Scotland Gas Networks
LDZ Transportation Charges

Effective from 1st October 2012

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1. INTRODUCTION

Scotia Gas Networks Limited acquired the Scotland and the South of England gas distribution networks from National Grid Transco on 1 June 2005. SGN is the holding company of Scotland Gas Networks and Southern Gas Networks.

Scotland Gas Networks is responsible for transporting gas safely and reliably to over 1.8 million customers within the Scotland distribution network through 25,000km of gas mains. Gas transportation is carried out to meet the needs of the companies that supply gas to domestic, commercial and industrial consumers and to power stations.

This publication sets out the LDZ transportation charges which apply for the use of the Scotland Gas Networks pipeline network from **1st October 2012**. The charges are set to comply with the price control arrangements from 1st April 2008.

The Scotland gas distribution network used to be a Local Distribution Zone (LDZ) under the previous Transco industry structure. The term LDZ is still used in Billing, in the calculation of load factors and in the Network Code with respect to charges. It is therefore still used in this publication with reference to the charges.

Details of Scotland Gas Networks and its activities can be found on its Internet web site at **www.scotlandgasnetworks.co.uk**. An electronic version of this publication can be found on this website.

2. LDZ TRANSPORTATION CHARGES EFFECTIVE FROM 1 October 2012

2.1 Introduction

This publication sets out the LDZ transportation charges which apply from **1st October 2012** for the use of Scotland Gas Networks gas 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 Network Code obligations upon Scotland Gas Networks.

For more information on the charges set out in this document, contact via email at **pricingteam@sgn.co.uk**.

2.1.1 Uniform Network Code

The Network Code is supported by an integrated set of computer systems called UK Link. The charges and formulae in this booklet 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 Network Code that impact upon the cost to shippers of using the transportation network, such as imbalance charges, scheduling charges, capacity over-runs and ratchets, top-up neutrality charges and contractual liability. Reference should be made to the Network Code – as modified from time to time – for details of such charges and liabilities. The Uniform Network Code and related documents can be found on the Joint Office of Gas Transporters website.

www.gasgovernance.co.uk

2.1.2 Units

- Commodity charges are expressed and billed in pence per kilowatt hour (kWh).
- 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.

2.1.3 Invoicing

The Xoserve Invoicing team produce and issue the invoices that are derived from the transportation charges shown within this publication. To clarify this link between pricing and invoicing, charge codes and invoice names are included in the tables.

For more information on invoicing, please contact Xoserve, the invoicing service provider, via e-mail at:- **css.billing@xoserve.com.**

2.1.4 The Distribution Price Control Formula

Distribution transportation charges are derived in relation to a price control formula set by Ofgem, the gas and electricity market regulator, for the transportation of gas. This formula dictates the maximum revenue that can be earned from the transportation of gas. Should the DN operator earn more or less than the maximum permitted revenue in any formula year, a compensating adjustment is made in the following year. Under the revised Licences the normal date for changing any of the charges is 1st April.

Within the distribution price control, revenue recovery is split between LDZ system charges and customer charges. The relative level of these charges is based on the relative level of costs of these areas of activity.

2.1.5 Transportation Charges.

LDZ transportation charges comprise LDZ capacity and commodity charges plus customer charges.

2.1.6 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. The charges reflect these requirements, with the transporter remaining cash neutral in the process.

2.1.7 Isolations and Disconnections

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

2.18 Relationship of Charges to Price Control Maximum Allowed Revenue

Based on the price control formula for the Formula Year 2012/13 the Maximum Allowed Revenue (MAR) for Scotland Network for 2012/13 is estimated to be **£258m** which is 1.5% higher than the MAR for 2011/12.

The transportation charges in place prior to 1st April 2012 were estimated to recover £254m during 2011/12. In order to bring the collected revenue into line with the MAR, charges have been increased by 0.3% on average from 1st April 2012.

