

NORTHERN IRELAND ELECTRICITY plc



**STATEMENT OF CHARGES FOR CONNECTION**

**TO THE**

**NORTHERN IRELAND ELECTRICITY PLC**

**ELECTRICITY TRANSMISSION**

**AND**

**DISTRIBUTION SYSTEM**

**April 2005**

**Northern  
Ireland  
Electricity**



Transmission and Distribution Business

## NORTHERN IRELAND ELECTRICITY plc

### **STATEMENT OF CHARGES FOR CONNECTION TO THE NORTHERN IRELAND ELECTRICITY plc ELECTRICITY TRANSMISSION AND DISTRIBUTION SYSTEM**

This statement describes the terms and conditions under which persons may obtain a new, augmented or reduced connection to the transmission and distribution system (the system) of Northern Ireland Electricity plc (NIE) either on behalf of their customer(s) or for themselves. Where persons require an alteration to their connection for their specific benefit, then the terms which apply are described in Appendix 1 of this statement.

Northern Ireland Electricity plc is regulated by The Northern Ireland Authority for Energy Regulation (The Authority) under the Electricity (Northern Ireland) Order 1992 as amended by the Energy (Northern Ireland) Order 2003. This document is produced in accordance with the Transmission and Public Electricity Supply Licences (the Licences) granted under the 1992 Order and has been approved by The Authority. Words and expressions used in this statement have the definitions given to them in the Order (unless otherwise defined herein) and shall be construed accordingly. The Licences require that the terms and charges contained in this statement will be reviewed at least once each year. Charges and costs shown are current at the time of publication but are subject to change without notice following revision of the Statement and its approval by The Authority, except as otherwise provided by agreement.

In this statement an over 1MW Customer is a customer whose maximum monthly demand in the 3 months of the highest maximum demand on the NIE system in each period of 12 consecutive months exceeds 1MW.

Any person may apply for a connection to the system for the purposes of receiving a supply of electricity. Persons entitled to seek connection to the system for the purposes of generation of electricity or for supplying electricity are those who are authorised by licence or by exemption under the Order to supply or generate electricity, hereinafter referred to as, respectively, authorised electricity operators and authorised generators.

Persons seeking connection to the system should apply in writing in the first instance to the address given at the end of this statement. NIE will offer terms for connection as soon as practicable after receipt of an application and in any case within 3 months of receipt of all relevant information.

For authorised generators and over 1MW customers any offer made by NIE in accordance with the Grid Code shall remain valid for 3 months unless accepted before the expiry of such period and shall lapse thereafter. During the period of its validity the offer shall at all times be conditional on the continuing availability of the necessary capacity within the NIE system and at the System Connection Point.

Attached to this statement are schedules of significant cost items, which may be relevant to the calculation of connection charges. In addition to charges for connection and charges for alterations

system. Terms and conditions for use of the system are contained in a separate statement, which is available from NIE on request. A charge of £5.00 exclusive of VAT and post and packing will be payable for each copy of this statement or the separate Statement of Charges for Use of the NIE System which is provided in accordance with a request.

Persons being connected to the system may be required to enter into an agreement with NIE, setting down the specific terms and conditions, which will apply. While such terms and conditions will be consistent with this statement, the agreement will take precedence in the event of any inconsistency with the statement.

The connection agreement will set out NIE's obligations regarding the connection and will require the connected party to pay all and any charges due in respect of the connection as described in this statement and the accompanying schedules.

Connection agreements for authorised generators will also require compliance with the relevant provisions of the Grid Code. Connection agreements for over 1MW customers will also require the connected party to comply with the provision of certain parts of the Grid Code. A copy of the Grid Code may be downloaded, free of charge, from the SONI web site [www.soni.ltd.uk](http://www.soni.ltd.uk). Persons authorised by licence or exemption to supply electricity will also be required to enter into a use of system agreement.

