

**UNIFORM NETWORK CODE – TRANSPORTATION PRINCIPAL DOCUMENT****SECTION N - SHRINKAGE<sup>1</sup>****1 GENERAL****1.1 Introduction**

- 1.1.1 For the purposes of the Code, "**shrinkage**" means gas in a System which is used by the Transporter in connection with the operation of, or which is unaccounted for as offtaken from, a System; and, where the context admits, a reference to shrinkage includes the quantity of such gas.
- 1.1.2 Shrinkage will be for the account of the relevant Shrinkage Provider in accordance with paragraph 4.
- 1.1.3 Shrinkage quantities will be determined separately for the NTS and each LDZ.
- 1.1.4 Shrinkage comprises own use gas in accordance with paragraph 1.2 and unaccounted for gas in accordance with paragraph 1.3.

**1.2 Own use gas**

For the purposes of this Section N own use gas is gas used by National Grid NTS in connection with the operation of the NTS ("**NTS own use gas**") or by a DN Operator in connection with the operation of an LDZ ("**LDZ own use gas**"), including gas used in running compressors and gas used for preheating.

**1.3 Unaccounted for gas**

- 1.3.1 For the purposes of this Section N, unaccounted for gas is gas which is lost or otherwise not accounted for as offtaken from the NTS ("**NTS unaccounted for gas**") or from an LDZ ("**LDZ unaccounted for gas**"), including gas lost or unaccounted for by reason of unidentified theft, error in meter correction and leakage (including, in the case of an LDZ, gas vented in its operation) and (in respect of the NTS) CV shrinkage.
- 1.3.2 Shrinkage in a System shall:
- (a) include gas offtaken from the System which has been illegally taken:
    - (i) upstream of the point of offtake (in accordance with Section J3.7) at any System Exit Point (it being recognised the effect of Standard Condition 7(3) of the Transporter's Licence is that the rates of Transportation Charges may reflect the taking of such gas); and
    - (ii) subject to paragraph (b)(ii), at or at a point downstream of the point of offtake at a System Exit Point, in a case in which the Transporter

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<sup>1</sup> Implementation of modification 0428 effective 06:00hrs on 01/04/2014, will amend this document in whole or in part & Implementation of modification 0432 effective 06:00hrs on 01/10/2015, will amend this document in whole or in part.

is (pursuant to paragraph 9(2) of the Gas Code) entitled to recover the value of the gas;

- (b) not include gas offtaken from the System:
  - (i) except as provided in paragraph (a)(ii), illegally taken at or downstream of the point of offtake at any System Exit Point (but without prejudice to Section E3.5.2 or to any reduction of Transportation Charges pursuant to Standard Condition 7(3) of the Transporter's Licence); and
  - (ii) taken at (or at a point downstream of) the point of offtake, at a Supply Meter Point of which the Registered User has ceased to be a User pursuant to Section V4.3, except in a case where, after the Supply Meter Point has been Isolated, the Transporter becomes (pursuant to paragraph 9(2) of the Gas Code) entitled to recover the value of the gas.

#### 1.4 Determination of shrinkage

1.4.1 In accordance with this Section N, shrinkage will be:

- (a) estimated for each Day (before and after the Day) on the basis of (in the case of the NTS) the NTS Shrinkage Factor, and (in the case of an LDZ) the applicable LDZ Shrinkage Quantity, in each case as determined before the Day; and
- (b) subsequently assessed, on the basis of information available after the Day;

and references respectively to estimated and assessed shrinkage shall be construed accordingly.

1.4.2 The "**NTS Daily Quantity Delivered**" is the Total System Daily Quantity Delivered less the sum of the Entry Point Daily Quantities Delivered in respect of any LDZ System Entry Points.

1.4.3 The "**NTS Shrinkage Factor**" is a factor determined before each Day by which the shrinkage attributable to any gas flow in the NTS on that Day may be estimated.

1.4.4 The "**LDZ Shrinkage Quantity**" in relation to an LDZ and a period is the estimated average daily shrinkage attributable to that LDZ in that period.

1.4.5 The "**Daily Shrinkage Quantity**" is the estimated shrinkage in the NTS or an LDZ on a Day, determined:

- (a) in respect of the NTS, as the NTS Shrinkage Factor multiplied by the NTS Daily Quantity Delivered;
- (b) in respect of an LDZ, as equal to the applicable LDZ Shrinkage Quantity.

