

Independent Gas Transporter Uniform Network Code (IGT UNC) 165: Independent Shrinkage Expert and Independent Shrinkage Charge (IGT165) – Appendix: Analysis Report

Decision:	The Authority ¹ has decided to reject this modification ²
Target audience:	IGT UNC Panel, Parties to the IGT UNC and other interested parties
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Implementation date:	To be confirmed by the code administrator

1. Appendix – IGT165 Analysis

Independent Gas Transporters Modification (IGT165) is an enabling change that aligns the IGT UNC with UNC 0843 by allowing the Independent Shrinkage Expert (ISE) to request IGT level data and apply the Independent Shrinkage Charge (ISC).³ Under current arrangements, the IGT Arrangements Document sets IGT shrinkage to 0 GWh⁴, so any physical losses on IGT networks are recorded within Unidentified Gas (UIG). Consistent with the two-pot framework in our UNC 0843 analysis report, this analysis models improved estimation accuracy as an increase in the shrinkage pot (the uplift)⁵ and a corresponding reduction in the UIG pot (the reallocated amount). The IGT-specific difference is that the baseline shrinkage pot starts at zero, and the

¹ References to the “Authority”, “Ofgem”, “we” and “our” are used interchangeably in this document. The Authority refers to GEMA, the Gas and Electricity Markets Authority. The Office of Gas and Electricity Markets (Ofgem) supports GEMA in its day-to-day work. This decision is made by or on behalf of GEMA.

² This document is notice of the reasons for this decision as required by section 38A of the Gas Act 1986.

³ The Independent Shrinkage Charge (ISC) is the UNC 0843 mechanism that recovers the difference between existing Shrinkage volumes and the independent shrinkage estimates produced by the ISE, so that any shortfall is paid for by the relevant network party rather than remaining in UIG.

⁴ Independent Gas Transporter Arrangements Document (IGTAD), see Section C – IGT Shrinkage: [Independent Gas Transporter Arrangements Document | Joint Office of Gas Transporters - Gas Governance](#)

⁵ The definition of uplift is shown in section 3.1.2.

uplift is parameterised from the AUGE⁶-identified IGT-related UIG indicator (~21 GWh for Gas Year 2024/25) rather than from a measured shrinkage baseline.

This appendix sets out the data sources, assumptions, and methodological steps used in Ofgem's assessment of the potential consumer impact of IGT165. The modelling uses illustrative ISE cost estimates and scenario-based assumptions, reflecting the limited availability of IGT specific shrinkage evidence and the indicative nature of the underlying data.

2. Data

The analysis is based on the data from the following sources:

2.1 Shrinkage Data

Under the IGT Arrangements Document (IGTAD), there are currently no arrangements for the identification or estimation of IGT shrinkage⁷, and as such IGT shrinkage value of 0 GWh is assigned to all IGT networks. However, analysis undertaken by the AUGE for Gas Year 2024/25 indicates that approximately 21 GWh of UIG is likely attributable to shrinkage occurring on IGT networks. Because the IGTAD sets shrinkage to zero, these losses are entirely recorded within UIG rather than being treated as shrinkage for cost-allocation purposes.

This 21 GWh AUGE estimate therefore provides the only meaningful indicator of the IGT specific contribution to UIG and forms the core volume assumption used in this analysis. It represents the best available evidence of potential IGT shrinkage that may be reclassified under the ISE arrangements introduced by IGT165.

⁶ The Allocation of Gas Expert (the "AUGE") is an independent gas industry expert whose role is to develop the Table of Weighting Factors which are used to share out Unidentified Gas (UIG) each day. [AUGE FAQs 2025 V1.pdf](#)

⁷ "At the Nexus Implementation Date there are no arrangements for the identification or estimation of IGTS Shrinkage or for its allocation as among CSEP Users." [Uniform Network Code – Independent Gas Transporter Arrangements Document Section C](#)

2.2 UIG Data

For this analysis, the IGT related UIG volume is taken from the AUGE's statement for the current gas year and used as an analytical indicator of potential IGT shrinkage (~21 GWh). These figures are indicative, as they reflect the position currently recorded and will continue to evolve through the UIG reconciliation process as meter data is updated over time. Under established UNC arrangements, UIG is a daily balancing item⁸ and is subject to ongoing reconciliation that can adjust this position; therefore, the absolute UIG values may change as reconciliations complete. However, these movements do not affect the conclusions of this analysis, which depend on the relative shrinkage uplift and reallocation assumptions rather than the precise absolute UIG values.

