

# Northern Gas Networks

Delivering gas to 2.7 million customers in the North of England



**NGN Charging Statement**  
Effective from *1<sup>st</sup> April 2014*



# 1. Introduction

This publication sets out the Local Distribution Zone (LDZ) transportation charges which apply from 1 April 2014 for the use of the Northern Gas Networks Limited (NGN) Distribution Network, as required by Standard Special Condition A4 of the Gas Transporter Licence. This document does not override or vary any of the statutory, licence or Uniform Network Code obligations.

For more information on the charges contained within this document, please contact the NGN Pricing Manager on 0113 397 5354.

## 1.1 Uniform Network Code

The Uniform Network Code (UNC) is supported by an integrated set of computer systems called UK Link. The charges and formulae in this Notice will be used in the calculation of charges within UK Link, which are definitive for billing purposes.

There are a number of areas of the UNC that impact upon the cost to shippers of using the transportation network, such as imbalance charges, scheduling charges, capacity over-runs and ratchet charges, top-up neutrality charges and contractual liability. Reference should be made of the UNC, as modified from time-to-time, for details of such charges and liabilities.

The methodologies underlying the charges are stated in the UNC Transportation Principle Document (TPD) Section Y Part B and may be subject to alteration under the governance of UNC Modification Rules.

All UNC documents and Modifications can be found on the Joint Office of Gas Transporters website ([www.gasgovernance.co.uk](http://www.gasgovernance.co.uk)).

## 1.2 Units

Commodity charges are expressed and billed in pence per kilowatt hour.

Capacity charges are expressed and billed in pence per peak day kilowatt hour per day

Fixed charges are expressed and billed in pence per day.

## 1.3 Invoicing

Xoserve produce and issue the invoices that are derived from the transportation charges shown within this Notice. To clarify the link between charging and invoicing, charge codes and invoice names are included in the tables. For more information on invoicing, please contact Xoserve directly at [Css.Billing@xoserve.com](mailto:Css.Billing@xoserve.com).

## 1.4 The Distribution Network Price Control Formula

Transportation charges are derived from a Price Control Formula which is set by Ofgem, the gas and electricity market regulator. This dictates the maximum revenue that can be earned from the transportation of gas.

It is estimated that the allowed revenue for the NGN network for the forthcoming formula year (1 April 2014 to 31 March 2015) is £411.9m. Should more or less than the maximum permitted revenue be earned in any formula year, then a compensating adjustment is made to the allowed revenue two formula years proceeding the current formula year (i.e for the 2014/15 formula year, any under or over recovery will be adjusted in the 2016/17 formula year).

Distribution revenue recovery is split between LDZ system charges and customer charges. LDZ system charges comprise capacity and commodity charges. Customer charges comprise capacity charges, although certain supply points receive a fixed charge and in addition a variable capacity-based charge. All transportation is provided on a firm basis only.

### **1.5 Theft of gas**

The licensing regime places incentives on transporters, shippers and suppliers to take action in respect of suspected theft of gas. Certain costs associated with individual cases of theft are recovered through transportation charges with the transporter remaining cash neutral in the process.

### **1.6 Isolations and Disconnections**

Where a shipper has left a Supply Meter physically connected to the NGN network following a UNC Isolation and Withdrawal, 12 months after the effective Withdrawal, NGN must take action to disable the flow of gas where the shipper has not undertaken a physical disconnection of the meter. NGN is permitted to pass the costs incurred in undertaking the work to the last Registered User. NGN will calculate the charge to the shipper on a fully absorbed time and materials basis, consistent with the charging principles set out in the 4B Connections Charging Methodology Statement.

## 2. Transportation Charges

### 2.1 LDZ System Charges

The standard LDZ system charges comprise capacity and commodity charges, with the same rates and functions for directly connected supply points and connected systems exit points (CSEPs).

