

**April 2002**

**Termination Amounts for NGC's  
customers at shared connection sites**

**Consultation document**

## Executive summary

The National Grid Company (NGC) charges generators, suppliers and directly connected customers for the transmission of electricity across its network. These charges are known as use of system charges. NGC also charges for the costs of assets which connect generators, distribution networks and directly connected customers to its transmission network. These are known as connection charges.

Should any party disconnect from NGC's transmission network they are liable to pay NGC any outstanding charges on the connection assets. These payments are termed Termination Charges. Termination Charges comprise the costs of removing assets and making good the site and also the equivalent to the unamortised Gross Asset Value (GAV) of connection assets (these latter set of costs are termed Termination Amounts).

Following NGC's Connection Terms Review (completed in January 1996) it sought to alter the method it uses to calculate Termination Amounts for users at shared connection sites. Innogy (formerly National Power) disputed NGC's revised method and in March 1997 the matter was referred to OFFER for determination.

In May 2001 Innogy withdrew its referral but said that it still retained its objections to the method for calculating Termination Amounts. This consultation paper deals with matters relating to Termination Amounts. Following this consultation a proposals statement will be published. Ofgem has imposed a condition on NGC as part of its approval of NGC's connection charging methodology<sup>1</sup> requiring NGC to review its methodology regarding Termination Amounts within three months of the publication of the proposals statement.

This document consults on the appropriate method for the calculation of Termination Amounts at shared sites. It invites views on the following two methods for calculating Termination Amounts:

- ◆ **Asset Neutrality** where the departing user pays for the remaining capital charges of any asset made redundant plus its share of capital charges of any shared assets. This is the method introduced by NGC following the Connection Terms Review.

---

<sup>1</sup> June 2001, *The National Grid Company: Approval of the Use of System and Connection Charging Methodologies*, Decision Document

- ◆ **Non Neutrality** the original method whereby the departing user pays for the remaining capital charges of any assets made redundant. This is the method in use prior to the Connection Terms Review.

## Table of contents

1. Introduction.....	1
2. Regulatory and Contractual Framework.....	4
3. Background.....	7
4. Issues for consideration .....	12
Appendix 1 Other factors affecting connection charges at shared sites.....	16
Appendix 2 The Left Hand Rule .....	20

# 1. Introduction

## *Termination Amounts*

- 1.1 NGC is the sole holder of a transmission licence in England and Wales. Under the terms of its licence NGC is required to set out the methods and principles upon which charges for disconnection from the transmission system (Termination Charges) are based.
- 1.2 Termination Charges comprise the costs of removing assets, making good the site and also the unamortised balance of Gross Asset Values (this is known as the Net Asset Values) of connection assets (the latter set of costs are termed Termination Amounts).
- 1.3 Following NGC's Connections Terms Review (CTR), which it completed in January 1996, NGC altered the method it used to calculate Termination Amounts. NGC made changes to its charging methods so as to protect remaining users at a shared connection site against increased capital elements of connection charges, following a termination of connection by another user at the same site.
- 1.4 In general the result of this change has been to increase the Termination Amounts of a user terminating its connection at a shared connection site. Innogy disputed the revised charges and together with NGC referred the dispute to OFFER in accordance with the provisions of Condition 10C(3) of NGC's transmission licence. However in May 2001 Innogy withdrew its referral, but made clear that it still objected to the revised method for calculating Termination Amounts and wished to see the matter resolved.
- 1.5 In June 2001 Ofgem issued its decision on NGC's proposed connection charging methodology, under the new Condition 10B (now Standard condition C7B) of NGC's licence. The document<sup>2</sup> noted that there remained a need for a review of Termination Amounts and that following a consultation exercise Ofgem would publish a proposals statement dealing with these matters.

---

<sup>2</sup> *The National Grid Company: Approval of the Use of System and Connection Charging Methodologies*, Decision Document, June 2001.

