



**CHARGING CONDITION 4 REPORT**  
**Long-term fixed price products**

Report for the Authority

16 October 2006

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## Executive Summary

The Authority's approval of the GB Charging Methodology was agreed subject to National Grid satisfying a number of conditions. One of these required National Grid to invite views and consult upon ways by which users could choose to contract for rights to use the transmission system with TNUoS charges fixed for a period of more than one year; and to bring forward a methodology change to provide such an option that is capable of being implemented for 1 April 2007. The purpose of this is to allow users to better manage volatility in TNUoS charges, which might be expected to facilitate competition further.

This document reports the results of National Grid's consultation with users on this issue. Over a fourteen month period National Grid has sought views through a workshop, an industry questionnaire, several industry charging meetings, and consulted users on this final report prior its submission to the Authority. National Grid has concluded that the development of multiple-year fixed-price charges should not be progressed at this stage on the grounds that:

- remaining users on variable tariffs would be unwilling to be exposed to the financial consequences arising from differences between fixed and variable tariffs;
- that the trade-off between risks and duration covered by a hedging contract and the associated premium is such that only very limited risks and short durations could be hedged against, which is likely to limit the attractiveness and uptake of such arrangements;
- users were concerned that it was inappropriate for National Grid to set tariffs and simultaneously offer a hedge for changes to tariffs; and
- the provision of cost-reflective locational signals could be restricted and that may be expected to result in less efficient outcomes.

However, National Grid has proposed a number of steps that it will progress to enhance in the longer term the stability and predictability of TNUoS tariffs. These received the support of the users that responded to the draft of this paper. We anticipate that the majority of these will be implemented for 1 April 2007.

In addition, National Grid believes that reforms to the access arrangements, which are beyond the scope of the charging condition, would be most appropriately progressed through the various workstreams associated with the Transmission Price Control Review. These changes will contribute to the aims of the charging condition, for instance, enhanced commitment by generators would be expected to improve the predictably and possibly the stability of future tariffs.

## **Introduction**

- 1 This report reviews the work that has been undertaken by National Grid over the past 14 months with respect to Charging Condition 4. In particular, it reviews the industry consultations National Grid has conducted; outlines the views of industry and National Grid; and details National Grid's conclusions and work areas to be progressed.

## Background

### The GB Charging Conditions

- 2 National Grid, in its role as GBSO, is responsible for the development of the charging methodologies that are applied across Great Britain (GB). The initial GB methodologies were based on the prevailing charging arrangements in England and Wales. Following several industry-wide consultations, National Grid submitted its final proposals for the GB charging methodologies to the Authority in January 2005. These related to the methods for deriving Use of System Charges and Connection Charges.
- 3 These proposals were accepted by the Authority but, in doing so, made its approval subject to a number of conditions (the “charging conditions”)<sup>1</sup>. Five of these conditions related to the Transmission Network Use of System (TNUoS) Charging Methodology and one related to the Connection Charging Methodology.
- 4 The charging conditions sought to address specific concerns the Authority had over the proposed methodologies and directed National Grid to further consider particular aspects of the methodologies that might be expected to better facilitate competition in the generation or supply of electricity, or enhance the cost reflectivity of charges derived from the methodologies. This is in addition to the standing licence obligations to keep the charging methodologies under constant review and bring forward changes to the methodologies where these better achieve a set of defined objectives<sup>2</sup>.

### Charging Condition 4

- 5 In approving National Grid’s proposed methodology, the Authority believed that further developments to the TNUoS Charging Methodology could enable parties to manage the risks associated with tariff changes more efficiently, which in turn might be expected to facilitate competition further. Against this background, Charging Condition 4 (“Condition 4”) requires National Grid to:

“invite views and consult on methods of enabling users to choose to contract for rights to use the transmission system with TNUoS charges fixed for more than one year”

- 6 The condition requires National Grid to bring forward changes to the TNUoS Charging Methodology such that they can be implemented by 1 April 2007.
- 7 National Grid considers that if following consultation with users it were not appropriate to bring forward a change to the charging methodology that could not better achieve the relevant objectives, as defined in Condition C5 of

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<sup>1</sup> “NGC’s proposed GB electricity transmission use of system charging methodology”, The Authority’s decisions, March 2005 (80/05)

<sup>2</sup> The process for modifying the use of system charging methodologies is described in Condition C5 of National Grid’s Transmission Licence. The condition also defines three relevant objects that the modifications must seek to better achieve. These relate broadly to facilitating competition, ensuring that charges are cost reflective, and taking account of developments in the transmission business. Licence Condition C7 prohibits National Grid from discriminating between users.

National Grid's Transmission Licence, a report should be prepared to outline the process followed and justification for the conclusions drawn.

### **Scope of the Charging Condition**

- 8 The Charging Condition does not restrict whether or not it relates to the entire TNUoS tariff or a component of it. The intent of the condition is, in part, to allow parties to more efficiently manage the risks associated with tariff changes and therefore promote competition in the generation and supply of electricity. We believe this is best achieved by fixing the entire tariff, rather than a component thereof which would still allow another component to vary. However, in response to the request of a user, this report considers fixing both the entire tariff and just the locational element of the tariff. These components are discussed in more detail in the following description of the charging model.

### **TNUoS charging model**

- 9 Transmission Network Use of System (TNUoS) charges reflect the cost of installing, operating and maintaining the transmission system for the Transmission Owner (TO) function of each Transmission Licensee.
- 10 TNUoS tariffs comprise two separate elements. Firstly, a locationally varying element derived from the DCLF ICRP Transport Model to reflect the costs of capital investment in, and the maintenance and operation of, a transmission system to provide bulk transport of power to and from different locations. Secondly, a non-locationally varying element related to the residual revenue allowed under the price control, which is calculated by the Tariff Model. The combination of both these elements forms the TNUoS tariff.
- 11 The Transport Model calculates the marginal cost of investment in the transmission system that would be required as a consequence of an increase in generation or demand at each node of the network at system peak. The model uses a data set representative of peak conditions, including: nodal generation and demand data, network parameters linking these nodes, and a set of expansion factors that represent the relative costs of overhead line and cable circuits at different voltages. The model calculates the marginal km of additional network (a proxy for investment costs) for an injection of 1MW at each node of the transmission system, which is then removed at a common reference node.
- 12 To provide stability, each node is assigned a zone, which are defined using criteria described in the methodology. The nodal marginal km data are then amalgamated into zones by weighting each nodal result by the associated generation or demand capacity and calculating the weighted zonal average marginal km. This data is then used in the Tariff Model and converted to a £/kW figure by applying the expansion constant (that represents the annuitised unit capital investment cost of 400kV OHL) and the security factor (that recognises the security provided by developing the system in accordance with the GB SQSS).
- 13 The raw zonal tariffs are then adjusted to ensure that (a) the correct proportion of revenue is collected from generation and demand customers (the so-called G-D split, presently 27% and 73% respectively); and (b) that overall the total allowed revenue is collected by all charges. In order to

achieve this, users provide information to National Grid under provisions described in the Connection and Use of System Code (CUSC).

- 14 Tariffs are recalculated annually in January for charges commencing the following April. This ensures that charges remain cost reflective and the transmission licensees can fund their operations in accordance with their price control allowances.

## Process followed

- 15 National Grid first discussed the issues surrounding Condition 4 at an industry workshop held in May 2005. Presentations were made by National Grid and the Association of Energy Producers (AEP) to outline the issues and industry perspectives associated with longer term fixed price tariffs.
- 16 Following this, National Grid published an industry questionnaire to seek views on long-term fixed price tariff arrangements. National Grid received 11 responses and these are considered elsewhere in this report.
- 17 Condition 4 and the proposed way forward were discussed with the industry at the Transmission Charging Methodologies Forum (TCMF) in September 2005 and February 2006; and at the Charging Issues Standing Group (CISG) in September 2005 and January 2006.
- 18 This report details the conclusions reached following consultation with users and outlines the proposed next steps. Prior to its submission to the Authority, National Grid provided the industry a further opportunity to comment on the conclusions reached and National Grid's detailed proposals. Three responses were received and these supported National Grid's proposed next steps. In light of the comments received, National Grid has provided further explanation to its detailed proposals in the latter sections of this report.
- 19 Separately, National Grid has in parallel actively engaged in the work undertaken through the Access Reform Options Development Group (ARODG), which was formed as part of the Transmission Price Control Review. Some of the changes being considered in this forum contribute to the aims of Condition 4 and these are discussed at a high-level elsewhere in this report.