Where the person seeking connection is not satisfied with the terms offered and agreement with NIE cannot be reached within a reasonable time, either party may request determination of any of the terms and conditions of connection by The Authority, 42 Fountain Street, Belfast, BT1 5EE.

This statement is without prejudice to the provisions of the Order.

## **PRINCIPLES FOR CHARGING FOR CONNECTION TO THE SYSTEM**

1. Where any electric line or electrical plant is provided or installed for a new, augmented or reduced connection by NIE at the request of a party in relation to a connection to the system, a connection charge will be levied by NIE on that party in accordance with this statement and the schedules attached to it. The connection charge is normally payable in full in advance. In certain cases, it may be possible to agree an annual charge designed to recover the cost of connection and give a reasonable rate of return over a period to be mutually agreed.
2. The connection charge will be based on the total costs to NIE of the work to be done and the assets to be installed for the specific benefit of the party seeking the connection. (NIE Connection Assets).
  - (a) For customers other than over 1MW customers or authorised generators these costs may include amounts for the capitalised cost of the anticipated operation, repair and maintenance of the assets required for the connection. The connection charge payable will, except in the circumstances described in paragraphs 13, 14 and 15 be 60% of the total costs so calculated, with the balance to be recovered through the anticipated charges for use of the system. This applies to both single and multi occupancy

authorised generators the replacement of assets will be covered by the use of system charge.

- (b) For authorised generators and for over 1MW customers the connection charge payable will be 100% of the relevant costs. These costs may include amounts for the installation of the appropriate additional metering and for the costs of operation and maintenance of the NIE Connection Assets. In certain cases, it may be possible to agree an annual service charge for the anticipated costs for operation, repair and maintenance. For over 1MW customers the necessary replacement of assets which have been provided since vesting for the specific benefit of the connected party will be at the expense of that party.
3. The work to be done and the connection charge payable will depend on the requirements of the party seeking the connection, on the condition of the system at the point of connection and on other characteristics relevant to the connection. A statement showing circuit capacity and loading on specified parts of the system and other relevant information will be provided on request, subject to the person requesting such a statement agreeing to pay a charge to cover the estimated costs of preparing it. NIE reserves the right to assess the terms applicable in cases where the normal criteria may not apply following consultation with the applicant or where NIE has reasonable grounds for concluding that the proposed connection would reduce the security of the system to a level below the standard required by NIE's Licence Standards.
  4. The costs to be recovered in the connection charge will be determined from the estimated costs of the minimum scheme which would be designed to meet the requirements of the connection and for the sole benefit of the party being connected, consistent with sound engineering practices. The minimum scheme must not result in a deterioration, of supply for existing customers.
  5. Assets on the NIE system at April 1992 are funded through Use of System charges. A new customer will not therefore be charged through his connection charge for pre-April 1992 plant, equipment or cabling which is utilized as part of the connection arrangement, even if they require to be refurbished or replaced.
  6. Customers will not pay for assets, which other customers may reasonably expect to benefit from except where standard sizes are appropriate. Where reinforcement is required at transmission levels to meet a customer's demand, the charge will be based on commercially available plant rather than on NIE's standard sizes.
  7. Where NIE carries out work and installs assets of greater size and capacity than the practicable minimum scheme required for that connection, the costs in excess of the minimum scheme will normally be borne by NIE. Where the minimum scheme is capable of accommodating additional connection, the costs of the scheme will be apportioned among the relevant parties.
  8. Replacement of pre-vesting assets should not be charged to a customer. Use of System charges fund the replacement of all pre-vesting assets, therefore where increased transformer capacity, for example, is required to meet the demand of a customer, the connection charge will be based on the cost difference of new transformers. The cost of carrying out the

then a customer will not be asked to contribute, through his connection charge, to this future capacity i.e. for chargeability purposes it is assumed that the capacity exists currently. However, if it is necessary, due to the customer's demand, to advance the proposed scheme, and the cost of the advancement of capital spend is less than the contribution towards the minimum scheme to meet the customer's demand today, then the cost of the advancement will be chargeable to the customer.

