer support for these modifications at this time.

CCM-M-07 Implementation of "PLUGS" methodology and associated changes.

BGT does not support this proposed change to the Connection Charging Methodology.

As we have previously stated, BGT is extremely concerned that the proposed change to the connection boundary will result in no, or very little, locational signals arising from connection charges. This will, we suggest, mean that potential connectees will have little commercial regard to the consequential costs incurred by other users (via TNUoS charges) arising from their specific connection.

Furthermore, we do not support NGT's assertion that this will result in cost reflective charges and better apportionment of costs. We therefore do not agree with NGT's stated justification for this modification. We maintain that this proposal will place greater costs on demand customers (who are currently charged 73% of TNUoS charges), rather than charge specific users for the costs that they directly impose on the system through their connection requirements.

Additionally, we believe that this modification alters the cost base of individual stations. BGT believes that it is vital and appropriate that greater emphasis is placed on the stability of charges to enable industry players to make long term commercial decisions. We suggest that this modification will place embedded generators liable for TNUoS charges in a commercially disadvantaged position to directly connected generators, thus we suggest this modification is in opposition to NGT's Licence Condition C7AS 5(a) that covers the facilitation of effective competition in the generation of electricity. We do not believe that Ofgem should approve this modification until a satisfactory resolution of the embedded generation issue is found.

We can see no positive reason for making such a dramatic change to the connection policy and suggest that it would be more equitable to maintain location signals that would influence to some degree, via the use of existing assets, where potential connectees locate. We suggest that it would be possible to develop simpler, practical rules for shared assets and that this would represent a more efficient way forward than the proposed super shallow policy.

We suggest that it is unfortunate that NGT decided to combine the original multiple connection charge modifications into a single modification. Although, we can see the merit of combining linked modifications, such as the boundary charge and associated land and termination charges, we suggest that unrelated areas should be raised separately. NGT's action will result in either an acceptance or rejection of this modification as a whole by Ofgem. We believe that the proposed change to site specific maintenance charges does have merit, and should this modification be

rejected, as we believe it should, then we suggest that this part of the modification should be raised separately.

UoSCM-M-10 - Locational TNUoS tariffs

Again, we would like to express concern over the combining of proposals into a single use of system modification.

Whilst we would support the majority of this Modification Proposal in principle, we have serious concerns, along with the majority of the industry, over the implementation of the locational security factor. We are not convinced on the evidence provided by NGT that there is a strong locational pattern to the provision of assets for security reasons. As such, we do not support NGT's proposal to charge for them on a locational basis. It also appears directly contrary to the "national" approach proposed for connection assets and appears designed to introduce a stronger locational element that the super shallow connection policy eliminates.

We would support the move from the current ICRP model to a DCLF model and the introduction of forward looking expansion constants and would welcome an alternative modification containing only these two proposals.

UoSCM-M-11 - Introduction of Year Round TNUoS charges

We support the introduction of this modification. We strongly believe that as a use of system tariff, the costs associated with non-peak related conditions should be charged out on a flat basis to all system users as proposed in this modification.

However, we suggest that the tariff should be introduced on a 24 hour basis, rather than the 12 hour (07:00-19:00) basis proposed. We suggest that all users should be charged the appropriate flat rate at all times when they use the transmission system, in short this charge should be a standard commodity charge, this will ensure the charge is made on an equitable basis. We believe that this will also have a positive impact on the potential administrative and associated system costs incurred by users.

I hope these comments have been of use and please contact me if you require any further clarification.

Yours sincerely,

Sarah Owen
Commercial Manager
British Gas Trading

ConocoPhillips/Immingham CHP LLP

Review of National Grid's Transmission Charging Methodologies, covering both connection and use of system.

Immingham CHP support National Grid's commitment to establishing charges for the provision of a connection to the transmission system that represents the costs of connection attributable to a single user, thus improving cost reflectivity and encouraging competition in the provision of connections.

Modification Proposal to the Connection Charging Methodology, CCM-M-07.

In order to achieve the objective of a single user cost of connection, it is necessary to implement National Grid's proposed 'Plug' concept, specifically the change of definition of connection/infrastructure boundary. It is vital to ensure all shared assets are moved into infrastructure. We support sub-stations, generation only spurs and shared transformer circuits moving out of connection and into infrastructure.

The primary concern Immingham CHP has with CCM-M-07 is associated with the proposed change to calculating site-specific maintenance charges. The modification proposes to levy the charge on an indicative basis, with a reconciliation process in the following year. There has been no analysis provided with regards to the likely site-specific maintenance charge to be incurred by market participants and the variation to be expected via the reconciliation exercise. Therefore, it is difficult to accept National Grid's comment, 'Given the relative magnitude of the charges and the small magnitude of likely variations from a national average figure.' Immingham CHP would like to stress its concern of the site-specific maintenance cost becoming an unpredictable, volatile yearly charge.

Modification Proposal to the Use of System Charging Methodology, UoSCM-M-10.

Immingham CHP was disappointed with National Grid's approach of bundling the DCLF model, forward-looking expansion constant and locational security factor, within the revised methodology proposal. The responses to the 'Initial Charging Methodology Consultation' in June 2003, clearly illustrated that the locational security factor within the calculation of TNUoS tariffs was the least supported element, thus only 5 in support whilst 9 against. We believe it would have been more reflective of market participants' view to propose the locational security factor as a separate proposal. Market participants attending the Transmission Charging Methodology Forum (TCMF) on 10th September 2003, were lead to believe National Grid would combine the DCLF and forward looking expansion constant as a consequence of a supportive majority, whilst the locational security factor would be consulted upon separately. The majority of the industry believes that the present methodology of charging secured transmission capacity on flat basis is the appropriate means thus reducing distortions associated within a locational security factor.

Modification Proposed to the Use of System Charging Methodology, UoSCM-M-11.

We continue to believe that the development of a within year TNUoS charge proposal requires further work. We do not support National Grid's proposal to modify the statement of use of system charging methodology to introduce a flat, non-locational, year round charge based on MWh usage to recover 10% of the TNUoS revenue. We believe that the proposal does not consider part year charges and could be construed as a mechanism for allocating charges within year, and therefore falls short of the commitment given by National Grid and reflected in the March 2003 SO incentives decision document.

Please do not hesitate to contact me on 0207 408 6233 if you have any questions on the issues raised.

Yours sincerely,

Rekha Patel
Regulatory Affairs Analyst

Corus Group

NGC Charging Methodology Consultation
Corus Submission October 2003

1. General

We are uneasy about the extent of change being proposed, particularly at this juncture with BETTA potentially due only a year after NGC's current proposals would be implemented (unless vetoed by OFGEM). This stems in part from the unfortunate wording in the licence which requires NGC to keep the Use of System Charging Methodology *at all time* under review. Threats to the triad system of charging seem to have become an annual event, creating much uncertainty for consumers.

2. CCM-M-07

In general, we favour the move of assets from connection to infrastructure. This is because the method of cost-recovery in respect of infrastructure is via the triads which enables end-users, who are prepared to load manage, to influence system margins at peak periods, thereby enhancing security of supply for all consumers. This benefit overrides any reservations that consultees may have about potential winners and losers under the plugs proposal, e.g., different age assets, generation spurs, shared/non-shared assets, etc.

In respect of the potential discrimination of moving shared but not non-shared connection assets into infrastructure, we referred to this in our earlier response but remain unconvinced by NGC's rebuttal in its final consultation document. One of the reasons stated for not allowing a user or NGC to deem assets as shareable is that NGC has defined the boundary change to exclude such possibility. This circular argument has a catch-22 ring to it! Moreover, the proposed changes to the Statement of Connection Charging Methodology, Section 1.6, supports our desire to be able to deem assets to be shareable – "In general, connection assets are now defined as those assets solely required to connect an individual user to the Transmission System, which are not and *could not be shared* by any other connected party." Clearly the wording which we have italicised is forward looking and unless NGC can show that for all time an asset could never be shared, we believe users should be entitled to deem the assets shareable.