2.3 Cost Data

ISE cost assumptions follow those applied in our UNC 0843 analysis report. Potential implementation cost estimates were sourced from Xoserve and include the cost of running a procurement exercise, CDSP implementation activities, and the ongoing contractual cost associated with procuring and operating the ISE. These cost components are set out in Table 3. As stated in our UNC 0843 analysis report, these values are illustrative, based on Xoserve's early view of the likely cost components, and do not represent the final cost of establishing or operating the ISE.

For the purposes of the IGT specific analysis, a notional IGT share of these costs has been applied. The Proposer noted in the IGT165 Workgroup discussions that IGT costs would be expected to be established at approximately 1/25th of the total GDN cost, reflecting the comparatively small market share of IGT networks⁹. This analysis assumption results in an

⁸ The residual value needed to make sure the daily allocation accounts for all gas entering and leaving the system.

⁹ The Proposer noted that costs would be established for IGTs as approximately 1/25th of the total GDN cost, as a relative market share. [IGT165 - Independent Shrinkage Expert and Independent Shrinkage Charge - IGT UNC](#)

indicative IGT contribution of £0.10 million out of the total illustrative £2.4 million. The actual allocation of ISE costs would be determined through DSC governance processes once the solution design and procurement approach are confirmed. The key input summary is shown in Table 1.

Table 1: Key Inputs Summary

Item	Value	Note
IGT shrinkage baseline	0 GWh	IGTAD sets shrinkage to zero
AUGE indicator of IGT shrinkage	21 GWh	Likely IGT-related UIG (i.e. not recorded as shrinkage as of today, but AUGE believes it represents shrinkage that originates from IGT)
SAP (FY 2024/25)	~3.3p/kWh	Applied to uplift
IGT share of ISE cost	~£0.10 million	1/25th of ~£2.4 million

3. Methodology

3.1 Calculation of Shrinkage Cost and Uplift

3.1.1 Baseline Shrinkage Cost

While shrinkage occurs on IGT networks, as stated earlier, it is not recorded or charged under current arrangements. Therefore, baseline IGT shrinkage is 0 GWh, and the associated baseline shrinkage cost is £0.

3.1.2 Shrinkage Uplift Scenarios

Shrinkage uplift represents the increase in shrinkage cost that arises when improved estimation accuracy attributes a greater proportion of gas losses to shrinkage rather than UIG. For IGT165, because the IGT shrinkage baseline is 0 GWh, uplift is parameterised from the AUGE identified IGT related UIG indicator (~21 GWh) rather than from a measured shrinkage baseline.

Five scenarios: 0%, 25%, 50%, 75%, 100% are modelled. These scenarios specify what share of the AUGE identified IGT related UIG indicator is identified as shrinkage. This share sets the IGT shrinkage uplift, and subject to the reallocation percentage, a corresponding reduction in the IGT related UIG slice. These are analytical sensitivities, not forecasts; they do not imply that current IGT shrinkage is measured inaccurately. They illustrate how outcomes would change if the ISE's methodology identified none, some, or all of the indicator volume as shrinkage currently recorded within UIG.

For each scenario, uplift is calculated by applying the uplift percentage to the 21 GWh indicator and valuing the resulting volume at SAP:

$$Uplift (\text{£}) = (\text{Shrinkage Uplift Scenario} * 21 \text{ GWh}) * \text{SAP}$$

3.2 Baseline IGT-related UIG Costs

For the purposes of this analysis, the baseline IGT related UIG cost is calculated by valuing the AUGE-identified IGT related UIG indicator at the System Average Price (SAP):

$$\text{Baseline IGT related UIG cost (£)} = 21 \text{ GWh} * \text{SAP}$$

This represents the indicative cost of the IGT related UIG slice currently recorded in settlement and provides the starting point against which uplift (from shrinkage uplift scenarios) increases the shrinkage pot and reallocation reduces the IGT related UIG pot, as shown in table 4.