- 1.6 As part of its approval of NGC's Connection Charging Methodology Ofgem imposed a number of conditions on NGC. One of these was that NGC would have to take appropriate steps to review its charging methodology regarding Termination Amounts, in the light of Ofgem's statement. Any further modifications to its connection charging methodology will need to be made in accordance with condition C7B of NGC's licence.

### ***Structure of this document***

- 1.7 The document is structured as follows:
- ◆ chapter 2 describes the regulatory and contractual framework underlying Termination Amounts;
  - ◆ chapter 3 provides background information regarding NGC's connection charges, Termination Charges and Termination Amounts. It also sets out the background to the former dispute;
  - ◆ chapter 4 sets out the issues for consultation; and
  - ◆ appendix 1 outlines some situations, which are related to the issue of calculating Termination Amounts at shared connection sites.

### ***Responding to this document***

- 1.8 If you would like to express views on the issues raised in this consultation please ensure your responses reach Ofgem no later than **31 May 2002**. All responses will be made available in the Ofgem library. Therefore any confidential material should be included as an appendix and clearly marked as confidential. Replies should be addressed to:

Haren Thillainathan  
9 Millbank  
London  
SW1P 3GE  
Tel: 0207 901 7055  
Fax: 0207 901 7478  
E-mail: [haren.thillainathan@ofgem.gov.uk](mailto:haren.thillainathan@ofgem.gov.uk)

## Open forum

- 1.9 Ofgem will hold an open forum on **16 May 2002**. The purpose of the forum is to discuss the key issues raised in this paper which are essentially:
- ◆ the method for calculating Termination Amounts at shared sites;
  - ◆ any other matters related to Termination Amounts or Termination Charges; and
  - ◆ issues raised in appendix 1 of this document.
- 1.10 The forum will be held in conjunction with the May meeting of NGC's Transmission Charging Methodologies Forum (TCMF). Following the conclusion of the TCMF meeting the forum will begin at 2pm. Respondents who will attend the forum should notify Ofgem by **10 May 2002**.

## 2. Regulatory and Contractual Framework

### **Electricity Act 1989, as amended by the Utilities Act 2000**

- 2.1 The Electricity Act (the 'Act') provides the statutory framework for Ofgem and the licensing of generation, transmission, distribution and supply of electricity. The Act also places particular duties onto transmission licence holders including a duty to develop and maintain an efficient, co-ordinated and economical system of electricity supply and a duty to facilitate competition in the supply and generation of electricity.

### **The Competition Act 1998**

- 2.2 The Competition Act prohibits abuse of a dominant position including:
- ◆ directly or indirectly fixing prices or any other trading conditions; and
  - ◆ applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage.

### **Transmission licence**

- 2.3 NGC is the sole holder of a transmission licence in England and Wales. It owns and operates the national grid, which transports electricity at high voltage from generators to distribution networks and to customers connected directly to the transmission system.
- 2.4 Condition C7B of the transmission licence places an obligation upon NGC to determine a connection charging methodology. The charging methodology should contain all methods and principles used to calculate connection charges. NGC must produce a statement of its connection charging methodology and the form and content of the statement has to be approved by Ofgem. Chapter 5 of NGC's Statement of Connection Charging Methodology sets out the methods and principles used to calculate Termination Amounts.
- 2.5 NGC must keep the charging methodology at all times, under review ensuring that it achieves the Relevant Objectives. The Relevant Objectives for the



Connection Charging Methodology are set out in transmission licence Condition C7B(11) and are:

- ◆ compliance with the methodology facilitates effective competition in the generation and supply of electricity and (so far as is consistent therewith) facilitate competition in the sale, distribution and purchase of electricity;
- ◆ compliance with the methodology results in charges which reflect, as far as reasonably practicable, the costs incurred by the NGC in its transmission business;
- ◆ insofar as is consistent with the above, as far as is reasonably practicable, properly takes account of developments in NGC's transmission business; and
- ◆ insofar as is consistent with the above, facilitate competition in the carrying out of works for connection to NGC's transmission system.