10. Connection charges will be limited to charges for reinforcement at the voltage level of connection and the level immediately above i.e. a customer requiring a connection at 33,000 volts will contribute to any necessary minimum reinforcement on the 110,000 volt and 33,000 volt systems whereas a customer requiring a low voltage connection will contribute to reinforcement on the 11,000 or 6,600 volt system and the low voltage network. Where a developer requires the provision of a distribution infrastructure to meet existing or future demand then the connection charge will include for necessary reinforcement at the voltage level immediately above the distribution infrastructure provided for the development.
11. Items of significant cost are identified in Schedules A1 and A2. If requested, NIE will provide an estimate of the cost of the connection, identifying the costs of such items consistent with the information in the Schedules. Where a detailed study is required prior to design of the scheme, NIE will agree with the applicant in advance the relevant study costs and their apportionment.
12. For connections at voltages of less than 22,000 volts estimated costs will be on a firm price basis. For other connections NIE will consider a range of options including firm price and indicative price connection agreements. In an indicative price agreement NIE will estimate the level of connection charges and in the event the user will pay charges based on the actual outturn asset costs. In a firm price agreement NIE will again estimate the level of the charges and the user will pay this amount irrespective of the outturn cost. In both cases the estimates will contain elements covering engineering costs, interest during construction, a reasonable rate of return on the capital involved and depreciation. For firm offers the year by year movement of the charges will be related to the movement in the retail price index, whereas for indicative offers the charges will be related to the movement of the current cost accounting value of equivalent assets.
13. Customers seeking a connection for temporary supplies will be charged the full cost of the work to be done and the assets to be installed for the purposes of making the connection. A portion of the connection charge in respect of assets which are recoverable in a cost effective manner by NIE at the termination of the supply may be waived or refunded at the discretion of NIE as negotiated between the parties and described in the specific connection agreement.
14. Where the nature of the connection suggests that it may be necessary to secure adequate cost recovery NIE may seek a guarantee in respect of the contribution from any use of system revenue towards connection costs. Should a guarantee not be forthcoming NIE reserves the right to levy the full cost of the connection in advance.

- 15 Where the connection is required for the purpose of giving a supply which will be taken up over a number of years, or where the extent to which the supply will be taken up is not reasonably ascertainable at the time of connection, the costs of the connection will normally be payable in full in advance. In such cases, to the extent that the supply is taken up within a certain period, normally 3 years, a rebate on the connection charge may be payable in respect of advance payments to the extent that relevant contributions have accrued or are likely to accrue as the supply is taken up.
- 16 Where, on request, a connection is made to a standard of security different to that specified in NIE's Licence Standards, the terms described in the statement and the attached schedules are not a reliable guide to the charges, which will apply. Persons seeking such a connection should contact NIE at the address below. The approval of The Authority is required for connections at a low standard of security.
- 17 The costs of providing lines or plant to meet any abnormal features or special supply requirements of the connection including capitalised operation and maintenance will be recovered in full through the connection charge. An illustrative list of abnormal features is contained in Schedule B.
- 18 Where the party seeking connection has installed or intends to install on-site generation capacity and seeks connection to the system for the purposes of taking a supply from the system at any time (either intermittent or continuous), the principles for determining the charge for connection will be in accordance with this statement. Such persons should contact NIE to discuss the prevailing requirements of the Licences and the Grid Code, which relate to on-site generation.
- 19 As indicated above, connection charges are based upon the cost of the assets installed for the benefit of the party seeking the connection. In certain circumstances, however, the party seeking connection may be required to make a payment in respect of assets which have been installed previously and which are used for the purpose of giving the supply to him. Any such payment, less NIE's reasonable administrative expenses, will be refunded to the party for whose benefit the assets in question were originally installed.
- 20 If a customer wishes to change supplier then, unless he already has a separate connection agreement, it will be necessary for him to enter into such a separate agreement. This will cover the terms upon which he may remain connected and will also provide for the recovery of any outstanding connection charges, which have not yet been paid under existing arrangements.
- 21 Where a supplier or customer wishes a supply to be permanently de-energised, NIE will arrange to de-energise the system connection point and read the metering equipment, where appropriate, for billing purposes. No charge will be made for this service if carried out during normal working hours and following reasonable notice except as provided by agreement.
- 22 Where temporary de-energisation (and subsequent re-energisation) results from the failure by a supplier or customer to comply with the terms of their use of system agreement or connection agreement then the costs of such action shall be paid by the customer. Where