The other main issue for us is to ensure that DNOs pass through the reduction in connection charges to embedded customers fully, ensuring that EHV customers are not discriminated against as a result of falling outside the scope of DNO price controls. We realise that this beyond the vires of NGC, but NGC could boost transparency by publishing in its final modification proposals to OFGEM the saving each DNO (by name) would see by the fall in its connection charges. As NGC exit charges can be passed through in full in D-U-o-S charges there is no reason why the DNOs could possibly object to this. In addition, OFGEM should elicit from each DNO a clear and

comprehensive statement of how the DNO intends to allocate the reduced charges to each category of consumer.

3. UoSCM-M-10

We do not have a strong view on this proposed modification but would observe that the effect is a rebalancing of locational signals. Demand in the south and west would now have a reduced incentive to locate (or relocate) further north. Ironically, this runs counter to BSC Modification 82, which is designed to have the opposite effect through the introduction of zonal losses.

4. UoSCM-M-11

We opposed the introduction of a within year charge (WYC) in our response to the initial consultation and subsequent concerns about security of supply have reinforced our view that it would be foolhardy to dilute the triad signal by the introduction of a WYC.

The reasons why we believe that a WYC should not be introduced are

- We are not convinced by NGC's cost reflectivity arguments. There is an air of vagueness and subjectivity about the level of investment to meet off-peak requirements. Recovering these alleged costs by a unit charge applicable to the day-time throughout the year is hardly cost-reflective. Moreover, the use of a unit charge is inappropriate for recovering capacity costs.

- NGC already collects significant revenue from NHH demand by a unit charge. NGC's counter-arguments in the consultation paper on this seem self-serving.

- There will undoubtedly be significant extra costs on suppliers resulting from changing billing and pricing models to introduce a new element of charge. Unless a customer has currently a tariff which exactly matches 0700-1900, new STOD slots will have to be produced to accommodate the WYC. Compared to the delivered all-in cost (upwards of £20 per MWh), implementing change for the value of an average 19p/MWh is total disproportionate.

- The imposition of further costs on suppliers will not facilitate competition in supply. In fact just the opposite will occur; further barriers to entry will be created, and market exit hastened.

- Customers such as Corus who have bid analysis models will also be faced with extra cost as a result of incorporating a WYC into the models.

- We are surprised that NGC argues that reducing the triad signal by £1.11 per kW would not affect incentives to load manage. Perhaps it no longer believes in the effect of marginal costs and prices. The reality is that users assess the saving by avoiding the triad against the cost to their business of not consuming electricity. Clearly an available cost of £1.11 per kW would swing the balance in favour of new or more triad avoidance load management for some users.

- We are also unimpressed by the argument that the WYC would create a small incentive to reduce demand year round. No consumer will load manage to avoid a charge of 34p per MWh when it applies for 4380 hours in the year.

5. Overall Conclusion

We support	CCM-M-07
We are neutral on	UoSCM-M-10
We oppose	UoSCM-M-11

Viewing the interactions of these modifications, because security of supply would be adversely affected to an even greater extent, the worst outcome would be implementation of UoSCM-M-11 without CCM-M-07.

10th October 2003

EDF Energy plc

EDF Energy welcomes the opportunity to comment on National Grid's proposal CCM-M-07 to change the connection boundary including the associated removal of land charges and Type B termination charges and change to calculation of site specific maintenance charges.

We have provided a summary of our views below followed by detailed comments.

Summary

- ***EDF Energy supports the "PLUGS" proposals for shallow connection charging on the transmission system.***
- ***We believe the "PLUGS" proposal provides simpler more transparent arrangements for connection charging.***
- ***We believe that shallow connection charging is a particular issue for BETTA and consideration should be given to the impact on the whole GB system.***
- ***We support a combination of connection and use of system charges that fairly allocate the costs of connection and reinforcement to users in different locations.***

Detailed Comments

EDF Energy supports the "PLUGS" proposals for shallow connection charging, as we believe that it provides simpler more transparent arrangements for connection charging. However we are concerned that under a shallow connection charging regime, the costs of new connections and network reinforcement could be borne by existing Users who may have already paid a significant contribution towards the costs of their own connections. The creation of such risks on existing Users raises concerns that such a move would not promote competition in generation.

EDF Energy believes that it is appropriate to provide a level of locational signals to users rather than recover the costs, of connections and reinforcement, from all users. We feel that such a fundamental change in connection charges should be combined with changes to the Use of System charging methodology, that should ensure the allocation of costs reflects the requirements placed on the transmission system at different locations. We believe that this approach is appropriate for transmission networks but that it may not be appropriate for distribution networks due to the greater number and mix of customers.

It is very probable that BETTA will be based on the England and Wales charging framework and any changes that are made to the charging framework for England and Wales will form the basis of a future GB charging framework. EDF Energy believes that shallow connection charging is a particular issue for BETTA due to the need for significant reinforcement of the Scottish transmission system to facilitate the development of renewables. Under this proposed regime the costs of any such reinforcement would be spread across the whole of GB, this would have an impact on England and Wales participants and particularly those situated in Southern England who will derive no direct benefit. We are concerned that this shallow connection charging change can not be easily undone and therefore it should only be made if it is an appropriate long term charging solution not only for England and Wales but also for Great Britain. We would prefer to see some consideration of the GB impacts of this proposal before any change is implemented.

We support the proposed modification to Land Charges which we believe would remove an inconsistency between pre-vesting and post vesting Land Charges by moving post-vesting assets into infrastructure.

We support the proposed modification to Site Specific Maintenance Charges which we believe should make National Grid's charges more transparent.

We hope that you will find the above comments useful. If you have any queries regarding the issues raised in this letter, please do not hesitate to contact me.

Yours sincerely,

Rupert Judson
Transmission Infrastructure & Development Manager

EDF Trading Ltd and EDF (Generation)

In response to the NGC consultation documents on the Charging Methodology Modification Proposals CCM-M-07, UoSCM-M-10 and UoSCM-M-11 issued on the 12th September, please find below the comments made on behalf on EdF Trading Ltd and EdF (Generation).

Overall Position on the Proposals
We continue to support in principle the moves towards the use of the DCLF model and the transfer of the Connection Assets to the Infrastructure Assets (“with plugs”), but we still remain to be convinced of, or at least understand, the arguments for the adoption of the proposals for the revised Expansion Constant, Security Factor and the All-Year Energy Charge. These elements have only evolved since July this year, but their effects are far-reaching. One of the most important effects is that seemingly the implementation of the new charging methodology results in increased TNUoS

charges for Generation in the South and reduced charges for Generation in the North (compared to current TNUoS + connection charges) which is against the general trend of what Ofgem has been saying for the last 3 years about effective economic signals for the siting of generation and the Use of System.

We note the comments and the explanations given in the consultation document but they are assertions rather than proven. Consequently we would strongly advocate leaving the charging methodology as it is until such time as these other elements have been adequately communicated and clearly shown to be more appropriate for use in England and Wales.

Moreover, this course of action is seen as being prudent since BETTA is only 18 months away and, as was acknowledged at the last TCMF, BETTA is now a subject for discussion at the TCMF. These proposals will have a profound effect on the transmission charges for the Scottish parties and, indeed, there will be consequent and significant changes to the E&W charges as a result of their inclusion. Therefore, everybody should be making judgements on the complete picture. To do otherwise, would result possibly in significant changes to the charges within one year of their introduction and hence parties' commercial decisions.