2.6 Any modification made to the Connection Charging Methodology must be done in accordance with the procedures laid out in transmission licence Condition C7B(9) including:

- ◆ consultation on the proposed modification with the Connection and Use of System Code (CUSC) signatories for at least 28 days;
- ◆ a report sent to Ofgem detailing the proposed modification, responses to the consultation and a demonstration that the proposed modification would better achieve the Relevant Objectives; and
- ◆ the modification is implemented if Ofgem has not vetoed it within 28 days of receiving the report.

### **Connection and Use of System Code (CUSC)**

2.7 Under condition C7F of NGC's transmission licence it is required to establish arrangements for connection and use of system. NGC discharges these obligations through the CUSC and Bilateral Connection Agreements. NGC can only enter into arrangements for connection and use of system which conform with CUSC.

2.8 Section 2.14.7 of the CUSC obliges a user to pay NGC Termination Amounts if the user terminates its Bilateral Connection Agreement. Section 5.7 of the CUSC sets out the terms for a user wishing to terminate its connection to NGC's transmission system. A user that is disconnecting from NGC's transmission must:

- ◆ give no less than 6 months notice regarding the termination; and
- ◆ pay connection and use of system charges to the end of the financial year in which the termination occurs plus applicable Termination Charges including Termination Amounts.

## 3. Background

### *NGC's Connection Charges*

3.1 NGC's connection charges comprise two elements:

- ◆ a capital charge, which consists of depreciation and a return on capital employed; and
- ◆ a non capital charge, which consists of a maintenance charge and a share of the running costs incurred by NGC's transmission business.

### **Capital connection charges**

3.2 The capital base for a user's connection charges is the Gross Asset Value (GAV) of each connection asset. The GAV is the cost of the connection asset when the connection was made. The GAV is usually indexed each year using the RPI (although users may choose alternative forms of indexation).

### *Depreciation*

3.3 For the purposes of charging depreciation is usually calculated on a straight-line basis and assets (both pre and post Vesting) are assumed to have a depreciation period of 40 years. Thus, the annual charge for depreciation is normally 2.5 per cent of the GAV (users may agree alternative depreciation profiles).

### *Rate of return*

3.4 The Net Asset Value (NAV) is used to calculate the return on capital. The NAV is the unamortised balance of the GAV. A rate of return is applied to the NAV to derive the annual charge for the return on capital. As the NAV reduces over time with depreciation, this annual charge becomes smaller. The rate of return which is applied is determined by the form of indexation applied to the GAV. Where the GAV is indexed by the RPI it is 6 per cent where the GAV is revalued using the MEA index it is 7.5 per cent.

## **Non-capital connection charges**

### *Maintenance charges*

- 3.5 NGC identifies maintenance costs specific to a particular connection site and such costs form the Site Specific Maintenance Charge. To calculate the Site Specific Maintenance Charge NGC makes a forecast of the annual maintenance costs for the site based on historical accounting data. These forecast costs for the site are then apportioned across individual assets using the ratio of the asset GAV to total site GAV.

### *Transmission Running Costs*

- 3.6 Connections account for a proportion of the running costs (for example corporate overheads) incurred by NGC's transmission business. These costs can not be attributed to individual connection sites. Such costs are recovered from all users connected to the transmission system through the Running Cost Component (RCC). The RCC is calculated by dividing all running costs by the GAV for the transmission business. The RCC is then applied to each of the user's connection asset GAVs.

## **Shared connection sites**

- 3.7 At some connection sites there is more than one user. At such sites there may be an opportunity for users to share some of the connection assets. Connection charges for shared assets are apportioned between users on the basis of allocation factors. A user's allocation factor is derived from the application of the set of generic deemed asset requirement rules (known as the Left Hand Rule), as set out in Appendix 2.
- 3.8 A simple example of this allocation process at shared sites is illustrated below. There are two users (A and B) connected at the same site and both users are deemed to require two Main Transmission Incomer (MTI) bays. Using the Left Hand Rule the two bays would be identified for use by both the users, therefore each user would be allocated half of each bay giving them both an Allocation Factor of 0.5 of two bays. Accordingly each user would pay half of the connection charges associated with each bay.