Where LDZ charges are based on functions, these functions use Supply Point Offtake Quantity (SOQ) in the determination of the charges. At Daily Metered (DM) supply points the SOQ is the registered supply point capacity. For Non-Daily Metered (NDM) supply points, the SOQ is calculated using the supply point End User Category (EUC) and the appropriate load factor.

#### 2.1.1 Directly Connected Supply Points

The unit charges and charging functions used to calculate system charges to directly connected supply points are as follows:

Charge type	LDZ Capacity	LDZ Commodity
Charge code	ZCA	ZCO
Unit rate	Pence per peak day kWh per day	Pence per kWh
Up to 73,200 kWh p.a.	0.1859	0.0292
73,200 to 732,000 kWh p.a.	0.1598	0.0251
732,000 kWh and above p.a.	$1.8745 \times \text{SOQ}^{-0.2834}$	$0.3224 \times \text{SOQ}^{-0.294}$
Subject to a minimum rate of	0.0049	0.0009
Minimum reached at SOQ of	1,297,866,250	487,072,509

#### 2.1.2 Connected System Exit Points

In the calculation of LDZ charges payable, the unit rate commodity and capacity charges are based on the supply point capacity equal to the CSEP peak day load for the completed development irrespective of the actual stage of development. The SOQ used is therefore the estimated SOQ for the completed development as provided in the appropriate Network Exit Agreement (NExA). For any particular CSEP, each shipper will pay identical LDZ unit charges regardless of the proportion of gas shipped. Reference needs to be made to the relevant NExA or CSEP ancillary agreement to determine the completed supply point capacity.

The unit charges and charging functions used to calculate charges to CSEPs are as follows:

Charge type	LDZ Capacity	LDZ Commodity
Charge code	891	893
Unit rate	Pence per peak day kWh per day	Pence per kWh
Up to 73,200 kWh p.a.	0.1859	0.0292
73,200 to 732,000 kWh p.a.	0.1598	0.0251
732,000 kWh and above p.a.	$1.8745 \times \max \text{SOQ}^{-0.2834}$	$0.3224 \times \max \text{SOQ}^{-0.294}$
Subject to a minimum rate of	0.0049	0.0009
Minimum reached at SOQ of	1,297,866,250	487,072,509

### 2.1.3 Optional LDZ Charge

The optional LDZ tariff is available, as a single charge, as an alternative to the standard LDZ system charges. The rationale for this tariff is that, for large LDZ loads located close to the NTS, the standard tariff can appear to give perverse economic incentives for the construction of new pipelines when LDZ connections are already available. This tariff may be attractive to large loads located close to the NTS, but it is strongly advisable to contact the NGN Pricing Manager on 0113 397 5354 prior to doing so.

<b>Invoice</b>	<b>Charge Code</b>
<b>ADU</b>	<b>881</b>

<b>Pence per peak day kWh per day</b>
$902 \times [(SOQ)^{-0.834}] \times D + 772 \times (SOQ)^{-0.717}$

Where SOQ is the registered supply point capacity and D is the direct distance, in km, from the site boundary to the nearest point on the NTS.

## 2.2 LDZ Customer Charges

For supply points with an Annual Quantity (AQ) of less than 73,200 kWh per annum, the customer charge is a capacity charge.

For supply points with an AQ of between 73,200 and 732,000 kWh per annum, the customer charge is made up of a fixed charge which depends on the frequency of meter reading, plus a capacity charge based on the registered SOQ.

For supply points with an AQ of greater than 732,000 kWh per annum, the customer charge is based on a function related to the registered SOQ.

