

**NATIONAL GRID GAS**

**OVERVIEW OF INDEXATION PRINCIPLES**

**FOR**

**GAS OPERATING MARGINS**

**Issued 19 December 2018**

**National Grid Gas plc  
National Grid House  
Warwick Technology Park  
Gallows Hill  
Warwick  
CV34 6DA**

**Website:**

<https://www.nationalgrid.com/uk/gas/balancing/operating-margins-om>

**CONTENTS**

1. Introduction	
1.1 Purpose of Gas Operating Margins Indexation Principles document	3
1.2 Nature of information provided in this report	4
2. Principles of indexation methodologies agreed	5
Appendix A – Indexation methodologies previously agreed	6

## Indexation Principles Document

### 1. Introduction

National Grid Gas purchases Operating Margins (“**OM**”) on an annual basis in line with the requirements of TPD Section K of the Network Code, the obligations set out in its gas transporter license and the obligations described in the National Grid Gas Safety Case in respect of the NTS (“**Safety Case**”). The Safety Case places an obligation on National Grid Gas to maintain OM at levels and locations determined throughout the year.

The OM service is used at times of severe system stress to maintain NTS system pressures in the period before the other system management become effective (e.g. national or locational balancing actions). Primarily, OM will be used in the immediate period following the occurrence of any of the following, to the extent that all other System Operator actions are insufficient:

- Supply Loss: Terminal, Sub-Terminal, Interconnector, LNG Importation Terminal;
- Pipe Break (including loss of infrastructure that renders pipe unusable);
- Compressor Failure; and
- Demand Forecast Error.

A quantity of OM is also procured to manage the orderly run-down of the NTS in the event of a Network Gas Supply Emergency whilst firm load shedding takes place.

A number of statements and market reports pertaining to the procurement and use of Gas Operating Margins are already published on our industry information web site;

<https://www.nationalgrid.com/uk/gas/balancing/operating-margins-om>

National Grid has undertaken to publish this Gas Operating Margins Indexation Principles Document to introduce flexibility and transparency in how National Grid bilaterally agrees specific indexation methodologies for the Indexed Delivery Charge of Gas Operating Margins.

#### 1.1 Purpose of Gas Operating Margins Indexation Principles Document

The purpose of this Indexation Principles Document is to:

- Outline the purpose of indexation in specific contracts; and
- Publish the detail of indexation methodologies that National Grid are prepared to use.

This document will act as a transparent mechanism through which National Grid will list all indexation methodologies that National Grid has, and is prepared to use, in relation to Gas Operating Margins. This document will be published on the National Grid website and will be in the public domain for all potential providers to observe. Should an interested party wish to choose an existing indexation methodology or propose a new one, they can approach National Grid to enter into discussions. Once an indexation methodology is agreed the indexation methodology will form part of Schedule 1 of the Gas Operating Margins Delivery Service Standard Contract Terms.

If the bilaterally agreed indexation methodology differs in any way from indexation methodologies already published in the Indexation Principles Document it will be added to the existing Indexation Principles Document and the document re-published on the National Grid website to replace the existing document.

The introduction of indexation is designed to remove some of the risks faced by providers of the services when submitting tenders for assessment, specifically for utilisation where the provider has limited options to hedge the risk as it is unknown when National Grid may utilise the service.

Providers would have the option to choose indexation or alternatively retain a fixed price tender for assessment. It should be noted that National Grid will assess the risk of any proposed indexation as part of the assessment of a tender.

## **1.2 Nature of information provided in this report**

The information provided in this report is representative of indexation methodologies currently or previously agreed for the provision of Gas Operating Margins. Each methodology has been amended to remove commercially sensitive information as the intention of this document is to publish the principles that National Grid is willing to accept for indexation.

This document is designed not to be an exhaustive list but as a document that evolves as providers' approach and agree indexation methodologies for the provision of this service prior to their tender submissions.

Should an interested provider wish to propose amendments to an existing indexation methodology or choose a new methodology they can approach National Grid to enter into discussions based on their indexation preference.

## **2. Principles of indexation methodologies agreed**

There are certain principles that are based on the practicality of application – generally indexation methodologies will be calculated using daily price indices and will only be applied to the Indexed Delivery Charge. Proposed methodologies can

suggest a range of indices for reference however the likelihood of acceptance is based on several factors as to whether or not an index is suitable such as;

- Robustness of index
- Our familiarity and expertise
- Appropriateness of index
- Scope of index

If you are considering proposing an indexation methodology, please consult National Grid to discuss the general principles on which the methodology can be based.

Utilisation costs can vary considerably dependent upon each provider's provision of the service. Typically, the largest factor a provider will consider is the cost of fuel or lost opportunity in providing a Gas Operating Margins service. Therefore, the general principle for indexation is to apply indexation indices linked to fuel price – this in turn minimises the risks the provider face when opting to tender for this service. Equally, a provider could opt for a methodology linked to wholesale energy price for Indexed Delivery Charge.

Please refer to Appendix A where specific indexation methodology terms are referenced in relation to services where indexation has been previously agreed.