## Industry Workshop

- 20 In May 2005, National Grid held an industry workshop to discuss a range of issues regarding multiple year fixed price tariffs.
- 21 National Grid presented analysis it had conducted during the 2003 England & Wales charging review concerning long-term charges and the findings from previous consultations on this subject. At the time, mixed industry views were received with 6 respondents stating they were not interested, and 8 indicated some interest although this was dependent on design. It was concluded at that time that given the prospect of BETTA and the uncertainties this created, the scope of introducing long-term fixed price tariffs was limited.
- 22 A presentation by the AEP suggested users could, in theory, effectively fix their tariffs already by entering a contractual arrangement with a third party that would pay a user's TNUoS charges over a fixed period at a fixed premium price. The third party would be responsible for managing, to the extent possible, the risk of any tariff movements.
- 23 A number of issues were raised in the workshop, mainly concerning why third-parties had not offered such a financial product. The initial view was the uncertainty and risks associated with such an instrument would necessitate an unacceptable premium. Additionally, as National Grid is in a privileged position regarding market information, National Grid may be best placed in offering this type of contract, either via fixed tariffs (transparent) or bespoke contract (opaque). However, concerns over the appropriateness of such arrangements were also expressed.
- 24 Participants raised a number of design issues associated with long-term fixed tariffs, including:
- the certainty of background against which contracts for fixed price tariffs would be entered into;
  - the party or parties that should be exposed to the financial consequences resulting from differences between fixed and variable tariffs;
  - whether or not there would be implications for credit requirements;
  - whether or not new transmission reinforcements create a particular case for longer term commitments; and
  - whether "phasing" of the impact of methodology changes could be considered instead, to give the predictability and stability sought by users.
- 25 It was agreed at the meeting that these topics should be included in an industry consultation to seek wider industry views on these and other issues.

## Industry Questionnaire

- 26 National Grid prepared a questionnaire to gauge industry views on key issues regarding the development of long-term fixed price tariffs, including those topics that had been raised in the industry workshop. This was published mid-June 2005. There were 11 responses, none of which were marked confidential and these are available on National Grid's Industry website<sup>3</sup>. Many of these views were reiterated in responses to the draft of this report.

### The appropriate counterparty to hedge against tariff changes

#### Respondents' views

- 27 Respondents were split broadly evenly over whether National Grid or an independent third-party should provide contracts to allow user's to hedge against future tariff changes.
- 28 Several users believed that National Grid would be the only realistic counterparty, given its privileged position in the market. However, other respondents believed this fact made it inappropriate for National Grid to provide financial hedges, as it is also responsible for both developing the charging arrangements and making investment decisions in England & Wales and could, therefore, influence tariff movements to its commercial advantage. Against this background, some respondents suggested that it would be necessary for these activities to be ring-fenced if National Grid were to provide such an arrangement.
- 29 Those respondents that supported an independent financial institution were concerned that the premium that would be sought would be likely to be significant due to regulatory uncertainty and lack of information (that is, on the other hand, possessed by National Grid). One party suggested National Grid could make this information available to independent financial institutions on a confidential basis.

#### National Grid's response

- 30 National Grid believes there is significant merit in it retaining a non-financial interest in developing and applying the charging methodologies. National Grid agrees with respondents that it would be undesirable to introduce an incentive that could allow National Grid to financially benefit from influencing tariff movements either by changing the methodology (both the timing of these and the proposal itself) or its investment decisions. We believe that National Grid's independence is an important element of facilitating competition in generation and supply.
- 31 Against this background, National Grid notes that independent third-parties could, in theory, provide such a service already. Users suggested that this had not happened because the risks were such that the associated premium for a fixed-price access product would make the product unattractive, or that only National Grid possessed the information required to provide such a service. National Grid also notes there may be practical issues surrounding whether a third-party is truly independent, for instance, whether a financial house could be considered independent if it also funded new build.

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<sup>3</sup> See <http://www.nationalgrid.com/uk/Electricity/Charges/gbchargingapprovalconditions/4/>.

- 32 Clearly there is a link between the information available to forecast tariff movements and the premium required to offer a long-term fixed price tariff. Arguably, where National Grid has influence, such as changes to parameters in the methodology, it potentially has information that may allow a lower premium to be set than an independent third-party. Nevertheless, the frequency and manner in which these parameters can be changed are restricted by the charging methodology, which limits the extent that this influence can be bought to bear.
- 33 In other cases National Grid may have privileged information for tariff setting, for example, data used to determine the charging base. Often this data is commercially sensitive and there may also be uncertainties such that the forecast error associated with similar data spanning a number of years could significantly impact tariffs, for instance, whether a particular generator intends to reduce (or increase) its access rights.
- 34 In order to fix tariffs for a number of years, arguably this data would also be needed for a number of future years for all users, so that the charging model could be populated with data to cover the period over which tariffs could be fixed. While suitable framework changes could be sought to obtain multiple-year data from market participants and allow this information to be disclosed to independent third-parties under appropriate confidentiality agreements (that would also need to be developed), the uncertainty in this data, as discussed above, will be the same for any party in receipt of it. Therefore it is unclear whether the premium sought by National Grid would be different from that sought by a financial institution.
- 35 With respect to the other data used in the transport and tariff model, much of this is already provided in the Seven Year Statement (SYS) and its quarterly updates or can be obtained from other public sources. In addition, this data has recently been supplemented by the preparation of the annual “Condition 5 Report” that provides information on future tariff paths and crucially the underlying events causing tariffs to change.
- 36 Table 1 details the key variables of the charging model, the ability for National Grid to change these, the frequency or trigger for such changes, and the publicly available data on these variables.

**Table 1: Components of the charging model**

<b>Component of charging model</b>	<b>National Grid's ability to influence</b>	<b>Frequency of change</b>	<b>Information available</b>
<b><i>Transport model components (derives tariff differentials)</i></b>			
Nodal generation	None	Annually	Oct SYS + 7yr forecast
Nodal demand	None	Annually	Oct SYS + 7yr forecast
Network data	Limited	Annually	Oct SYS + 7yr forecast
Expansion factors	Some, must comply with Methodology	Price Control Review (PCR)	Methodology Statement

**Tariff model components** (derives absolute tariffs)

Expansion constant	Some, must comply with Methodology	PCR & RPI annually	Methodology Statement
Security factor	Some, must comply with Methodology	PCR	Methodology Statement
Demand zones	None	Never	Methodology Statement
Generation zones	Some, must comply with Methodology	PCR + exceptional circumstances	Methodology Statement
Zonal generation charging base	Some	Annually	None
Zonal demand charging base	Some	Annually	None
G / D split	Needs change to Methodology	Methodology change	Methodology Statement
Demand charge collar	Needs change to Methodology	Methodology change	Methodology Statement
Revenue	Once set, must comply with Licence	Annually according to Licence	Price Control Some ability to forecast

- 37 In summary, fixed price tariff contracts could be offered, in theory, by National Grid or independent third-parties. National Grid believes there is value in it retaining financial independence from changes to the charging methodology or the parameters within the methodology. A significant amount of data used within the methodology is already in the public domain that could allow third parties to offer some form of hedging arrangement. However, if privileged information were to be made available to independent third parties under a suitable framework, the forecast error associated with multiple-year data will be the same for any party in receipt of it. Against this background, the premiums sought by National Grid and independent third parties are unlikely to be significantly different.

**Allocation of risk****Respondents' views**

- 38 A range of views were expressed on who should bare the risk of differences between charges based on variable annual tariffs and fixed multi-year tariffs. The majority of respondents indicated that the counterparties of the hedging arrangements should be exposed to the difference between the fixed and variable tariff rates (i.e. the user and National Grid / financial institution). These parties argued that users on variable charges should not be exposed to the consequences of the commercial decisions made by others.