### ***Termination Charges***

- 3.9 If a user terminates its connection or reduces its connected capacity it will be liable for associated charges, known as Termination Charges, which comprise of:
- ◆ the unrecovered capital costs of connection assets previously used by the terminating user, these costs are known as Termination Amounts;
  - ◆ costs associated with the termination of connection such as removal and making good the site; and
  - ◆ remaining connection and TNUoS charges for the financial year in which the termination occurs.
- 3.10 If any of the assets covered by the Termination Charges are subsequently reused, the terminating user is refunded an amount based on the lower of:
- ◆ the Termination Amount paid on the particular assets; or
  - ◆ the NAV attributed to such assets upon their reuse.

In both cases the final refund will be less any reasonable costs incurred by NGC for storage of the assets.

### **Termination Amounts**

- 3.11 NGC levies Termination Amounts so that it can recover the outstanding capital value of any connection assets made redundant by the disconnection of a user. As such Termination Amounts offset the risk NGC faces if a user departs before the end of the connection agreement. If NGC was not allowed to recover such costs it is likely that NGC would require a higher cost of capital under its price control.
- 3.12 The method for calculating Termination Amounts is set out in chapter 5 of NGC's Statement of Connection Charging Methodology. Prior to the implementation of CUSC the methodology was set out in Appendix E (section 4) of the Supplemental Agreements to the Master Connection and Use of System Agreement (MCUSA).

*Vesting to 31 March 1997*

- 3.13 The original method in MCUSA Appendix E stipulated that upon termination of its connection a User would pay NGC:
- ◆ the current NAV of each NGC connection asset made redundant (i.e. the capital cost of the asset less accumulated depreciation).

*Connections Term Review (CTR) 1994-96*

- 3.14 Between 1994 and 1996 NGC undertook a review of its connection charging methods, involving consultation with its users and other interested parties, NGC published its final proposals in January 1996. Termination Amounts were one of the specific issues NGC consulted on.
- 3.15 During the CTR some users complained that under the existing method remaining users at shared connection sites would face increased connection charges following terminations by other users at the site. The increased connection charges were due to the remaining user being liable for the full cost of previously shared connection assets. The example below illustrates how such a situation could have developed.
- 3.16 Using the earlier example (see paragraph 3.8), suppose that user A terminated its connection it would pay a Termination Amount relating to all connection assets made redundant. However, if the two bays, which were shared by both users are retained for the sole use of B, then user B would pay for all the connection charges (capital, maintenance etc) associated with the two bays.
- 3.17 In response to users' comments NGC proposed to modify the method of calculating Termination Amounts at shared sites. NGC stated that the aim of the revised method was to 'buffer' the remaining user in terms of capital connection charges. This revised method is described below.

*1 April 1997 onwards*

- 3.18 In April 1997, following the previous consultations NGC changed its method for calculating Termination Amounts and MCUSA Appendix E was amended to reflect the change. Upon termination of its connection a user would pay:

- ◆ the current NAV of each NGC connection asset made redundant; plus
  - ◆ the departing user's allocated share (if any) of the NAV of each asset remaining at the site.
- 3.19 The aim of this change in charging methods was to offer some protection to remaining users against termination by other users by safeguarding the level of the remaining user's capital charges. NGC stressed that the remaining user would still experience an increase in connection charges because it would incur all the maintenance charges on any remaining assets which were previously shared.

#### **Implementation of revised agreements 1996-97**

- 3.20 In accordance with its obligations under the MCUSA and Supplemental Agreements, NGC notified users in its October 1996 charging letter that it intended to change the basis for calculating Termination Amounts. The changes were intended to take effect from April 1997.
- 3.21 NGC subsequently put forward agreements to vary the Supplemental Agreements. NGC indicated that if users did not agree to the variations it would refer the dispute to OFFER for determination. A number of users objected to some of the proposed variations. NGC referred disputes that arose from these objections to OFFER. The DGES settled most of the disputes in a decision issued in March 1997<sup>3</sup>.
- 3.22 One company (Innogy) raised objections to NGC's proposals on the Termination Amounts clause. These matters were not dealt by the DGES' decision of March 1997 as the grounds for the dispute were still being clarified.
- 3.23 Innogy withdrew its referral regarding Termination Amounts in May 2001. However, Innogy stated that it still retained its objections to the revised method for calculating Termination Amounts. In particular, Innogy believed that an alternative approach could better achieve the Relevant Objectives of Connection Charging Methodology.