- 23 Where it becomes necessary to disconnect a customer (that is to have NIE's equipment removed from site) for any reason, any payments still owed by the customer or the supplier in respect of initially providing that connection will become due forthwith.
- 24 On termination of the connection agreement, NIE retains the right to remove its equipment from site. Where it is cost effective to do so, NIE will remove such equipment at no charge to the customer. Assets which it is not cost effective to recover (eg buried cables) will normally be made safe and left on site, but if the customer requires NIE to remove them, the cost of removal, less any scrap value, would be payable by the customer. All such equipment will remain the property of NIE unless otherwise agreed in writing with NIE, but should the assets later be employed a refund of part of the connection charge will be paid to the original customer. The refund will be calculated as the net current cost accounting asset value at the time the asset is brought back into use, less the cost of maintaining and storing the asset while out of service and NIE's reasonable administration expenses. NIE will maintain a register of such plant where a refund may be pending.

#### APPENDIX 1

Where a person requires an alteration to his connection where such alteration is for his specific benefit, then a charge will be levied by NIE, which will be based on 100% of the relevant costs. Such charges will be in accordance with Schedule A2 of this statement.

**SCHEDULE A1**

**TRANSMISSION SYSTEM COSTS**

Schedule of significant cost items for connection to the NIE Transmission System.

<b>ITEM</b>	<b>CONNECTION TO AN EXISTING SUBSTATION</b>	<b>COST</b>
A	275kV Feeder Circuit Bay (DBB)	£0.536M
B	110kV Feeder Circuit Bay (DBB)	£0.303M

<b>ITEM</b>	<b>OVERHEAD LINE CIRCUITS</b>	<b>COST</b>
C	275kV Double Circuit Steel Tower - 10km (2272 amps/circuit autumn rating - 75 <sup>0</sup> C)	£6.50M
D	110kV Double Circuit Steel Tower- 10km (661 amps/circuit - autumn rating - 75 <sup>0</sup> C)	£1.28M
E	110kV Single Circuit Wood Pole - 10km (661 amps/circuit - autumn rating - 75 <sup>0</sup> C)	£0.856M

<b>ITEM</b>	<b>110/33kV RURAL (OUTDOOR) SUBSTATIONS - NEW</b>	<b>COST</b>
F*	Dual 45MVA Transformer Installation	£1.38M
G*	Dual 90MVA Transformer Installation	£1.66M

**SCHEDULE A2**  
**DISTRIBUTION SYSTEM COSTS**

Schedules of significant cost items for connection to the NIE Distribution System.

<b>SERVICES</b>	<b>ILLUSTRATIVE COST</b>	
	<b>FROM £</b>	<b>TO £</b>
Low voltage single phase 100A service cable (10m laid direct in ground incl. jointing)	502	768
Low voltage three phase 100A service cable (10m laid direct in ground incl. jointing)	540	805
Low voltage three phase 400A service cable (10m laid direct in ground incl. jointing)	691	1003
<b>MAINS EXTENSION - UNDERGROUND CABLE</b>	<b>FROM</b>	<b>TO</b>
MV three phase underground cable (10m laid direct in ground incl. jointing)	902	1238
11kV three phase underground cable (10m laid direct in ground incl. jointing)	1614	1969
33kV three phase underground cable (10m laid direct in ground incl. jointing)	8898	14200
<b>MAINS EXTENSION - OVERHEAD LINE</b>	<b>FROM</b>	<b>TO</b>
11kV single phase overhead line (1 km of overhead line using mechanical erection techniques)	*7571	11090
11kV three phase overhead line (1 km of overhead line using mechanical erection techniques)	10634	15664
33kV three phase overhead line (1 km of overhead line using mechanical erection techniques)	22997	29900