### **National Grid's response**

- 39 National Grid has sympathy with respondents that believed it would be inappropriate for users that are not party to a fixed price tariff to be exposed to the risk of differences between the fixed and variable tariff. However, were National Grid to offer such a service (rather than a third party) the revenue control arrangements for handling variations between the actual revenue collected and that allowed by the revenue restrictions would not achieve this. Specifically, to the extent that the actual and targeted revenue differ, any over- or under-recovery will be accounted for in future revenue allowances (through the so-called  $k_t$  factor) and future tariffs adjusted accordingly<sup>4</sup>. If these adjustments could only be made to variable tariffs, the magnitude of these adjustments will be amplified given the reduced charging base over which these adjustments could be made. This could create a cross-subsidy between parties on fixed and variable charges.
- 40 Accordingly, National Grid believes that were it to offer a service to fix TNUoS tariffs, or a component thereof, this is likely to create a cross-subsidy between parties on fixed and variable charges i.e. risk would be shared with the wider community. If this were the case, then the objective to providing tariff stability would not be achieved.

### **Risks to be hedged against**

#### **Respondents' views**

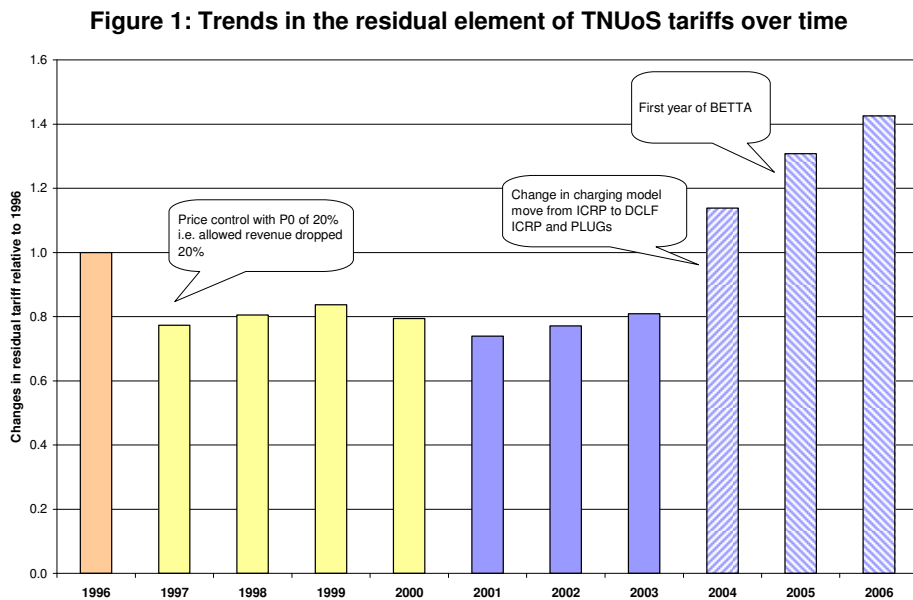
- 41 National Grid identified a range of risks that could potentially be hedged against. There was broad support amongst respondents that changes to network, annual generation and demand data and zonal tariff boundary changes could reasonably be included in any fixed price contract. Views for other sources of risk were more divided. In particular, there was considerable concern expressed that changes to the regulatory allowances and industry reforms were outside the control of National Grid, or that National Grid had too much influence over, such as security factors or expansion factors and methodology changes.
- 42 A number of users believed that the counterparties should bilaterally agree the risks that would be covered by a fixed price contract, and that this would affect the premium included in any contract. However, several parties believed that many risks were likely to result in risk premiums that would limit the attractiveness of certain fixed price contracts. This was cited as an explanation as to why third-parties had not already developed such products.
- 43 One respondent suggested that the issue was not simply about apportionment of risk but that users should have the ability fix the locational element of their tariff to preserve the relative position of the user at a particular point in time. The respondent believed that any over- or under-recovery of revenue be addressed through the residual element of the tariff for all users.

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<sup>4</sup> Previous analysis that forecast 2003/04 generation and demand tariffs using data contained in the 1999 Seven Year Statement showed significant variations between the actual and forecast tariffs. These differences would have increased the volatility of National Grid's revenue by approximately £60m - £70m over and above any consideration of  $k_t$ .

**National Grid’s response**

- 44 National Grid believes there is a range of risks that could, in theory, be hedged against. These include changes to those parameters identified in Table 1. In practice, however, it seems unlikely that any party would only be prepared to offer a fixed price contract that would hedge against risks that were too great to forecast with any certainty.
- 45 The largest unpredictable risk that parties identified were changes to the charging methodology and industry reforms. National Grid agrees that these areas could, depending on the nature of a specific proposal, have a significant impact on TNUoS tariffs. Industry reforms also tend to be less predictable in terms of both the timing and the specific impact on the charging arrangements. While this does not necessarily prohibit the development of long-term fixed tariff contracts that could hedge against these, the associated risk premium will be large or suitable re-openers included within the contract. Figure 1 shows how the generation residual element of tariffs has changed over time. (Note, the demand residual follows the same trend.)



- 46 The figure shows that the events that have had greatest impact on the residual element of charges were:
- (a) significant changes to the allowed revenue<sup>5</sup> e.g. a large  $P_0$  at price review (the one-off reduction in revenue allowed for the first year of a new price control period);
  - (b) significant changes to the methodology e.g. the introduction of the DCLF transport model that more accurately modelled the impact of incremental generation and demand on the transmission system, and the introduction of the “Plugs” methodology that introduced shallower connection charges; and

<sup>5</sup> Following the introduction of BETTA, the total revenue to be recovered through charges now includes revenue to be collected on behalf of the Scottish TOs.

- (c) industry restructuring e.g. BETTA which extended the market arrangements in England & Wales into Scotland.
- 47 The greatest of these resulted in roughly a £0.8/kW and £3.0/kW change in the generation and demand residual, respectively. Against this background, long-term fixed-price contracts are likely to need re-openers for certain high-risk events to avoid excessively high premiums and to prevent such contracts restricting change. This is likely to limit the attractiveness of these products.
- 48 One respondent suggested that just the locational element of the tariff should be fixed. Events such as those discussed in paragraph 47(b) and (c) above will also impact to varying degrees the locational component of tariffs. In addition, changes to the disposition of generation and demand across the network could be expected to impact on the locational element of the tariff.
- 49 The 2005 “Condition 5 Report”<sup>6</sup> described the sensitivity of the locational element of tariffs for changes in generation and demand at different points on the network. Figures 2(a) and 2(b) illustrate the minimum, maximum and average change in the locational elements of tariffs for an additional 500MW of generation and separately an additional 200MW of demand, respectively, sited at various points of the network. They seek to demonstrate the magnitude, range and locational nature that changes to parameters within the transport model could have on tariffs. Other scenarios and explanations for tariff changes are provided in the Condition 5 Report.

*Impact of changes in generation assumptions*

- 50 The greatest impact on generation TNUoS tariffs were observed in a zone situated in the extreme north of Scotland with only 330MW of generation present, the addition of 500MW of generation in a zone caused the in-zone generation tariff to rise about £2.50/kW and in another to fall by £1.50/kW. In other scenarios, the change was less marked with average increases about £0.70/kW and decreases £0.80/kW. The range of impacts on demand tariffs was less extreme reflecting a greater degree of uniformity of demand in demand zones relative to generation in generation zones.

*Impact of changes in demand assumptions*

- 51 Similar but less pronounced effects can be seen by changes in zonal demand. The greatest change to generation TNUoS charges was observed when demand increased in southern Scotland. The largest change to demand TNUoS charges occurred in London when demand in London increased.
- 52 The charts show that the effects of changing generation and demand patterns will influence future tariffs to varying degrees. These variations are typically largest where the perturbation of generation or demand on the network flows is largest, which tend to be in areas where the network is least developed or where the additional generation or demand is large compared to the existing generation or demand in the area. These circumstances are typical drivers of network investment.

