



**NIE PLC**

**TRANSMISSION CHARGING STATEMENT**

**MARCH 2008**



---

**TABLE OF CONTENTS**

	Page
<b>1 Introduction .....</b>	<b>1</b>
<b>2 General System Charges .....</b>	<b>3</b>
<b>3 Site Specific Charges .....</b>	<b>4</b>
<b>4 Connection Assets .....</b>	<b>6</b>
<b>5 Least Cost Technically Acceptable Connection Design .....</b>	<b>7</b>
<b>6 Application Fees and Feasibility Studies .....</b>	<b>8</b>
<b>7 Disconnection, De-energisation and Decommissioning Charges .....</b>	<b>9</b>
<b>8 Indicative Charges .....</b>	<b>10</b>
<b>9 Contact Details.....</b>	<b>11</b>
<b>10 Definitions .....</b>	<b>12</b>
<b>Table 1 – Construction Offer Application Fee .....</b>	<b>15</b>
<b>Table 2 – Indicative Costs.....</b>	<b>16</b>
<b>Figure 1 – Generator Connection .....</b>	<b>18</b>
<b>Figure 2 – Load Connection .....</b>	<b>19</b>



## 1 Introduction

- 1.1 NIE plc is a subsidiary of Viridian plc and is the owner of the Northern Ireland **Transmission System**. It is authorised to participate in the transmission of electricity by means of a licence issued by The Department of Enterprise, Trade and Investment (the “**Department**”), under Article 10(1)(b) of the Electricity (Northern Ireland) Order 1992 (the “**Order**”). It is regulated by the Northern Ireland Authority for Utility Regulation (the “**Authority**”).
- 1.2 Under its **Transmission Licence** NIE is responsible for planning, developing and maintaining the **Transmission System** in Northern Ireland, a system consisting of some 2,000 circuit kilometres of 110kV and 275kV overhead line and cable with a maximum demand of about 1,850MW.
- 1.3 NIE is required by Condition 22 of its **Transmission Licence** to prepare (and obtain the **Authority’s** approval to) a statement (or statements) setting out the basis upon which charges will be made to the **Transmission System Operator**:
- 1.3.1 for the provision of **Transmission Services**; and
- 1.3.2 in relation to works referred to in Condition 20 of NIE’s licence, covering **SONI Construction Applications**.
- 1.4 This statement is published to meet that obligation.
- 1.5 This statement is required to be in such form and contain such detail as shall be necessary to enable the **Transmission System Operator** to make a reasonable estimate of the charges to which it would become liable for the provision of the services referred to in sub-paragraph 1.3.
- 1.6 This statement is required to include:
- 1.6.1 a schedule listing those items (including the carrying out of works and the provision and installation of electric lines or electrical plant or meters) of significant cost liable to be required for the purpose of connection (at entry or exit points) to the **Transmission System** for which **Site Specific Charges** may be made or levied and including (where practicable) indicative charges for each such item and (in other cases) an explanation of the methods by which and the principles on which such charges will be calculated;
- 1.6.2 the methods by which and the principles on which **Site Specific Charges** will be made in circumstances where the electric lines or electrical plant to be installed are (at NIE’s discretion) of greater size or capacity than that required for use of system by the person seeking connection;
- 1.6.3 the methods by which and the principles on which any charges (including any capitalised charge) will be made for maintenance and repair required of electric lines, electrical plant or meters provided and installed for making a connection to the **Transmission System**;
- 1.6.4 the methods by which and the principles on which any charges will be made for
-

the provision of special metering or telemetry or data processing equipment by NIE for the purposes of enabling any person which is bound to comply with the **Grid Code** to comply with its obligations in respect of metering thereunder, or for the performance by NIE of any service in relation thereto;

