

Final LDZ Shrinkage Proposals

Formula Year 2022/23

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SGN

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Final LDZ Shrinkage Factors Proposal for Formula Year 2022/23

1 Purpose of Proposal

The purpose of this paper is to present our final LDZ Shrinkage Proposals for the Formula Year 2022/23 as required under Section N of the Uniform Network Code.

In section N of UNC, the Transporter has an obligation to set the LDZ Energy Loss to provide for the gas that is used by each of its LDZs or lost from its systems.

The LDZ Shrinkage Quantities outlined in this proposal are based on data from the Shrinkage and Leakage Model (SLM) Version 1.4 which incorporates a modification to the calculation of leakage attributable to low pressure services. This model was approved for use by Ofgem in September 2014.

It should also be noted that in this document the Scottish Independent Networks of Thurso, Wick, Campbeltown, Oban and Stranraer have their shrinkage quantities detailed separately. This is because, for the purposes of the UNC and in line with section A paragraph 1.7.4 (a), each Scottish Network is treated as a separate LDZ.

2 Summary of Proposal

We propose to apply the LDZ Shrinkage Quantities outlined in Table 1.0 below for the Formula Year 2022/23, effective from 1 April 2022.

Table 1.0 Proposed 2022/23 LDZ Shrinkage Quantity Values

LDZ	Annual Leakage (GWh)	Annual Own Use Gas (GWh)	Annual Theft of Gas (GWh)	Annual Shrinkage (GWh)	Daily Shrinkage (KWh)
Scotland	149.20	5.48	9.70	164.38	450,363
Thurso	0.13	0.00	0.01	0.14	394
Wick	0.15	0.00	0.01	0.16	440
Campbeltown	0.13	0.00	0.01	0.14	388
Oban	0.32	0.00	0.01	0.33	899
Stranraer	0.25	0.02	0.03	0.30	819
South East	236.52	6.07	10.75	253.34	694,094
Southern	172.92	4.43	7.84	185.18	507,350
Total	559.62	16.02	28.35	603.98	1,654,747

Please note that any variance in the totals shown in Table 1.0 is due to rounding.

3 Development of Final Proposal

Scotia Gas Networks (SGN) 'LDZ Shrinkage Initial Proposals for Formula Year 2022/23 were issued in December 2021.

The LDZ Shrinkage Quantities reflect the losses associated with leakage, theft of gas and gas used in the operation of the system. 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 shrinkage within an LDZ 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 combined with the following network specific information;

- Forecasted mains and metallic service replacement
- The annual average system pressure in each network
- Measured concentration of Monoethylene Glycol (MEG) joint treatment chemical in the gas

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.

3.2 Operational Usage (also known as Own Use Gas)

Under the UNC shrinkage regime Own Use Gas (OUG) is treated as a consolidated quantity which is estimated by applying an OUG factor to forecasted demand for the Formula Year.

The OUG factor SGN proposes to use is the national average of 0.0113% which was determined by Advantica in 2002 and was verified by subsequent research in 2006 – the results of this research being presented to the Shrinkage Forum on Thursday 22nd June 2006.

This research stated that pre-heater efficiencies lie between 53% and 69%. This implies that the national factor calculated by their model is overstated, as this is based on a lower efficiency of 50%. However, SGN has used this national factor of 0.0113% to determine its estimated 2021/22 OUG quantities – which are shown in Table 1.0.

3.3 Theft of Gas

As with Own Use Gas – Theft of Gas (TOG) is treated as a consolidated quantity which is estimated by applying a TOG factor to forecasted demand for the Formula Year.

The split of actual theft that transporter and shippers are responsible for varies year on year and recent history indicates much lower levels of Transporter theft than the 2007 statistics.

Therefore, we do not propose at this time to recommend varying our Theft of Gas split from the current national agreement - that GDNs assume responsibility for Theft of Gas equal to 0.02% of LDZ Consumption.

The TOG factor of 0.02% has been used to determine SGNs estimated 2022/23 TOG quantities which are outlined in Table 1.0.

SGN recognise that the quantification of the level of theft and proportion attributable to Transporters remains under review – both in the Shrinkage Gas Forum and Theft of Gas Forum.

4 SGNs Opinion

We believe that the proposed Shrinkage Quantities are consistent with the objective of using the best available information to estimate the LDZ Shrinkage for the period from 1 April 2022 to the 31 March 2023.

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

This proposal provides SGNs best forecast of the level of LDZ Shrinkage Quantities for the Formula Year 2022/23. 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 SGN 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:

The proposed LDZ Shrinkage quantities lead to a fair allocation of operating costs for the LDZ systems.

c. Extent to which it is appropriate for SGN to recover the costs, and proposal for the most appropriate method for SGN to recover the costs:

It is appropriate for each LDZ to incur a share of the overall shrinkage energy dependent upon the actual shrinkage in that LDZ. Recovery of costs for shrinkage gas forms part of SGNs allowed revenue. The principles behind the recovery of shrinkage costs are set out in Ofgem's GD2 Final Proposals.

d. Analysis of consequences (if any) this proposal would have on price regulation:

The proposal is consistent with the establishment and operation of Distribution Network specific transportation charging formula.

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: Better reflective of the actual system usage and losses with improved cost targeting.

Disadvantages: SGN is not aware of any disadvantages

9 User Representations

N/A

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

The only required modification is the input of LDZ daily Shrinkage quantity values into GEMINI.

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

When we publish our final proposals, Users have until the 15 March 2022 to request that Ofgem issue a Condition 7 (4) disapproval of this proposal as outlined in Section N 3.1.18 of the Network Code.

If no disapproval notice is issued beforehand, it will be our intention to implement revised Shrinkage Quantity values on the 1 April 2021.

12 Recommendation concerning the implementation of the Proposal

We recommend that the proposed LDZ Shrinkage Quantity be implemented with effect on 1 April 2022.

13 SGN Proposal

This report contains our proposals for the LDZ Shrinkage Quantity for the Formula Year 2022/23.

The LDZ Shrinkage Quantities outlined in this proposal are based on data from the Shrinkage and Leakage Model (SLM) Version 1.4, which incorporates a modification to the calculation of leakage attributable to low pressure services. This model was approved for use by Ofgem in September 2014.

In summary, we propose that the LDZ Shrinkage Quantities should be set at the levels indicated in Table 1.0 of these proposals.