---

<sup>3</sup> Decision settling the terms of connection and use of system agreements between the National Grid Company plc and Enron Capital and Trade Resources Ltd., National Power plc, Nuclear Electric Ltd. and South Wales Electricity plc., March 1997

## 4. Issues for consideration

- 4.1 As explained in the previous chapter the debate regarding Termination Amounts at shared sites arose from the concern that connection charges could be adversely affected by the departure of another user from the same site. The change in the method for calculating Termination Amounts in April 1997 was intended to 'buffer' the remaining user with regards to its capital connection charges. Nevertheless, NGC's revised charging methods led to complaints from a major user.
- 4.2 This chapter sets out the two objectives that should underlie the calculation of connection charges and describes two methods for calculating Termination Amounts (paragraphs 4.7 - 4.13).

### *Objectives of connection charging*

#### **Cost reflectivity**

- 4.3 Connection charges should recover the costs of the connection assets. One aspect of cost reflectivity is the allocation of assets that makes up a user's connection. Where practicable users should not impose costs associated with their own decisions on other users. Connection charges based on an appropriate allocation of assets will provide accurate locational signals to prospective new entrants and will inform users' investment and operational decisions.

#### **Discrimination and competition**

- 4.4 At a simple level discrimination is where a business treats one set of customers more favourably than another and this difference is not properly justified. NGC might be discriminating if users face different connection charges with no reasonable difference in the cost of provision of these connections.
- 4.5 The non-discrimination Condition in NGC's transmission licence applies to use of system and provision of works for connections. However NGC must also have regard for the Competition Act with regards to non-discrimination in



connection charging and its Electricity Act duty to facilitate competition in generation and supply.

- 4.6 Depending on circumstances discrimination may not be inefficient or anti-competitive. However, it would be a concern if as a result of price or other discrimination certain firms received an undue competitive advantage over others.

### ***Termination Amounts at shared sites***

- 4.7 Two principles that could determine the method for calculating Termination Amounts (Asset Neutrality, Non Neutrality) are set out below.

#### **Asset Neutrality**

- 4.8 This is the principle that NGC has applied since April 1997, following the CTR. NGC stated that this principle aimed to buffer the remaining User's capital connection charges. Following the departure of a user at a shared site the remaining user would be neutral in terms of capital charges on connection assets.
- 4.9 NGC implemented this principle by allocating capital costs on redundant assets and a share of the remaining assets to the departing user to form its Termination Amount. The share of NAVs on remaining assets paid by the departing user is treated as a capital contribution from the remaining user on remaining assets. The intention is that the capital charges of the remaining user should remain unchanged.
- 4.10 Returning to the earlier example discussed in paragraphs 3.8 and 3.15 where two users A and B shared two MTI bays. Suppose user A terminated its connection, under asset neutrality method user A's Termination Amounts would include its share of the NAVs of the two MTI bays. User B's capital connection charges would remain unchanged though it would pay for all non-capital connection charges including the share previously paid by user A.

## **Non Neutrality**

- 4.11 This principle means that a user's connection charges may rise and fall as other users join and leave the connection site. In other words no user is neutral or buffered against changes in its capital charges.
- 4.12 Such a method for the calculation of Termination Amounts would be the same as that applied by NGC up to 31 March 1997. A user terminating its connection at a shared site would only pay for assets made redundant. The remaining user would pay all connection charges on all remaining assets. This is based on the assumption that all remaining assets are there for the use of the remaining user and that user would have had to pay for such assets had it been a sole user. Therefore although the remaining user's connection charges would rise if another user terminated, it is not paying anymore than it would do if it were a sole user.
- 4.13 To use the same example as in paragraph 4.10, if user A terminates its connection under the non neutral method user A would not pay any Termination Amounts on the two MTI bays assuming the two bays were still deemed to be required for user B. User B would then pay all capital charges including the share previously paid for by user A.