### 2.2.1 Directly Connected Supply Points

The unit charges and charging functions used to calculate customer charges to directly connected supply points are as follows:

<b>Charge type</b>	<b>LDZ Capacity</b>
<b>Charge code</b>	<b>CCA</b>
<b>Unit rate</b>	<b>Pence per peak day kWh per day</b>
Up to 73,200 kWh p.a.	0.0992
73,200 to 732,000 kWh p.a.	0.0036
732,000 kWh and above p.a.	$0.0757 \times \text{SOQ}^{-0.21}$

In addition to the above, the following fixed charge applies to supply points with an AQ of between 73,200 and 732,000 kWh:

<b>Charge type</b>	<b>LDZ Capacity</b>
<b>Charge code</b>	<b>CFI</b>
<b>Unit rate</b>	<b>Pence per day</b>
Non-monthly read supply points	31.1838
Monthly read supply points	33.2035

## 2.3 Exit Capacity Charges

The LDZ Exit Capacity NTS (ECN) charge is a capacity charge that is applied to the supply point or CSEP in the same manner as the LDZ system capacity charge. These charges are applied per exit zone on an administered peak day basis. The exit zone for a DN supply point is determined by its postcode.

<b>Charge type</b>	<b>LDZ Exit Capacity</b>
<b>Charge code - directly connected supply points/CSEPs</b>	<b>ECN/C04</b>
<b>Unit rate</b>	<b>Pence per peak day kWh per day</b>
NE1	0.0087
NE2	0.0008
NE3	0.0008
NO1	0.0030
NO2	0.0124

## 2.4 Other Charges

Other charges include administration charges at CSEPs and shared supply meter points.

### 2.4.1 CSEP Administration Charges

There is no customer charge payable for CSEPs, however separate administration processes are required to manage the daily operations and invoicing associated with CSEPs, including interconnectors, for which an administration charge is made.

The administration charge which applies to CSEPs containing non-daily metered (NDM) and daily metered (DM) site is as follows:

#### CSEP administration charge

Charge per supply point	0.0935 pence per day (£0.341 per annum)
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The invoice and charge codes are:

Invoice	Charge Code	
DM CSEP	ADU	883
NDM CSEP	ADC	894

### 2.4.2 Shared supply meter point allocation arrangements

An allocation service is offered for daily metered supply points with AQs of more than 58,600 MWh per annum. This allows for up to four (six for Very Large Daily Metered Customers) shippers/suppliers to supply gas through a shared supply meter point.

The allocation of daily gas flows between the shippers/suppliers can be done either by an appointed agent or by the transporter.

The administration charges which relate to these arrangements are shown below. Individual charges depend on the type of allocation service nominated and whether the site is telemetered or non-telemetered.

The charges are as follows, expressed as £ per shipper per supply point:

Invoice	Charge Code
ADU	883

#### Agent Service

	Telemetered	Non-telemetered
Set-up charge	£107.00	£183.00
Shipper-shipper transfer charge	£126.00	£210.00
Daily charge	£2.55	£2.96

#### Transporter Service

	Telemetered	Non-telemetered
Set-up charge	£107.00	£202.00
Shipper-shipper transfer charge	£126.00	£210.00
Daily charge	£2.55	£3.05

### 3. Examples

#### Notes

1. Charges produced by UK Link are definitive for charging purposes. Calculations below are subject to rounding and should be regarded as purely illustrative.
2. The examples provided refer to a customer in the North East LDZ, within the NE1 Exit Zone. The calculations described are applicable to loads in either Network.

#### Example A

A shipper has a daily metered customer with an annual consumption (AQ) of 20,000,000 kWh and a registered supply point capacity (SOQ), booked directly by the shipper of 100,000 kWh per day.

#### Process

**LDZ Capacity**  
Invoice: LDZ Capacity (ZCA)  
See Section 2.1.1

Plus

**LDZ Commodity**  
Invoice: Commodity (ZCO)  
See Section 2.1.1

Plus

**Customer (Capacity)**  
Invoice: LDZ Capacity (CCA)  
See Section 2.2.1

Plus

**Exit (Capacity)**  
Invoice: Exit Capacity (ECN)  
See Section 2.3

Plus

**Total Annual Charge**

#### Calculations Used

Volume: 365 days × 100,000 (SOQ) = 36,500,000

Unit Rate:  $1.8745 \times 100,000 \text{ (SOQ)}^{-0.2834}$

= 0.0718 p / pdkWh / day

**Annual Charge: £26,192.58**

Volume: 20,000,000 (AQ)