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<sup>6</sup> “Information Paper: Condition 5 – Publication of Long-Term tariffs”, November 2005, available at: <http://www.nationalgrid.com/uk/Electricity/Charges/gbchargingapprovalconditions/5/>

Figure 2(a): Sensitivity of locational elements of TNUoS tariffs to generation changes

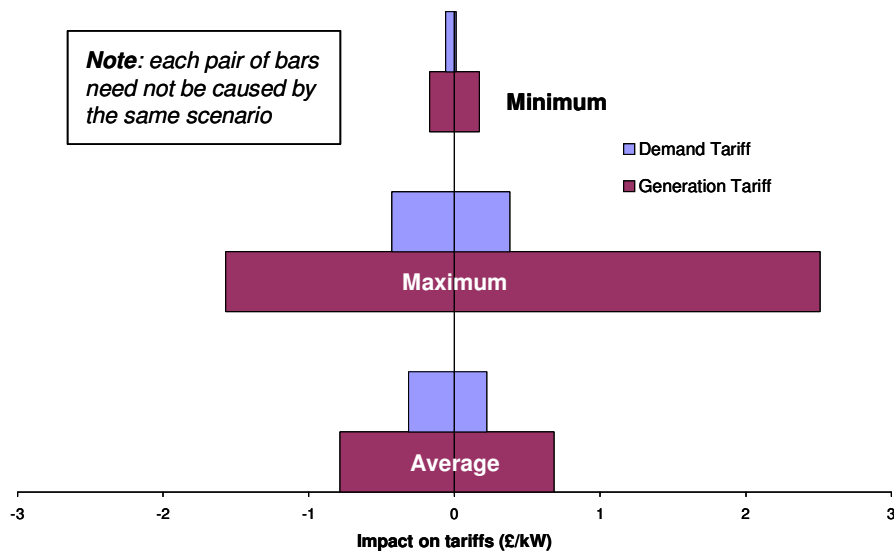
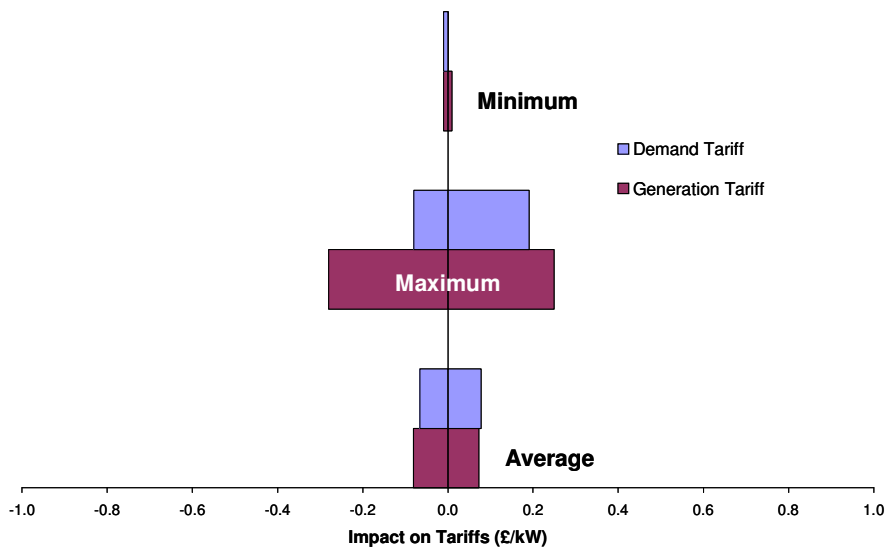


Figure 2(b): Sensitivity of locational elements of TNUoS tariffs to demand changes



53 Were users able to “lock-in” to a particular tariff at a point in time, or just the locational element of the tariff, they would not be exposed to variations of this sort. The locational element of the tariff, however, provides forward looking signals to both new and existing parties. Specifically, while signals are provided to new entrants to reflect the impact they have on the transmission network, transmission investments are undertaken to accommodate the access requirements of both new and existing parties. As noted above, the largest variations will be in those areas where changes in generation and / or demand are likely to give rise to the greatest need for additional network investment. Therefore, existing users will also be exposed to the same cost-reflective signals about their continued presence. If this were not the case, parties at the same node could have different tariffs and receive different economic signals, which would tend to result in less economically efficient outcomes over time.

54 Against this background, the stability of the charges must be traded-off against the cost-reflectivity of these and facilitating effective competition. For

the reasons outlined above, National Grid believes maintaining cost reflective charges promotes the efficient network investment and utilisation between new and existing parties. Accordingly, while tariffs change on an annual basis, the charging model is provided to all parties that pay TNUoS charges so that the impact of changes in the contracted background can be assessed by users and, in doing so, allow parties to predict and prepare for annual variations in tariffs.

### **Published methodology or bilateral agreement**

#### **Respondents' views**

- 55 The majority of respondents believed that arrangements for fixing tariffs should be based on a published methodology, to ensure transparency and avoid discrimination. Some users suggested that the main elements should be laid out in the methodology but allow certain elements to be negotiated bilaterally.

#### **National Grid's response**

- 56 National Grid believes that were a fixed price contract to be offered this would need to be defined within the charging methodology with explicit recognition of the risks to be hedged against, the duration of the hedge, any re-openers and crucially the methodology for determining the premium. This would ensure that charging arrangements remain transparent.

### **Duration of fixed price tariff**

#### **Respondents' views**

- 57 Respondents were asked for their views on the appropriate length of a fixed price contract. The majority supported a range of options – with the minimum, logically, being 2 years. Most respondents recognised the benefit to developers of periods in excess of price control periods up to the life of the plant, although a number of these parties also recognised the increased risk that this would introduce, which would be reflected in the premium.

#### **National Grid's response**

- 58 National Grid agrees with respondents that there is clearly a range of durations over which tariffs could be fixed. As noted above, the premium associated with a fixed price contract is a function of information uncertainty. Given this is likely to increase with the range of the forecast, it is probable that longer term contracts will have larger associated premiums that may tend to reduce the attractiveness of such products.
- 59 Furthermore, given that many variables of the charging model are re-visited at the periodic price control review and there is very limited foreknowledge of the conclusions of such review and the consequential impact this might have on the parameters of the charging model, it would appear that price control reviews create a “break-point” beyond which the uncertainties might naturally limit the duration of a long-term fixed price contract. This would tend to make such products more attractive at the beginning of a price control. As noted above, similar uncertainties could be created by changes to the charging

methodology and / or industry reforms. These would also appear to be break-points for fixed duration tariff contracts.

- 60 National Grid also notes that discussions are taking place as part of the Transmission Price Control Review on revenue drivers and the various forms that these might take, to address uncertainties in the future use of the network and investment in it. If introduced, these would alter the level of revenue collected by charges within a price control period and, depending on the triggering event(s) and the timing of any revenue adjustment, potentially affect the certainty of revenue in the future years. Such factors would need to be taken into account in the design of multiple-year fixed-price tariffs and may also limit the period over which these could be offered, particularly if the adjustment in a given year could be large. This might necessitate the further use of defined re-openers in fixed price contracts.

### **New transmission investment (User Commitment)**

#### **Respondents' views**

- 61 Views were sought on whether or not there was merit in requiring new users to commit to a long-term fixed priced contract to support new transmission investment. The general view of respondents was that new users should not be required to enter into such arrangements. Only one respondent believed that there should be a minimum period that new connectees were required to pay charges for, suggesting five years as a minimum.
- 62 Two respondents believed that long-term fixed price contracts needed to be viewed alongside the arrangements for transmission access and that if greater commitment was required a deep connection charging policy should be considered.

#### **National Grid's response**

- 63 National Grid believes that those parties that benefit from transmission investments should make an appropriate commitment so that it can be demonstrated that the associated investment costs were efficiently incurred. This is presently provided by the Final Sums arrangements, although an alternative could be provided by requiring parties that initiate incremental investment to enter a multiple year fixed-price contract.
- 64 Against this background and putting aside the difficulties and limitations associated with setting multi-year fixed price tariffs, National Grid believes there could be merit in new users providing commitment in this way. However, this should be considered as part of the wider debate on user commitment that is being had as part of the Transmission Price Control Review that is examining, amongst other things, the nature of the commitment made by all entry parties using the transmission system.
- 65 An alternative suggested by one respondent was a move to deep connection charges that could be paid over an agreed fixed period at a fixed rate (including, in theory, a single lump sum). Arguably this would provide cost-reflective signals to parties triggering investment and could provide stability in access charges (at least to the new entrant). However, National Grid believes this must be weighed against the detrimental impacts this could have on competition, for instance, the potential barriers to entry this might create

and “second-comer” issues. National Grid notes that in the past the charging regime in electricity has consistently favoured the move to shallower connection charging arrangement (i.e. the “Plugs” methodology).