- 1.6.5 the methods by which and principles on which any charges will be made for disconnection from the **Transmission System** and the removal of electrical plant, electric lines and ancillary meters following disconnection; and
  - 1.6.6 such other matters as shall be specified in directions issued by the **Authority** from time to time.
- 1.7 Site specific charges for those items referred to in sub-paragraph 1.6 shall be set at a level which will enable NIE to recover:
- 1.7.1 the appropriate proportion of the costs directly or indirectly incurred (or to be incurred) in carrying out the works, extension or reinforcement in question and in providing, installing, maintaining and repairing (and, following disconnection, removing) the electrical lines, electrical plant, meters, special metering, telemetry, data processing equipment or other items in question; and
  - 1.7.2 a reasonable rate of return on the capital represented by such costs.
- 1.8 NIE may periodically revise the information set out in and, with the approval of the **Authority**, alter the form of this statement and shall, at least once in every year revise this statement in order that the information set out herein continues to be accurate in all material respects. Each such revision requires to be approved by the **Authority** and shall not become effective until approved by the **Authority**.
- 1.9 A copy of this statement can be obtained from NIE's website at [www.nie.co.uk](http://www.nie.co.uk). A paper copy can also be obtained from NIE on payment of a reasonable charge. Contact details are contained in section 9.
- 1.10 Expressions used in this statement have the definitions given to them in the **Order** unless otherwise defined herein and shall be construed accordingly. Terms which are capitalised and in bold type are defined in section 10 of this document.

**2 General System Charges**

- 2.1 NIE shall recover the cost of providing **Transmission Services** from SONI through **General System Charges**.
- 2.2 The **General System Charges** levied on SONI will be set to recover the regulated transmission revenue approved by the **Authority** for each tariff period consistent with the price control revenue restriction set out in Annex 2 of NIE's **Transmission Licence**.
- 2.3 In respect of each tariff period, NIE shall provide SONI with details of **General System Charges** for that tariff period as soon as reasonably practicable after their approval by the **Authority**.
- 2.4 NIE will invoice SONI monthly for **General System Charges** in accordance with the monthly charging schedule approved by the **Authority** for that tariff year.

---

### 3 Site Specific Charges

- 3.1 Where SONI requires **Connection Assets** to be installed and enters into a **Construction Agreement** with NIE, SONI will be required to pay for:
- 3.1.1 either the estimated or the outturn cost of new **Connection Assets**, as defined in section 4;
  - 3.1.2 the estimated or outturn cost of decommissioning transmission assets resulting from the new or modified connection, if any; and
  - 3.1.3 certain pass-through costs which will be set out in the **Construction Offer**. For example, any environmental planning costs, any costs incurred in acquiring planning consents, any costs incurred in complying with any conditions of planning consents, any external legal costs, any costs incurred in seeking, obtaining and paying for wayleaves or easements and any costs relating to exceptional land conditions or exceptional civil works.
- 3.2 Where SONI advises NIE that it wishes to pay the estimated cost of the works, NIE will provide as part of the **Construction Offer** an estimate of the **Site Specific Charge**, identifying the costs of the main items of expenditure in a manner consistent with the level of detail provided in Table 2 and SONI will be charged this amount irrespective of the outturn cost, subject to any price adjustment mechanism(s) set out in the **Construction Offer**.
- 3.3 Where SONI advises NIE that it wishes to pay the outturn cost of the works, SONI will provide as part of the **Construction Offer** an estimate of the **Site Specific Charge**, identifying the costs of the main items of expenditure in a manner consistent with the level of detail provided in Table 2 and, in this case, SONI will be charged the actual outturn cost. The detail of the actual outturn costs provided to SONI will be consistent with the level of detail provided in Table 2.
- 3.4 The estimate provided to SONI, as set out in sub-paragraphs 3.2 or 3.3, will contain elements covering engineering costs and a reasonable rate of return on any capital outlay in excess of sums received.
- 3.5 For firm price offers where the works are completed over a significant period of time after the acceptance of the **Construction Offer** the actual **Site Specific Charge** may be adjusted in line with the **Retail Price Index** or in line with another appropriate index, such as a London Metal Exchange price index. Any price adjustment mechanism will be set out in the **Construction Offer**.
- 3.6 Notwithstanding sub-paragraph 3.1, all assets which were installed on the Northern Ireland **Transmission System** at April 1992 are funded through use of system charges. SONI will not therefore be charged a **Site Specific Charge** for pre-April 1992 plant, equipment or cabling which is utilised as part of the local connection arrangements, even if they require to be refurbished, modified or replaced due to asset condition or for wider system needs. However, where SONI requests that any pre-April 1992 plant, equipment or cabling is refurbished, modified or replaced to meet the requirements of a **User** then the new or modified assets will be defined as **Connection Assets** and a **Site**