Interconnector Issues
Without wishing to repeat the arguments put forward in the earlier consultation responses, we are disappointed that many of the issues that are of concern to the Interconnector Owners/Users have not been accepted, or appear not to have been addressed or adequately covered. We firmly believe that the Interconnectors should be viewed differently from the simple model of being both generation and demand and hence chargeable twice. In our view, this charging review was an ideal opportunity to have made such a change and identified a specific interconnector charge, or to have sought to have the interconnector assets recognised as infrastructure assets, or at the very least to have explained the rationale of their present treatment. For instance, why are they included in the charge model as a generator but then charged both G and D charges and why are they charged two amounts of Security and Residual charges? It is worth noting that in France, where the transmission charges are made on Demand only, Interconnectors are regarded as neither Generation or Demand and hence Interconnector Users do not pay any transmission charges to RTE either as Connection or Use of.System Charges.

Furthermore, the proposals as put forward all increase the transmission charges faced by the IO/IUs for the Anglo-French Interconnector (I have attached a spreadsheet to show the impact on IFA). Therefore, they will not only reduce the likelihood of trading between systems and hence provide support to the E&W market, but they will reduce the value of the interconnector assets.

European Issues - IEM
The Energy Charge amounts to another transaction based charge on cross-border trades. This is on top of the BSUoS and BSC charges already in operation and increases the conflict with the new EC Regulation on "Conditions for Access to the Network for Cross-Border Exchanges in Electricity" and specifically Article 4 (Charges for Access to networks) item 5: ".....5. There shall be no specific network charge on individual transactions for declared transits of electricity". For that reason we are opposed to the implementation of an Energy Charge.

Conclusion
Whilst we have been supportive of the charging review and of some of the findings, the recent proposals are such that we cannot yet support their full introduction. We

note the assertions that certain changes are more cost reflective and appropriate, but we remain unconvinced when we see the charges for the Anglo-French Interconnector increase by up to 60% or more. As such we oppose the new charging methodology as proposed by NGT and we advocate leaving the charging methodology as it is, at least and until when BETTA is introduced.

Yours sincerely

Dr Nick F Frydas
Transmission Issues Manager – EDF Trading Ltd.

Edison Mission Energy

Dear Alex

National Grid Charging Review

Overview and Process

First Hydro has been actively involved in the process for developing the charging proposals over the last 12 months but is deeply concerned by issues of governance and process that have occurred over the three months of the consultation process.

Despite industry views being sought on the charging proposals through the initial consultation, no substantive changes have been made to the proposals as a result of concerns raised by the industry - primarily over the inclusion of a locational security factor. In fact the inclusion of the security factor as part of a combined modification (with DCLF and Forward looking expansion constants which have received wide support) inhibits proper debate on this controversial change.

First Hydro supports many elements of the proposals but does not support the inclusion of the locational security factor which we believe does not meet licence objective C7A 5a in that it does not encourage competition in the generation and supply of electricity. We also believe that the implementation of a security factor is unduly discriminatory to Northern players and the imposition of such a differential charge where this does not match the costs involved, would place NGC in breach of licence condition C7C 1.

We hope that NGC withdraws modification UoSM-10 with the objective of splitting it into two modifications - one for DCLF and FLEC (UoSM-10a) and a second one for the security factor UoSM-10b. In response to this consultation we comment on UoSCM-M-10 as if it had been split in this way.

CCM-M-07 Implementation of Plugs

We fully support the super shallow approach that is proposed by NGC. The movement of NGC owned substation and generator only spurs into infrastructure is a major step forward in providing cost reflective signals to the market:

- It removes unwelcome barriers to entry to the generation and demand market.
- It creates the potential to facilitate development of a tradable access market.
- Entry and exit signals are simplified under the super shallow approach.

It also has the advantage of placing NGC owned assets in the control of NGC thus simplifying the process for changes to these assets.

UoSCM-M-10 a DCLF and FLEC

DC Load Flow model – we support the move to DCLF as we concur that it should provide a more accurate basis on which to derive charges.

Forward Looking Expansion Constants – in principle the use of FLECs is an improvement to the charging process and we would support using forward looking costs as a basis for deriving a constant to apply to the model. However we have major concerns with respect to the treatment of cables. There are a number of different types of transmission lines with varying cost - we strongly believe that in order to provide the correct investment signals across the market , an average cost should be used. Under the current proposals, in zones containing cables, the differential cost is focused to produce a very sharp signal that does not sit well with the objectives of providing clear and stable cost indications. Furthermore these sharp signals are likely to bear no relation to the actual cost of reinforcement in that zone.

There is also an environmental case. Dinorwig Power Station is fed by a pair of 400 kV cables of significant length; these cables were installed for environmental reasons and not due to the physical needs of the site. The benefit of cables over overhead lines is an environmental one based on visual impact and not on the zonal location. The application of a high cable factor within the transport model provides the wrong message. Given the growing unacceptability of new overhead transmission lines (the second North Yorkshire line debate) new lines will need to be developed taking account of environmental impact which will lead to the increased use of cables. Given this back ground we think that it will damage the ability of new generation to enter the market (e.g. wind farms) and provide a significant closure message for existing cable connected generation.

Therefore, we believe that the cable factor should be set to 1 and all transmission assets treated equally. In other words, a single forward looking expansion should be applied, based on a weighted average cost of all types and specifications of overhead lines and cables.

UoSCM-M-10 b Security Factor

Security Factor - We do not support the use of a locational security factor. Security of supply is a benefit to the system as a whole and should therefore not be charged on a locational basis. **This has been an underlying principle of transmission charging to date and the premise for this has not changed**. This proposal is a major change to current arrangements for which there is insufficient justification. A clear example of this is Dinorwig which was built primarily to provide security of supply in the case of a substantial loss of generation on the system and has performed successfully in this role.

According to the proposals, Dinorwig is subject to the highest TNUoS charges on the system. This is driven by the chosen cable factors previously discussed, but then nearly doubled by applying this security factor. NGC argue that this is more cost-reflective, however the reality is that the current mix of cables and overhead lines is not necessarily relevant when considering the position of a potential connectee into the Dinorwig zone. Where cable factors are involved, the resulting zonal cost signals

are hugely sensitive to these modelling assumptions on which type of line will transport any incremental MW injection.

NGC has a licence obligation to ensure that the charging methodology meets the charging objectives, one of which (C7A 5a) is to facilitate effective competition in the generation and supply of electricity. FHC believes that a security factor of 1.9 does not meet this objective. The cost base of Northern power station is significantly (differentials are changed from £7/kw with a security factor of 1 to £17.5/kw with a security factor of 1.9) higher than that of its southern competition. The result of this is to skew the market such that the consumer pays more for services as the effective price at which competition occurs must be higher. We also believe that the implementation of a security factor is unduly discriminatory to Northern players and the imposition of such a differential charge where this does not mach the costs involved would place NGC in breach of licence condition C7C 1.

A secondary concern is that from the information available setting the security factor to 1.9 is incorrect. From the chart on page 31 of the initial consultation, it would appear that whilst the first and last node points are reasonably well aligned, (between SECULF and Strawman 5), the correlation between intermediate nodes is less well matched - particularly in the North where the Strawman 5 line of the chart is clearly well above the fully modeled SECULF case. This simplification has the potential to materially disadvantage generation in the North. This should be reviewed as a matter of urgency.

We would be keen to know whether an alternative approach (maybe a simple least squares regression) would yield a better fit between the security adjusted modelling (Strawman 5) and the full N-2 study (SECULF) - whilst retaining the use of a simple factor, or set of factors.

Other issues - Treatment of zones

NGC's combined proposals (DCLF, FLECs, with a security factor of 1.9) have the effect of stretching the nodal values such that the relative differences between nodes which may be geographically close are magnified. At the limit, outlying nodes can be forced into their own zone. For instance, Dinorwig has been affected in this way through a combination of a high and unrealistic cable expansion constant and a security factor that has little or no relevance to the driver of ensuring that the correct price signals are fed through to the market.

A number of NGC's previous working scenarios explored significantly increasing the number of zones by tightening the nodal grouping tolerance down to £0.5/kW. This resulted in a large number of very small zones, some of them consisting of a single node. The problems with this were recognised at the time – in particular the potential impact on individual sites/players of unstable price signals. However, the latest proposals can clearly still produce very localised signals which are unacceptable. Additionally, we believe that in order to create a robust framework for the future which could support a credible market in fully tradable transmission access rights, the size of zones should be tending to increase to aid potential liquidity.