3.3 Reallocation Assumptions Scenarios and Residual Uplift

3.3.1 Definition of Reallocation

In this analysis, reallocation¹⁰ refers to the share of the uplift that is treated as an explicit reduction of the IGT related UIG slice. Formally, for any scenario:

$$\text{Reallocated amount (£)} = \text{Uplift (£)} * \text{Reallocation (\%)}$$

Building on this definition, the two-pot movements implied by reallocation are as follows:

$$\begin{aligned} \text{Net Shrinkage pot (IGTs)} &= 0 + \text{Uplift} \\ \text{New IGT related UIG pot} &= \text{Baseline IGT related UIG} - \text{Reallocated amount (£)} \end{aligned}$$

This reflects the two-pot mechanics: Shrinkage increases by the uplift, and UIG decreases by the reallocated amount.

3.4 Scenario Design/Sensitivity

Five reallocation scenarios are modelled: 0%, 25%, 50%, 75% and 100% to illustrate how outcomes vary with the extent to which uplift is treated as an explicit reduction of the IGT related UIG slice. These are analytical sensitivities, not forecasts. The 100% case is included as an upper-bound sensitivity in which all uplift is treated as fully offset by an equal reduction in IGT related UIG (residual uplift = 0).

¹⁰ Reallocation is modelled here as an explicit reduction of the IGT-related UIG slice equal to Uplift × Reallocation%, consistent with the two-pot arithmetic; this does not imply that AUGÉ's UIG allocation is automatically reclassified, only that the analysis treats the ISE-revealed shrinkage as offsetting UIG to the degree assumed.

3.4 Cost Valuation

Because both shrinkage and IGT-related UIG are valued at SAP, any uplift cost in shrinkage would be fully offset by an equal reduction in IGT-related UIG if reallocation is 100%¹¹. Where reallocation is below 100%, only part of the uplift will be offset, and a positive residual remains.

3.6 Appraisal Period

We have used a single year appraisal period for this analysis due to data limitations and time constraints. Due to the low impact of this proposal, to remain proportionate, a one-year appraisal period was deemed appropriate.

3.7 Residual Uplift and Consumer Impact

As stated above, unless 100% of the uplift is reallocated, part of the increase in shrinkage cost is not offset by a reduction in the IGT related UIG slice and therefore remains a net cost to IGT consumers. Where reallocation is below 100%, only part of the uplift is offset and a positive residual uplift remains. This residual uplift is simply the portion of uplift not explained by IGT related UIG and therefore not netted off. In the two-pot framework, this means shrinkage increases by the full uplift, while UIG decreases only by the reallocated amount. As a result, when reallocation is below 100%, the reduction in IGT related UIG is smaller than the increase in shrinkage, leaving a positive residual uplift that increases the total IGT cost in that scenario.

¹¹ In this analysis, shrinkage uplift is valued using FY 2024/25 average SAP, while UIG is valued using GY 2024/25 average SAP. In principle, this can leave a very small monetary difference at 100% reallocation, but in this case the difference is de minimis, so the uplift fully nets off the UIG reduction.

3.8 Net Consumer Impact Calculation

The net consumer impact for each scenario is calculated as the sum of the residual uplift and the IGT share of the Independent Shrinkage Expert (ISE) cost:

$$\text{Net Consumer Impact (£)} = \text{Residual Uplift (£)} + \text{IGT Share of ISE Cost (£)}$$

As noted earlier, the IGT share of the illustrative ISE implementation cost is assumed to be 1/25th of the total indicative cost of approximately £2.4 million, resulting in an estimated IGT contribution of around £0.10 million. This figure is illustrative only and does not represent the eventual cost that may arise from procuring and establishing the ISE; further detail on the cost components is provided in Table 3.

4. Results

Table 2 summarizes the shrinkage uplift values under the shrinkage uplift scenarios introduced in Section 3.1.2. Each shrinkage uplift scenario represents the proportion of the AUGE identified 21 GWh indicator that an independent methodology might identify as an IGT shrinkage. Applying shrinkage uplift levels of 0%, 25%, 50%, 75% and 100% to the indicator results in uplift volumes of 0 GWh, 5.25 GWh, 10.50 GWh, 15.75 GWh, and 21.00 GWh, respectively. When valued at FY 2024/25 SAP, these volumes correspond to additional shrinkage costs of approximately £0, £0.17 million, £0.34 million, £0.51 million, and £0.70 million.

These uplift values provide the starting point for the reallocation and net consumer impact analysis presented in subsequent tables.