**Specific Charge** will be levied in accordance with this section 3.

- 3.7 Where SONI requires that works which are planned to be constructed, as set out in the **Transmission System Capacity Statement**, be advanced or altered, then SONI will be charged for any incremental costs incurred by deviating from the original plan, whether for **Connection Assets** or **System Assets**, including any advancement costs.
- 3.8 The **Site Specific Charge** will include an element to provide for the operation and maintenance (O&M) costs over the lifetime of the connection. The O&M charge shall be paid prior to commissioning the connection. It is set at 2% of the **Connection Asset** value, increasing in real terms over the lifetime of the **Connection Agreement**, discounted back to a present value using the regulated rate of return.
- 3.9 The **Site Specific Charge** is normally payable in full in advance of energisation. Where works are to be commissioned or constructed in phases, payments will be reflective of those phases, with payment details set out in the **Construction Offer**. Where SONI has elected to pay the outturn cost of the works the full estimated cost will be payable in advance of energising the connection with any reconciliation carried out after a determination of the final costs.

## 4 Connection Assets

### 4.1 Connection Assets are:

4.1.1 those assets which are installed to enable the transfer of the **Maximum Export Capacity (MEC)** or the **Maximum Import Capacity (MIC)** of the **User(s)** located at the **Connection Point**, to or from, as appropriate, the **All-Island Transmission Networks**, subject to sub-paragraph 4.2; and

4.1.2 those assets which are installed as a result of the **User's** effect on fault current levels on the **Transmission System**, but does not include any assets installed at any location other than the transmission node to which the **User** connects.

4.2 In deciding which assets are required to enable the transfers referred to in sub-paragraph 4.1.1, power flows other than those to or from the **User(s)**, are disregarded.

4.3 Assets which are not **Connection Assets** are **System Assets**.

4.4 **Connection Assets** include, as appropriate:

4.4.1 the circuit(s), or those parts of the circuit(s), required to connect the **User** to the existing **All-Island Transmission Networks**;

4.4.2 in addition to assets required under sub-paragraph 4.4.1, any new circuit(s) or enhanced circuit(s) required pursuant to sub-paragraph 4.1.1;

4.4.3 the circuit bay(s) required by the **User**;

4.4.4 any upgraded existing protection or communication equipment required as a direct result of the connection but not changes or additions to protection systems at remote substations (including the provision of communication channels); and

4.4.5 metering, telemetry or data processing equipment supplied by NIE.

4.5 Figures 1 and 2 illustrate the standard boundary for asset ownership and the standard boundary for **Connection Asset - System Asset**.

## **5 Least Cost Technically Acceptable Connection Design**

- 5.1 It is likely that NIE will evaluate a number of design options before deciding on the preferred design for a new or modified connection to the **All-Island Transmission Networks**. In doing so, there may be occasions where the preferred design is not the **Least Cost Technically Acceptable** (“**LCTA**”) connection.
- 5.2 Where NIE does not proceed with the **LCTA** connection, whether new or modified, to accommodate a **User**, or a group of **Users**, then SONI will only be required to pay a **Site Specific Charge** which is set to recover the estimated cost of the **LCTA** connection. The additional NIE costs will be recovered as **General System Charges**.
- 5.3 Where an **Applicant** requests a connection offer from SONI which is more expensive than the **LCTA** connection then SONI will be required to pay either the estimated or outturn cost of providing both the **Connection Assets** and additional **System Assets**, if any, required by the **Applicant’s** preference.