UoSCM-M-11 Introduction of Year Round TNUoS

Commodity charging

For generation, we support the proposal to set part of the charges based on peak (12 hours) MWh generation figures. This would deliver a more cost-reflective charge for

generators, given that transmission costs are not solely defined by Winter peak half hour periods. It would have the additional benefit of reducing fixed avoidable costs for many generators which is likely to improve the efficiency of plant entry and exit decisions, significantly aiding system security.

Should you require any further information please contact either myself or Kevin Dibble.

Yours sincerely

Simon Lord

Gaz de France Energy Supply Solutions Ltd

Dear Alex

Thank you for the opportunity to respond to the consultation on National Grid Transco's Charging Methodologies. I have a number of points Gaz de France Energy Supply Solutions would like to raise, which I have addressed below.

The key part of this modification proposal is to move assets that are currently paid for via connection charges into infrastructure. This is ostensibly to address some users perceptions that there is a restriction to competition and a barrier to entry under the current arrangements.

Comments in Relation to NGT licence conditions

The first concern around this proposed methodology is that there is no clear economic efficiency driver. Any costs that were traditionally part of the connection charge will be subsumed into the charges paid by the market. This means there is no driver at any individual connection to minimise the costs of that connection. It is noted that NGT believe this is not the case because of a licence obligation to develop an efficient and economic Transmission system. There remains, however, a concern some connections that had previously been viewed as unviable by the connecting party due to the connection costs might now proceed with the costs being borne by the whole market.

National Grid stated in CCM-M-07 document (pg 21 – point 6.2) that the change in connection boundary is to better meet condition C7A 5(a) of the Licence. This means facilitating competition in the generation and supply of electricity. There has been no evidence presented as to how this change will increase competition in the supply or distribution of electricity or in any other area.

Gaz de France ESS believes that this change will reduce competition in electricity supply. The reasons for this are:

- Increasing TNUoS charges will increase the risks on suppliers who offer aggregated prices (TNUoS inclusive pricing structures). This will make them less likely to offer such products and hence reduce choice and competition. This is particularly true of smaller suppliers.

- In addition, this increased risk on inclusive prices may mean that as well as paying a higher energy price (to include higher TNUoS) the customer could

end up paying an additional risk premium as any volatility between predicted and actual load leads to a greater variance in TNUoS recovery by the supplier. This could lead to disproportionately higher energy prices.

- Any products based around Triad risk and load management will bear an increased "non-delivery" risk to either the supplier or the end customer. This will lead to less offers of this type being available to customers and less customers willing to take such products, thus reducing the size of the market.

- The resulting increase in TNUoS increases the monthly TNUoS payments required. This has a negative cash flow effect and could also lead to pressure to submit conservative TNUoS demand forecasts to reduce outgoings. This could be the case if a supplier has a larger portfolio and feels than investment of the money will gain more than the 3% interest required by NGT at reconciliation. In any case any additional costs of cash flow will be borne by the supplier or the end user.

From the evidence presented, a demand user with one unit of demand in each zone would pay around 26% more TNUoS overall. Whilst it is agreed that all suppliers see same charges for a given area, this does not reflect the fact that there is additional TNUoS risk and cost on these suppliers. Given the fact that customers could see their TNUoS bill increase between thousands and hundreds of thousands of pounds per annum, and yet see no overall benefit for this change, it is difficult to understand the justification for this modification.

Gaz de France ESS are also unable to see how cost reflectivity will be improved compared to the existing regime. The current method meets 2 licence objectives as users pay based on costs applicable to them (i.e. the connection charges) and it reflects costs of those connections. The new method fails as some users would pay for costs, (eg Generator Only Spurs), which they have no relation to. Furthermore this methodology gives no additional incentive to use existing connections over creating new ones. Currently it would seem to be better to use existing connection infrastructure than build new.

There is also an issue around condition C7C of the licence, as it appears that the charges to different classes of users will no longer directly reflect the cost of service to those users. Take as an example a Generator Only Spur. Currently, only users connected to it bear a share of the cost of that spur. Under the new proposals other users (i.e. generators) who may have no connection to or use of that spur will be forced to bear a share of that costs, whilst the users connected will potentially pay significantly less.

Overall Gaz de France Energy Supply Solutions does not support the change to the connection boundary because it does not better meet National Grids licence obligations than the current methodology. Specifically:

- Competition in the generation and supply of electricity, (and the sale, distribution and purchase of electricity), would be decreased from the current position.
- The overall reflectivity of charges is not improved for the extra cost of this modification.
- This change does not seem to take account of developments in NGT's transmission business in any better way than the current pricing methodology.

In terms of the other modifications related to this, site specific maintenance, land charges, termination charges and site specific maintenance charges, Gaz de France ESS does not have comment to make, based on the fact they are required only in support of the change of connection boundary.

If you require any further information or clarification on the above, please feel free to contact me.

Yours sincerely

Russell Reading
Products and Services Manager

Magnox Electric plc

Response to National Grid Consultation Documents – CCM-M-07, UoSCM-M-10 and UoSCM-M-11

Dear Alex,

Thank you for the opportunity to respond and comment upon your consultation documents detailing the proposed modifications to the Connection and Use of System Charging Methodologies for implementation from April 2004. Magnox Electric's views on the issues raised within the consultation documents are set out below. Summarising our key conclusions;

- We support the proposed changes in CCM-M-07 to the connection boundary and agree this would remove some of the significant barriers to market entry and exit and will better facilitate effective competition.
- We support the proposal in UoSCM-M-10 to employ a DC Loadflow Model as a basis for deriving TNUoS Charges and the proposal to employ forward looking estimate of the value of assets required for system enhancement as a more accurate estimate of Long Run Marginal Costs (LRMC).
- We agree with the methodology you have proposed for the inclusion of the costs of security on a locational basis.
- The use of a model based on the inclusion of a Security Factor in UoSCM-M-10 as a surrogate for a more accurate approach on the basis of being able to supply a simple model to users over better achievement of the relevant objectives we feel cannot be justified. The Secure DC Loadflow model clearly better meets your relevant licence objectives than does your proposed approach.
- We agree with the principle of including an element of TNUoS charges based upon non-peak investment related costs. But we have serious concerns that the proposed modification is over simplistic in its application and has not been tested against a methodology more firmly rooted in economic principles. Therefore we do not support the proposal in UoSCM-M-11.

Our detailed responses follow.

a. Modification Proposal - Connection Charging Methodology

The current connection charging methodology attempts to directly allocate those elements of costs associated with connecting customers to the transmission system.

This approach can be justified on the grounds that it directly reflects the costs users impose by connecting to the system. However, experience has illustrated that designing a methodology that accurately and fairly allocated these costs results in a complex, inflexible and relatively impenetrable approach for calculating connection charges that includes elements that limit its ability to achieve significant gains in economic efficiency.

- The methodology includes very strong incentives to minimise the costs to the individual of connection/entry to and disconnection/exit from the network potentially at the expense of system-wide efficiency ie. connection at a point on the system which includes significant spare capacity can be ignored in favour of connection at a point at which connection assets and hence costs can be shared.

- The inclusion of Generation Only Spurs produces the opposite effect to that outlined above. Significant spare capacity at a point on the system which is classified as a generator only spur could be ignored because of the significant charges associated with connecting at that point.

- The methodology introduces a large element of uncertainty to connection charges for current users, potential new entrants and those exiting the market. Significant changes to users' charges can occur prompted by the actions of both other users and/or NGC. It is clear that users cannot act in an economically efficient manner with respect to connection to or disconnection from the system when a large element of the costs they face are exogenous to their own actions and consequently carry a significant amount of uncertainty.