From 1st April 2012, the distribution transportation charges in respect of a typical domestic load, consuming 16,000 kWh/annum, are estimated to be £117 per annum excl VAT.

For the purposes of setting charges, throughput volumes forecast for 2012/13 reflect actual volumes in recent years and capacity (SOQ) forecasts reflect the trend in declining SOQs over recent years.

2.2 LDZ System Charges

The standard LDZ system charges comprise capacity and commodity charges, with separate functions for directly connected supply points and for Connected System Exit Points (CSEPs), but, as was set out in DNPC08, with effect from **1st April 2012** the separate functions for CSEPs will cease and the same charges will apply to CSEPs as to directly connected supply points.

Where the LDZ charges are based on functions, these functions use Supply point Offtake Quantity (SOQ) in the determination of the charges. At Daily Metered (DM) firm 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. Details of EUCs and load factors are shown in Appendix 2A of this document.

2.2.1 Directly Connected Supply Points and CSEPs.

The unit charges and charging functions used to calculate charges to directly connected supply points and CSEPs are set out in Table 2.2.1 below.

Table 2.2.1 (a) Directly Connected Supply Points and CSEPs Supply Points – Invoice and Charge Type Codes.

Directly Connected		**CSEPs**	
Invoice	**Charge Code**	**Invoice**	**Charge Code**
LDZ Capacity	ZCA	ADC Capacity	891
LDZ Commodity	ZCO	ADC Commodity	893

Table 2.2.1 Charges	**Capacity Firm**	**Commodity**
	pence per pk day kWh per day	**pence per kWh**
Up to 73,200 kWh per annum	0.1703	0.0222
73,200 to 732,000 kWh per annum	0.1534	0.0200
732,000 kWh per annum and above	$0.9901 \times SOQ^{-0.2338}$	$0.1629 \times SOQ^{-0.2597}$
Subject to a minimum rate of	0.0074	0.0009
Minimum reached at SOQ of	1,215,000,000 kWh	440,000,000 kWh

2.2.2 CSEPs Charging

In the calculation of the LDZ charges payable, the unit 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.

2.2.3 Optional LDZ Charge

The optional LDZ tariff is available, as a single charge, as an alternative to the standard LDZ system charges. This tariff may be attractive to large loads located close to the NTS. The rationale for the optional tariff is that, for large Network loads located close to the NTS or for potential new Network loads in a similar situation, the standard LDZ tariff can appear to give perverse economic incentives for the construction of new pipelines when Network connections are already available. This could result in an inefficient outcome for all system users.

The charge is calculated using the function below:

Invoice	Charge Code
ADU	881

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

Where (SOQ) is the Registered Supply Point Capacity, or other appropriate measure, in kWh per day and D is the direct distance, in km, from the site boundary to the nearest point on the NTS. Note that ^ means "to the power of …".

Further information on the optional LDZ tariff can be obtained from the pricing team at
pricingteam@sgn.co.uk

2.3 LDZ Customer Charges

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

For supply points with an AQ 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 supply point capacity (SOQ).

For supply points with an AQ of over 732,000 kWh per annum, the customer charge is based on a function related to the registered supply point capacity (SOQ).

Table 2.3 LDZ Customer charges

Up to 73,200 kWh per annum

Invoice	Charge Code
Capacity	CCA

	Pence per peak day kWh per day
Capacity Charge	0.0948

73,200 kWh up to 732,000 kWh per annum

Invoice	Charge Code
LDZ Capacity	CFI

Fixed charge	Pence per day
Non-monthly read supply points	26.1694
Monthly read supply points	27.8647

Invoice	Charge Code
LDZ Capacity	CCA

	Pence per peak day kWh per day
Capacity Charge	0.0030

732,000 kWh per annum and above

Invoice	Charge Code
LDZ Capacity	CCA

	Pence per peak day kWh per day
Charging Function	$0.0636 \times SOQ^{-0.2100}$

2.4 Other Charges

Other Charges include administration charges at Connected System Exit Points, Shared Supply Meter Points and charges for Must Reads.