1.4.6 Differences between assessed shrinkage and estimated shrinkage for any period will (in accordance with the further provisions of this Section N) be taken into account:

- (a) in the case of the NTS, in the NTS Shrinkage Factors for Days subsequent to

that period;

- (b) in the case of an LDZ, by reconciliation and adjustment in relation to that period.

## **1.5 DNO Users**

In this Section N references to Users exclude, except in relation to paragraph 4, DNO Users.

## **1.6 Trader User**

In this Section N references to Users exclude Trader Users.

## **2 NTS SHRINKAGE**

### **2.1 NTS Shrinkage Factor**

2.1.1 For the purposes of establishing the "**NTS Shrinkage Factor**", National Grid NTS will estimate each Day, the quantity of NTS own use gas, NTS unaccounted for gas and CV Shrinkage on the following Day.

2.1.2 The NTS Shrinkage Factor for a Day will be determined (by reference to expected gas flows in the NTS on the Day) on the basis of the estimates (for that Day or the month in which it occurs) under paragraph 2.1.1 of NTS own use gas and NTS unaccounted for gas, adjusted in respect of differences (insofar as not taken into account in determining NTS Shrinkage Factors for any earlier Day(s)) between the Daily Shrinkage Quantity and assessed NTS shrinkage for Days in the preceding month as determined under paragraph 2.3.

### **2.2 Notification of NTS Shrinkage Factor**

2.2.1 The NTS Shrinkage Factor for the Gas Flow Day will be made available to Users not later than 13:30 hours on the Preceding Day.

2.2.2 National Grid NTS will provide to Users not later than 1 March in the Preceding Formula Year, for each month in the Formula Year, a provisional forecast of the NTS Shrinkage Factor to apply in such month.

2.2.3 The forecasts of NTS Shrinkage Factors under paragraph 2.2.2 are indicative only and will not bind National Grid NTS, the NTS Shrinkage Provider or Users.

### **2.3 Assessed NTS Shrinkage**

2.3.1 Assessed NTS shrinkage for a Day will be determined as the NTS Daily Quantity Delivered less the aggregate of the LDZ Daily Input Quantities for each LDZ, the Supply Meter Point Daily Quantities for each NTS Supply Meter Point and the CSEP Daily Quantity Offtaken for each NTS Connected System Exit Point, adjusted by the amount of the change in NTS linepack for the Day.

2.3.2 National Grid NTS will assess NTS shrinkage for each Day in each month, and provide to Users details of the average assessed NTS shrinkage for Days in that month, not later

than the 16<sup>th</sup> Day of the following month.

### **3 LDZ SHRINKAGE**

#### **3.1 LDZ Shrinkage Quantity**

- 3.1.1 Subject to paragraph 3.1.3, for the purposes of establishing the "**LDZ Shrinkage Quantity**" applicable in respect of a relevant LDZ, the Transporter will estimate by 1 March in the Preceding Formula Year, the aggregate amounts of LDZ own use gas and LDZ unaccounted for gas for that LDZ in the Formula Year.
- 3.1.2 Subject to paragraph 3.1.3, the LDZ Shrinkage Quantity for each Formula Year will be determined as the aggregate of the estimated amounts under paragraph 3.1.1 of own use gas and unaccounted for gas in the LDZ for the Formula Year, divided by the number of Days in the Formula Year.
- 3.1.3 When the Transporter determines that the basis on which it estimates LDZ unaccounted for gas is sufficiently robust to permit its valid estimation more frequently than annually, the Transporter will increase (after giving Users not less than 30 Days' notice) the frequency with which it estimates LDZ unaccounted for gas, and accordingly reduce the period by reference to which adjustments are made for differences between estimated and assessed LDZ unaccounted for gas.
- 3.1.4 The Transporters will, not later than 1 January in the Preceding Formula Year, submit to all Users:
- (a) the estimated LDZ Shrinkage Quantity for each LDZ for the Formula Year;
  - (b) the methodology by which the estimate was determined
- and Users may submit to a Transporter representations in respect of the estimated LDZ Shrinkage Quantity for up to but not later than 1 February in the Preceding Formula Year.
- 3.1.5 Between 1 and 15 February in the Preceding Formula Year, the Transporters:
- (a) will review any representations made by Users under paragraph 3.1.4;
  - (b) will consult, so far as the Transporters deem appropriate, with any User in respect of any representations made by it or any other User;
  - (c) may convene meetings with any User or Users for the purposes of such consultation.
- 3.1.6 The Transporters will make available to Users reasonable details of the representations made to them under paragraph 3.1.4 and consultations under paragraph 3.1.5 (but may do so by oral presentation at a meeting of Users convened under paragraph 3.1.5(c)), and shall be free to disclose to any User and the Authority any such representation and details of any such consultation.
- 3.1.7 Not later than 1 March in the Preceding Formula Year, the Transporters will submit to the Authority and all Users their final estimates of the LDZ Shrinkage Quantity for each LDZ for the Formula Year with such changes as they may on the basis of Users'

representations and consultation under paragraphs 3.1.4 and 3.1.5 determine appropriate.