Unit Rate:  $0.3224 \times 100,000 \text{ (SOQ)}^{-0.2940}$

= 0.0109 p / kWh

**Annual Charge: £2,184.87**

Volume: 365 days × 100,000 (SOQ) = 36,500,000

Unit Rate:  $0.0757 \times 100,000 \text{ (SOQ)}^{-0.2100}$

= 0.0067 p / pdkWh / day

**Annual Charge: £2,462.57**

Volume: 365 days × 100,000 (SOQ) = 36,500,000

Unit Rate: 0.0087 p / pdkWh / day

**Annual Charge: £3,175.50**

**Total annual charge = £34,015.52**

## Example B

A shipper has a domestic customer in the NE LDZ. Suppose the load has an **AQ of 20,000 kWh** per annum. Using the definition of end user categories table in the Appendix, this annual load places the end user in category E1301B. Using the appropriate small NDM supply points table of load factors, it can be seen that the load factor for such a site in the NE LDZ is 34.4%. The peak daily load (SOQ) is therefore  $20,000 \div (365 \times 0.344) = 159$  kWh.

### Process

#### **LDZ Capacity**

Invoice: LDZ Capacity (ZCA)

See Section 2.1.1

Plus

#### **LDZ Commodity**

Invoice: Commodity (ZCO)

See Section 2.1.1

Plus

#### **Customer (Capacity)**

Invoice: LDZ Capacity (CCA)

See Section 2.2.1

Plus

#### **Exit (Capacity)**

Invoice: Exit Capacity (ECN)

See Section 2.3

Plus

**Total Annual Charge**

### Calculations Used

Volume:  $365 \text{ days} \times 159 \text{ (SOQ)} = 58,035$

Unit Rate:  $= 0.1859 \text{ p / pdkWh / day}$

**Annual Charge: £108.08**

Volume: 20,000 (AQ)

Unit Rate: 0.0292 p / kWh

**Annual Charge: £5.84**

Volume:  $365 \text{ days} \times 159 \text{ (SOQ)} = 58,035$

Unit Rate:  $0.0992 \text{ p / pdkWh / day}$

**Annual Charge: £57.67**

Volume:  $365 \text{ days} \times 159 \text{ (SOQ)} = 58,035$

Unit Rate:  $0.0087 \text{ p / pdkWh / day}$

**Annual Charge: £5.06**

**Total annual charge = £176.65**

## Example C

Suppose that instead of supplying just one domestic customer (as in Example B) the shipper actually supplies a connected system presently comprising **100 domestic customers and the completed connected system will comprise 150 domestic properties**. Suppose that each of these premises has the same AQ of 20,000 kWh per annum.

	<b>AQ (no of premises x AQ per premises)</b>	<b>SOQ (AQ ÷ (365 x load factor))</b>
<b>Prevailing</b>	100 houses x 20,000 (AQ) = 2,000,000 kWh	2,000,000 ÷ (365 x 0.344) = 15,929 kWh
<b>Maximum</b>	150 houses x 20,000 (AQ) = 3,000,000 kWh	3,000,000 ÷ (365 x 0.344) = 23,893 kWh

Note that the prevailing annual and peak day loads of the connected system in effect would change over the year however, for simplicity, these have been assumed as constant.