Table 2: Shrinkage Uplift Cost for FY 2024/25

Shrinkage Uplift Scenario (%)	Uplift volume (GWh) ¹²	Uplift cost (£m) ¹³
0%	-	-
25%	5.25	0.17
50%	10.50	0.34
75%	15.75	0.51
100%	21.00	0.70

Table 3 presents the baseline cost of the IGT-related UIG slice, calculated by valuing the AUGE-identified indicator of approximately 21 GWh at the applicable SAP.

Table 3: Baseline IGT-Related UIG Cost for GY 2024/2025

Item	Volume (GWh)	Cost (£m) ¹⁴
Baseline IGT-related UIG (AUGE indicator)	~21 GWh	~0.70

¹² As noted earlier, uplift is parameterised from the AUGE-identified IGT-related UIG indicator (~21 GWh for GY 2024/25), rather than from a measured shrinkage baseline as in our UNC 0843 analysis.

¹³ Uplift cost estimated using Average System Price (SAP) for FY 2024/25 – 3.2686 pence/kWh

¹⁴ Baseline UIG cost estimated using Average System Price (SAP) for GY 2024/25 – 3.3186 pence/kWh

Table 4 summarizes the illustrative cost of establishing and operating the ISE. The total is approximately £2.4 million, comprising a procurement cost of £150,000, a CDSP implementation cost in the range of £180,000–£315,000 (central estimate applied), and an ongoing contractual cost of around £2.0 million. For the IGT specific analysis, we do not apply the full total; instead, we use a notional IGT share of 1/25th, which equates to approximately £0.10 million for the purpose of calculating net consumer impacts. The precise final implementation cost of the ISE does not materially affect the conclusions of this analysis. The IGT165 analysis focuses on how improved shrinkage estimation accuracy could change the attribution of gas between UIG and shrinkage for modelling purposes. As such, the direction of impact is driven by the relationship between uplift and reallocation assumptions rather than by the exact ISE implementation cost. Accordingly, the overall conclusions remain robust regardless of the final cost outturn.

Table 4: Independent Shrinkage Expert (ISE) – Illustrative Implementation Cost

Component	Cost (£)
Procurement Exercise	150,000
CDSP Implementation	180,000 - 315,000
Ongoing Contractual Cost	2,000,000
Total ISE Illustrative Cost	~2, 400,000
IGT Share of ISE Cost	~96,000

Table 5 shows how the total IGT cost changes under different shrinkage uplift and reallocation scenarios, based on the two-pot framework in which uplift increases the shrinkage pot and reallocation reduces the IGT-related UIG pot.

Across all shrinkage uplift levels, the reallocated amount plus the residual amount equals total uplift. Only at 100% reallocation is the uplift fully offset by an equal reduction in the IGT related UIG slice, meaning the total IGT cost returns to its baseline of approximately

£0.70 million. At reallocation levels below 100%, the reduction in IGT related UIG is smaller than the increase in shrinkage, so total IGT cost increases.

Table 5: IGT Shrinkage and UIG Pots Under Shrinkage Uplift and Reallocation Scenarios

Shrinkage Uplift Scenario (%)	Reallocation Scenario (%)	Reallocated Amount (£m)	Residual Uplift (£m)	Shrinkage Pot (£m)	UIG Pot (After Reallocation) (£m)	Total IGT Cost (Shrinkage Pot + UIG Pot)
0%	0% - 100%	-	-	-	0.70	0.70
25%	0%	-	0.17	0.17	0.70	0.87
25%	25%	0.04	0.13	0.17	0.65	0.83
25%	50%	0.09	0.09	0.17	0.61	0.78
25%	75%	0.13	0.04	0.17	0.57	0.74
25%	100%	0.17	-	0.17	0.53	0.70
50%	0%	-	0.34	0.34	0.70	1.04
50%	25%	0.09	0.26	0.34	0.61	0.95
50%	50%	0.17	0.17	0.34	0.53	0.87
50%	75%	0.26	0.09	0.34	0.44	0.78
50%	100%	0.34	-	0.34	0.35	0.70
75%	0%	-	0.51	0.51	0.70	1.21
75%	25%	0.13	0.39	0.51	0.57	1.08
75%	50%	0.26	0.26	0.51	0.44	0.95
75%	75%	0.39	0.13	0.51	0.31	0.83
75%	100%	0.51	-	0.51	0.18	0.70
100%	0%	-	0.69	0.69	0.70	1.38
100%	25%	0.17	0.51	0.69	0.53	1.21
100%	50%	0.34	0.34	0.69	0.35	1.04
100%	75%	0.51	0.17	0.69	0.18	0.87
100%	100%	0.69	-	0.69	0.01	0.70

Table 6 summarises the net consumer cost across all shrinkage uplift and reallocation scenarios for IGT networks.