- 66 In addition, if such a regime were to be implemented, careful consideration would be needed to ensure the appropriate treatment of existing parties with connections and access rights and those presently with offers awaiting a physical connection.

### **Implications to methodology developments & governance**

#### **Respondents’ views**

- 67 Comments on the implications for National Grid’s role in respect of developing the charging methodology and the governance of long-term fixed tariffs were sought. Some respondents reiterated their concerns about National Grid providing long-term fixed price tariffs. Specifically, that it would be inappropriate for the same party to set tariffs and also offer hedges against tariff movements. One party suggested the incentive properties of this mechanism would need to be considered. Another respondent considered that future developments to the charging methodology could be hindered by fixed price contracts. An opposing view was expressed that there would be no interaction, provided the arrangements were suitably described with the charging methodology.

#### **National Grid’s response**

- 68 National Grid believes that it would be unjustifiable to introduce long-term fixed price tariffs if these constrained future developments of the charging methodology, to make charges more cost-reflective and / or facilitate competition. Accordingly, to ensure that the most efficient economic outcomes can be obtained by setting cost reflective access charges and revising the methodology when required, it would be reasonable to exclude methodology changes from any fixed-price fixed-duration contract. If this were not the case, long-term contracts could create a barrier to change where specific transitional arrangements might need to be developed to unwind these contracts.
- 69 National Grid recognises the governance concerns some respondents had over whether it would be appropriate for National Grid to offer hedges on the tariffs it is also responsible for setting. As discussed previously, National Grid believes it is important that it should not have a financial interest in the level and geographic disposition of tariffs. However, the remedy suggested by some respondents to ring-fence part of National Grid’s business to provide fixed price multiple year contracts is wholly disproportionate to the issue in hand, namely to enable parties to respond to tariff changes more efficiently. Such an arrangement is also likely to lead to an increased role for Ofgem. Nevertheless, if such a ring-fence were created, it is not immediately apparent that a ring-fenced entity would be able to provide different hedging terms than a competent independent third-party.

## Impact on credit requirements

### Respondents' views

- 70 Users were split over whether or not the introduction of fixed price access should necessitate a change to the credit arrangements, although a small majority indicated there should be no change to the credit arrangements.
- 71 A range of views were expressed by those parties supporting a change to the credit arrangements. One respondent noted that this had to be the case with any long-term contract. Another indicated that the counterparties should arrange their own credit requirements in line with the risk they were exposing themselves to. A different party suggested that credit requirements were dependent on who bears the risk of the system reinforcements if the party is in default. A further respondent indicated a change should only cover the termination arrangements.
- 72 Of the respondents who did not support any change to the credit arrangements, the general view was that there was no additional risk for National Grid over the annual current changing arrangements or that the existing arrangements were adequate. One respondent indicated that any payments were made on a monthly basis and any default would be subject to the existing provisions and that the length of the contract makes no difference. A respondent suggested that generation TNUoS charges do not require credit so neither should a fixed priced product.

### National Grid's response

- 73 The present credit arrangements for TNUoS charges requires users that do not have adequate credit to provide security for the value determined to be at risk, which may be less than the actual amount owed to National Grid in a given year. For instance, a generator's annual TNUoS liability is the annual TNUoS charge although there is presently no requirement for users to secure this amount. Against this background, were a generator to default on paying access charges its access rights would be withdrawn and, in the event that this liability is not recovered using standard debt collection techniques, National Grid's total revenue collection may be affected.
- 74 National Grid believes long-term fixed price tariffs, if implemented, may need to have revised credit cover arrangements to ensure that:
- (a) were a party on a fixed-price multiple-year contract to default, which might have a significant associated value, National Grid would be able to call-in security to protect other parties on variable contracts; and
  - (b) perverse incentives are not created for users to move from fixed to variable tariffs when these are lower. Accordingly, it may be necessary to have a termination fee, with appropriate security cover, that would be called in if the contract were not honoured.
- 75 Consequently, National Grid believes the requirement to provide credit cover for multiple-year fixed price contracts should cover the amount that would be required if the party were to default on the contract, which could reasonably be the remaining value of the contract, as this would also insulate variable tariff users from possible defaults on contracts with significant value.

## **Alternatives to long-term fixed price tariffs**

### **Respondents' views**

- 76 A number of respondents indicated that introducing arrangements in the methodology to reduce volatility would be more appropriate than fixed price tariffs. These users sought measures to promote stability and predictability of tariffs as an alternative to introducing long-term fixed price tariffs. These focused on limiting the rate of change of the full tariff and / or just the locational element of the tariff, or the periodicity of changes to parameters within the methodology (such as zonal boundaries and expansion factors).
- 77 One respondent repeated its views that it would be more appropriate for users to fix the locational component of their tariff, rather than the entire tariff, such that the differentials between tariffs could be “locked-in” for a given period. The same residual component would apply to all generators, to ensure that the overall revenue collection was preserved.

### **National Grid's response**

- 78 National Grid believes reducing volatility of charges, or at least enhancing the predictability of charges, is an important element of designing a charging methodology that promotes competition in the generation and supply of electricity. These elements are discussed in a subsequent section of this report.
- 79 As noted above, National Grid has concerns regarding fixing the locational element of tariffs. Specifically, that this could be expected to blunt the signals provided to new and existing parties that could result in inefficient outcomes.

## **Other comments received**

### **Respondents' views**

- 80 Two parties commented that relevant data should be provided to independent third-parties, or at least the governance arrangements developed to enable this, to facilitate the creation of a competitive market in fixed price contracts.
- 81 Other parties reiterated their views on the appropriateness, or otherwise, of arrangements to limit the rate of change of prices or frequency of changes to the methodology. While, some parties were in favour of such an approach to provide stability and predictability, others believed that this might hinder harmonisation of transmission and distribution use of system charges, and frustrate the implementation of future changes associated with Europe.

### **National Grid's response**

- 82 As noted previously, there is considerable public data available that could be used by independent third parties to offer hedging arrangements. National Grid considers there may also be merit in considering how the information provided annually in the “Condition 5 Report” could be used, with experience, by interested parties. With respect to other data that is not in the public domain, National Grid reiterates its view that this information is presently provided on a commercially confidential basis and, notwithstanding this, the forecast error associated with multiple-year data could be significant and this

would tend to increase any premium associated with fixed tariffs, regardless of the party offering a fixed-price multiple year tariff.

- 83 The issue of restricting the rate of change of tariffs or limiting the frequency of changes is discussed elsewhere in this report. However, National Grid notes that arrangements akin to these have been used for NTS gas exit charges and electricity distribution charges. Specifically, the locational differentials of NTS gas exit capacity charges have not been revisited since December 2002 due to the prospect of reforms to the exit capacity regime and in any event are limited to  $\pm 30\%$ . However, it is worth noting that National Grid NTS is presently reviewing the gas charging methodologies and presently believes there are merits in not restricting year on year movements in the locational element of capacity charges where these have been determined using year-ahead forecasts of supply and demand<sup>7</sup>, as this can distort the cost reflectivity of charges.
- 84 Similarly, in electricity distribution, the Authority allowed upward increases in use of system charges for EHV demand customers to be capped to 15% given the short-notice and magnitude of the impact of proposed interim methodology changes. The Authority did also note, however, that future changes to the methodology should be applied in full, with no transitional relief.

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<sup>7</sup> The present charging model for determining NTS gas exit charges (the "Transcost approach") uses a ten-year forecast of supply and demand data to determine annual tariffs. Uncertainties in these forecasts can introduce volatility in the tariff applied in the following year.

## National Grid's Initial Conclusions

- 85 While Condition 4 relates to the charging methodology, the charging and access arrangements must be considered alongside each other to ensure that the two remain consistent, to the extent necessary.