### Process

**LDZ Capacity**  
 Invoice: ADC (891)  
 See Section 2.1.2  
 Basis: p / peak day kWh / day

Plus

**LDZ Commodity**  
 Invoice: ADC (893)  
 See Section 2.1.2  
 Basis: p / kWh

Plus

**CSEP Administration**  
 Invoice: ADC (894)  
 See Section 2.4  
 Basis: p / supply point / day

Plus

**Exit (Capacity)**  
 Invoice: Capacity (ECN)  
 See Section 2.3  
 Basis: p / supply point / day

Equal

**Total Annual Charge**

### Calculations Used

Volume: 365 days x 15,929 (pre SOQ) = 5,814,085  
 Unit Rate: 1.8745 x 23,893 (max SOQ) ^ - 0.2834  
 = 0.1077 p / pdkWh / day  
**Charge: £6,259.73**

Volume: 2,000,000 (pre AQ)  
 Unit Rate: 0.3224 x 23,893 (max SOQ) ^ -0.2940  
 = 0.0166p / kWh  
**Charge: £332.82**

Volume: 100 houses x 365 days = 36,500  
 Unit Rate: Standard tariff = 0.0935 p /supply point /day  
**Charge: £34.13**

Volume: 365 days x 15,929 (pre SOQ) = 5,814,085  
 Unit Rate: 0.0087 / pdkWh / day  
**Charge: £505.81**

**Total annual charge = £7,132.49**

### **APPENDIX A – End User Categories**

Estimation of peak daily load for NDM supply points

For NDM supply points, the peak daily load is estimated using a set of EUCs. Each NDM supply point is allocated to a EUC. In each LDZ each EUC has an associated load factor, as listed in the following tables. The data in these tables applies for the gas year 1 October 2013 to 30 September 2014.

In the tables 'XX' refers to the LDZ Code (e.g. NO).

These EUCs depend upon the annual quantity (AQ) of the supply point and, in the case of monthly read sites, the ratio of winter to annual consumption where available.

#### **Monthly read sites**

It is mandatory for supply points with an annual consumption greater than 293 MWh to be monthly read, however, at the shipper's request, sites below this consumption may also be classified as monthly read.

For monthly read sites where the relevant meter reading history is available, the winter: annual ratio is the consumption from December to March divided by the annual quantity. If the required meter reading information is not available, the supply point is allocated to a EUC simply on the basis of its annual quantity.

The peak load for an NDM supply point may then be calculated as:

$$\frac{AQ \times 100}{LoadFactor \times 365}$$

#### **Example**

For a supply point in North (NO) LDZ with an annual consumption of 1,000 MWh per annum.

Assume consumption December to March inclusive is 500 MWh.

Winter: annual ratio =  $500 \div 1000 = 0.5$

For a site with an annual consumption of 1,000 MWh, a ratio of 0.5 falls within winter: annual ratio band W02 and the site is thus within End User Category NO: E1304W02.

For a site in this category, the load factor is 38.4% and the peak daily load is therefore

$$\frac{1000 \times 100}{365 \times 38.4} = 7.13 \text{ MWh}$$

If the required meter reading information is not available to calculate the winter: annual ratio, the supply point is allocated to a EUC simply on the basis of its annual quantity, in this case NO: E1304B.

For a site in this category, the load factor is 31.5% and the peak daily load is therefore

$$\frac{1000 \times 100}{365 \times 31.5} = 8.70 \text{ MWh}$$

#### **Six monthly read sites**

In the case of six monthly read sites, the supply point is allocated to a EUC simply on the basis of its annual quantity.

## Example

For a supply point in NE LDZ with an annual consumption of 200 MWh per annum, the EUC will be NE: E1302B.

For a site in this category, the load factor is 31.4% and the peak daily load is therefore

$$\frac{200 \times 100}{365 \times 31.4} = 1.75 \text{ MWh}$$

## Notes

The term LDZ is applied in the context of its usage with reference to the UNC daily balancing regime.

For supply points whose consumption is over 73,200 kWh and which include one or more NDM supply meter points, an end user category code can be found in the supply point offer generated by UK Link. This code may be correlated with the end user category code shown below by means of a lookup table issued separately to shippers. Copies are available from the Xoserve Supply Point Administration Management team by emailing [externalrequests.spa@xoserve.com](mailto:externalrequests.spa@xoserve.com)

## Daily metered supply points

The SOQ of DM sites is known and hence no load factor is required.

