

**Final LDZ Shrinkage Factors
Proposal for
Gas Year 2005/06**

**National Grid plc
1 September 2005**

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Final LDZ Shrinkage Factors Proposal for Gas Year 2005/06

1 Purpose of Proposal

The purpose of this paper is to present our final proposed LDZ Shrinkage Factors for the Gas Year 2005/06 as required under Section N 3.1.7 of the Uniform Network Code.

The paper also contains details of the representations made by Users to the Initial Proposals and our actions and responses to these.

2 Summary of Proposal

We propose to apply the Shrinkage Factors outlined in the table below for the Gas Year 2005/06 effective from 06:00 hrs on 1 October 2005.

LDZ Specific Shrinkage Factors

LDZ	Shrinkage Factor¹
Eastern	0.60%
East Midlands	0.54%
North Thames	0.62%
North West	0.62%
West Midlands	0.76%

3 Basis of Proposal

The proposed LDZ Shrinkage Factors for Gas Year 2005/06 are based on the data and methodologies outlined within the initial Transco LDZ Shrinkage Factors Proposal for Gas Year 2005/06 issued on 1 July 2005.

The Shrinkage Factors proposed within this document are derived using LDZ specific factors for leakage and universal factors for operational usage and theft. A brief description of each of these elements has been outlined below.

3.1 Leakage

Leakage from the low and medium pressure systems accounts for the majority of overall leakage within an LDZ. The leakage estimate has been derived from information obtained from the 2002/03 National Leakage Test programme combined with measured Monoethylene Glycol saturation levels, annual average system pressures and mains and services population data.

¹ Shrinkage Factor is expressed as a percentage of anticipated annual LDZ consumption

In addition, leakage and operational venting may occur from Above Ground Installations (AGIs). During 2003 we completed a survey of these sites.

Leakage, in terms of cubic metres of gas, is converted into energy by use of flow-weighted average CVs (measured in MJ/m³) that are detailed within the Initial Proposals.

Note: At times, leakage has been expressed to Users and others in terms of tonnes (using a gas density of 0.73 kg/m³), however these figures are merely indicative.

3.2 Operational Usage (also known as Own Use Gas)

It was suggested during the consultation process that a more accurate Own Use Gas model that has been developed by Advantica should replace the existing model.

The reason why the Advantica model is better than the existing model is that it makes extensive use of real flow, pressure and temperature data whereas the existing model makes much more use of assumed values.

The Own Use Gas Factors calculated by the Advantica model in respect of our LDZs have been given in the table below.

LDZ	OUG Factor
Eastern	0.0261%
East Midlands	0.0073%
North Thames	0.0028%
North West	0.0173%
West Midlands	0.0076%

Users expressed some concern about the Advantica analysis and originally suggested that all transporters apply an Own Use Gas Factor of 0.04% of consumption. Following further discussions a compromise figure of 0.035% is now proposed.

Whilst we are confident that measurement or a new investigation into the true level of Own Use Gas would justify Own Use Gas factors that are lower than 0.035% of consumption, we are prepared to accept the compromise figure as an interim step.

The 0.035% will be applied in respect of all of our LDZs. In the future, we will hope to adopt LDZ specific values that are likely to be lower and which will be based upon either an updated version of the Advantica model or metering.

3.3 Theft of Gas

We believe that the 90:10 Shipper : Transporter split in respect of Theft of Gas is probably inappropriate because we believe that very few thieves interfere with the transporter's equipment; it being relatively easier to tamper with the meter. This opinion is supported by the available statistics, e.g. in 2004 only 4% of detected thieves that were reported had interfered with the transporter's equipment.

During the Shrinkage Factor consultation process, a value of 0.012% of consumption was put forward for theft. However, Users were not happy with this figure saying that the statistics were in some respects incomplete or otherwise unsatisfactory.

We took the view during the discussions that the statistics were the best available and that they justified a lower Theft of Gas factor.

Subsequently 0.02% has been put forward as a compromise figure and we have decided to propose this factor in respect of Theft of Gas. This will be applied in respect of all of our LDZs.

3.4 LDZ Consumption

During the Shrinkage Forum held 6 July 2005, Scottish and Southern Energy pointed out that we should be using 35 year weather corrected demands not the 17 year weather corrected demands that we had used in our Initial Proposals; this approach was endorsed by all Users present at the Shrinkage Forum held 15 August 2005. As a result of these discussions, our Final Proposals utilise 35 year weather corrected demands.

For information, the table below shows the difference between the two sets of demand figures.

LDZ	2004 LDZ Consumption (TWh)			
	17-Year W/C Demand	35-Year W/C Demand	Difference	
Eastern	52.629	53.484	0.855	1.62%
East Midlands	82.176	81.921	-0.255	-0.31%
North Thames	70.184	72.613	2.429	3.46%
North West	90.118	90.771	0.653	0.72%
West Midlands	62.754	63.978	1.224	1.95%
National Grid	357.861	362.767	4.906	1.37%

3.5 Summary of proposed Shrinkage Factors

Our proposed Shrinkage Factors are shown in the table below.