Across all shrinkage uplift levels, net consumer cost falls as reallocation increases and converges to approximately £0.1 million at 100% reallocation, reflecting the illustrative IGT share of ISE implementation costs. This occurs because, under full reallocation, the uplift is fully offset by an equivalent reduction in the IGT related UIG slice, leaving the ISE cost as the only remaining net impact. At lower reallocation levels, only part of the uplift is offset, so the un-offset portion (the residual uplift) increases the net cost above this minimum.

Table 6: Net Consumer Cost Under Shrinkage Uplift and Reallocation Scenarios

Shrinkage Uplift Scenario (%)	Reallocation Scenarios (%)	Net Consumer Impact (£m)
0%	0% - 100%	0.10
25%	0%	0.27
25%	25%	0.23
25%	50%	0.18
25%	75%	0.14
25%	100%	0.10
50%	0%	0.44
50%	25%	0.35
50%	50%	0.27
50%	75%	0.18
50%	100%	0.10
75%	0%	0.61
75%	25%	0.48

75%	50%	0.35
75%	75%	0.23
75%	100%	0.10
100%	0%	0.78
100%	25%	0.61
100%	50%	0.44
100%	75%	0.27
100%	100%	0.10

5. Caveats

The findings of this analysis are subject to several caveats arising from uncertainties in the underlying data, modelling assumptions, and scope boundaries. These caveats are important for interpreting the results, particularly given the use of indicative cost estimates and the reliance on the AUGE-identified IGT-related UIG volume as an analytical proxy for potential IGT shrinkage. The key caveats are set out below.

(i) Implementation cost estimate

The total ISE implementation cost of £2.4 million is an illustrative estimate based on information provided by Xoserve and may not represent the final cost arising through procurement or operational arrangements. For this assessment, an indicative IGT share of approximately £0.10 million has been applied, reflecting proportional participation assumptions used during IGT165 development. The final allocation will be determined through DSC governance.

(i) Evolving UIG position

The estimate of 21 GWh of IGT related UIG is taken from the AUGE assessment for Gas Year 2024/25 and may change as reconciliation progresses. This figure reflects the current indicative position but may be updated as further reconciled metered data becomes available.

(ii) Scenario-based analysis

The shrinkage uplift and reallocation scenarios are analytical sensitivities. They are not forecasts of IGT system behaviour, nor do they imply that current IGT shrinkage is measured inaccurately; IGT shrinkage remains 0 GWh under current arrangements.

(iii) Bounding assumption at 100% reallocation

The 100% reallocation scenario is a bounding case included for analytical completeness. It reflects the theoretical position in which the ISE's estimate fully aligns with AUGE's UIG allocation for IGTs, such that the uplift is completely offset. It is not expected to represent a realistic operational outcome.

(iv) Determinants of consumer impact

The scale of the IGT consumer impact under IGT165 depends on several factors, including:

- the shrinkage uplift scenario, which determines the uplift volume;
- the reallocation scenario, which determines how much uplift is treated as explained IGT related UIG;
- the System Average Price (SAP), which is used to value uplift volumes;

- future UIG reconciliation outcomes, which may revise the underlying UIG volumes; and
- The final ISE cost allocation methodology will be set through DSC governance.

Overall, the scenario based analysis indicates that the introduction of the Independent Shrinkage Expert would lead to positive net consumer costs for IGTs across all modelled shrinkage uplift and reallocation combinations. Although the magnitude of residual uplift or allocated ISE cost may vary as further information becomes available, such variation does not affect the direction of the results.

Because the analysis isolates only the IGT related portion of UIG (approximately 21 GWh) and applies a fixed illustrative assumption for ISE cost allocation, net consumer costs remain positive in all scenarios. The minimum net cost arises under the 100% reallocation bounding case, where uplift is fully offset, and the net cost converges to the indicative IGT share of ISE implementation costs (approximately £0.10 million). Therefore, under realistic assumptions, the analysis does not demonstrate a net financial benefit to IGT consumers from the introduction of an ISE under IGT165.