Supply points with annual consumptions greater than 58,600 MWh should be daily metered. However, a handful of sites remain as non-daily metered as a result of difficulties installing the daily read equipment. In such cases the end user category code XX:E1309B is used.

Firm supply points with an AQ above 73.2 MWh per annum may, at the shipper's request, be classified as daily metered. All interruptible supply points are daily metered.

## Consultation on end user categories

Section H of the UNC requires the transporter to publish, by the end of June each year, its demand estimation proposals for the forthcoming supply year. These proposals comprise end user category definitions, NDM profiling parameters (ALPs and DAFs), and capacity estimation parameters (EUC load factors). Analysis is presented to users and consults with the Demand Estimation Sub-Committee (a sub-committee of the UNC) before publication of its proposals Table 2.1 Definition of end user categories.

## WAR Bands and End User Categories

The following tables define the war bands and end user categories for the NGN LDZs by reference to annual consumption and winter: annual ratio, applicable from 1 October 2013 to 30 September 2014.

EUC Code	Annual Load (MWh)	Winter Annual Ratios (WAR)			
		W01	W02	W03	W04
xx:E1301W0y	0 to 73.2	-	-	-	-
xx:E1302W0y	73.2 to 293	-	-	-	-
xx:E1303W0y	293 to 732	0.00 - 0.49	0.49 - 0.58	0.58 - 0.68	0.68 - 1.00
xx:E1304W0y	732 to 2,196	0.00 - 0.49	0.49 - 0.58	0.58 - 0.68	0.68 - 1.00
xx:E1305W0y	2,196 to 5,860	0.00 - 0.44	0.44 - 0.53	0.53 - 0.63	0.63 - 1.00
xx:E1306W0y	5,860 to 14,650	0.00 - 0.38	0.38 - 0.48	0.48 - 0.58	0.58 - 1.00
xx:E1307W0y	14,650 to 29,300	0.00 - 0.37	0.37 - 0.41	0.41 - 0.51	0.51 - 1.00
xx:E1308W0y	29,300 to 58,600	0.00 - 0.36	0.36 - 0.41	0.41 - 0.51	0.51 - 1.00
xx:E1309W0y	> 58,600	-	-	-	-

**Table 1. Small NDM Supply Points  
(Up to 2,196 MWh per annum)**

xx: = LDZ =	NE	NO
xx:E1301B	34.4%	31.7%
xx:E1302B	31.4%	31.5%
xx:E1303B	31.7%	31.6%
xx:E1303W01	53.5%	56.4%
xx:E1303W02	43.0%	38.4%
xx:E1303W03	29.5%	26.3%
xx:E1303W04	22.1%	19.6%
xx:E1304B	35.7%	31.5%
xx:E1304W01	53.5%	56.4%
xx:E1304W02	43.0%	38.4%
xx:E1304W03	29.5%	26.3%
xx:E1304W04	22.1%	19.6%

**Table 2. Large NDM Supply Points  
(2,196 and above MWh per annum)**

xx: = LDZ =	NE	NO
xx:E1305B	39.2%	36.7%
xx:E1305W01	64.8%	62.3%
xx:E1305W02	47.0%	45.5%
xx:E1305W03	34.4%	32.1%
xx:E1305W04	23.9%	20.5%
xx:E1306B	48.7%	46.1%
xx:E1306W01	77.6%	78.6%
xx:E1306W02	56.6%	56.1%
xx:E1306W03	40.7%	39.6%
xx:E1306W04	27.0%	26.9%
xx:E1307B	56.3%	54.6%
xx:E1307W01	86.7%	86.7%
xx:E1307W02	70.1%	68.2%
xx:E1307W03	52.2%	49.1%
xx:E1307W04	33.9%	30.7%
xx:E1308B	64.3%	63.5%
xx:E1308W01	89.3%	89.2%
xx:E1308W02	75.1%	73.5%
xx:E1308W03	59.3%	56.7%
xx:E1308W04	35.1%	31.9%
xx:E1309B	68.3%	65.6%

# **Appendix B – Application of the LDZ charges methodology**

## **1. Introduction**

Standard Special Condition A4 of the Gas Transporter (GT) Licence requires the Licensee to establish a methodology showing the methods and principles on which transportation charges are based. The present charging methodology was introduced in 1994 and it has been modified from time to time in accordance with the GT Licence.

