



Final LDZ Shrinkage Factors Proposal for Gas Year 2005/06

**Scotia Gas Networks
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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.

This proposal is derived from the Initial Proposals that were circulated to Ofgem and Users on 1 July 2005 and from the responses from Users, both written and via discussions at the Shrinkage Forums on 6th July and 15th August 2005. (The Initial Proposal document is available on the Joint Office website at www.gasgovernance.com/publications)

LDZ Specific Shrinkage Factors

LDZ	Leakage Factor	OUG Factor	Theft Factor	Shrinkage Factor %¹
Scotland	0.482	0.035	0.02	0.537
South East	0.611	0.035	0.02	0.666
Southern	0.727	0.035	0.02	0.782

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

3 Development of Final Proposal

Scotia Gas Networks (SGN) initial proposals for LDZ Shrinkage Factors for gas year 2005/06 were issued on the 1 July 2005. These were subsequently presented to Users at the Shrinkage Forum on the 6th July 2005. A number of Users provided written responses covering the initial proposals of all Transporters, the main thrust being that Transporters should use consistent methods of assessing shrinkage to allow Users to compare Transporter performance.

To address this objective, a further meeting of the Shrinkage Forum took place on 15th August 2005, the purpose being to discuss the issues raised regarding the initial shrinkage factor proposal process and to determine a way forward for the final shrinkage factor proposal process. A number of Users have given further written feedback on the proposed way forward discussed at that Shrinkage Forum. This document, therefore, makes appropriate reference to both the written and verbal feedback received since the issue of our Initial Proposals document – User representations and SGN's responses are included in the sections below.

The Shrinkage Factors proposed within this document are derived using factors for leakage, theft of gas and operational usage (own use gas). A brief description of each of these elements is outlined below, with further detail contained within the Initial Proposal document.

3.1 Leakage

Leakage from the distribution system accounts for the majority of overall leakage within an LDZ and is attributable to gas leakage from mains and services. The leakage estimate has been derived from leakage rates obtained from the 2002/03 National Leakage Test programme (carried out by Transco) combined with measured Monoethylene Glycol saturation levels, annual average system pressures and mains and services population data.

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

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

User Representations – one User proposed that Transporters should standardise on the use of a 35-year weather corrected demand in the calculation of the shrinkage factors for 2005/06. This was discussed at the Shrinkage Forums and all Transporters agreed to incorporate this into their final proposals. Therefore, SGN's final proposal reflects the change from a 17-year to a 35-year weather corrected demand.

3.2 Operational Usage (also known as Own Use Gas)

SGN's initial proposal was based on continued use of the current own use gas model, whilst recognising that previous investigations (by Transco) into the functioning of this model suggested that the allowance for operational usage is significantly overstated, meaning that the Own Use Gas factor should be much smaller than currently stated.

We are now aware that an alternative own use gas model was developed by Advantica (commissioned by Transco) in 2002. This was aimed at overcoming the known shortcomings of the current model through the use of actual operating conditions, as recorded on an hourly basis via the gas network telemetry system. The model was validated against actual performance data, where available, and generated estimated own use gas quantities at a National level and by individual LDZ. The estimated National own use gas factor from the Advantica study was 0.0113% of throughput as compared to 0.06% from the current own use gas model.

At the Shrinkage Forum on 15th August 2005, the Transporters proposed that the LDZ own use gas factors from the Advantica report should be used in the final shrinkage factors proposals for 2005/06. This was on the basis that the Advantica model represents a significant improvement over the current model and also that this change is more consistent with the UNC obligation on Transporters to use the best available information to estimate shrinkage factors. A copy of the Advantica report was made available to Users to allow them to fully consider the proposed change.

User Representations – Four(4) Users have provided written responses to the proposed use of the LDZ own use gas factors as detailed in the Advantica report. All are of the opinion that the Advantica study does not offer sufficiently robust evidence to warrant the adoption, in full, of the LDZ factors in the report. The issues raised relate to the time elapsed since the study was carried out, the quality of some of the data used and, in one response, the efficiency assumed for the gas pre-heating equipment.

However, all respondents acknowledge that the current own use gas factor of 0.06% (national average) is too high and all suggest that a compromise factor of 0.04% nationally would be more appropriate until a more accurate enduring approach can be agreed.

All respondents also expressed the opinion that the preferred way forward in the longer term is for gas used for pre-heating to be metered.