LDZ	Leakage Factor	OUG	ToG	Calculated Shrinkage Factor	Shrinkage Factor as Applied
Eastern	0.540%	0.035%	0.02%	0.595%	0.60%
East Midlands	0.488%	0.035%	0.02%	0.543%	0.54%
North Thames	0.564%	0.035%	0.02%	0.619%	0.62%
North West	0.569%	0.035%	0.02%	0.624%	0.62%
West Midlands	0.700%	0.035%	0.02%	0.755%	0.76%

Note: AT-Link only permits factors to be entered to four significant figures (two decimal places if expressed as a percentage). As a result of this, we have calculated Shrinkage Factors to five significant figures and rounded to four significant figures for inclusion within AT-Link. This reduces the impact of casting.

4 National Grid's Opinion

We believe that it is appropriate to implement the proposed Shrinkage Factors in respect of LDZ Shrinkage for the period from 1 October 2005 to 30 September 2006.

The LDZ Shrinkage Factors have been determined by utilising the best information and data available and by application of robust methodologies, which are consistent with those used in previous proposals.

5 Extent to which the Proposal would better facilitate the relevant objectives

The proposal provides National Grid's best forecast of the level of LDZ Shrinkage for the Gas Year 2005/06. The proposal is based on robust methodologies and the best information available to National Grid.

This proposal is intended to further the efficient and economic operation of the system through more appropriate cost targeting.

6 The implications for National Grid of implementing the Proposal

Including:

a) **implications for the operation of the System:**

National Grid is unaware of any such implications that would result from implementing this proposal.

b) development, capital cost and operating cost implications:

National Grid is proposing a change to the LDZ Shrinkage Factors that will correspond to a reduction in operating costs.

c) extent to which it is appropriate for National Grid to recover the costs, and proposal for the most appropriate method for National Grid to recover the costs:

The proposed change in LDZ Shrinkage Factors would lead to a reduction of costs for National Grid.

Recovery of costs for shrinkage gas is part of National Grid's operating costs as agreed for the Price Control Period 2002 to 2007.

d) analysis of the consequences (if any) this proposal would have on price regulation:

No such consequences are envisaged should this proposal be implemented.

7 The implications of implementing this Proposal for Users

This proposal improves the equitability and accuracy of cost targeting for Users.

8 Analysis of any advantages or disadvantages of implementation of the Proposal

Advantages: More reflective of the actual transmission and distribution system usage and losses with improved cost targeting.

Disadvantages: National Grid is not aware of any disadvantages.

9 User Representations

Users have had the opportunity to comment upon these proposals during Shrinkage Forum meetings and following publication of our Initial Proposals in writing. We have received representations from three Shippers, these being detailed below:

9.1 Representation from Total Gas and Power Limited

9.1.1 General Issues

Total Gas & Power reiterated concerns, originally raised at the LDZ Shrinkage Forum held 6 July 2005, regarding the application of consistent methodologies and the use of National Statistics. They

indicated in their representation that they would like to see consistent methodologies applied by all of the Distribution Network Operators and National Statistics used only in the absence of regional values.

National Grid believes that, in the interest of competition, differing methodologies should be able to be employed as long as they have been substantiated and agreed in an open Forum. For instance, the Uniform Network Code allows for Own Use Gas either to be estimated using an accepted model or determined from meter readings.

9.1.2 Demand Data

Total Gas & Power indicated that they welcomed the agreement reached at the Shrinkage Forum for all DNOs to use consistent Demand Data.

In accordance with the agreement at the Shrinkage Forum, National Grid has reassessed its proposed Shrinkage Factors on a 35-year weather corrected basis.

9.1.3 Leakage

Total Gas & Power indicated that they were happy with the leakage calculations, as these were performed using consistent methodologies across the DNOs and “seem to be at a reasonable level.”

National Grid have taken these comments onboard and, accordingly, have not altered the leakage calculations used to determine the Shrinkage Factors in this Final Proposal.

9.1.4 Own Use Gas (OUG)

Total Gas and Power indicated that they supported the use of LDZ Specific OUG factors based on LDZ specific data. However, they also indicated the requirement to have a consistent methodology across the DNOs.

Subsequently, there have been negotiations with Shippers during which a revised Own Use Gas model (the Advantica model) was proposed.

Users expressed some concern about the model, however several Users including Total Gas and Power have accepted that the existing Own Use Gas factor is overstated and that they are prepared to see a reduction to 0.035% of consumption.

Whilst we are confident that flow measurement, or a new study, will demonstrate that our utilisation of Own Use Gas is less than 0.035%, National Grid has accepted Users arguments in respect of this year's proposals and will be applying a revised Own Use Gas Factor of 0.035% of consumption.

9.1.5 Theft of Gas (ToG)

Total Gas and Power supported the continued use of a National ToG factor of 0.03% of consumption. However, they also indicated that they would be amenable to changes based on a statistical approach carried out on a regional basis.