- 3.1.8 The LDZ Shrinkage Quantity for each LDZ applicable to the Formula Year shall be the estimate submitted under paragraph 3.1.7 unless upon the application of the Transporter or any User, made no later than 15 March, the Authority shall give Condition A11(18) Disapproval to the Transporter applying a particular estimate of the LDZ Shrinkage Quantity, in which case the LDZ Shrinkage Quantity in the relevant LDZ shall be that applying in the Preceding Formula Year.

### **3.2 Notification of LDZ Shrinkage Quantity**

- 3.2.1 Subject to paragraph 3.2.2, the LDZ Shrinkage Quantity for each relevant LDZ for the Formula Year will be notified to Users by the Transporter not later than 1 March in the Preceding Formula Year.

- 3.2.2 Where the frequency of estimation of LDZ Shrinkage Quantity is increased under paragraph 3.1.3:

- (a) the LDZ Shrinkage Quantity for each relevant LDZ will be notified to Users on a basis commensurate with such increased frequency;
- (b) references in this Section N to Formula Year, in the context of the LDZ Shrinkage Volume, shall be to such reduced period for which such estimate is made;
- (c) the Transporter will provide to Users, not later than 1 March in the Preceding Formula Year, a provisional forecast of the LDZ Shrinkage Quantity to apply in each relevant period in the Formula Year.

- 3.2.3 The forecast LDZ Shrinkage Quantities under paragraph 3.2.2(c) are indicative only and will not bind the relevant Transporter, the relevant Shrinkage Provider or Users.

### **3.3 Assessed LDZ Shrinkage**

- 3.3.1 The Transporter will assess LDZ shrinkage in each relevant LDZ at intervals of approximately twelve months, on the basis of such historic information as may be available to it, by technical and statistical analysis including extrapolation of sampled information and identification of any long term trends.

- 3.3.2 The sources of the information referred to in paragraph 3.3.1 include:

- (a) as respects own-use gas, meter readings in respect of preheating facilities (where such facilities are metered);
- (b) as respects unaccounted for gas:
  - (i) as respects leakage, the data listed in paragraph 3.3.4;
  - (ii) as respects unidentified theft of gas, any evidence of significant changes in the occurrence of theft as compared with the assumption made previously.

- 3.3.3 The data referred to in paragraph 3.3.2(b)(i) is actual data in relation to the period relating to:
- (a) the measurement of pressure profiles in the LDZ;
  - (b) conditioning of gas transported in the LDZ;
  - (c) replacement of old pipework in the LDZ;
  - (d) number of Supply Meter Points supplied in the LDZ;
  - (e) above ground installations (AGIs) installed and in operation on the LDZ;
  - (f) damage caused by third party interference with pipes comprised in the LDZ;
  - (g) Calorific Value of gas transported in the LDZ;
  - (h) the rate of leakage of gas from different kinds of asset comprising the LDZ; and
  - (i) demand on the LDZ.
- 3.3.4 Not later than 31 July in each Formula Year, the Transporter will provide to Users a report setting out in respect of the Preceding Formula Year:
- (a) values (for the whole year and/or on an average daily basis) of assessed LDZ shrinkage for each relevant LDZ together with a summary of the statistics and information from which (as described in paragraph 3.3.1) such values were derived; and
  - (b) a comparison of such assessed values with the values of LDZ shrinkage estimated before the Preceding Formula Year in accordance with paragraph 3.1.

### **3.4 LDZ Shrinkage Adjustment**

- 3.4.1 Not later than 31 July in each Formula Year, the Transporters will in respect of the Preceding Formula Year review the assessed LDZ shrinkage for each LDZ established under paragraph 3.3.1, and the estimated LDZ Shrinkage for each LDZ established under paragraph 3.1, and where appropriate undertake a reconciliation in accordance with the LDZ Shrinkage Adjustment Methodology for the purposes of Section E7.6.
- 3.4.2 The "**LDZ Shrinkage Adjustments Methodology**" is the methodology from time to time established, published and revised by the Transporters (subject to prior approval by Panel Majority of the Uniform Network Code Committee) and issued to Users setting out the calculations for the reconciliation to be carried out under paragraph 3.4.1.