### **1.1 Price Control Formulae**

The Maximum Allowed Revenue under the transportation controls is determined by a number of factors including:

- the Core Allowed Revenue was determined through the Price Control Review and remains fixed for the period;
- the indexation factor - under the distribution formula, allowed revenue is adjusted each year by a factor equal to the rate of inflation, measured on a prescribed historical basis by reference to the Retail Prices Index;
- the Gas Transporter is subject to a range of incentives as described by Special Condition E of its Licence;
- any under- or over-recovery brought forward under the control from the previous formula year (expressed by means of a separate “K” factor within each control).

The “K” correction factor is necessary because the level of charges set under the control depends on forecasts of some of the above elements. Outturn will inevitably differ from forecast, thus giving rise to variances between the amount of revenue generated (on an accruals basis) and that allowed under the control. The K factor enables correction for these variances by adjusting either upwards or downwards the maximum level of revenue allowed in the following formula year (taking interest into account).

### **1.2 Objectives of the Charging Methodology**

The transportation charging methodology has to comply with objectives set out in the Licence under Standard Special Condition A5 paragraph 5. These are:

- Compliance with the charging methodology results in charges which reflect the costs incurred by the licensee in its transportation business, and, so far as is consistent with this,
- That compliance with the charging methodology facilitates effective competition between gas shippers and between gas suppliers; and
- That the charging methodology properly takes account of developments in the transportation business;

In addition to these Licence objectives NGN has its own objectives for the charging regime. These are that the distribution charging methodology should:

- Promote efficient use of the distribution system;
- Generate stable charges;
- Be easy to understand and implement.

Before the transporter makes any changes to the methodology it consults with the industry in accordance with Standard Special Condition A5 of the Licence. Ofgem has the right to veto any proposed changes to the methodology.

### **1.3 Structure of Charges**

The structure of the Transporter’s transportation charges reflects the revised price control arrangements that came into effect on 1 April 2008. The LDZ charges are split between system related activities and customer related activities.

While the total LDZ revenue is determined by the current price control, the share of this revenue to be recovered from the LDZ system charges and LDZ customer charges respectively is based on the relative cost of each activity as defined in the recent pricing consultation, DNPC05. The cost breakdown used as the basis for the LDZ charges is set out below:

**Table 3: Network Cost Breakdown based on NGN Activity Based Costing model**

<b>System</b>	<b>Customer</b>	<b>Total</b>
%	%	%
71.2	28.8	100

Having established by the above methods the target revenue to be derived from each main category of charge, the next stage is to set the charges within each of these charge categories. The methodology used to do this is described in the appropriate sections below.

## 2. LDZ System Charges Methodology

### 2.1 System Charge Methodology

- The distribution networks contain a series of pipe networks split into four main pressure tiers :
  - Local Transmission System (LTS)
  - Intermediate Pressure System (IPS)
  - Medium Pressure System (MPS)
  - Low Pressure System (LPS)
- Because it accounts for the majority of the total system costs the LPS is then sub-divided on the basis of pipe diameter into a further six sub-tiers. All LDZ system related costs are attributed across these pressure tiers and sub-tiers.
- The methodology below describes the derivation of the capacity charge function and is based on peak daily flows. A similar calculation, based on annual flows, is carried out to determine the commodity charge function.
- The average cost of utilisation is calculated for each of the main pressure tiers of the system. The probability of a load within a consumption band using any given pressure tier is determined by an analysis of where supply points of different sizes tend to connect to the system. Combining the average cost of utilisation with the probability of connection generates a tier charge for an average load within any given band. These tier charges are added together to give the total relative charge for a load within the consumption band to use the system.
- To provide a workable basis for charging individual customers of differing sizes, the total average unit costs of utilising each tier of the distribution network are plotted. Functions are fitted to the data points representing the total unit costs such that the overall measure of error is minimised.
- For the purposes of deriving charging functions the data points for the consumption bands are grouped into 3 charging bands:
  - For the 0 to 73,200kWh per annum charging band a fixed unit charge is determined. The rate applies to directly connected supply points and CSEPs
  - For the 73,200kWh to 732,000kWh per annum charging band a fixed unit charge is determined. The rate applies to directly connected supply points and CSEPs
  - For the 732,000kWh per annum and above charging band, functions based on a power of the peak daily load (SOQ) are fitted. The rate and power function is the same for directly connected supply points and CSEPs
- The form of the LDZ system functions is currently derived on a network-specific basis.

