

# LDZ Shrinkage Initial Proposals

## Gas Year 2008/09

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July 2008

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# Revised Regulatory Environment

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# 2008-13 Shrinkage Allowances (E8)

## *Revised Regulatory Regime Introduced*

- ◆ Shrinkage is gas lost from the system through leakage, theft and own use gas
- ◆ Concluded there was no measurable correlation between shrinkage (leakage) and throughput
- ◆ 2007/08 allowances (volume & price) 'rolled over' for first six months to allow UNC modification proposals to be progressed
- ◆ Revised regime reduces both (weather related) volume risk and price risk

### **2007/08 Shrinkage Allowance**

#### Shrinkage Factors

(predefined within licence)

*multiplied by*

**actual throughput**

*multiplied by*

**Gas Reference Price**

(3 month ahead price + 3.5% uplift)

### **2008-13 Shrinkage Allowance**

#### Shrinkage Quantities

(predefined 'reducing' volumes within licence, broadly reflective of BPQ submission)

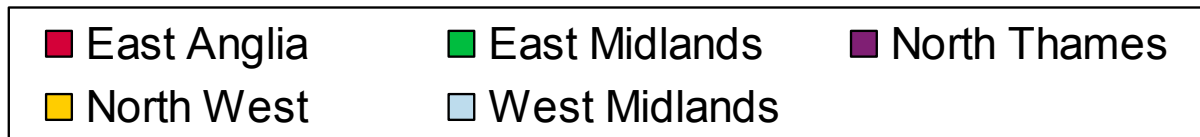
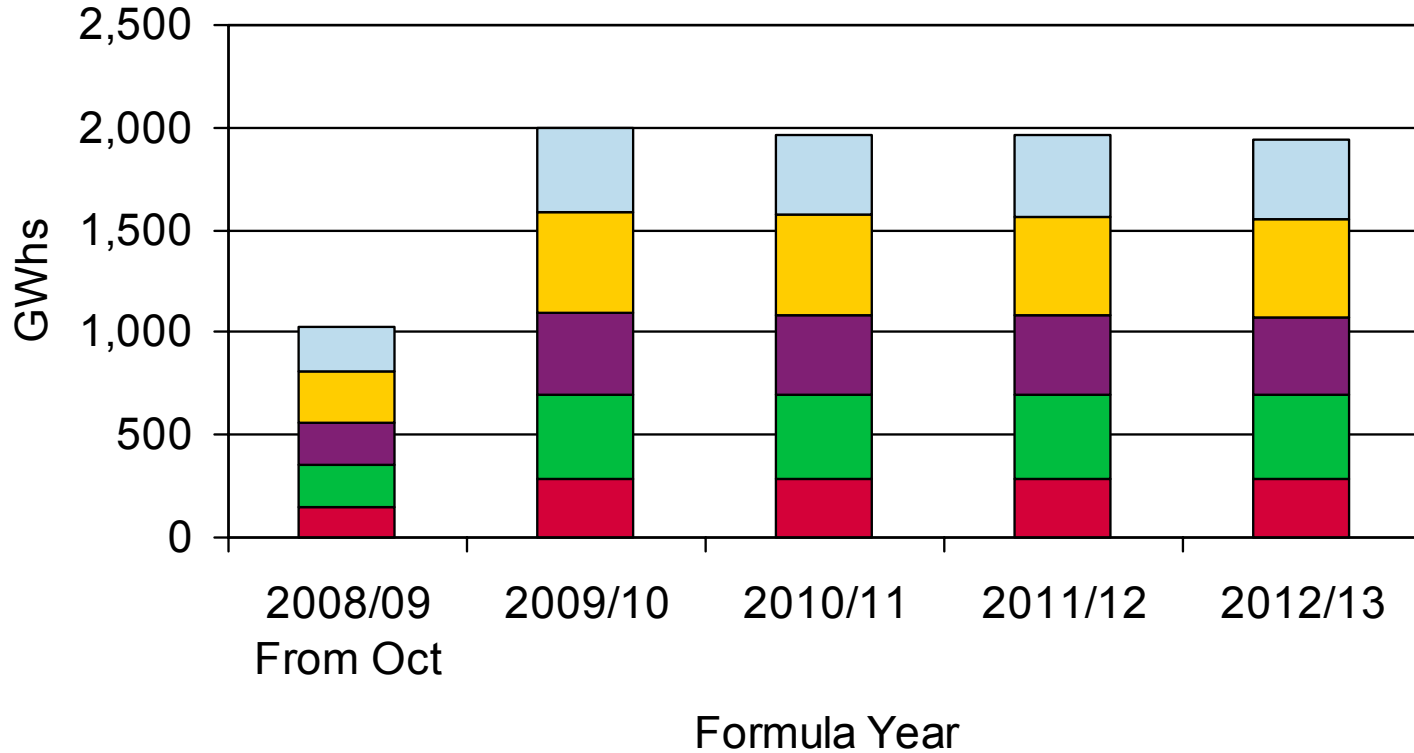
*multiplied by*