## **4 ACCOUNTING FOR SHRINKAGE**

### **4.1 Shrinkage Provider**

- 4.1.1 Shrinkage shall be for the account of the relevant Shrinkage Provider (and treated for certain purposes as gas deemed to be offtaken from a System) in accordance with this paragraph 4.

4.1.2 For the purposes of the Code:

- (a) **"Shrinkage Provider"** means the NTS Shrinkage Provider and an LDZ Shrinkage Provider;
- (b) in relation to the NTS the **"NTS Shrinkage Provider"** means National Grid NTS;
- (c) in relation to an LDZ the **"LDZ Shrinkage Provider"** means the relevant Transporter as DNO User

or any person to whom the responsibility for shrinkage in the relevant System has for the time being been assigned in accordance with paragraph 4.1.3.

4.1.3 In respect of a relevant System the Transporter may (by agreement with such person) assign to any person the responsibility for shrinkage in the System at any time and for any period and upon any terms as to payment or otherwise.

4.1.4 Where a person other than the relevant Transporter is Shrinkage Provider:

- (a) such person shall be required first to become a User of the NTS in accordance with Section V2;
- (b) if such person is or becomes a User for purposes other than those of Shrinkage Provider, it shall be a separate User of the NTS in its capacity as Shrinkage Provider and the provisions of paragraph 4.2 shall apply only in respect of such capacity as Shrinkage Provider.

## 4.2 Shrinkage Provider as User

4.2.1 A Shrinkage Provider shall be a User of the NTS, subject as provided in paragraph 4.2.2, and in relation to LDZ Shrinkage the NTS/LDZ Offtakes (in aggregate) in relation to an LDZ shall be deemed to be a System Exit Point for the purposes of the further provisions of this paragraph 4.

4.2.2 A Shrinkage Provider:

- (a) may purchase gas in respect of shrinkage:
  - (i) provided such terms include a requirement that the Shrinkage Provider and the counterparty shall give effect to the sale and purchase of shrinkage gas by making Trade Nominations in accordance with C5; and
  - (ii) save for the requirement in (i) above, on such other terms as it thinks fit;
- (b) may make Acquiring Trade Nominations and Disposing Trade Nominations in accordance with Section C5: provided always that a Shrinkage Provider may only make a Disposing Trade Nomination in respect of a Gas Day where the aggregate Trade Nomination Quantity of all Disposing Trade Nominations made by the Shrinkage Provider in respect of such Gas Day is less than or equal to the aggregate Trade Nomination Quantity of all Acquiring Trade

Nominations made by the Shrinkage Provider in respect of the same Gas Day;

- (c) shall not be required to apply for and pay for NTS Exit Capacity, LDZ Capacity or Commodity Charges;
- (d) may post Market Offers;
- (e) subject to paragraph (f), will make or receive payments in respect of Balancing Charges, in accordance with Section F; and
- (f) shall not be required to pay Scheduling Charges in respect of Output Nominations, nor to pay Balancing Neutrality Charges or Reconciliation Neutrality Charges.

4.2.3 For the avoidance of doubt, National Grid NTS may not take a Market Balancing Action for the purposes of buying or selling gas for the account of a Shrinkage Provider.

#### **4.3 Shrinkage offtake**

4.3.1 For the purposes of determining a Shrinkage Provider's Daily Imbalance in respect of any Day in accordance with Section E, the Daily Shrinkage Quantities for that Day shall be treated as quantities offtaken by the Shrinkage Provider (and accordingly shall be deemed to be UDQOs for the purposes of that Section E).

4.3.2 In accordance with paragraph 4.3.1, a Shrinkage Provider's Daily Imbalance for a Day will not take account of differences between estimated and assessed shrinkage (which will be taken into account as provided in paragraph 1.4.6).

4.3.3 For the purposes of Renominations (under C4) and Daily Imbalance Charges (under Section F2) the quantities treated as offtaken by a Shrinkage Provider shall be treated as though they were offtaken at NDM Supply Point Components.

#### **4.4 Shrinkage Output Nominations**

4.4.1 Subject to paragraph 4.4.2, Output Nominations and Renominations for a Shrinkage Provider will be made for the Shrinkage Provider by National Grid NTS.