All of the issues highlighted above are inherent within any 'Deep Connection' charging methodology and become more pronounced with deeper connections. We would therefore concur with NGC's view that a move towards a more shallow connection charging methodology would overcome the serious shortcomings of the current methodology in delivering system wide economic efficiency. In doing so the changes would remove the significant barriers to efficient market entry and exit that currently exist and clearly better meet NGC's relevant licence objectives, particularly with reference to the development of competition.

b. Modification Proposal – Calculation of Locational TNUoS Tariffs

We agree with your conclusions and the consensus of user opinions that a DC Load Flow model is the most suitable incremental development of TNUoS charges and does provide improvements to the cost reflectivity of charging by providing a more realistic simulation of the transmission network when compared to the current approach.

The proposed changes to the derivation of the expansion constant are also clearly improvements on the current approach. Marginal Costs are by definition forward looking and deriving the expansion constant on a forward looking estimate of the value of assets required for system enhancement is clearly consistent with a more accurate estimate of Long Run Marginal Costs (LRMC). Furthermore, accounting for cost differences between these classes of assets will again improve the accuracy of the estimates of LRMC derived from the model and the overall cost reflectivity of the methodology. We would therefore agree that these proposed changes would improve the charging methodology and better meet NGC's licence objectives.

The treatment of substation assets within TNUoS charges is a key issue given their potential impact upon the size of differentials between zones. There is little argument

that substation costs are locational at the 'micro' level i.e. the configuration and size of substations will differ slightly at each specific connection point. However, it is less clear that at any level above this that there is any identifiable locational bias to substation costs. Your analysis seems to support this reasonable conclusion. Both on the basis of these results and the charging methodology operating on a zonal rather than a nodal basis, we would agree that it would be appropriate not to include substation assets in the calculation of the expansion constant, but instead include them in the flat element of the charge.

To the extent that the costs of security are locational and it is appropriate to charge on this basis, then we would advocate the use of a Secure DC Loadflow model as the basis for deriving tariffs. Your proposal to use of a derived 'security factor' to approximate the locational bias of security would not in our opinion better achieve NGC's licence objectives. The Secure DC Loadflow model approach clearly better meets your licence objective of reflecting the costs incurred in operating the transmission system and its adoption is reasonably practicable.

One of the key drawbacks of employing a security factor in deriving locational tariffs was illustrated in the diagram included in your previous consultation document on this issue. The use of the security factor as applied in your approach seemingly both over and underestimates estimate the nodal costs of MWkm for large ranges of nodes when compared to the secure DC Loadflow Model. Deviations from the true costs of security of the magnitude suggested by your analysis would provide incorrect tariffs and potentially distortionary incentives on users at those nodes and within zones.

You have via your charging review workshops and previous consultations illustrated that the use of a Secure DC Loadflow model to derive locational tariffs provides an accurate estimate of incremental costs of transmission, is practicable can be implemented within practical cost parameters and time-scales. All of these are clear licence condition objectives which are clearly better met via the use of the Secure DC Loadflow Model when compared to the proposed approach. Your preference for simplicity over better achievement of your licence objectives cannot be justified.

Although the value of the ability for your customers to have the tools to analyse the basis of their TNUoS charges should not be underestimated or dismissed, it cannot take precedence over licence conditions in deciding on the charging methodology. A model employing a security factor of 1.9 as a reasonable, but less accurate, approximation of incremental investment could clearly form the basis of a model available to users for analysing and estimating charges derived by NGC from a full Secure DC Loadflow Model and we would encourage NGC to do so.

c. Modification Proposal – Introduction of Year Round TNUoS Charges

The analysis you have carried out on the drivers of transmission investment has indicated that, as might be expected, a proportion of total costs was required to meet non-peak related conditions. On the results of such analysis we would agree that it would be wholly appropriate to investigate further the appropriateness of charging users on a separate basis for these elements of cost.

However, we would argue that the analysis carried out to date, although necessary is not sufficient to provide a robust basis for your proposed mechanism for charging for these elements of costs. Your proposals result in a relatively large transfer of costs from low to high load factor generators. As such it is vitally important to ensure that those costs are correctly allocated to those users imposing the costs on the system

to avoid any distortionary effects on their use of the system and actions in the market.

The basis of your analysis and in particular the detail of the calculation used to derive your 10% cost figure is not easy to follow or understand and consequently not transparent – a principle on which NGC places large importance in other areas of it charging methodology. Without the detail necessary to review your proposal comment is unfortunately restricted to your general approach and principles.

Your Charging Principles Statement correctly sets out one of your objectives to 'charge on the basis of services provided and on the basis of incremental rather than average costs, and so promote the optimal use of and investment in the transmission system.' You will obviously recognise that the existence of separate drivers of costs means that costs can be marginal with respect to marginal changes in those individual drivers (not simply peak demand) and hence give rise to separate marginal cost and prices. An analysis of the marginal costs of increments/decrements to non-peak investment drivers would identify any disparities between costs based on average rather than marginal costs, the extent of the existence of economies of scale, the accuracy of the 10% of total investment costs your analysis has estimated and indeed if daytime MWh is the marginal driver of these costs.

NGC has identified in other arenas that setting prices on anything other than marginal costs can produce perverse incentives on market participants and hence encourage them to act less than efficiently. This is equally true of charging under an average cost approach where the charging base does not accurately represent the driver(s) of those costs which is aiming to recover – MWh may be obvious the obvious charging base but it has not been proven that it is necessarily the correct method for allocating large elements of fixed costs between users.

Without a true understanding of the nature of these costs there is a serious danger that the charge will introduce uncertain incentives both on customers' use of the transmission system and their participation in the wider electricity market. Without this level of understanding, a relative increase in cost reflectivity could lead to a adverse deterioration in the achievement of your objective to promote competition in the wider electricity market. It is therefore not clear without further work that this proposal overall better meets your relevant objectives.

We are not opposed to the principle of charging for non-peak investment related costs within the TNUoS framework. Rather we are concerned that the charge be introduced which is based firmly upon the economic principles of efficient pricing, properly reflects the underlying cost base and does not introduce any perverse incentives and distortionary effects to the market.

Again, thank you for the opportunity to comment on your proposals. If you require any further information or clarification on any of the issues raised above than please do not hesitate in contacting me.

Yours sincerely

Nigel Burrows
Regulation & Market Access Manager

PowerGen UK plc

CCM-M-07 Implementation of "PLUGS" – Change to Connection Boundary and associated removal of Land Charges and Type B Termination Charges

Powergen support the implementation of the above change to the connection charge methodology. As we stated in our response of 1 August to the charging review, we believe that moving the costs associated with shared assets into infrastructure will benefit competition in generation as it would remove some of the risk associated with sharing assets, making it easier to enter and exit the market. It will also simplify the charging arrangements.

We are also content with the proposed approach to levy site specific maintenance charges.

Yours sincerely,

Paul Jones
Trading Arrangements

RWE Innogy plc

The following comments are made on behalf of RWE Innogy plc, Innogy Cogen Ltd., Innogy Cogen Trading Ltd., npower Ltd., npower Northern Supply Ltd., npower Yorkshire Supply Ltd, npower Northern Ltd, npower Yorkshire Ltd.

Changes to the Connection Boundary

1. Innogy remains firmly opposed to the proposed change to the connection boundary. To subsume the vast bulk of connection assets within infrastructure would make the decisions concerning new connections, NGC Asset renewal, and connection terminations economically inefficient, thereby increasing costs for all users.

2. NGC has relied on the comments alleged to have been made by Users concerning the anomalies that may arise from the sharing of assets as restricting competition and thus justifying their 'Plugs' model. In this context it is worth referring back to the discussion and analysis that accompanied the referral of the treatment of termination amounts to Ofgem following the last connection terms review in March 1997. Although this referral was subsequently withdrawn, Ofgem indicated they would continue to investigate the issue. Their analysis showed that the reason why connection costs and termination liabilities could rise with the arrival of a new party to share assets was because of the provision of additional transmission capacity in discrete amounts which sometimes resulted in a the provision of capacity that was surplus to the needs of both connecting parties.