**Gas Reference Price**

(Day Ahead Price)

# 2008-13 Shrinkage Allowances (E8)

## Allowed Shrinkage Quantities



# Modification Proposal 0203V

## *Areas addressed*

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- ◆ For the 2008-13 Gas Distribution Networks Price Control, Ofgem fixed a volumetric allowance for Shrinkage for each LDZ, as opposed to ex ante target shrinkage factors (percentages of throughput).
  - ◆ Ofgem concluded that on the basis of evidence available, there is little correlation between shrinkage and throughput for the existing networks
- ◆ As a result, changes to Section N have been progressed:
  - ◆ *to update references to LDZ Shrinkage Factors to reflect LDZ Shrinkage Quantities*
  - ◆ *make appropriate amendments to the content of industry notification processes, namely current Initial and Final Proposals*
  - ◆ *effect minor change to the classification of LDZ vented gas, consistent with the operation of the approved Leakage model calculations (vented gas is not burnt and therefore should be classed as unaccounted for gas, not own use gas)*
  - ◆ *update the sources of information used in the assessment process to include all inputs to the leakage model*
  - ◆ *System amendments (Gemini / UK Link) being considered and progressed in parallel*
- ◆ Modification approved by Ofgem on 20 June 2008
  - ◆ Implementation date 1 July 2008

# LDZ Shrinkage Initial Proposals

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# Leakage

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- ◆ Mains replacement:
  - ◆ 2007/8: c1800km metallic mains / services
  - ◆ 2008/9: forecast c1800km metallic mains / services
- ◆ Average System Pressure
  - ◆ Minimal change in EA, NT & WM
  - ◆ Significant reductions in EM & NW
  - ◆ Net effect decrease of 0.9mbar
- ◆ MEG concentration
  - ◆ 4% reduction
- ◆ 2008/09 Leakage: 1,850 GWh
  - ◆ 5,068,716 KWh per day



# Own Use Gas (OUG)

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- ◆ Fixed LDZ Specific Daily Quantity
  - ◆ Equivalent to 0.011% of 17 year Seasonal Normal consumption
- ◆ Consistent with National Average determined by Advantica in 2002
  
- ◆ 2008/09 OUG: 36 GWh
  - ◆ 97,687 KWh per day

# Theft of Gas (TOG)

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- ◆ Fixed LDZ Specific Daily Quantity
  - ◆ Equivalent to 0.02% of 17 year Seasonal Normal consumption
- ◆ Year on year variations in Transporter responsible theft
  - ◆ 2002: 4.4%
  - ◆ 2003: 1.2%
  - ◆ 2004: 4.0%
  - ◆ 2005: 3.1%
  - ◆ 2006: 5.4%
  - ◆ 2007: 10.1%
- ◆ 2008/09 TOG: 65 GWh
  - ◆ 177,613 KWh per day



# Outer Met Shrinkage Volumes

## Impact on RbD Shippers

- ◆ **Ideal Solution** *(would require Price Control re-opener and restructure of National Grid Operations)*
  - ◆ Shipper costs associated with 'increased' RbD smear are being incurred in NT as Outer Met Shrinkage Volume is being procured in EA
  - ◆ Transportation charges are calculated with Outer Met Shrinkage costs being incurred in EA, i.e. National Grid are being funded to procure Outer Met Shrinkage Volume in EA

RbD Shipper	Gas Price £30,000 /GWh		Outer Met 30 GWh				Theoretical Cost to Shipper
	Market Share		Value of Outer Met Shrinkage Volume on RbD Shippers (Gas Price x Volume x Market Share)		Transportation Cost incurred by RbD Shippers (c80% of transportation costs incurred by RbD)		
	EA	NT	EA	NT	EA	NT	
Shipper A	10%	40%	£90,000	£360,000	£72,000	£288,000	<b>£432,000</b>
Shipper B	50%	50%	£450,000	£450,000	£360,000	£360,000	<b>£810,000</b>
Shipper C	40%	10%	£360,000	£90,000	£288,000	£72,000	<b>£378,000</b>
			<b>£900,000</b>	<b>£900,000</b>	<b>£720,000</b>	<b>£720,000</b>	<b>£1,620,000</b>

# Outer Met Shrinkage Volumes

## Impact on RbD Shippers

- ◆ **Current Situation** *(in operation in the current 2007/08 Gas Year)*
  - ◆ Shipper costs associated with 'increased' RbD smear are being incurred in NT as Outer Met Shrinkage Volume is being procured in EA
  - ◆ Transportation charges are calculated with Outer Met Shrinkage costs being incurred in NT, i.e. National Grid are being funded to procure Outer Met Shrinkage Volume in NT