Following extensive discussions within the Shrinkage Forum during which a value of 0.012% (based upon the statistical evidence that is available) was put forward, we, together with other Transporters, have put forward a compromise Theft of Gas factor equal to 0.02% of consumption.

9.1.6 Pressure & Temperature Correction

Total Gas and Power indicated that they supported the proposal of Shrinkage Factors that were exclusive of Pressure and Temperature correction, as they support the principle that it is necessary for each Network Owner to purchase the gas that they use or lose and thus avoid any cross-subsidy with other Networks.

Following discussions held at the Shrinkage Forum on 15 August 2005, National Grid is again proposing shrinkage factors exclusive of pressure and temperature correction in these Final LDZ Shrinkage Factor Proposals.

9.2 Representation from e.on

9.2.1 General Issues

e.on indicated that they believe that “a common methodology for the assessment of gas shrinkage should be developed and proposed for all Networks” and that without this, it would be difficult for Shippers and Ofgem to compare performance and the accuracy of proposals. In addition, e.on indicated that the use of national statistics, with reference to Theft of Gas in particular, is inconsistent and unjustified. Furthermore, e.on indicated that unless a common methodology is used they would not be prepared to support any of the individual proposals submitted for 2005/06.

Following consultations within the Shrinkage Forum, we have reverted to 35 year weather corrected demand and changed our Own Use Gas proposals. In this way, we have ensured that our methodology is as similar as possible to that applied by the other DNOs whilst meeting the concerns expressed by Users.

9.3 Representation from British Gas

9.3.1 Leakage

British Gas indicated that the leakage calculation was consistent with that used in previous years and stated “the small change in leakage is not untoward”

National Grid have taken these comments onboard and, accordingly, have not altered the leakage calculations used to determine the Shrinkage Factors in this Final Proposal.

9.3.2 Pressure & Temperature Correction

British Gas indicated that, although P&T correction had “been the subject of some consideration in the preparation of the proposal and discussion at the shrinkage forum”, they supported National Grid’s view that the application of P&T correction was no longer appropriate.

9.3.3 Own Use Gas

British Gas reflected on National Grid’s decision to use LDZ specific OUG factors in the Initial Proposal, concluding that the variation, of the overall factor for the UKD LDZs, from the old National Factor of 0.06% was “not of material concern”

Subsequently there have been negotiations with Shippers during which a revised Own Use Gas model (the Advantica model) was proposed.

Users expressed some concern about the model, however several Users including British Gas have accepted that the existing Own Use Gas factor is overstated and that they are prepared to see a reduction to 0.035% of consumption.

Whilst we are confident that flow measurement, or a new study, will demonstrate that our utilisation of Own Use Gas is less than 0.035%, National Grid has accepted Users arguments in respect of this year’s proposals and will be applying a revised Own Use Gas Factor of 0.035% of consumption.

9.3.4 Theft of Gas

British Gas argued that the available statistics on theft of gas were not sufficiently robust to support a move away from the National Factor of 0.03%. British Gas argued that “Shippers efforts are primarily focused upon downstream [of the ECV] theft investigation” and that they would like to see Transporters demonstrate “additional upstream fraud investigation activity and analysis”, which would “inform a review of the current default values”.

Following extensive discussions within the Shrinkage Forum during which a value of 0.012% (based upon the statistical evidence that is available) was put forward, we, together with other Transporters, have put forward a compromise Theft of Gas factor equal to 0.02% of consumption.

9.3.5 Forecast Demand

British Gas noted that National Grid had originally proposed Shrinkage Factors utilising 17 year weather corrected demand for 2004, and that, following a LDZ Shrinkage Forum, National Grid had agreed to move to 35 year weather corrected demand. However, British Gas did not raise a specific objection to the use of either of the demand sets.

We have accepted the will of the Shrinkage Forum and have reverted to 35 year weather corrected demand figures.

10 Programme of works required as a consequence of implementing the Proposal

The only required modification is to the LDZ Shrinkage Factors entered onto AT-Link.

11 Proposed implementation timetable (including timetable for any necessary information systems changes)

Under Uniform Network Code Section N 3.1.8, Users have until the 15 September 2005 to request that Ofgem issue a Condition 7 (4) disapproval of this proposal.

If the disapproval is not given, the revised LDZ Shrinkage Factors detailed in this proposal will be implemented at the start of the Gas Day on 1 October 2005.

12 Recommendation concerning the implementation of the Proposal

We recommend that the proposed LDZ Shrinkage Factors be implemented with effect from 06:00 hrs on 1 October 2005.

13 National Grid plc's Proposal

This report contains our proposal for the LDZ Shrinkage Factors for the Gas Year 2005/06. In summary, we propose that the LDZ Shrinkage Factors should be set at the levels indicated in the table on page 2 of these proposals.

Appendix 1: Reproduction of Initial Proposals (first published 01/07/05)

Click on the icon to launch the Initial Proposals that were published on 1 July 2005.



"Transco Initial
Shrinkage Factor Proj