

Appendix 12

LDZ and Customer Charges Methodology

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Appendix 12: LDZ and Customer Charges Methodology

A12.1 Introduction

For charging purposes the transmission and distribution system is split into three parts (or tiers): the National Transmission System (NTS), the Local Distribution Zones (LDZs) and customer related activities. Transco's methodology for determining NTS charges is described in Appendix 11. This Appendix explains the methodology used to determine LDZ and Customer charges.

The breakdown of revenue to be recovered from each tier of the system is based on a combination of the cost breakdown provided by the Activity Based Cost analysis and the split of assets by tier applied to the formula revenue/ABC cost differential as described in Chapter 3. After consultation, Transco have chosen not to rebalance the ABC cost pools in line with 1998 data, but have retained the revenue split derived for the 1997 Ten Year Statement. This produced the following breakdown:

Table A12.1 Transportation Target Revenue by Tier Based On 1997 Costs

Charging Tier	% Revenue
NTS	16%
LDZ	53%
Customer	31%
Total	100%

From the table it can be seen that the LDZ and Customer charges are set to recover over 80% of Transco's transportation revenue.

A12.2 LDZ Charges

Each local distribution zone contains a network of pipelines operating at increasingly lower pressures as the gas gets nearer to the customer. In order to calculate charges the LDZ system is split into four parts.

Table A12.2a Tiers of the LDZ system

Local Transmission System	LTS
Intermediate Pressure System	IPS
Medium Pressure System	MPS
Lower Pressure System	LPS

The relative system costs associated with each pressure tier and utilisation, in terms of peak and annual volumes were established in 1994 through analysis of Activity Based Cost data. Having established the relative system costs the charging functions can be increased or decreased in line with each subsequent year's allowed revenue. Using this information, unit capacity and commodity charges are determined for each tier, apart from the LPS. Since the LPS is a large and varied system there would be a substantial variation in the unit capacity and commodity charges depending upon how much of the LPS is used by a particular load. The level of usage of the LPS has been estimated for different sized customers with LPS offtakes. This has resulted in variable unit capacity and commodity LPS charges which decrease as customer size increases. The methodology is based upon a 50/50 capacity / commodity split for all consumers. This has been phased in over a number of years. Following consultation, from October 1998 a 50/50 capacity/commodity split will be applicable for all LDZ loads. The split for Domestic loads had previously been 30/70.

The population of customers is split into a number of bands based upon their annual consumption. For each band, the probability of using each tier of the system has been estimated from sample data.

Table A12.2b Estimated Probability of Using Tiers - Peak Usage

Annual Consumption	LTS (%)	IPS (%)	MPS (%)	LPS (%)
0 - 73.2 MWh	98	45	93	97
73.2 - 146 MWh	98	45	94	97
146 - 293 MWh	98	45	94	92
293 - 439 MWh	98	45	94	94
439 - 586 MWh	98	45	94	94
586 - 732 MWh	98	46	92	91
732 - 2930 MWh	98	45	94	83
2930 - 14650 MWh	97	44	95	57
14650 - 58600 MWh	96	46	92	21
58600 - 293 GWh	97	31	58	1
> 293 GWh	98	48	19	0

Table A12.2c Estimated Probability of Using Tiers - Annual Usage

Annual Consumption	LTS (%)	IPS (%)	MPS (%)	LPS (%)
0 - 73.2 MWh	98	44	94	97
73.2 - 146 MWh	98	44	94	97
146 - 293 MWh	98	43	94	91
293 - 439 MWh	98	44	94	95
439 - 586 MWh	98	44	94	95
586 - 732 MWh	98	45	93	91
732 - 2930 MWh	98	43	94	82
2930 - 14650 MWh	98	43	94	82
14650 - 58600 MWh	98	39	91	22
58600 - 293 GWh	99	40	57	3
> 293 GWh	100	28	14	0

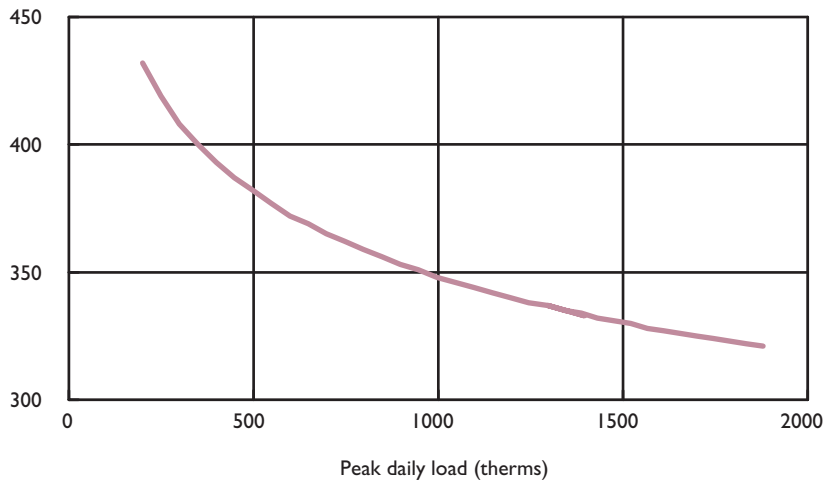
Unit charges are then calculated for each combination of pressure tier and customer band.