RbD Shipper	Gas Price £30,000 /GWh		Outer Met 30 GWh				Theoretical Cost to Shipper	Theoretical Cost to Shipper of 'Ideal' Solution	Variance from 'Ideal' Solution
	Market Share		Value of Outer Met Shrinkage Volume on RbD Shippers (Gas Price x Volume x Market Share)		Transportation Cost incurred by RbD Shippers (c80% of transportation costs incurred by RbD)				
	EA	NT	EA	NT	EA	NT			
Shipper A	10%	40%	£90,000	£360,000	£72,000	£288,000	£648,000	£432,000	(£216,000)
Shipper B	50%	50%	£450,000	£450,000	£360,000	£360,000	£810,000	£810,000	£0
Shipper C	40%	10%	£360,000	£90,000	£288,000	£72,000	£162,000	£378,000	£216,000
			£900,000	£900,000	£720,000	£720,000	£1,620,000	£1,620,000	

# Outer Met Shrinkage Volumes

## Impact on RbD Shippers

### ◆ **Proposed Way Forward** (2008/09 Initial Proposals)

- ◆ Shipper costs associated with 'increased' RbD smear are being incurred in EA as Outer Met Shrinkage Volume is being procured in NT
- ◆ Transportation charges are calculated with Outer Met Shrinkage costs being incurred in NT, i.e. National Grid are being funded to procure Outer Met Shrinkage Volume in NT

RbD Shipper	Gas Price £30,000 /GWh		Outer Met 30 GWh				Theoretical Cost to Shipper	Theoretical Cost to Shipper of 'Ideal' Solution	Variance from 'Ideal' Solution
	Market Share		Value of Outer Met Shrinkage Volume on RbD Shippers (Gas Price x Volume x Market Share)		Transportation Cost incurred by RbD Shippers (c80% of transportation costs incurred by RbD)				
	EA	NT	EA	NT	EA	NT			
Shipper A	10%	40%	£90,000	£360,000	£72,000	£288,000	£378,000	£432,000	£54,000
Shipper B	50%	50%	£450,000	£450,000	£360,000	£360,000	£810,000	£810,000	£0
Shipper C	40%	10%	£360,000	£90,000	£288,000	£72,000	£432,000	£378,000	(£54,000)
			£900,000	£900,000	£720,000	£720,000	£1,620,000	£1,620,000	

*In the 2008/09 Initial Proposals, National Grid are proposing the option that minimises the variance from the 'ideal', which is to procure the Outer Met Shrinkage Volume in NT LDZ*

# Reference Data / Tables

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# Table 1

## Proposed LDZ Shrinkage Quantity values for the 2008/09 Gas Year

LDZ	Existing Shrinkage Quantities 2007/08 (GWh)				Proposed Shrinkage Quantities 2008/09 (GWh)			
	Leakage	OUG	Theft	Total	Leakage	OUG	Theft	Total
<b>Eastern</b>	303	6	10	320	250	5	10	265
<b>East Midlands</b>	379	10	16	404	359	8	15	382
<b>North Thames</b>	341	8	13	362	363	7	13	382
<b>North West</b>	508	10	17	535	471	9	17	496
<b>West Midlands</b>	412	7	12	431	408	6	11	425
<b>National Grid</b>	<b>1,944</b>	<b>41</b>	<b>68</b>	<b>2,052</b>	<b>1,850</b>	<b>36</b>	<b>65</b>	<b>1,951</b>



# Table 2

## Proposed LDZ Daily Shrinkage Quantity Values

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<b>LDZ</b>	<b>Daily Shrinkage Quantity (kWh)</b>
<b>Eastern</b>	726,479
<b>East Midlands</b>	1,046,687
<b>North Thames</b>	1,046,960
<b>North West</b>	1,359,379
<b>West Midlands</b>	1,164,510
<b>National Grid</b>	5,344,016

# Table 12

## Estimated 2008/09 LDZ Shrinkage Quantity Values

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LDZ	Leakage (GWh)	OUG (GWh)	Theft (GWh)	Total (GWh)
Eastern	250	5	10	265
East Midlands	359	8	15	382
North Thames	363	7	13	382
North West	471	9	17	496
West Midlands	408	6	11	425
<b>National Grid</b>	<b>1850</b>	<b>36</b>	<b>65</b>	<b>1951</b>

# Contact Details

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- ◆ Should you wish to discuss any aspect of National Grid Initial Proposals please contact:
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    - ◆ 01926 655299 or [andy.clasper@uk.ngrid.com](mailto:andy.clasper@uk.ngrid.com)