### Long-term fixed price tariffs

#### Impact on competition and efficiency

- 86 National Grid has a number of concerns regarding the potential impact on competition and efficiency that the introduction of fixed price fixed duration tariffs would have if these were to sit alongside annual variable tariffs. Specifically, fixing tariffs, or an element thereof, may:
- (a) reduce the cost reflectivity of the tariffs, which would be expected to have a negative impact on competition in the generation and supply of electricity;
  - (b) create cross-subsidies between parties on fixed and variable tariffs (i.e. risks would be socialised), which would be likely to be detrimental to competition in generation and supply of electricity;
  - (c) provide inconsistent locational signals provided to users at similar parts of the network, which could over the long-run result in less efficient outcomes; and
  - (d) create a barrier to changing the charging methodology, which may not be consistent with keeping the methodology under constant review and seeking to make changes to the methodology that further the relevant objectives.

#### Practicalities and Usefulness

- 87 The consultation process also identified a number of limitations that would be needed to offer fixed price contracts in practice. Most parties that responded to the consultation identified temporal and event limitations that together restrict the scope and therefore potential usefulness of long-term fixed price contracts. These include:
- (a) only those risks that are likely to have small impact on tariffs could be included within a contract, to ensure that premiums do not become excessively (and unattractively) high;
  - (b) contracts would only last for short-durations that would not exceed the duration of the price control period and would include re-openers for specified events, again to ensure that premiums do not become excessively high; and
  - (c) the introduction of credit requirements to cover the full value of the fixed price contract, to ensure that parties on variable tariffs were not disadvantaged in the event of default and to protect against perverse incentives to terminate fixed price contracts when the fixed-variable tariff differentials were attractive.

- 88 Notwithstanding these points, crucially there was no industry consensus on who would be the most appropriate party to offer a long-term fixed price contract. National Grid believes were it to provide such a service, the concerns expressed by industry participants is likely to limit its uptake. Conversely, the perceived lack of information available to third-parties was cited as a reason for these parties not providing a hedging service. National Grid considers there may be merit in considering how the information provided annually in the “Condition 5 Report” could be used, with experience, by interested parties. As always, National Grid is happy to discuss charging matters with users on a bilateral basis or within the forums that already exist.

### **Summary**

- 89 National Grid is concerned that fixed-price tariffs might have detrimental impacts on competition and efficiency. In addition, demand for a practicable long-term fixed-price contract (regardless of the provider) is likely to be limited given the associated premium or temporal limitations. Accordingly, National Grid does not believe it can be justified to progress such an amendment.
- 90 However, there was interest in developing arrangements that could allow parties to reduce, or at least manage, the volatility associated with annual charges. Accordingly, following discussions with industry participants at CISG and TCMF meetings, it was agreed that the focus going forward should be to improve the stability and predictability of annual charges. These issues are discussed in the next section of this report.

### **Longer term access arrangements**

- 91 A number of parties linked the option to fix charges for a number of years with the access product and the associated access rights. In addition, Ofgem in its approval of the GB Charging Methodologies contrasted the access and charging arrangements in gas and electricity transmission, and in particular the method for allocating access rights.
- 92 The gas access framework requires parties to purchase finite, nodal entry rights in a series of auctions at a pre-determined market-set capacity price for durations up to 15 years. An annually varying commodity charge is levied to ensure that the total allowed revenue is recovered each year, regardless of the bids made in the capacity auctions. This is in contrast to electricity transmission where the annual access rights associated with Transmission Entry Capacity (TEC) “roll-over” each year, subject continued compliance the CUSC, including payment of charges based on the prevailing annual tariffs.
- 93 National Grid believes consideration of the rights associated with transmission access products and the methods for allocating these rights is outside the scope of Charging Condition 4. These issues, however, are being considered as part of the Transmission Price Control Review and the work being undertaken by the industry related to ARODG. Nevertheless, for completeness, it is worth touching on the issues associated with finite entry rights and National Grid’s proposals for greater user commitment, as these areas contribute to the aims of Charging Condition 4.

### **Finite rights in electricity transmission**

- 94 The introduction of finite rights in electricity as per gas entry, together with the associated charging regime, is part of a wider debate of the equitability of allocating access rights on a first come first served basis (as is the case in electricity) and the commitment made by current and prospective network users.
- 95 Under a finite-rights model, all users would have a time-limited right to use the transmission system and an obligation to pay transmission charges over this period. The duration of this right could be extended, subject to a suitable commitment being made to pay access charges, and incremental capacity allocated following completion of the necessary investment subject also to an appropriate financial commitment being made. However, to the extent that an existing user was not prepared to purchase a finite access right, less certain short-term products would provide the only means for transmission access.
- 96 Arrangements whereby the failure to make a commitment automatically removed a user's access right could force the early closure of certain power stations, with the attendant detrimental impact on security of supply. Against this background, National Grid has developed an alternative model to obtain user commitment to transmission access rights.

### **National Grid's out-line proposals for User Commitment**

- 97 National Grid outlined its proposals to revise the level of commitment made by new and existing users at industry seminars in Glasgow and London<sup>8</sup>. Since this time the proposals have been developed further and a CUSC amendment proposal (CAP131) has been raised. In essence these proposals would, if implemented, require new and existing users to make a financial commitment described in terms of a number of years of prevailing zonal TNUoS changes. Additional rights would be allocated subject to this commitment being made prior to the rights being allocated. Existing users would be required to provide longer notice to reduce access rights in order to avoid a financial penalty.

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<sup>8</sup> ARODG seminars held at Ofgem's offices in Glasgow (6 July 2006) and London (7 July 2006).

## Stability and Predictability of tariffs

- 98 The stability and predictability of access charges are key concerns for users. National Grid considers the stability of charges is the degree to which charges change from year to year; and predictability is the degree to which charges change in a known manner. In industry meetings users have placed greater emphasis on predictability, as this allows parties to pass on costs along the supply chain through contracts between generators and suppliers, or suppliers and consumers.
- 99 Users that responded to the consultation on this report universally supported the focus on enhancing the stability and predictability of tariffs over the introduction of long-term fixed price products. Respondents also made a number of comments on National Grid's proposals in this area and, where possible, these have been reflected in this section.

### Stability of tariffs

#### Sources of potential instability

- 100 Instability in annual tariffs can arise from parameters within the methodology that change year on year. Variations in the locational differentials will arise where there are changes to the inputs to the Transport Model, while variations in overall tariff levels are impacted by, amongst other things, the generation and demand charging base and the total revenue to be collected through charges.
- 101 Overlaid on this, methodology changes that are implemented may affect tariffs in a given year but are unlikely to be an enduring source of instability, as such a change may not be justifiable against the relevant objectives against which methodology changes are assessed.

#### Existing arrangements to provide stability

- 102 There are a number of measures within the present methodology to promote the stability of TNUoS tariffs. These include:
- (a) key parameters are either fixed (in the case of the security and expansion factors) or index linked (in the case of the expansion constant) for the duration of the price control; and
  - (b) charges for users are derived from zonal tariffs, which provide stability by averaging nodal prices within an electrically and geographically similar area. Furthermore, these zones are only revisited within a price control in exceptional circumstances.
- 103 In addition, where proposals that are likely to have a greater impact on charges have been proposed, for example, changes to the G-D split<sup>9</sup>, alternative models of implementation have been considered. For instance, the implementation date may be delayed, to give users additional time to prepare for the implementation of a proposed change.

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<sup>9</sup> GB ECM-02, "Negative Demand Tariffs", sought to change the G-D split from 27:73 to 0:100, as a solution to avoid creating negative demand charges. If implemented, the residual element of tariffs would have reduced by £3.9/kW for generation and increased by £4.9/kW for half-hourly demand.

104 Furthermore, National Grid is obliged by its Transmission Licence to ensure that the revenue collected through charges does not exceed that allowed by the revenue restriction, and that year on year variations between actual and allowed revenue are minimised. Accordingly, these are strong incentives to reduce annual volatility in the revenue requirements.

**Possible additional arrangements to provide stability**

105 A number of additional means to promote stability were discussed with the industry in CISG meetings. These included:

- (a) limiting the number or frequency of methodology changes, for example, to one methodology change per year;
- (b) limiting the impact of methodology changes on tariff differentials, for example, by phasing or capping changes and using the residual element of tariffs to socialise these costs; and
- (c) further consideration of limiting certain parameters in the methodology, for example, the zoning arrangements.

106 Industry participants commented on these suggestions, particularly with respect to the phasing of methodology changes. It was considered by some that generators and suppliers might have different requirements and that it may be also appropriate to treat increases and decreases in tariffs differently.