For example, if the unit charge for a particular tier is 2p/therm, and customers within a certain band have a 50% probability of using this tier, the unit charge payable by those customers in respect of that tier would be:

$$2p \times 50\% = 1p/\text{therm}.$$

By summation over the tiers, total unit charges are derived for each consumption band (the raw prices). Smooth charging functions are then fitted, one for capacity and one for commodity, which relate unit charges to customer size. The capacity function is based on analysis of peak loads only, whilst the commodity function also takes into account interruptible loads. It has been decided that the capacity and commodity charging functions should be based on site peak capacity because booked peak day capacity is the key contractual measure of customer size. Since the raw unit prices show a rapid reduction with increasing customer size, it was found that the charging functions are best defined using a log (log (peak demand)) structure as shown below:

Figure A12.2 Indicative LDZ Capacity Charge (pence per peak day therm per annum)



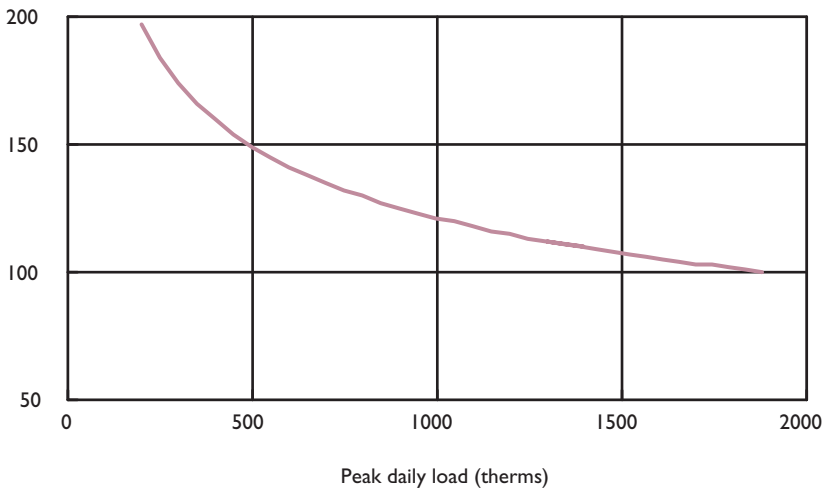
A12.3 Customer Charges

The costs of those elements of customer-related items which have been found to vary with customer size (service pipes, meters and emergency cover) were recorded for a sample of customers.

For customers consuming below 73,200 kWh per annum the charging methodology requires Transco to recover the allocated revenue by the combination of a fixed charge per customer and a simple commodity charge. For charges set in October 1997 charges it was agreed with Ofgas that the fixed charge per customer for this market sector should be reduced from £15 to £10 per annum, in line with the removal of meter reading charges of approximately £5 per annum from the core charge.

For customers with a consumption greater than 73,200 kWh, a function relating costs to customer size is used, this is illustrated in Figure A12.3.

Figure A12.3 Customer Charge (pence per peak day therm per annum)



However, for simplicity of application, the customer charge function for supply points which consume between 73,200 and 732,000 kWh per annum is reduced to a fixed capacity charge plus fixed charges.

The fixed charges for supply points consuming up to 732,000 kWh per annum are differentiated by the relative data management costs in respect of monthly and non-monthly meter reading. In the case of the largest supply points (greater than 732,000 kWh per annum), the data management charges have been absorbed within the charging function.

A12.4 Charging for Shipper Services

Shipper services are those activities undertaken by Transco to manage the commercial relationship with shippers. These services are provided by the Account Management, Commercial Operations, Customer Portfolio Management (CPM), Billing, Service Development, Business Process Development (BPD) and UK Link sections.

CPM costs are related to the number of supply points and so are recovered as part of the customer charges. From 1st October 1998, the CPM element of these charges differentiates between domestic loads, industrial and commercial loads consuming below 732,000 kWh per annum, and other industrial and commercial loads. At present, the costs of Commercial Operations and UK Link are recovered through NTS charges. In the case of Commercial Operations, this is because there is a logical link between the NTS and the work of the department. However for UK Link it has been decided that it is inappropriate to move away from the previous allocation to the NTS tier due to the changing nature of these costs. Following further analysis, it is not proposed to change this allocation in 1998, as the revenue split obtained approximately reflects the balance of ongoing development costs from the domestic and the industrial and commercial markets.

In the other shipper service areas, Account Management, Billing and Service Development, it has not been possible to identify cost drivers which would provide an appropriate basis for charging, and so the costs of these activities are apportioned across all tiers of the system, pro-rata to their cost pools. This is on the basis that the work of each of these departments relates to activities that span the range of Transco's services.

A12.5 Transportation Charges for Connected Systems

Connected System Exit Points (CSEPs) are points at which independent PGTs and other pipelines connect to Transco's system. Such systems are not treated as standard supply points for transportation charges. The principles are explained below.

A12.5.1 LDZ Charges

The LDZ unit capacity and commodity charges are calculated by reference to the total peak capacity of the connected system, divided by the number of connections to the Transco system. This is consistent with the way in which LDZ charges are calculated for individual supply points. Thus, for any particular CSEP, each shipper supplying gas will pay identical LDZ unit charges regardless of the volume of gas shipped. Individual CSEP loads, and hence charges, are recalculated at monthly intervals.

A12.5.2 Administration Charge

It is inappropriate to apply a standard Customer Charge to CSEPs, because the cost elements which underlie this charge (service pipe, metering, etc.) do not in general apply to CSEPs. However, the Network Code provides for Transco to levy a charge in connection with the additional administration costs of CSEPs - e.g. setting up and maintaining CSEP details, interfacing with the UK Link system and producing monthly invoices. At present, this charge is £5 per end user per year.

For the administration of CSEPs containing Daily Metered supply points, Transco is proposing to introduce charges which are consistent with existing charges for the similar activities required for allocation arrangements at supply points and the Moffat Interconnector.