3. Innogy pointed out at the time that this problem could be dealt with by the incorporation of a simple rule that said a connected party at a shared site should not pay a connection charge, or be subject to a termination liability, that was greater than that which the user would have seen had it be the sole user at the site. It will always be more economically efficient for users to share assets. It is using a sledge hammer to crack a nut to suggest that it is necessary to move to the 'Plugs' model, with its attendant economic inefficiencies, to address this issue

when, as Ofgem's own analysis showed, it could be addressed by a simple variation to the current allocation rules for shared sub-station assets.

4. On page 14 of the consultation document, National Grid responds to a users concern that the locational signals for connection will be lost under Plugs. National Grid asserts that under Plugs, locational signals will appropriately transfer into TNUoS charges. However, this will only be the case if the large proportion of connection costs represented by substation assets is included in the expansion constant used to calculate the TNUoS charges. This will not be the case if both CCM-M-07 and UoSCM-M-10 are approved.

5. National Grid maintains that economic efficiency would be maintained under 'Plugs' through NGC's licence obligation, financial incentives and licence standards. We do not dispute that National Grid would continue to seek the most efficient solution to user's connection requests. However, it is the User's decisions that would become less efficient under the proposal as the cost signals of connecting at one location rather than another would be less accurate.

6. National Grid's argues on page 17 that the boundary change will not lead to discrimination against older generators as over the long term any cross-subsidising effects will balance out. Within this context, 'long-term' refers to a period of 40 years or which is more beyond normal period of economic assessment. National Grid's argument is based on the assumption that older assets will be replaced in all cases. It does not address discrimination against a generator approaching the end of its economic life whose assets will not be renewed.

7. To subsume connection assets in infrastructure would also sweep under the carpet the transparency and challenge that CAP012 was intended to introduce in the replacement of National Grid connection assets. The absence of a CAP012-style discipline will encourage uneconomic replacement of assets since there is no direct cost consequence from reflecting the needs of the Users at a site at the time of the asset replacement. In the above example, both NGC and the connected party would have an incentive to replace the assets after 40 years irrespective of whether it was economically efficient to do so.

8. The proposal would impose discriminatory costs on renewable and other embedded generation connected to the distribution network that is subject to TNUoS charges. Such generators will face an increase in TNUoS tariffs without any corresponding decrease in connection charges. They would effectively be supporting the connection costs of transmission connected generators within the generation zone. National Grid has not addressed this concern in the consultation document.

9. The proposed change to the connection boundary will need to recognise capital payments made by Users. Parties that had provided connection assets as "free issue" or those where the full capital cost had been paid at the outset may look for a rebate of the net value their earlier financial contribution. Similarly, connection assets that had been subjected to the payment of termination amounts but remained in situ would automatically become infrastructure. This would lead to claims for a rebate of their net asset value in accordance with the principles covering termination amounts. It is expected that the payment of such compensations would presumably result in higher charges to all users.

Generation-Only Spurs

10. The concept of a generator spurs is economically efficient because it provides a strong siting signal by causing the cost of connecting a remote User falling on that User rather than the general body of customers. NGC has long used the example of the notional "Aberystwyth power station" to illustrate the economic consequences of abandoning generator spurs, whereby the power station is not exposed to the cost of its siting decision.

11. The difficulty with generator spurs is the lack of precision in their definition. This issue was referred to the Authority in March 1997 following the conclusion of the previous connection terms review, although the Authority declined to accept the referral on that occasion. In some instances transmission loops have been designated as spurs with little obvious justification. It is unfortunate that the consultation paper did not address the basis for their definition rather than asserting a conclusion that is directly contrary to that reached in 1997.

Land Charges

12. Notwithstanding our opposition to the change in the connection boundary, we recognise that were site infrastructure and land costs to be moved within infrastructure, it would be appropriate to remove Land Charges from the Connection Charging Methodology.

Termination Charges

13. Similarly, were the connection boundary to be such that there were no shared connection assets, "Type B" termination charges would clearly become obsolete and the Connection Charging Methodology should be modified accordingly.

Site Specific Maintenance

14. Despite various changes to the charging methodologies, the transparency of site specific maintenance charges remains as opaque as ever. Greater transparency is thus long overdue and is to be welcomed. Such transparency must enable Users to satisfy themselves that charges are reasonable, have been properly incurred and calculations made correctly.

15. An annual pass through of SSM costs (as proposed) may improve the visibility of when these costs are incurred. However, there needs to be an associated process that encourages transparency of the requirement for site-specific maintentance. There is no evidence to support National Grid's assertion that a CAP012 style process would be inefficient. It is reasonable to assume that greater transparency and accountability for these costs would result in efficiency savings. Whilst SSM costs are fundamentally smaller than those addressed by CAP012, they nevertheless amount to several million pounds a year. The creation of such a process would merely require a slight extension of National Grid's existing internal approval process to include the affecteed user. As such, we fail to see why it would be highly bureaucratic, time consuming or difficult. Even a small percentage improvement in maintenance efficiency would justify what should be minor costs of administration.

Scottish and Southern Energy plc

Summary
SSE believes that, irrespective of any merits relating to discharge of NGC's licence obligations, the suite of proposed modifications by NGC are ill timed given the introduction of BETTA. The result of these proposals, taken together with zonal transmission losses, will be to impose additional upward pressure on supply prices in the South of England when the industry is facing considerable uncertainty. In addition, these charges would only be in force for one year before a further review as a result of the introduction of BETTA. We therefore recommend not pursuing any of the proposed modifications until they can be consulted upon in the context of BETTA. Any modifications can then be phased in consistent with the proposals for BETTA.

If NGC choose to recommend going ahead with the modifications, then we would support the introduction of the "Plugs" connection charging proposal CCM-M-07. For the Use of system element, we continue to believe that ICRP using Strawman 1b in the July consultation should be used rather than DC load flow as recommended by UoSCM-M-10. Further comments are detailed below.

UoSCM-M-10 - DC load flow, expansion constants and security factor.
SSE continues to believe that the above modifications should not be made. Instead, the existing ICRP methodology should be used with a forward-looking expansion constant and flat application of substations (strawman 1b) as we have stated in the previous consultation.

However, if NGC do recommend the introduction of DC load flow, then a number of circuits should be omitted from the model. Specifically, these are the circuits between Harker and Stella substations and the Scottish border and they appear to have been included in NGC's DCLF model used to derive indicative tariffs. These form part of the Anglo-Scottish interconnector and are funded through the Use of Interconnector (Scotland) Agreement and not use of system. To include them in the tariff model would not be cost reflective, since the costs of these circuits are not recovered through TNUOS. We believe that this would be contrary to Licence condition C7A paragraph 5 (b) which states that "compliance with the use of system charging methodology results in charges which reflect, as far as reasonably practicable, the costs incurred by the licensee in its transmission business."

CCM-M-07 - Plugs and Site Specific Maintenance
We are broadly content with the proposals to redefine the connection / infrastructure boundary so as to remove shared or potentially shared assets into infrastructure. This simplifies the charging arrangements and avoids unexpected swings in connection charges when a party leaves a site.

We also agree with the changes proposed for site specific maintenance, although we believe this will need to be reviewed under BETTA so that existing charge options in Scotland are retained.

ScottishPower Energy Management Ltd

Dear Alex

MODIFICATION PROPOSAL CCM-M-07, IMPLEMENTATION OF PLUGS

ScottishPower welcomes the opportunity to provide comment on NGC's Modification Proposal CCM-M-07 for the implementation of the Plugs charging model, involving a change to the connection boundary, the associated removal of land charges and Type B termination charges, and a change to the calculation of site-specific maintenance charges. This response is submitted on behalf of ScottishPower UK Division which includes the UK energy businesses of ScottishPower, namely ScottishPower Generation Ltd, ScottishPower Energy Management Ltd and ScottishPower Energy Retail Ltd. We have, as you will be aware, been following the progress of the charging review with interest and have submitted our views on several occasions. For completeness, I will re-state some of our previous comments in this response.