Scotia Gas Networks Response – SGN welcomes the acknowledgement (from responding Users) that the own use gas factor based on the current model has been overstating the quantities of gas used. It remains our view that the Advantica study offers a much more accurate estimate of the true level of own use gas. The issue of missing

data and data quality was recognised within the report and the 95% confidence intervals, based on the uncertainty associated with the estimation of missing data, was assessed as 0.0137% and 0.0102%. The assumed efficiency factor for pre-heating equipment used in the report is 50%. This is the same value that has been used for a number of years in the current own use gas model. In addition, this assumed efficiency does not reflect the fact that a significant number of heating systems have been replaced by boiler type systems that are much more efficient.

Whilst it is our view that the output from the Advantica study is sufficiently robust to be incorporated into the shrinkage factors for 2005/06, we accept that User confidence in the Advantica model would be increased through further refinement of the study and discussion via the Shrinkage Forum. To that end, Transporters and Users have already agreed that a further meeting of the Forum will take place in December 2005 to determine the best way forward for determining own use gas quantities.

SGN therefore propose that the own use gas factor for 2005/06 be set on a national basis at 0.035%, which is a compromise, being mid-way between the current model and Advantica model outputs.

3.3 Theft of Gas

There have been numerous discussions within the Shrinkage Forum in respect of the quantification of the level of theft and, in particular, the proportion that is attributable to Transporters. This was discussed at length at the Shrinkage Forum on 15th August 2005. There is a strong view amongst Transporters that the National theft of gas factor of 0.03% of throughput significantly overstates the amount of theft that is attributable to Transporters. This stems primarily from the belief that the assumption that 10% of all theft is associated with the Transporters network is incorrect – available statistics and the fact that theft is much more likely to occur downstream of the Transporters network, support this view.

At the Shrinkage Forum on 15th August 2005, Transporters proposed that the theft of gas factor be reduced to 0.02% of throughput. This was in conjunction with the agreement reached at the meeting that the Shrinkage Forum planned for December 2005 will also aim to determine the best way forward for improving the estimation of the level of theft.

User Representations – Four Users provided written responses to the proposal to reduce the theft of gas factor. All respondents are of the opinion that there is insufficient reliable evidence to support changing the factor at this time – the view being that any new value will be no more accurate than the factor currently in use. Two Users referred to the lack of information available regarding un-registered or un-metered supplies and one User referred to Transporters not being active in identifying theft of gas cases on their networks.

Scotia Gas Networks Response – Whilst SGN accepts that statistical data relating to theft of gas may not be comprehensive, that, in itself, does not represent a robust case for adopting a “no change” position on the theft of gas factor, as it is inconsistent with the objective of using the best available information to estimate shrinkage.

Although there is no definitive measure available, Transporters believe that the true level of theft attributable to them is significantly lower than the 0.03% of throughput that has been used for a number of years. Using the statistics that are available suggests a theft of gas factor that is closer to 0.01%. It is known that there is inconsistent performance across Users in terms of identifying theft of gas cases and this contributes to the view that available statistics are unreliable. It is our view that more rigorous identification of theft of gas cases would be more likely to reduce even further the proportion of theft attributable to Transporters. With regard to unregistered and un-metered supplies, we note that Transco has previously expended significant effort to address this matter and, therefore, we do not believe that it represents the potential to significantly impact the estimation of theft of gas.

SGN believes that there is a sufficiently strong case to warrant changing the theft of gas figure. Therefore, we propose that a factor of 0.02% be used for 2005/06. As with the own use gas factor, we consider this to be a compromise figure, on the basis that we believe the true figure to be lower but recognising that the way forward for improving the estimation of theft will be discussed further at the Shrinkage Forum in December 2005.

4 Scotia Gas Networks Opinion

We believe that the proposed Shrinkage Factors are consistent with the objective of using the best available information to estimate the LDZ Shrinkage for the period from 1 October 2005 to 30 September 2006.

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

The proposal provides SGN's best forecast of the level of LDZ Shrinkage for the Gas Year 2005/06. The proposal is based on robust methodologies, the best information available and takes cognisance of the feedback received from Users.

This proposal is intended to further the efficient and economic operation of the system through more appropriate cost targeting and also facilitates the comparison of Transporter performance.

6 The implications for Scotia Gas Networks of implementing the Proposal

Including:

a) Implications for the operation of the System:

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

b) Development, capital cost and operating cost implications:

SGN is proposing a change the LDZ Shrinkage Factors which will correspond to a reduction in operating costs.

c) Extent to which it is appropriate for Scotia Gas Networks to recover the costs, and proposal for the most appropriate method for Scotia Gas Networks to recover the costs:

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

Recovery of costs for shrinkage gas is part of SGN'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: SGN is not aware of any disadvantages.

9 User Representations

Users have had the opportunity to comment upon these proposals during Shrinkage Forum meetings and in writing. We have received feedback from a number of Users and this has been included under the appropriate sections of this document.

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 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, then 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 Scotia Gas Networks 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.