2.4.1 Connected System Exit Points

A CSEP is a system point comprising one or more individual exit points which are not supply meter points. This includes connections to a pipeline system operated by a Gas Transporter other than Scotland Gas Networks.

The calculation of LDZ charges payable for shipping to CSEPs is explained in section 2.2.2.

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

The administration charge which applies to CSEPs containing NDM and DM sites is:

CSEP administration charge

Charge per supply point	0.1012 pence per day (£0.37 per annum)

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 for daily metered supply points with AQs of more than 58,600 MWh per annum is available. This allows 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 (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

2.4.3 Distribution Network (NTS) Exit Capacity Charge (ECN).

Following the implementation of Uniform Network Code Modification 0195AV industry arrangements for the charging of NTS Exit Capacity costs will change on the 1st October 2012. National Grid Transmission will invoice gas Distribution Networks (DNs) for booked NTS Exit Capacity and DNs will invoice gas shippers in line with DNPC06 ("Proposals for LDZ Charges to Recover NTS Exit Capacity Charges).

Exit Capacity Charges relating to SIU's:

The four Scottish Independent Networks located at Oban (LO), Thurso (LT), Wick (LW) and Campbelltown (LC) are classified as distinct Exit Zones within the Sites and Meters database although the NTS Exit Capacity is now booked at the Avonmouth NTS Offtake following the closure of the Glenmavis NTS LNG Offtake. The ECN rates reflect the NTS Avonmouth Offtake rate. The distinct network at Stranraer is also classified as a separate Exit Zone (LS) within the Sites and Meters database. The ECN rate for Exit Zone LS reflects the NTS Offtake Exit Capacity rate for the Stranraer NTS Offtake.

Assumptions relating to the calculation of the final ECN charges:

These charges have been calculated using the Notice of Final NTS Exit Capacity Charges published by NTS on the 31st July 2012.

Each Shipper's ECN charge has been calculated based on the total exit zone registered capacity (SOQ) prior to the 2012 Annual Quantity review.

The ECN charges also reflect SGN's capacity bookings with NTS for the period 1st October 2012 to the 30th September 2013. Please note that these bookings require approval from National Grid, until approval has been confirmed on the 30th September 2012 the bookings are open to change.

The charges for Scotland Gas Networks are detailed in Table 2.4.3 (a) below:-

Invoice	Charge Code
LDZ Capacity	ECN

Table 2.4.3 (a) ECN Charges.

Exit Zone	Capacity Pence per peak day kWh per day
SC01	0.0001
SC02	0.0004
SC04	0.0002
LC	0.0186
LO	0.0186
LT	0.0184
LW	0.0180
LS	0.0032

2.5 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 commodity charges in these examples are based on the supply point AQ, but the actual charges would vary depending on the actual consumption of the supply point.

Example 1

A shipper has a daily metered customer in Perth, 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	Calculations Used
LDZ Capacity **Invoice:** LDZCapacity (ZCA) **See**: Table 2.2.1 **Basis:** p / peak day kWh / day	**Volume:** 365 days × 100,000 **(SOQ)** = 36,500,000 **Unit Rate**: 0.9901× 100,000 **(SOQ)** ^ -0.2338 = 0.0671p / pdkWh / day **Annual Charge**: **£24,491.50**
Plus	
LDZ Commodity **Invoice:** Commodity (ZCO) **See**: Table 2.2.1 **Basis:** p / kWh	**Volume**: 20,000,000 **(AQ)** **Unit Rate**: 0.1629 × 100,000 **(SOQ)** ^ -0.2597 = 0.0819p / kWh **Annual Charge**: **£1,638.00**
Plus	
Customer (Capacity) **Invoice:** LDZCapacity (CCA) **See**: Table 2.3 **Basis:** p / peak day kWh / day	**Volume:** 365 days × 100,000 **(SOQ)** = 36,500,000 **Unit Rate**: 0.0636 × 100,000**(SOQ)** ^ -0.2100 =0.0057p / pdkWh / day **Annual Charge**: **£2,080.50**
Equals	
Total Network Charge	Total annual network charge =**£28,210.00**

Unit Charge: Dividing by the annual load of 20,000,000 kWh gives a unit charge 0.1411 pence per kWh.