- NOTES:-**
1. Above costs make provision for excavation, backfilling and permanent reinstatement only of cable track where relevant.
  2. These costs are not necessarily directly proportional to length.
  3. In general NIE does not quote a party for excavation and reinstatement on his own property.
  4. 33kV three phase underground cable costs are based on XLPE cable
- \* This cost allows for mechanical pole erection and manual conductor stringing

## **PLANT**

1000kVA 11/6.6/.4 kV transformer together with ring Main Unit and 6 way LV Fuse Cabinet.	*£20536	(excluding civil works and kiosk shell)
800kVA 11/6.6/.4kV transformer together with Ring Main Unit and 6 way LV Fuse Cabinet.	*£19107	(excluding civil works and kiosk shell)
2HV switches and I Circuit Breaker (suitable for 11 or 6.6kV supply for loads above 1.0MVA).	*£18732	(Customer responsible for provision of necessary switchgear accommodation)
HV Ring Main Unit and Metering Unit (suitable for 11 or 6.6kV supply for loads up to 1.0MVA - 1 transformer installation only).	*£14300	(Customer responsible for provision of necessary switchgear accommodation)
HV Ring Main Unit and Metering Unit (suitable for 11 or 6.6kV supply for loads up to 200 Amps and more than 1 transformer installation).	*£14300	(Customer responsible for provision of necessary switchgear accommodation)
100kVA 11/.4kV transformer (suitable for small industrial supply).	£4337	(£5095 including pole change to stout pole)
25kVA 11/.24kV transformer (suitable for domestic supply)	£1757	
16kVA 11/.24kV transformer (suitable for domestic supply)	£1592	

**NOTE:-** \*The above are exclusive of in-feed HV cable costs

## **PRIMARY 33/11KV SUBSTATION**

	<b>FROM</b>	<b>TO</b>
2 off 33/11kV transformer substation complete with 5 panel 33kV switchboard and 8 panel 11kV switchboard	£491,845	£645,660 (excluding civil works)

### **NOTES:-**

- ( a ) Reference should also be made to Schedule B but this should not be regarded as a comprehensive list.
- ( b ) Connections provided at more than 11kV usually require special consideration and may require special equipment. It is recommended that NIE appraise these individually to determine the likely costs involved.

## **CONNECTION CHARGES**

For new housing developments of 12 or more dwellings, and for extension to existing developments of fewer dwellings, individual dwellings will attract a Standard Connection Charge of £315. This charge assumes the developer will provide, without charge to NIE all low voltage cable trenching and backfilling including service cable trenching and backfilling but excluding any system development work unrelated to the provision of electricity supplies to the development. No further allowances can be made against this figure.

## SCHEDULE B

### **ILLUSTRATIVE LIST OF ABNORMAL SERVICES WHICH MAY BE REFLECTED IN THE CONNECTION CHARGE,**

- 1 Failure to provide and/or install ducts to facilitate the installation of services into premises.
- 2 Work unable to be progressed in an orderly fashion in accordance with normal engineering policies and practices thus imposing additional costs. Where such circumstances arise as a result of action or actions that the customer has taken or failed to take, the customer will be informed of the extent of the additional costs likely to be incurred.
- 3 Transformer/substation sites not provided to NIE in suitable locations at nominal prices or rents, taking account of cable access as well as access by personnel.
- 4 Failure to provide all necessary civil work including ducts, access ways, cable chases and covers, etc in multiple occupancy premises.
- 5 "Dirty" loads which affect the on-going security and standard of service on the system. Additional associated costs will be charged to the customer causing the abnormality. The Northern Ireland Grid Code sets out the standards to be met by customers connecting such loads. These standards are listed below:-