4.4.2 For each Day, there will (notwithstanding Section C) be a single Output Nomination for a Shrinkage Provider.

4.4.3 The Nomination Quantity under each such Output Nomination will be:

- (a) in respect of the NTS Shrinkage Provider, Forecast Total System Demand, less the aggregate of the Nomination Quantities under Input Nominations in respect of LDZ System Entry Points, at the relevant Demand Forecast Time, multiplied by the NTS Shrinkage Factor; and
- (b) in respect of an LDZ Shrinkage Provider, the relevant LDZ Shrinkage Quantity.

#### **4.5 Reconciliation**

Following DM Reconciliation and CSEP Reconciliation in respect of an NTS Supply Meter Point or NTS Connected System Exit Point:



- (a) for the purposes of Section F5.1.1, where the Reconciliation Quantity:
  - (i) is positive, the seller is the User and the buyer is the NTS Shrinkage Provider;
  - (ii) is negative, the seller is the NTS Shrinkage Provider and the buyer is the User; and
- (b) where the Reconciliation Clearing Charges are payable:
  - (i) to the User, they shall be payable by the NTS Shrinkage Provider;
  - (ii) by the User, they shall be payable to the NTS Shrinkage Provider.

#### 4.6 Information Provision

4.6.1 For the purposes of this paragraph 4.6:

- (a) **"relevant shrinkage disposals"** shall mean all gas disposed of by the NTS Shrinkage Provider, which gas had previously been purchased by the NTS Shrinkage Provider in respect of NTS shrinkage for the relevant Gas Flow Day;
- (b) **"relevant shrinkage purchases"** shall mean all gas purchased by the Shrinkage Provider in respect of NTS shrinkage for the relevant Gas Flow Day;
- (c) prices shall be quoted in pence per kWh and, to the extent that the NTS Shrinkage Provider is reasonably able to do so, shall take into account any discounts or premiums applied or charged in respect of relevant shrinkage purchases or relevant shrinkage disposals, provided the amount of such discounts and premiums were known to the NTS Shrinkage Provider at the time of the calculation of the relevant prices and were reasonably able to be applied to one or more relevant shrinkage purchases or relevant shrinkage disposals;
- (d) where the NTS Shrinkage Provider has entered into a transaction for an amount on each Gas Flow Day for a specific period it shall, for the purpose of calculating the number of transactions entered into, be deemed to be a separate transaction in respect of each and every Gas Flow Day to which it relates; and
- (e) whilst all information published by the NTS Shrinkage Provider will so far as reasonably practicable be reflective of the information in its possession at a time as close as reasonably practicable to the time of publication, it will not be reflective of information which comes into its possession subsequently (or of any subsequent relevant shrinkage purchases or relevant shrinkage disposals in respect of the relevant Gas Flow Day), will not bind National Grid NTS or the NTS Shrinkage Provider and will be without prejudice to the provisions in this Section N and elsewhere in the Code whether to later adjustment, assessment, reconciliation or otherwise.

4.6.2 The NTS Shrinkage Provider shall, no later than the end of the fifth Day following the relevant Gas Flow Day (or, if such Day is not a Business Day, the end of the first Business Day thereafter), publish the following information (where such information is available) in relation to relevant shrinkage purchases and relevant shrinkage disposals made in respect of that Gas Flow Day;

- (a) the net quantity of gas purchased (being the quantity derived as the aggregate quantity of gas purchased pursuant to relevant shrinkage purchases less the aggregate quantity of gas disposed of pursuant to relevant shrinkage disposals);
- (b) the aggregate quantity of gas purchased pursuant to relevant shrinkage purchases;
- (c) the aggregate quantity of gas disposed of pursuant to relevant shrinkage disposals;
- (d) the aggregate number of transactions entered into in respect of relevant shrinkage purchases;
- (e) the aggregate number of transactions entered into in respect of relevant shrinkage disposals;
- (f) the weighted average price of relevant shrinkage purchases;
- (g) the weighted average price of relevant shrinkage disposals;
- (h) the minimum price paid under a transaction for a relevant shrinkage purchase;
- (i) the maximum price paid under a transaction for a relevant shrinkage purchase;
- (j) the minimum price received under a transaction for a relevant shrinkage disposal; and
- (k) the maximum price received under a transaction for a relevant shrinkage disposal.

## **5 CLASS A CONTINGENCIES**

### **5.1 Class A Contingencies**

- 5.1.1 During the period of a Class A Contingency, the provision of NTS Shrinkages Factor by National Grid NTS to Users pursuant to paragraph 2.2.2 and Output Nominations and Renominations pursuant to paragraph 4.4 will be deferred by a period commensurate with the duration of the Class A Code Contingency.