107 It is not immediately obvious that generation and demand should be treated differently, as to do so could unduly discriminate between classes of user. Assuming that both sectors are competitive, it would seem reasonable to expect that generators and suppliers would seek to pass on transmission costs as efficiently as possible. While it could also be argued that users may respond differently to price signals, this should not detract from ensuring that accurate signals are provided to all parties.

108 Furthermore, were arrangements to enhance tariff stability based on phasing-in methodology changes and these failed to treat tariff increases and decreases consistently i.e. both introduced at the same rate, new cross-subsidies (albeit time-limited) would be created between specific users or classes of users.

109 In the future, there may be rare instances where it might be appropriate to consider phasing. However, National Grid believes this should only be in exceptional cases and, in general, methodology changes that enhance cost reflectivity or competition should be applied immediately. Therefore, this should be considered on a case by case basis and consulted upon with users as part of the formal process to change the charging methodology rather than being the norm for all changes. Accordingly, where users perceive specific implementation issues with a proposed change to the charging methodology, scope already exists within the arrangements to take this into account in the implementation date proposed to the Authority.

110 With respect to limiting the number or frequency of changes to tariffs and / or the methodology, National Grid is obliged by its licence to keep the methodology under review at all times and to make changes that better achieve the relevant objectives. National Grid considers it would be

inconsistent with these requirements to arbitrarily limit the number or frequency of changes to the charging arrangements if these were to promote competition or enhance the cost reflectivity of tariffs. Furthermore, if tariff or methodology changes were to be “logged up”, say until the next price control, uncertainty may actually be greater, as users would need to understand the aggregate effect of a number of methodology changes and any effect the price control might also have on tariffs and the methodology. In addition, such an approach could cause large changes in tariffs (albeit less frequent) that may not be in consumers’ best interest.

### **Proposals to promote stability**

- 111 Against this background, National Grid considers there are merits in formalising some of the present arrangements for changing the charging methodology. For instance, describing the processes that National Grid will follow to change the methodology including consideration of when wider consultations will be used and the timetable for implementation. These proposals could also be expected to enhance the predictability of tariff changes and are discussed more fully elsewhere.
- 112 In addition, National Grid proposes to undertake a Zoning Consultation following the production of the 2006 “Condition 5 Report”. This exercise will seek to establish generation zones that are robust to changes in generation and demand over the course of the next price control period. In this way, the likelihood of re-zoning within the price control period will be reduced, which will enhance the stability of tariffs.

### **Predictability of tariffs**

#### **Present limitations to predictability**

- 113 Putting aside methodology changes and industry reform, which are the greatest factors that limit predictability of tariffs, the present limits to predictability do not stem from the methodology itself but rather the inputs to the model. For instance, changes in the generation and demand charging base and actual revenue recovery in a given year.

#### **Existing arrangements to promote predictability**

- 114 A number of features of the charging methodology and National Grid’s working practices are designed to promote the predictability of access charges. For instance:
- (a) indicative charges are prepared annually in December to provide 3 months notice of the expected level of charges the following year and formal notice of actual tariffs is given 2 months before they take effect;
  - (b) to allow indicative charges to be published in December, the effective cut-off date for raising methodology changes is October, which provides additional time for users to understand the potential impact of the proposed changes. In this context it is worth noting that Ofgem is presently consulting on changes to National Grid’s Transmission

Licence that would increase the total consultation time for “important” modification proposals<sup>10</sup>;

- (c) mid-year changes to the transmission charging arrangements for existing access products are actively avoided;
- (d) a five-year forward looking forecast of tariff differentials is prepared each year (the “Condition 5 Report”), which indicates how the locational element of their tariff will change over time together with an assessment of the sensitivity of these to various changes;
- (e) the transport and tariff model is provided to users, under licence and free of charge, to all CUSC parties;
- (f) information used in the transport model is contained in the SYS allows users to undertake their own sensitivity and scenario analysis;
- (g) informal charging consultations are undertaken when proposed changes to the methodology are likely to have a large impact on the level of transmission tariffs, which allows greater time for users to understand and comment on proposals;
- (h) formal consultations on changes to the methodology seek to indicate the impact the proposal will have on tariffs; and
- (i) regular industry meetings are held to discuss high-level charging issues (the TCMF) and more detailed technical matters (the CISG), including the nature of possible future changes.

#### **Possible additional arrangements to provide predictability**

115 A number of additional means to promote predictability were discussed with the industry. These included:

- (a) increasing the notice period associated with implementing changes to transmission tariffs;
- (b) providing periodic updates of the expected under- or over-recovery of actual revenue against that allowed under the price control;
- (c) improving transparency of data used by National Grid in the charging model; and
- (d) improving the data provided by users for use within the Transport Model, in particular changes in generation including closure information.

116 Users agreed that enhancing the predictability of charges was important.

117 National Grid believes the scope for increasing the notice period for changing charges has limited value, not least because the assumptions that would

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<sup>10</sup> Ofgem consulting changes to the Transmission Licence to effectively increase its veto period from 28 days to 90 days, to allow it to undertake an Impact Assessment to those charging methodology changes that it believes are “important”, as defined in Section 5A of the Utilities Act 2000.

need to be made for setting charges would increase the associated uncertainty. For instance, were the formal notice period to be doubled from two months to four months, National Grid would have no information about demand at Triad and, in particular, the revenue collected over this period. In addition, the October SYS update would no longer be suitable for charge setting. Clearly, if charges are set without using the most accurate information available, volatility year-on-year is likely to be increased, as the level of over- or under-recover increases and is reflected in future tariff changes. This could be counter-productive. This is also likely to frustrate compliance with National Grid's licence obligation to not exceed the revenue allowed in the revenue restriction.

- 118 With respect to information regarding the expected under- or over-recovery of allowed revenue (the  $k_t$  factor), there is considerable uncertainty surrounding income due to the variability of Triad demands. Were such information provided, it would be misleading as it varies significantly over the winter period. Notwithstanding these points, the effect of  $k_t$  on tariffs is limited. For instance, the 2006/07 TNUoS tariffs sought to collect an additional £100m of revenue over the previous year, which represents 10% of the total allowed revenue. The table below illustrates the factors making this increase.

Factor	% of allowed revenue
Core price control allowance	6
Inflation	3
Adjustments (including $k_t$ )	1

- 119 The revenue associated with these factors is allocated uniformly across all generation and demand and have an equal effect in all zones. Consequently, the impact of  $k_t$  on tariffs will be limited given the size of the total charging base. Against this background, given there are costs associated with periodically collecting and publishing this data; the variability of this data; and the marginal impact it has on tariffs, National Grid remains of the view that publishing this information has very limited value.

**Proposals to promote predictability**

- 120 National Grid believes that it may be possible to enhance the information contained in the SYS, to allow this data to be used more easily by users in the charging model. Specifically, we will seek to provide information to map nodal generation and demand data contained in the SYS to the nodal data used in the Transport Model. We anticipate this will better enable users to conduct their own tariff scenario analysis.
- 121 National Grid also proposes to describe in the charging statements the circumstances when it will consider implementation dates other than the following 1<sup>st</sup> April where this can be justified against the relevant objectives. For instance, there may be instances where a longer lead-time for certain changes to the charging methodology should be consulted upon (e.g. when users might need to update their own billing systems or where there are very large changes in tariffs.). We expect this would give users greater confidence in the process that will be followed to implement changes to the charging

methodology and their understanding of the impact these would have to their businesses.

- 122 Similarly, National Grid also proposes to enhance the charging statements by clearly indicating the circumstances where additional consultations with users would be advantageous and would be likely to promote the predictability of future tariffs. These include changes that are:
- (a) likely to have a significant impact on a number of users; and
  - (b) consequential to other framework changes, which in themselves might cause uncertainty for users.
- 123 National Grid expects that the 2006 “Condition 5 Report” will seek to explain differences in forecasts made in the 2005 edition, which will over time enable users to make better use of future reports and aid their ability to prepare for future tariff movements. National Grid continues to welcome views from industry participants as to how future reports can be improved. National Grid notes, however, the use of its best view in such a report could be problematic given the commercial sensitivity of this data.
- 124 Greater predictability of future tariffs could also be provided if the information submitted to National Grid by users had greater certainty and firmness in future years. In particular, information about future generation access requirements and specifically reductions in TEC is weak compared with generation and demand growth information, as the present information available to National Grid extends out five days. National Grid believes this may be something that gets addressed by alternative User Commitment models being considered as part of the ARODG work i.e. better information about generation could be expected to promote the predictability of future paths of the locational element of tariffs.