## ***Related issues***

- 4.14 The focus of this consultation is the method used to calculate Termination Amounts at shared sites. There are other situations where users may affect each other's connection charges aside from the calculation of Termination Amounts, these are outlined in Appendix 1.

## ***Views invited***

- 4.15 Views are invited on any of the issues raised in this paper and in particular on whether the calculation of Termination Amounts at shared sites should be based on the principles of asset neutrality or non-neutrality.
- 4.16 Respondents to this consultation may wish to include comments on the subjects outlined in Appendix 1. It is also open to respondents to comment upon other elements of Termination Charges or other related matters. There will be an

additional opportunity for people to put forward comments at the open forum (see paragraphs 1.9 and 1.10).

- 4.17 NGC has indicated that it intends to review its Connection Charging Methodology with the specific aim of simplifying the charging methods for shared connection sites. This should provide an opportunity to address any concerns users have on matters other than Termination Amounts.

## Appendix 1 Other factors affecting connection charges at shared sites

1.1 As mentioned in chapter 4 this appendix sets out other situations where the actions of users may affect the connection charges of other users at the same connection site. These situations arise from the generic methods NGC uses to calculate connection charges at shared sites.

### Calculation of allocation factors

1.2 Under normal circumstances assets at shared sites are allocated between users based on the Left Hand Rule. The Allocation Factor (AF), which determines each user's share of the assets and associated connection charges, reflects the asset requirements a user might have had had it been a sole user. In general, the user requiring more assets has a larger AF.

1.3 A user's AF is applied across all the connection assets (of the same type) to calculate its total connection charge. A user's AF and consequently its connection charges will be affected by the number of assets at the connection site even if these assets would not have been required if the user did not share the site.

1.4 This can be seen below using the following example. Two users (A & B) share two MTI bays, half each. Their allocation is shown below using the Left Hand Rule.

**Table 1**

User	MTI Bay		Allocation Factor
	1	2	
A	½	½	½ of all 2 bays
B	½	½	½ of all 2 bays

1.5 They are then joined by a new user (C) and the site now requires four MTI bays in total. Using the Left Hand Rule (see Appendix 2) and the users' configuration the AFs are determined as shown below.

**Table 2**

User	MTI Bay				Asset Allocation Factor
	1	2	3	4	
A	1/3	1/3			1/6 of all 4 bays
B	1/3	1/3			1/6 of all 4 bays
C	1/3	1/3	1	1	2/3 of all 4 bays

- 1.6 User A and user B’s asset allocation has fallen from half of two bays (or one bay each), to a sixth of four bays (or two thirds of a bay each). However the effects on connection charges are not so obvious. In terms of annual charges the rate of return on capital charges will be higher as the new bays have relatively higher NAVs.
- 1.7 The reason that user A and user B are paying a share of the connection charges on the new bays 3 and 4 is due to the way the allocation factors (AFs) are calculated and applied. A and B would only require bays 1 and 2 if they were sole users but their AFs are calculated and applied over all four bays to calculate their total connection charges.
- 1.8 The other elements of the connection charge (depreciation and maintenance and running costs) for user A and user B would probably fall due to the reduced asset allocation (a sixth of four bays compared to a half of two bays previously). The final position of A and B in terms of connection charges would depend on the scale of the increase in rate of return charge in relation to the decrease in the other elements of the other elements of the connection charge.

**Nominally Over Equipped Sites**

*Increasing connection charges*

- 1.9 Incoming users may force up the connection charges for incumbent users if their arrival causes the shared site to become ‘nominally over equipped’ (NOE). In such circumstances the combined requirements of the site are greater than the requirements of the individual users sharing that site.
- 1.10 In such situations the incoming user has the effect of tipping the capacity connected at site over the threshold (determined by the security standards) that

can be accommodated by existing connection assets. The allocation rules for NOE sites mean that all users at the site have to share the capital costs of all the connection assets.