### 2.2 Charging for Connected Systems (CSEPs)

Previously, CSEP customer had been treated differently from other customers with equivalent annual consumption with essentially lower system charges. As part of the updated analysis carried out in the 2010 pricing consultation, DNPC08, it was found that CSEP customers are insufficiently different from other customers to justify this. It was therefore agreed that CSEP customer will be treated the same as customers with equivalent annual consumption for transportation charging purposes.

### **3. DZ Customer and Other Charges Methodology**

Customer charges reflect supply point costs, namely costs relating to service pipes and emergency work relating to supply points.

#### **3.1 Customer Charge Methodology**

The customer charge methodology is based on an analysis of the extent to which service pipe and emergency service costs vary with supply point size. This analysis is used to determine the allocation of the recovery of the target revenue (based on Table 1.3 - Network Cost Breakdown) from supply points grouped in broad load bands. This is described in more detail below.

1. Using activity based costing analysis, the customer cost pool is sub-divided into the following cost pools:
  - i. service pipes
  - ii. emergency work
2. Each cost pool is then divided among a number of consumption bands based on weighted consumer numbers by consumption band. The consumption bands are based on the annual quantity of gas consumed. The weightings are derived from an analysis of how the costs of providing each of the services listed in 1 above vary with consumption size.
3. For each cost pool, an average cost per consumer is then calculated for each consumption band by dividing by the number of consumers in that consumption band.
4. A total average cost per consumer is then calculated for each consumption band by adding the unit costs of each service, that is, service pipes and emergency work.
5. Finally, using regression analysis, functions are developed that best fit the relationship between consumption size and total average cost per consumer.
6. Charges for supply points consuming below 73,200kWh (mainly domestic) consist of just a Capacity related charge. Charges for smaller Industrial and Commercial (I&C) supply points, consuming between 73,200 and 732,000 kWh per annum, are based on a capacity-related charge and a fixed charge which varies with meter-reading frequency. Charges for larger I&C supply points are based on a function that varies with supply point capacity.

#### **3.2 Charging for Connected Systems (CSEPs)**

The standard customer charge is not levied in respect of supply points within CSEPs. However a CSEP administration charge is levied to reflect the administration costs related to servicing these loads.

The methodology for setting this charge was established in 1996 and is based on the same methodology described in 3.3 below for setting other charges.

#### **3.3 Other Charges**

There are other charges applied to services which are required by some shippers but not by all, for example charges for the administration of special allocation arrangements at Shared Supply Meter Points and Interconnectors. It is more equitable to levy specific cost reflective charges for these services on those shippers that require them. Income from these charges is included in the regulated transportation income.

The methodology used to calculate the appropriate level of these charges is based on an assessment of the direct costs of the ongoing activities involved in providing the services. The costs are forward looking and take into account anticipated enhancements to the methods and systems used. A percentage uplift based on the methodology described in Transco's background paper "Charging for Specific Services - Cost Assignment Methodology" (May 1999) is added to the direct costs to cover support and sustaining costs. The latest level of the uplift was published in PD16, Section 5, (November 2002).