## National Grid's Proposals

125 National Grid proposes to take a number of steps to promote the stability and the predictability of TNUoS tariffs. Specifically, we will:

- change the statement of the methodology for 1 April 2007 to explicitly describe the modification process, including:
  - the use of “informal” consultations for proposed changes that are likely to significantly affect charges; and
  - seeking views on the implementation timetable, for instance, the appropriateness or otherwise of delaying certain changes.
- provide enhancements to the SYS to facilitate users undertaking their own analysis of tariff trends and assist the predictability of future tariffs, for instance:
  - mapping nodal generation and demand data in the Transport Model with the data contained in the SYS; and
  - splitting composite circuit line-length data into overhead line and cable lengths.
- undertake a zoning consultation using data prepared from the 2006 “Condition 5 Report” during Autumn 2006, to prepare generation zones for the next price control period that cater, to the extent possible, the predicted movements of tariffs so that the stability can be enhanced.
- include within the 2006 “Condition 5 Report” a commentary of deviations between the forecasts made in the previous year report, to assist Users making better use of this data in the future.

126 National Grid has completed a separate consultation on the changes associated with the charging statements outlined above. National Grid expects to include these changes in the annual update of the charging statement and these can be seen in Appendix A.

127 In addition, National Grid intends to develop alternative User Commitment models that seek to obtain a level of commitment from all entry users of the transmission network. In doing so, we believe this may ultimately improve the predictability of tariff movements if the information about future generation capacity is enhanced – a key aim of Condition 4.

## Appendix A: Changes to the charging statements

*Inserted text is shown in blue.*

*Update index as required*

*In General Introduction replace para 6 with the following text, re-number subsequent paragraphs as required.*

### Modification Process

- 6 Before making modifications, unless it has been agreed otherwise with the Authority, National Grid will consult with CUSC parties for a period of at least 28 days on the proposed change in the Use of System Charging Methodology. The consultation will seek views on:
  - details of the proposed modification;
  - the timetable for implementation;
  - the justification of the proposal against the Relevant Objectives; and
  - the impact on other industry documents.
- 7 The consultation will, where appropriate, indicate how the proposed changes will impact existing tariffs or where a new charge is created an indication what tariffs might be.
- 8 The timetable for implementing methodology changes will seek to avoid introducing changes to tariffs within a charging year where this would affect the charges paid by existing users. There may, however, be circumstances where this will not be possible, and in these circumstances National Grid will seek views from users on the issues this might raise. Against this background, methodology changes to existing tariffs will generally be implemented from the following 1 April, although later dates may be considered where this could be expected to better facilitate competition in generation or supply of electricity.
- 9 There may also be instances where additional industry consultation may be beneficial. For example:
  - where a proposal is likely to have a significant impact on a large number of transmission users and an additional consultation will enable these users to better prepare for a formal modification and / or highlight specific implementation issues that should be taken into account.
  - where a methodology change is consequential to other framework changes and an early additional consultation will expedite the formal charging process, the framework change, or reduce uncertainty for users.
  - where there are several options for change that could each better facilitate the Relevant Objectives and an additional consultation will expedite the formal charging process.

- 10 In these instance and where time permits, an “Initial Thoughts” consultation will be prepared to consult users in advance of commencing the formal process for modifying the Use of System Charging Methodology. It is anticipated that an additional 28 day consultation would be allowed for.
- 11 Following consultation with Users, a report will be issued to the Authority by National Grid setting out the terms of the modification, the representations made, any changes to the terms of the modification, how the modification better meets the relevant objectives and a timetable and date for implementation of the modification.

*Retain existing paras 8 through 10 and insert after new para 11.*

*[Note: existing para 8 will need to be altered to reflect any change the Authority makes to the veto period where it believes an Impact Assessment is required.]*

*In Chapter 2 (“Derivation of the Transmission Network Use of System Tariff”) insert after para 2.50 the following text. Number paragraphs as appropriate.*

### **Stability & Predictability of TNUoS tariffs**

A number of provisions are included within the methodology to promote the stability and predictability of TNUoS tariffs. These are described in Appendix TN-8.

*Insert new appendix and add the following text after Appendix TN-7*

### **Appendix TN-8: Stability & Predictability of TNUoS tariffs**

#### **Stability of tariffs**

The Transmission Network Use of System Charging Methodology has a number of elements to enhance the stability of the tariffs, which is an important aspect of facilitating competition in the generation and supply of electricity. This appendix seeks to highlight those elements.

Each node of the transmission network is assigned to a zone. The result of this is to dampen fluctuations that would otherwise be observed at a given node caused by changes in generation, demand, and network parameters. The criteria used to establish generation zones are part of the methodology and are described in Paragraph [2.17].

These zones are themselves fixed for the duration of the price control period. The methodology does, however, allow these to be revisited in exceptional circumstances to ensure that the charges remain reasonably cost reflective or to accommodate changes to the network. In rare circumstances where such a re-zoning exercise is required, this will be undertaken in such a way that minimises the adverse impact on users. This is described in Paragraph [2.20].

In addition to fixing zones, other key parameters within the methodology are also fixed for the duration of the price control period or annual changes restricted in some way. Specifically:

- the expansion constant, which reflects the annuitised value of capital investment required to transport 1MW over 1km by a 400kV over-head line, changes annually according to RPI. The other elements used to derive the

expansion constant are only reviewed at the beginning of a price control period to ensure that it remains cost-reflective. This review will consider those components outlined in Paragraph [2.22].

- the expansion factors, which are set on the same basis of the expansion constant and used to reflect the relative investment costs in each TO region of circuits at different transmission voltages and types, are fixed for the duration price control. These factors are reviewed at the beginning of a price control period and will take account of the same factors considered in the review of the expansion constant.
- the locational security factor, which reflects the transmission security provided under the GB Security and Quality of Supply Standard, is fixed for the duration of the price control period and reviewed at the beginning of a price control period.

### **Predictability of tariffs**

National Grid revises TNUoS tariffs each year to ensure that these remain cost-reflective and take into account changes to allowable income under the price control and RPI. There are a number of provisions within National Grid's Transmission Licence and the CUSC designed to promote the predictability of annually varying charges. Specifically, National Grid is required to give the Authority 150 days notice of its intention to change use of system charges together with a reasonable assessment of the proposals on those charges; and to give users 2 months written notice of any revised charges. National Grid typically provides an additional months notice of revised charges through the publication of "indicative" tariffs. Shorter notice periods are permitted by the framework but only following consent from the Authority.

These features require formal proposals to change the Transmission Use of System Charging Methodology to be initiated in October to provide sufficient time for a formal consultation and the Authority's veto period before charges are indicated to users.

More fundamentally, National Grid also provides users with the tool used by National Grid to calculate tariffs. This allows users to make their own predictions on how future changes in the generation and supply sectors will influence tariffs. Along with the price control information, the data from the Seven Year Statement, and users own prediction of market activity, users are able to make a reasonable estimate of future tariffs and perform sensitivity analysis.

To supplement this, National Grid also prepares an annual information paper that provides an indication of the future path of the locational element of tariffs over the next five years. This analysis is based on data included within the Seven Year Statement. This report typically includes:

- an explanation of the events that have caused tariffs to change;
- sensitivity analysis to indicate how generation and demand tariffs would change as a result of changes in generation and demand at certain points on the network that are not included within the SYS;
- an assessment of the compliance with the zoning criteria throughout the five year period to indicate how generation zones might need to change in the future, with a view to minimising such changes and giving as much notice of the need, or potential need, to change generation zones; and

- a complete dataset for the DCLF Transport Model developed for each future year, to allow users to undertake their own sensitivity analysis for specific scenarios that they may wish to model.

In addition, National Grid will, when revising generation charging zones prior to a new price control period, undertake a zoning consultation that uses data from the latest information paper. The purpose of this consultation will be to ensure tariff zones are robust to contracted changes in generation and supply, which could be expected to reduce the need for re-zoning exercises within a price control period.