## 6 Application Fees and Feasibility Studies

- 6.1 Where SONI requires a **Construction Offer** SONI will be required to pay NIE a fee to enable NIE to recover the costs of producing the **Construction Offer**. The fee shall be either:
- 6.1.1 a fixed fee derived from Table 1; or
  - 6.1.2 a fee based on the outturn cost of carrying out the relevant detailed studies, preparing a connection design and issuing a **Construction Offer**.
- 6.2 SONI shall advise NIE of the preferred payment method.
- 6.3 Where SONI advises NIE that it wishes to pay the outturn cost of carrying out the relevant detailed studies, preparing a connection design and issuing a **Construction Offer**, NIE will levy the appropriate application fee in Table 1 and a reconciliation of the actual charge will be carried out after a determination of the final costs.
- 6.4 If SONI or NIE has carried out relevant feasibility studies in relation to the connection in advance of the submission of the application then a reasonable credit will be allowed in respect of these studies.
- 6.5 The fee will be paid in two instalments. A first instalment of £4,000 (exclusive of VAT) must accompany the **Construction Application** form. The second instalment, the balance of the fee, will be invoiced when NIE deems the application to be effective, which means that all information necessary to enable NIE to prepare a **Construction Offer** has been received and it is clear in all material respects.
- 6.6 Delays in production of the **Construction Offer** may occur if the application fee instalment payments are not received in a timely manner.
- 6.7 Where SONI is applying for a **Construction Offer** in relation to the modification of an existing connection SONI will be required to pay NIE an application fee to enable NIE to recover the costs of producing the **Construction Offer**. For modification of an existing connection the fee will be calculated on a case by case basis.
- 6.8 Where SONI wishes to change any aspect of a **Construction Application** then SONI may be charged a second application fee. The decision on whether or not to levy a fee will depend on the materiality of the change to the application.

## **7 Disconnection, De-energisation and Decommissioning Charges**

- 7.1 Where SONI wishes a connection to be de-energised then, on request, NIE will arrange to de-energise the **Connection Point**. No charge will be made for this service if carried out during normal working hours and following reasonable notice, except as provided by agreement.
- 7.2 On termination of a **Connection Agreement** SONI shall be liable for the reasonable outturn cost of decommissioning the **Connection Assets**, removing the **Connection Assets** from the connection site and making good the condition of the connection site. In the event that the assets are not decommissioned or the site is not reinstated no decommissioning or reinstatement charges, as appropriate, will be payable by SONI.

## **8 Indicative Charges**

- 8.1 Factors which influence costs and charges are:
- 8.1.1 statutory and other standards governing the system;
  - 8.1.2 the length of cable or overhead line required to connect to the existing system;
  - 8.1.3 the **User's MEC** or **MIC** in relation to the available capacity of the existing system;
  - 8.1.4 whether the connection is by underground cable or overhead lines;
  - 8.1.5 the type of ground requiring excavation;
  - 8.1.6 the type and extent of reinstatement necessary;
  - 8.1.7 the need for river, railway, telecommunication, other electric circuit and road crossings;
  - 8.1.8 the availability of wayleaves or easements for cables or lines, including any planning consents;
  - 8.1.9 the availability of a suitable substation site, including any necessary planning consents; and
  - 8.1.10 the connection programme.
- 8.2 These items should not be regarded as a comprehensive list.
- 8.3 Significant cost items are provided in Table 2.

## **9 Contact Details**

9.1 Should you require any further details about the information contained in this document please contact our representative at the address below.