- 1.11 Take the example of two users sharing two MTI bays and suppose a new user arrived at the site and that all three users combined have a capacity in excess of 1320 MW. Under transmission security standards an extra two bays would have to be installed. While all three users could typically share two bays because of the security standards and the combined requirements of the connectees at the site all three users have to share the costs of four bays, although they all benefit from a higher level of security. Under the NOE allocation procedures the AFs are determined as shown below.

**Table 3**

User	MTI Bays				Allocation Factor
	1	2	3	4	
A	1/3	1/3	-	-	1/3 (of all four assets)
B	1/3	1/3	-	-	1/3 (of all four assets)
C	1/3	1/3	-	-	1/3 (of all four assets)

- 1.12 Users A and B (the incumbents) could be worse off. This is because they now have to pay for a third of four assets (i.e. one and one third in total) compared to half of two assets (one asset) previously. Incumbent users A and B would have to pay the increased rate of return charges associated with the new assets 3 and 4. Other elements of the connection charge (depreciation, maintenance and running costs) will also increase due to the increased size of the asset base.

*Decreasing connection charges*

- 1.13 At termination NGC identifies all assets which can be made redundant and the costs of these form part of the departing user's Termination Amount. At an NOE site the departing user may reduce the capacity connected at the site to a level such that assets which were installed for overall site security are no longer required. In the example above suppose user A terminated its connection
- 1.14 In such circumstances, the remaining user stops paying any connection charge on redundant assets previously shared. Such a reduction in overall connection

charges would probably outweigh the increase in maintenance connection charges the remaining User incurs for the remaining assets. Hence a termination at shared site which is NOE is likely to result in the remaining User seeing a drop in its connection charges in total.

- 1.15 The departing user is not as adversely affected under the original method for calculating Termination Amounts. Originally the user would have only paid for assets made redundant, this would still include those assets that caused the site to become NOE. Under the present rules the departing user also has to pay for its share of the remaining assets. Therefore under the present rules upon a termination at a NOE site, the departing user experiences a greater increase in its Termination Amounts and the remaining user experiences a greater reduction in its connection charges.

#### **Bussing Points**

- 1.16 A Bussing Point is any substation connected with four or more 400kV or 275kV circuits (which are not connection assets). At sites identified as Bussing Points an adjustment is made whereby TNUoS charges are allocated a share of certain connection assets at the site. The reallocation of connection assets including those to TNUoS charges is done using the Left Hand Allocation Rule. As result of this adjustment connection charges of users at the connection site will be reduced.
- 1.17 A site may cease to be a Bussing Point because less than four circuits are required at the substation for example due to reconfiguration elsewhere on the transmission system. Therefore a share of the connection assets is no longer allocated to TNUoS, so these assets are reallocated amongst the connectees at the site. Consequently connection charges of users at the site will increase.

## Appendix 2 The Left Hand Rule

*Taken from NGC's Statement of Connection Charging Methodology*

### APPLICATION OF THE LEFT HAND RULE

The left-hand rule is a general principle of the allocation process. It allows the allocations to be applied in a standard manner at different connection sites. For example, if a connection site has three customers connected, customers A, B and C, with requirements for a particular type of connection asset of 1, 4 and 2 respectively as read from the appropriate table. The allocation would be :

	1	2	3	4	Allocation
A[1]	$\frac{1}{3}$	-	-	-	$= \frac{1}{3} / (\frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{2} + \frac{1}{2} + 1 + 1)$ $= \frac{1}{3} / 4$ $= 0.083$ of all the bays
B[4]	$\frac{1}{3}$	$\frac{1}{2}$	1	1	$= (\frac{1}{3} + \frac{1}{2} + 1 + 1) / 4$ $= 0.708$ of all the bays
C[2]	$\frac{1}{3}$	$\frac{1}{2}$	-	-	$= (\frac{1}{3} + \frac{1}{2}) / 4$ $= 0.208$ of all the bays