Example 2

A shipper has a domestic customer in Glasgow. Suppose the load has an **AQ** of **20,000** kWh per annum. Using Table 2A.1, End User Categories, in Appendix 2A, this annual load places the end user in category E1201B. 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 Scotland Gas Networks is 36.6 %.The peak day load **(SOQ)** is therefore 20,000 ÷ (365 × 0.366) =149.7kWh.

Process	Calculations Used
LDZ Capacity **Invoice:** LDZCapacity (ZCA) **See**: Table 2.2.1 **Basis:** p / peak day kWh / day	**Volume**:365 days × 149.7**(SOQ)** = 54,641 **Unit Rate**: 0.1703p / pdkWh / day **Charge**: **£93.05**
Plus	
LDZ Commodity **Invoice:** Commodity (ZCO) **See**: Table 2.2.1 **Basis:** p / kWh	**Volume:** 20,000 **(AQ)** **Unit Rate**: 0.0222 p / kWh **Charge**: **£4.44**
Plus	
Customer Capacity **Invoice:** Capacity (CCA) **See**: Table 2.3 **Basis:** p / peak day kWh / day	**Volume**:365 days × 149.7**(SOQ)** = 54,641 **Unit Rate**: 0.0948p / pdkWh / day **Charge**: **£51.80**
Equals	
Total Network Charge	Total annual network charge = **£149.29**

Unit Charge: Dividing by the annual load of 20,000 kWh gives a unit LDZ charge of 0.7465 pence per kWh.

Example 3

Suppose that instead of supplying just one domestic customer in Glasgow (as in Example 2) the shipper actually supplies a connected system presently comprising 100 domestic customers and the completed connected system will comprise 150 domestic premises. Suppose that each of these premises has the same (AQ) of 20,000 kWh per annum.

Prevailing AQ (pre AQ)	100 houses × 20,000 (AQ) = 2,000,000 kWh
Maximum AQ (max AQ)	150 houses × 20,000 (AQ) = 3,000,000 kWh
Prevailing SOQ (pre SOQ)	2,000,000 ÷ (365 × 0.366) =14,971 kWh
Maximum SOQ (max SOQ)	3,000,000 ÷ (365 × 0.366) =22,457 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 in this example.

Unit Charge: Dividing by the annual load of 2,000,000 kWh gives a unit LDZ charge of 0.2738 pence per kWh.

Appendix 2A

Estimation of Peak Day Load for Non-Daily Metered Supply Points

For non-daily metered (NDM) supply points, the peak day load is estimated using a set of End User Categories (EUCs). Each NDM supply point is allocated to an EUC. In each LDZ each EUC has an associated load factor. For Scotland Gas Networks the relevant load factors are shown in Tables 2A.2 and 2A.3. The data in these tables applies for the gas year 1st October 2012 to 30 September 2013.

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 an EUC simply on the basis of its annual quantity.

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

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

Example

For a supply point in Scotland Gas Networks with an annual consumption of 1,000 MWh per annum.

Assume consumption December to March inclusive is 500 MWh, hence
Winter: Annual Ratio = 500 ÷ 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 WO2 and the site is thus within End User Category SC: E1204W02.

For a site in this category, the load factor is 43.5%and the peak day load is therefore

$$\frac{1000 \times 100}{365 \times 43.5} = 6.30 \text{ MWh}$$

If the required meter reading information is not available to calculate the winter: annual ratio, the supply point is allocated to an EUC simply on the basis of its annual quantity, in this case SC:E1204B.