Contact details:

Northern Ireland Electricity plc  
Fortwilliam House  
Edgewater Office Park  
Edgewater Road  
Belfast  
BT3 9JQ

Tel 028 9066 1100

Fax 028 9095 4326

Website: [www.nie.co.uk](http://www.nie.co.uk)

---

## 10 Definitions

“All-Island Transmission Networks”	means the <b>Transmission System</b> and the <b>RoI Transmission System</b> taken together;
“Applicant”	means a person who has applied for an offer of terms to enter into an agreement with SONI in respect of connection to the <b>All-Island Transmission Networks</b> at entry or exit points on the <b>Transmission System</b> but has not yet signed that agreement;
“Authorised Area”	As defined in NIE’s <b>Transmission Licence</b> ;
“Authority”	means the Northern Ireland Authority for Utility Regulation, as established under the <b>Energy Order</b> ;
“Change”	any addition, replacement, refurbishment, renovation, modification, alteration, construction or withdrawal;
“Connection Agreement”	an agreement between SONI and a <b>User</b> setting out the terms relating to a connection to the <b>All Island Transmission Networks</b> ;
“Connection Assets”	as defined in sub-paragraph 4.1;
“Connection Point”	means the point at which a <b>User’s</b> plant connects to the <b>All Island Transmission Networks</b> , normally the busbar clamp on the busbar side of the busbar isolators on <b>User</b> circuits;
“Construction Agreement”	a contract for the construction of those <b>Changes</b> to NIE’s <b>Transmission System</b> set out in an NIE <b>Construction Offer</b> ;
“Construction Application”	as defined in Section D, sub-paragraph 2.1.2 of the <b>TIA</b> ;
“Construction Offer”	an offer made by NIE to SONI pursuant to Section D, paragraph 4 of the <b>TIA</b> ;
“Department”	means the Department of Enterprise, Trade and Investment;
“Energy Order”	means the Energy (Northern Ireland) Order 2003;
“General System Charges”	means charges to recover costs associated with those assets which are not <b>User Connection Assets</b> , set to recover NIE’s allowable revenue approved by the <b>Authority</b> ;
“Grid Code”	means the code of that name drawn up pursuant to Condition 16 of SONI’s <b>Transmission Licence</b> ;

---

<b>“Least Cost Technically Acceptable” or “LCTA”</b>	<p>The <b>Least Cost Technically Acceptable</b> connection is the connection which:</p> <ul style="list-style-type: none"> <li>• complies with the <b>Transmission and Distribution System Security and Planning Standards</b>; and</li> <li>• complies with any other applicable standard, regulation and code; and</li> <li>• takes into account committed developments on the <b>Transmission System</b>; and</li> <li>• is the least overall cost;</li> </ul>
<b>“Maximum Export Capacity” or “MEC”</b>	means the maximum permissible amount of electricity to be exported to the <b>All Island Transmission Networks</b> at the <b>Connection Point</b> as set out in the <b>Connection Agreement</b> ;
<b>“Maximum Import Capacity” or “MIC”</b>	means the maximum permissible amount of electricity to be imported from the <b>All Island Transmission Networks</b> at the <b>Connection Point</b> as set out in the <b>Connection Agreement</b> ;
<b>“Order”</b>	means The Electricity (Northern Ireland) Order 1992;
<b>“Retail Price Index” or “RPI”</b>	means the index of prices compiled by the Office for National Statistics and published as Table RP02 at <a href="http://www.statistics.gov.uk">www.statistics.gov.uk</a> ;
<b>“RoI Transmission System”</b>	means the system of electric lines operated by the <b>Republic of Ireland Transmission System Operator</b> and comprising high voltage lines and electrical plant and meters used for conveying electricity from a generating station to a substation, from one generating station to another, and from one substation to another within the Republic of Ireland;
<b>“Republic of Ireland Transmission System Operator” or “RoI TSO”</b>	means EirGrid plc, the company formed under Regulation 34 of SI 445 of 2000 of the Republic of Ireland legislation and licensed under Section 14 (1) (e) of the Republic of Ireland Electricity Act, 1999;
<b>“Site Specific Charges”</b>	charges relating to costs associated with those assets classed as <b>User Connection Assets</b> ;
<b>“System Assets”</b>	as defined in sub-paragraph 4.3;
<b>“Transmission and Distribution System Security and Planning Standards”</b>	the standards referred to in Condition 19 of NIE’s <b>Transmission Licence</b> and also in Condition 20 of SONI’s <b>Transmission Licence</b> ;