General comments

ScottishPower continues to be concerned that such a fundamental review of charging methodologies has been undertaken in England and Wales such a short time ahead of the introduction of BETTA. Our concerns are twofold; either that the work will be set aside and wasted when the charging methodologies for BETTA are established or, alternatively, that inappropriate England and Wales methodologies will be extended to GB in order to avoid repeating the review process. The recent consultation paper on transmission charging under BETTA makes clear that NGC, as GBSO designate, are soon to be given the responsibility of developing the GB charging methodologies. In the light of this development in NGC's transmission business we believe that grounds now exist for the current England and Wales review to be abandoned, the charging modification proposals to be withdrawn, and efforts to be concentrated on developing appropriate charging methodologies for GB.

However, should you decide to proceed with the modifications, we are submitting comments which should be read entirely in the context of England and Wales charging. Given our previously stated opposition to zonal transmission charging, both in England and Wales and for BETTA, these comments should not be taken to imply any acceptance of the underlying methodology.

Process issues

ScottishPower still has major concerns about the process which is being followed in respect of the three charging modification proposals which have been put forward. We do not believe that the modifications have been given sufficient consideration by NGC, either individually or in combination, such that the proposals contain elements which have not been discussed within the charging review. The overall effects on users have not been fully explored, nor has sufficient information been made available to users to make their own assessment of the impact of the changes (for example, the treatment of connection charges for users with a firm price agreement or who have made capital contributions has not been addressed, nor has information regarding the impact of the proposed changes been made available to the interconnector asset owner who provides access to the NGC network for ScottishPower Generation Limited). The alleged benefits from more stable connection charges are likely to be more than outweighed by the potential volatility of TNUoS charges, especially as it appears that the charging zone boundaries can now be changed each year (one of the changes which has not been discussed during the review). No impact assessment has been offered in support of the changes.

The impression given is one of excessive haste to meet a spurious deadline of implementation in 2004 when some of the changes are clearly so fundamental that they would be better implemented at the time of the price control. There is also a

clear risk that any revised charges will not be available to DNOs in time to inform their tariff setting process; thus the uncertainty created by the charging review will affect users of their networks as well as users of your own. This is not conducive to competition.

CCM-M-07

We remain concerned that the proposed Plugs connection boundary removes the local incentive to minimise connection costs and will lead to cross-subsidisation between users. We do not believe that this will facilitate effective competition in the generation and supply of electricity.

We note that the change is justified on the basis that it will remove the dependence of each user's overall charge on the commercial decisions of another, potentially competing, party. We fully support this laudable intention and look forward to the TNUoS charging methodology being changed to reflect the same principle. Until then, however, we remain concerned that the increased TNUoS revenue requirement, absent any change to the current TNUoS methodology, will not provide an equitable allocation of infrastructure costs between users and will neither facilitate effective competition in the generation and supply of electricity nor result in charges which reflect the costs incurred by National Grid. It is for this reason that we have argued that the change to Plugs, if it were to be made, should be linked in a single modification proposal to a complementary change to the treatment of substation costs within the TNUoS methodology.

Overall, ScottishPower believes that the abrupt change in tariffs triggered by the re-classification of substation assets from connection to infrastructure and the changes to the TNUoS charging methodology will undermine confidence in the stability of transmission charges and hence does not facilitate competition on the generation and supply of electricity. Changes of this magnitude, if justified, should be subject to more analysis, be implemented with more notice and over a longer period, and should probably be implemented at the start of a price control period.

Yours sincerely

Mike Harrison
Commercial Manager, Trading Arrangements
ScottishPower Energy Management Limited

South Coast Power Ltd

Transmission Charging Methodologies Consultation

Thank you for your letter of 12 September 2003 inviting comments on the above Consultation.

South Coast Power Limited does not support the proposed modifications as currently formulated.

UoSCM-M-10: Proposal to amend the methodology for calculation of locational TNUoS tariffs

SCPL have recently commissioned a 400MW CCGT power station at Shoreham based upon the pricing and investment signals provided by NGC in its published Use of System Charges and Seven Year Statements. Users have relied on such signals as an important part of their investment methodologies. At the time generators made the decision to invest it was reasonable for them to rely on the Seven Year Statement and associated information published by NGC as part of its activities as a licensed transmission operator.

However, the current proposals dramatically impact the locational tariffs for Shoreham and some other generators – indeed in some scenarios switching the charges from a credit position (negative zone) to a positive charge.

These proposals therefore potentially compromise generator's investment decisions, and create an area of future risk which could seriously impact present and future investment patterns.

Therefore SCPL believe the proposals to be in contravention of NGC's licence condition C7A, in that it fails to facilitate effective competition in the generation of electricity, particularly between existing and new participants.

UoSCM-M-11: Introduction of Year Round TNUoS charges

SCPL understand the rationale for within year tariffs, but do not agree that it should be a positive charge even in negative charging zones. In some scenarios this has the perverse effect of a generator receiving a credit for siting generation in an area where additional generation is required, yet paying a within year charge which more than offsets the credit.

Owing to this perverse effect, SCPL believe the proposals to be in contravention of NGC's licence condition C7A, in that it fails to facilitate effective competition in the generation of electricity.

CCM-M-07: Implementation of "Plugs"

The proposed 'plug' methodology for definition of boundaries is a simplistic and transparent approach. However, SCPL do not believe it reflects the true cost of system development.

Hence, existing users will subsidise participants who are a significant distance from existing transmission assets and this will lead to increased Use of System charges.

Further, due to the fact that Shoreham is embedded, there will be no off-setting benefit of NGC connection charges.

Therefore, SCPL believe the proposals to be in contravention of NGC's licence condition C7A, in that it fails to facilitate effective competition in the generation of electricity between existing and new participants, and between embedded and directly connected generators.

Yours sincerely

Nick Skinner
Energy Business Manager

SP Transmission and Distribution

Dear Alex,

Response by SP Transmission and Distribution to the September 2003 Consultations on Proposed Changes to National Grid Company's Charging Methodologies

I am responding on behalf of SP Transmission and Distribution to National Grid Company plc's consultations on proposed changes to their charging methodologies to apply from April 2004. SP Transmission and Distribution represents the three regulated asset owner companies that hold the transmission and distribution licences for SP Transmission Ltd, SP Distribution Ltd and SP Manweb plc.

I would like to highlight our concern over the timing of these proposals. The proposals apply to England and Wales only and take no account of the impact when applied GB-wide under BETTA. If implemented for England and Wales there is a danger that the proposals could be inappropriate when applied to GB. With BETTA due to implement in April 2005, we believe that it would be more appropriate to fully consult on these proposals as part of the forthcoming BETTA charging consultations.

If you have any queries associated with this response please do not hesitate to contact me to discuss further.

Yours sincerely,

Alan Michie
Commercial Workstream Manager, BETTA Programme
SP Transmission and Distribution

Teesside Power Ltd

Dear Alex

Please find below a response on behalf of Teesside Power Limited "TPL" to the consultation document "Modification Proposal to the Connection Charging Methodology – CCM-M-07 : 12 September 2003".

Proposed Connection Charging Methodology Changes

A stated in our response to the July 2003 Initial Charging Methodologies Consultation, TPL supports the rationale set out by National Grid in section 3, "Background to the Issues".

TPL considers that, in particular, the elimination of problems relating to shared sites will enhance competition by removing an unmanageable risk which users connected at such sites currently face.