For a site in this category, the load factor is 39.4% and the peak day load is therefore

$$\frac{1000 \times 100}{365 \times 39.4} = 6.95 \text{ MWh}$$

Six Monthly Read Sites

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

Example

For a supply point in Scotland Gas Networks with an annual consumption of 200 MWh per annum, the EUC will be SC: E1202B.

For a site in this category, the load factor is 38.1% and the peak daily load is therefore

$$\frac{200 \times 100}{365 \times 38.1} = 1.44 \text{ MWh}$$

Notes

The term LDZ is applied in the context of its usage with reference to the Network Code 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 codes shown in Table 2A.1 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**

Daily Metered Supply Points

The SOQ of daily metered 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 in Scotland the end user category code SC: E1209B is used.

Firm supply points with an AQ above 73.2 MWh pa may, at the shipper's request, be classified as daily metered.

Consultation on End User Categories

Section H of the Network Code 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 the Demand Estimation Sub-Committee (a sub-committee of the Network Code Committee) is consulted before publication of its proposals.

* NDM Profiling and Capacity Estimation Algorithms for 2012/13, June 2012.

Appendix 2A Tables - Definition of end user categories

Table 2A.1 below defines the end user categories for Scotland Gas Networks by reference to annual consumption and winter: annual ratio, applicable from 1 October 2012 to 30 September 2013.

Table 2A.1 End User Categories

EUC Code	Annual Load (MWh)	Winter: Annual Ratios (WAR)			
		W01	W02	W03	W04
xx:E1201B	0 to 73.2	-	-	-	-
xx:E1202B	73.2 to 293	-	-	-	-
xx:E1203B	293 to 732	0.00 – 0.42	0.42 - 0.51	0.51 - 0.63	0.63 - 1.00
xx:E1204B	732 to 2,196	0.00 – 0.42	0.42 - 0.51	0.51 - 0.63	0.63 - 1.00
xx:E1205B	2,196 to 5,860	0.00 – 0.38	0.38 - 0.46	0.46 - 0.56	0.56 - 1.00
xx:E1206B	5,860 to 14,650	0.00 – 0.33	0.33 - 0.41	0.41 - 0.51	0.51 - 1.00
xx:E1207B	14,650 to 29,300	0.00 – 0.32	0.32 - 0.36	0.36 - 0.45	0.45 - 1.00
xx:E1208B	29,300 to 58,600	0.00 – 0.32	0.32 - 0.35	0.35 - 0.44	0.44 - 1.00
xx:E1209B	> 58,600	-	-	-	-

Table 2A.2 Load Factors for Small NDM Supply Points (Up to 2,196 MWh per annum)

Network	Scotland
SC: E1201B	36.6%
SC: E1202B	38.1%
SC: E1203B	38.9%
SC: E1203W01	58.7%
SC: E1203W02	43.5%
SC: E1203W03	31.4%
SC: E1203W04	24.4%
SC: E1204B	39.4%
SC: E1204W01	58.7%
SC: E1204W02	43.5%
SC: E1204W03	31.4%
SC: E1204W04	24.4%

Table 2A.3 Load Factors for Large NDM Supply Points (2,196 MWh and above per annum)

Network	Scotland
SC: E1205B	42.4%
SC: E1205W01	66.7%
SC: E1205W02	51.4%
SC: E1205W03	37.0%
SC: E1205W04	26.3%
SC: E1206B	47.7%
SC: E1206W01	79.3%
SC: E1206W02	58.0%
SC: E1206W03	42.5%
SC: E1206W04	29.0%
SC: E1207B	53.9%
SC: E1207W01	87.9%
SC: E1207W02	68.5%
SC: E1207W03	49.9%
SC: E1207W04	32.3%
SC: E1208B	63.3%
SC: E1208W01	90.8%
SC: E1208W02	74.4%
SC:E1208W03	59.2%
SC:E1208W04	36.1%
SC:E1209B	65.2%