- |     |          |   |
|-----|----------|---|
| 1.  | ER P2/5  | SECURITY OF SUPPLY<br>AS AMENDMENT (NIE ISSUE 2)  |
| 2.  | PLM-SP-1 | PLANNING STANDARDS OF SECURITY FOR THE CONNECTION OF<br>GENERATING STATIONS TO THE SYSTEM (ISSUE 1)<br>AS AMENDMENT (NIE ISSUE 2) |
| 3.  | PLM-ST-4 | CEGB CRITERIA FOR SYSTEM TRANSIENT STABILITY STUDIES (ISSUE 1)<br>AS AMENDMENT (NIE ISSUE 2)                                      |
| 4.  | PLM-ST-9 | VOLTAGE CRITERIA FOR THE DESIGN OF THE 400kV<br>AND 275kV SUPERGRID SYSTEM (ISSUE 1)<br>AS AMENDMENT (NIE ISSUE 2)                |
| 5.  | ER-P28   | PLANNING LIMITS FOR VOLTAGE FLUCTUATIONS  |
| 6.  | ER-P16   | EHV OR HV LIMITS FOR VOLTAGE FLUCTUATIONS   |
| 7.  | ER-P29   | PLANNING LIMITS FOR VOLTAGE UNBALANCE   |
| 8.  | ER-G5/3  | LIMITS FOR HARMONICS  |
| 9.  | ER-G12/2 | APPLICATION OF PROTECTIVE MULTIPLE EARTHING TO LOW VOLTAGE<br>NETWORKS  |
| 10. | EPM-1    | OPERATIONAL STANDARDS OF SECURITY OF SUPPLY (NIE ISSUE 2)   |

Further information concerning these standards is obtainable from NIE Networks (02890 661100).

## **FACTORS INFLUENCING COSTS AND CHARGES**

1. Statutory and other standards governing the system.
2. Length of cable/line required from existing system.
3. Size of customer demand in relation to available capacity of existing system and whether the connection is by underground cable or overhead lines.
4. Whether any extension or reinforcement of the existing system is by underground cable or overhead lines.
5. Type of ground requiring excavation; type and extent of reinstatement necessary; need for road crossings.
6. Availability of wayleaves/easements for cables/lines including any planning consents.
7. Availability of suitable substation sites including any necessary planning consents.
8. Necessity of overtime working.

**NOTE:** These items should not be regarded as a comprehensive list.

## **ITEMS INCLUDED IN COSTS**

Provision and installation of all electric lines and electrical plant required to make the connection. This includes the Company's provision at on-costed prices of equipment, labour and materials, installation costs, and transport plus all other overheads including the cost of the design and specification of the connection scheme requirements. It does not include costs of permanent reinstatement.

## **ADDRESS AND TELEPHONE NUMBERS**

### Applications for Electricity Supply or Alterations

Northern Ireland Electricity plc 08457 643 643  
57 Dargan Road  
BELFAST  
BT3 9JU

Northern Ireland Electricity plc 08457 643 643  
Carn Industrial Estate  
CRAIGAVON  
BT63 5QJ

Northern Ireland Electricity plc 08457 643 643  
Pennybridge Industrial Estate  
Larne Road  
BALLYMENA  
BT42 3HB

### Use of System and Network Enquiries

Northern Ireland Electricity plc 028 9066 1100  
Fortwilliam House  
Edgewater Office Park  
Edgewater Road  
BELFAST  
BT3 9JQ

### World Wide Web

Northern Ireland Electricity plc [www.nie.co.uk](http://www.nie.co.uk)