---

<b>“Transmission Interface Agreement” or “TIA”</b>	means the agreement between NIE and SONI required by Condition 17 of NIE’s <b>Transmission Licence</b> and Condition 18 of SONI’s <b>Transmission Licence</b> ;
<b>“Transmission Licence”</b>	a licence to participate in transmission granted under section 10 of the <b>Order</b> ;
<b>“Transmission Services”</b>	means those services defined in Section B of the <b>TIA</b> ;
<b>“Transmission System”</b>	means the system of electric lines owned by NIE and comprising high voltage lines and electrical plant and meters used for conveying electricity from a generating station to a substation, from one generating station to another, and from one substation to another within the <b>Authorised Area</b> (including such part of the North/South Circuits as is owned by the Licensee) (except any such lines which the Authority may approve as being part of the <b>Licensee’s</b> distribution system) and any other electric lines which the <b>Authority</b> may specify as forming part of the <b>Transmission System</b> , but shall not include any Interconnector;
<b>“Transmission System Capacity Statement”</b>	means the statement of that name prepared pursuant to Condition 33 of SONI’s <b>Transmission Licence</b> ;
<b>“Transmission System Operator”</b>	means SONI;
<b>“User”</b>	means a person who has entered into an agreement with SONI in respect of connection to the <b>All-Island Transmission Networks</b> at entry or exit points on the <b>Transmission System</b> .

**Table 1 – Construction Offer Application Fee**

The following table sets out the application fee payable by SONI to NIE when seeking a **Construction Offer**.

<i>MIC and MEC ranges</i>	<i>Demand - Assessment of system works</i>	<i>Generation - Assessment of system works, including distribution connected generation</i>	<i>G or D - Assessment of Shallow Works</i>	<i>Total fee for demand with shallow works</i>	<i>Total fee for generation with shallow works</i>
≤ 20 MW	£11,250	£17,250	£18,000	£29,250	£35,250
> 20 MW ≤ 100 MW	£18,500	£24,750	£20,750	£39,250	£45,500
> 100 MW	£25,250	£26,500	£23,500	£48,750	£50,000

Note:

1. Fees are subject to Value Added Tax at the rate of 17.5%.
2. Where two or more **Construction Applications** are processed together as a group of applications NIE may, in its sole discretion, reduce the **Construction Offer** application fee if the costs incurred in preparing the offers are reduced.

**Table 2 – Indicative Costs**

This table gives typical costs for the main items of expenditure, excluding VAT, for a new or modified connection to the Northern Ireland **Transmission System**. These costs are based on current market information, budgetary quotes received from manufacturers and recent tenders. While NIE believes these costs are reasonable at the time of publication actual costs can vary significantly, depending on, for example, movements in labour and raw material costs, site conditions and planning requirements.

Description	£k		
	275kV	110kV	33kV
<b>Bay of switchgear</b>			
Single busbar bay	-	600	70
Double busbar bay	1,500	750	-
<b>Overhead Lines (10 km)</b>			
275kV Double Circuit Steel Tower (2,272A/circuit @ 75°C)	9,750	-	-
110 kV Double Circuit Steel Tower (661A/circuit @ 75°C)	-	4,900	-
110 kV Single Circuit Wood Pole (661A/circuit @ 75°C)	-	1,500	-
33kV wood pole, 408A @ 50°C	-	-	600
<b>Transformer Cables (100 m)</b>			
240MVA	940	330	-
120MVA	900	275	-
<b>Transformers</b>			
240MVA 275/110kV	2,550	-	-
90MVA 110/33kV	-	1,100	-