On the basis of the explanations given in the Consultation Document, CCM-M-07, TPL agrees with National Grid that:

1. the proposed redefinition of the connection boundary, including the removal of generation only spurs for users' connection charges will remove a restriction to competition;
2. the proposed change to Land Charges is consistent with the proposed change to the definition of connection boundary
3. the proposed changes to termination charges is also consistent with the proposed change to the definition of connection boundary

As regards the rationale for the changes to the method for calculating Site Specific maintenance charges, this appears to be unrelated to the other changes being proposed by NGC. Our view is that given that there appears to be limited benefit from such a change, before any such change is made, it would be appropriate for NGC to seek the views of CUSC parties as to the likely costs of implementing the new arrangements and to undertake a cost benefit analysis, before any changes are actually made.

Legacy Issues arising from Connection Boundary Change

We are please to see the acknowledgement by NGC, in section 6.8 of the Consultation Document, that in the event that the proposals are approved, there is a need is address legacy issues through bilateral discussions. We are concerned, however, that NGC appears unwilling to establish a set of principles for dealing with such issues in advance of receiving approval for the proposals. It is unacceptable for parties with less standard agreements to be exposed to higher Transmission Network use of System charges as a result of the transfer of assets in value, c £2.5bn, from connection into infrastructure, without any understanding of the likely changes to its connection charges. Indeed, we consider it likely that unless changes are made to such agreements, commensurate with the associated changes to "standard" agreements, and to the proposed replacement Transmission Network Use of System charges, the implementation of the new arrangements will be subject to challenge.

We would wish to re-iterate the views we expressed in response to the July 2003 consultation. We believe that the purpose of firm price connection agreements was to remove any exposure of the connected party to year on year changes to charges made for non-firm connections. We believe that in circumstances where the charging methodology is subject to a more fundamental revision, such as is the case with the present proposals, an adjustment of the prices in the firm price connection agreement, consistent with the new arrangements, is appropriate.

Failure to recognise this would clearly leave parties with firm price connection agreements in a position where they were paying disproportionately compared with other parties connected to the transmission system which would have an adverse effect on facilitation of competition in generation.

Furthermore, failure to address the impact on those CUSC parties who have chosen firm price connection terms of the inevitable increase in Transmission Network Use of System tariffs to reflect the increased asset base would be discriminatory and would not be consistent with NGC's obligation under the Transmission Licence to levy charges which "reflect, as far as reasonably practicable, the costs incurred by National Grid in its Transmission Business".

In conclusion, TPL recognises the case made in the consultation Document by NGC for the changes proposed to the Connection Charging Methodology. We are concerned, however, that NGC is unwilling to establish principles for dealing with all CUSC parties in advance of the proposals being submitted for approval, in view of

the impact on the level of infrastructure charges which is a direct consequence of the proposed changes to connection charges. We believe that this approach discriminates against those who have "adopted less standard charging options for connection".

Finally, as with the other proposed changes to connection and use of system charges, we reserve our position on the proposals until such time as the treatment of users which have adopted less standard charging options for connection has been clarified.

Kind Regards

Keith Miller on behalf of Teesside Power Limited

Terra Nitrogen (UK) Ltd

Terra Nitrogen (U.K.) Limited is a large consumer of electricity (approx. 600,000 MWh) at sites in the North of England and the South West of England. We wish to respond to your consultations CCM-M-07, UoSCM-M-10, UoSCM-M-11. We are opposed to all three of the proposed changes on the following grounds.

1) We see absolutely no benefit from the proposed changes in facilitating effective competition in the generation and supply of electricity or in the sale, distribution or purchase of electricity. 2) The case is not at all clear that the proposed changes reflect costs incurred by the National Grid's Transmission business. 3) There appears to be no need whatsoever for these changes.

We also comment that the presentation of the proposed changes by National Grid has made clear the enormous unnecessary complexity which has and continues to be introduced to a relatively straightforward activity i.e. transmission of electricity. The proposals are so complex that it has become impossible for even moderately large consumers of electricity to understand the detail and to unravel the implications and effects of change.

In CCM-M-07 it is not at all clear that the increase in TNUoS costs will be balanced by the same reduction in Connection Charges. The consumer is likely to be faced with an increase in cost. As a manufacturing company we see no reason for a 33% increase in charges. This will simply serve to make our UK operations less competitive when judged on a global setting. The sales prices of our products are determined by world markets and we cannot pass through these cost increase. We have estimated the cost to our company as £110,000 per annum.

On CCM-M-10 the proposed 502% cost increase in the Northern Zone is completely unacceptable for a region which is a significant exporter of electricity to other regions.

J.A.Robertson
Energy Director

Total Gas and Power Ltd

Dear Alex,

National Grid Charging Methodologies Consultation

Total Gas & Power Ltd (Total) welcome the opportunity to respond to the Charging Methodology Modification Proposals CCM-M-07, UoSCM-M-10 and UoSCM-M-11.

Connection Charging Methodology Proposal: CCM-M-07

Total welcomes NGC's commitment to review the present charging arrangements and consult upon proposals that improve cost reflectivity and encourage competition in the provision of connection. We recognise that better defining the present connection and infrastructure boundary will assist the move to shallow connection charging and addresses the inconsistent treatment that presently occurs within the 'hybrid' shallow-deep connection-charging regime. Hence the movement of those shared connection assets into infrastructure is a logical step towards the objectives of further developing cost reflective charges and promoting competition in the provision of connections.

Total considers, however, the subsequent recovery of these new infrastructure costs should be on a non-locational basis. Overall we believe this would better assist the achievement of cost-reflective charges, remove inconsistencies within the present arrangements and would not unduly affect charging stability. We are therefore disappointed that National Grid has chosen to allocate the costs associated with generation only spurs within infrastructure on a locational basis. Total consider the resulting volatility in Transmission Charges will impact Users' expectations such that charging methodology changes have the ability to create substantial risks that are difficult if not impossible to mitigate. Clearly we believe this does not facilitate National Grid's other licence objective of facilitating effective competition in the generation and supply of electricity. Total therefore recommends that Ofgem reject charging methodology proposal CCM-M-07.

Use of System Charging Methodology Proposal: UoSCM-M-10

Total considers the introduction of a DC loadflow algorithm and the derivation of a forward-looking expansion constant that removes the sub-station element from it's calculation and treats such costs on a non-locational basis will lead to more cost reflective and stable charges. Further, we support retention of the present flat treatment of security costs and consider that compelling reasons do not exist to justify the application of a security factor against the basic intact DC loadflow model. We believe the consequence of the proposed treatment of security costs will be to artificially increase charges at the peripheries of the grid in a manner that is not consistent with the level of security required for voltage support at these points. Total therefore supports the implementation of UoSCM-M-10 without the locational security factor.

Use of System Charging Methodology Proposal: UoSCM-M-11

Total is concerned that a move to this form of a charging mechanism is premature, has been insufficiently developed and the subsequent impacts upon generation and supply have not been evaluated. In addition we believe that insufficient lead-time currently exists to ensure suppliers billing systems are not adversely affected and that minimal impact is experienced by end-users. Total recommend that a minimum

of one year lead time prior to implementation is provided, to enable supplier systems and end-user contracts to respond appropriately and the impact upon competition to be evaluated before implementation. Total strongly recommends that Ofgem reject the implementation of this proposal to ensure that competition within the generation and supply markets is not adversely affected.

Interconnector charges

Total believes the current Triad methodology for determining TNUoS demand charges for interconnector users creates artificial distortions and a high level of uncertainty that leads to reduced export flows in the winter.

We remain of the view that the Interconnector warrants special treatment due to the security of supply advantages provided from an interconnection to the European grid. Also we continue to believe the market price driven by the fundamentals should determine the level and direction of cross border flows and not the application of a sterilising TNUoS charge.

We note that National Grid have not proposed to address this anomaly. Total therefore consider that an ideal opportunity has been missed for National Grid to rectify the inappropriate treatment applied to Interconnector Users and for it move in a positive direction towards aligning the treatment of these flows in a manner consistent with other European Transmission System Operators.

We hope you regard these comments as being constructive. Please contact me on 020 7318 6880 if you would like to discuss our response.

Yours sincerely,

Sharif Islam
Energy Regulation Manager