## Appendix A - Indexation methodologies previously agreed

The following table sets out indexation methodologies applicable to the Indexed Delivery Charge;

<p><b>Indexed Delivery Charge (1)</b></p>	<p>The Indexed Delivery Charge payable in pounds sterling shall be the greater of:</p> <p>(a) (Oil Price + Carbon Price) * [ ]; and                  (b) £[ ].</p> <p>Where:</p> <p><b>“Oil Price”</b> means the cost of the distillate fuel oil in pounds sterling required to generate the same amount of electrical power as the Actual Utilisation Quantity (MWh), determined as follows: -</p> $\text{Oil Price} = \text{Oil Quantity (Mt)} * [\text{Oil Price}(\$/\text{Mt})] * \text{Exchange rate} (\$ \text{ to } \pounds)$ <p><b>“[Oil Price(\$/Mt)]”</b> means the arithmetic average of the previous day’s high and low prices for the daily [Oil Price(\$/Mt)] Gasoil [ %] CIF CRG NWE under the heading Product Price Assessments (\$/MT) as reported [daily] in [Oil Price(\$/Mt)] Market Report.</p> <p><b>“Carbon Price”</b> means the cost of additional carbon dioxide (CO<sub>2</sub>) produced as a result of burning oil instead of natural gas, determined as follows: -</p> $\text{Carbon Price} = (\text{Oil Quantity (MWh)} * \text{Oil Emissions Factor}) - (\text{Actual Utilisation Quantity (MWh)} * \text{Gas Emissions Factor}) * \text{ICEECX} * \text{Exchange Rate} (\pounds \text{ to } \pounds)$ <p><b>“Oil Quantity (MWh)”</b> means the quantity of distillate fuel oil measured in MWh required to generate the same amount of electrical power as the Actual Utilisation Quantity (MWh), determined as follows: -</p> $\text{Oil Quantity (MWh)} = \text{Actual Utilisation Quantity (MWh)} * \text{Gas Fuel Efficiency Factor} \div \text{Oil Fuel Efficiency Factor}$ <p><b>“Oil Quantity (Mt)”</b> means the quantity of distillate fuel oil measured in metric tonnes required to generate the same amount of electrical power as the Actual Utilisation Quantity (MWh), determined as follows: -</p> $\text{Oil Quantity (Mt)} = \text{Oil Quantity (MWh)} * [ ] * [ ] \div [ ]$
---	--

	<p>“<b>Gas Emissions Factor</b>” means [ ] tonne CO<sub>2</sub> per MWh</p> <p>“<b>Oil Emissions Factor</b>” means [ ] tonne CO<sub>2</sub> per MWh</p> <p>“<b>Exchange rate (€ to £)</b>” means the daily Euro to pounds sterling interbank exchange rate published on [ ]</p> <p>“<b>Exchange rate (\$ to £)</b>” means daily US dollar to pounds sterling interbank exchange rate published on [ ]</p> <p>“<b>Gas Fuel Efficiency Factor</b>” means [ ] %;</p> <p>“<b>Oil Fuel Efficiency Factor</b>” means [ ] %;</p> <p>“<b>ICEECX</b>” means the arithmetic average of the previous day’s high and low prices for the daily ICE Closing Price ECX EUA (€/Mt)</p>
<p><b>Indexed Delivery Charge (2)</b></p>	<p>The Indexed Delivery Charge payable in pounds sterling shall be:</p> $\sum_i \text{Max}[SBP_i \times [X]\%, 0] \times Q_i$ <p>Where:</p> $\sum_i$ <p>represents the sum over all Hours within the Gas Day in which the Service has been delivered</p> <p>SBP<sub>i</sub> = the average System Buy Price for electricity determined by the two relevant settlement periods within the Hour i as published in the final settlement report (£/kWh)</p> <p>Q<sub>i</sub> = the amount of the Actual Utilisation Quantity delivered in the Hour i (kWh)</p> <p>(Note: [X]% is a fixed percentage representing the efficiency of the power station)</p>
<p><b>Indexed Delivery Charge (3)</b></p>	<p>The Indexed Delivery Charge payable in pounds sterling shall be [ ] % of the System Marginal Buy Price for gas for the Gas Day.</p>
<p><b>Indexed Delivery Charge (4)</b></p>	<p>Applicable PEGAS European Gas Spot Index for TTF in p/kWh + [X] p/kWh.</p> <p>The EGSI can be found in the link below and will be converted to p/kWh from Eur/MWh using the exchange rate on the date of utilisation on the ECB (European Central Bank) website below.</p> <p><a href="https://www.powernext.com/spot-market-data">https://www.powernext.com/spot-market-data</a></p> <p><a href="https://www.ecb.europa.eu/home/html/index.en.html">https://www.ecb.europa.eu/home/html/index.en.html</a></p>

<p><b>Indexed Delivery Charge (5)</b></p>	<p>The Indexed Delivery Charge payable in pounds sterling shall be:</p> $\left[ \sum_{ij} \max[SMP, AO, 0] \cdot \gamma \cdot Q_p + CNDO \right] + \sum_{ij} CMP$ <p>Where;</p> <p><math>\sum_{ij}</math> means the sum for unit i across all settlement periods occurring in period j</p> <p>SMP means the system marginal buy and sell price for electricity as reported by Elexon in £/MWh</p> <p>AO means the accepted offer price in £/MWh</p> <p><math>\gamma</math> is the efficiency loss factor of the generating unit when operating at Stable Export Limit or restarting following desynchronization</p> <p><math>Q_p</math> means the amount of the Actual Utilisation Quantity of electricity output reduction delivered (MWh)</p> <p>CNDO means the offer non delivery charge as defined in T4.8.11 of the BSC</p> <p>CMP means the charge incurred under regulation 41 of the Electricity Capacity Regulations 2014, incurred directly as a result of complying with an OM instruction, for the period of the OM instruction and within 4 hours thereof.</p>
---	---

In each case, the Indexed Delivery Charge may be subject to a minimum charge (£).