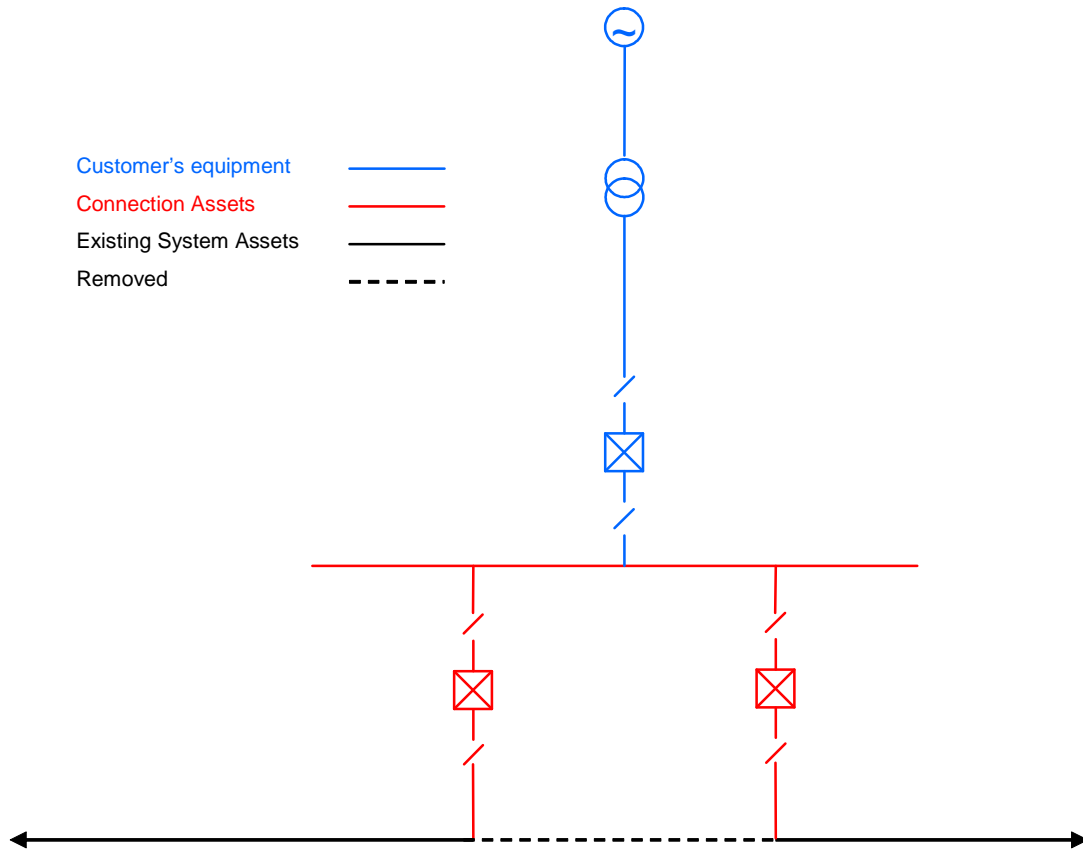
**Notes:**

1. The switchgear costs are inclusive of all civil, electrical, protection and control items and are based on a minimum of three switching bays per substation.
2. The overhead line tables give the estimated cost per 10 km of overhead line assuming a normal route of 10 km or more in length with 80% of steel towers of the suspension type. These costs will increase for lines located in particularly difficult areas, e.g. urban or inaccessible areas. They do not include costs for scaffold protection or skycradles at, for example, road or railway crossings.
3. Costs do not include land purchase, wayleaves, legal fees, environmental impact assessments, communications equipment, metering equipment, SCADA equipment, applications for planning permission or compliance with any conditions of planning permission as these costs vary considerably for each individual project.

4. It has been assumed that the cables are installed in the substation which is located in a rural environment.
5. All costs are inclusive of manufacture, supply, delivery, erection, commissioning and any NIE project oncosts.
6. It is assumed that all sites are accessible by means of routes that are suitable for heavy loads, such as the transformers, and there are no road infrastructure or bridge reinforcement costs.
7. Transformer costs include civil works, such as plinths and oil containment bunds, but do not include noise enclosures.

### Figure 1 – Generator Connection

Illustration of asset ownership and system/connection boundaries



## Figure 2 – Load Connection

Illustration of asset ownership and system/connection boundaries

- Customer's equipment ——— (blue line)
- Connection Assets ——— (red line)
- System Assets ——— (black line)
- Removed - - - - - (dashed black line)

