



# System Management Principles Statement

**National Gas Transmission  
Published in accordance with Licence Special  
Condition 9.19 of the NGT Gas Transporter  
Licence**

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# Modification and Document Revision History

## 1 Uniform Network Code (UNC) Modification History

UNC Modification Reference Number	Date of Implementation	Notes
195AV	1st April 2009	Introduction of Enduring Exit Capacity Arrangements
0415	1st December 2012	Revision of the Gas Balancing Alert Arrangements
0504	1st March 2016	Demand Side Response (DSR) Methodology Implementation. Note – availability from 1st October 2016.
0685	1st October 2019	Amendment of the UNC term ‘Gas Deficit Warning’ to ‘Gas Balancing Notification
0678A	1 <sup>st</sup> October 2020	Reflected introduction of General Non-Transmission Services Charges replacing SO Commodity Charges
0791	2nd March 2022	Contingency gas procurement arrangements when a Supplier acts under a Deed of Undertaking
0822	14 <sup>th</sup> October 2022	DSR reforms which include the introduction of an annual tender and extending the trigger for accessing DSR to a Margins Notice
0833	8 <sup>th</sup> December 2022	Enabling Demand Side Response (DSR) Market Offers to be made by Non-Trading System Transactions
0844	7 <sup>th</sup> August 2023	Enabling direct contracting with consumers for DSR purposes
0845	7 <sup>th</sup> August 2023	Enhancements to DSR arrangements including a D-5 product
0848S	13 <sup>th</sup> October 2023	Alignment of Exit and Entry Capacity Constraints Management Provisions

## 2 Document Revision History

Version	Date	Notes
v1.0	2 <sup>nd</sup> October 2002	First version

v2.0	1 <sup>st</sup> April 2005	Modified to incorporate Mod 0710 and housekeeping and clarification changes.
V2.1	July 2005	Modified to incorporate Mod 009 (0733), Mod 0013a (740a), change name - Transco to Transco NTS and housekeeping due to new GT Licence structure
V2.2	13 <sup>th</sup> January 2006	Modified to incorporate Mod 0044, Mod 0061 and housekeeping (National Grid rebranding) changes
V2.3	9 <sup>th</sup> June 2006	Part D.4 Eligible balancing actions – assessment of bids and offers. Removal of the ‘timing’ sub-section as per Ofgem decision letter on SMPS consultation (V2.2) dated 9 <sup>th</sup> June 2006
V2.4	March 2008	Updated licence reference in Glossary "Special Condition C8B part 2 14 (9) (h)" replaced with "Special Condition C8F (3) (i)"
V2.5	March 2009	Annual consultation in respect to National Grid Gas NTS GT Licence “Special Condition C5” Minor housekeeping changes.
V2.6	March 2010	Annual consultation in respect to National Grid Gas NTS GT Licence “Special Condition C5” Minor housekeeping changes.
V2.7	March 2011	Annual consultation in respect to National Grid Gas NTS GT Licence “Special Condition C5” Minor housekeeping changes to reflect Modification Proposal introduced.
V3.0	March 2012	Minor housekeeping changes.
V3.1	July 2012	Updated to account for the implementation of the daily Enduring Exit Capacity Regime.
V3.2	March 2013	Updated to take account of the implementation of Modification 0415 and its revisions to the GBA arrangements
V3.3	March 2015	Annual consultation in respect to National Grid Gas NTS GT Licence “Special Condition 8A”
V4.0	March 2016	Updated to take account of the Implementation of Modification 0504 introducing Gas Demand Side Response. Additional text to align the System Management Principles Statement (SMPS) with Article 9 of the EU Balancing Network Code.
V5.0	March 2017	Revision to allow more flexibility in what will be posted under REMIT. Additional text to include all primary system management tools National Grid use to manage localised transportation capability.

V5.1	February 2018	Issued for industry consultation - no changes proposed by National Grid NTS.
V6.0	April 2018	Approved by Ofgem
V6.1	February 2019	<p>Updates to improve clarity of actions NG can take to manage the system.</p> <p>Update to reflect that NG decision to trade is no longer based on PCLP.</p> <p>Reference to specific EU laws removed to allow for uncertainty caused by Brexit.</p> <p>Other housekeeping changes made.</p>
V7.0	May 2019	Approved by Ofgem
V7.1	December 2019	<p>Updates to reflect the implementation of UNC Modification 0685 “Amendment of the UNC term ‘Gas Deficit Warning’ to ‘Gas Balancing Notification’”</p> <p>National Grid NTS updated to NGGT to reflect change in how National Grid refers to its Transmission business</p> <p>Aesthetic changes to bring in line with National Grid branding</p> <p>Housekeeping changes</p>
V8.0	April 2020	Approved by Ofgem
V8.1	February 2021	<p>Issued for industry Consultation, with the following changes suggested.</p> <ul style="list-style-type: none"> <li>• Updated Licence references to align with RIIO T2 changes live from 1<sup>st</sup> April 2021</li> <li>• Updated references of the ‘Gas System Operator’ or ‘National Grid Gas Transmission (NGGT)’ to ‘National Grid Gas plc (NGG)’</li> <li>• Housekeeping changes to improve readability of document.</li> <li>• Improved consistency of capitalisation of Licence and UNC defined terms to allow for easier identification of these terms</li> <li>• Where required for non-Licence or UNC terms, definitions included in body of document, rather than separate glossary to improve readability</li> <li>• Removed references to European law where no longer applicable due to Brexit</li> <li>• Removed section regarding Constrained Storage Services because all assets which provided these services have now been decommissioned</li> <li>• Reflected introduction of General Non-Transmission Services Charges replacing SO Commodity Charges</li> </ul>
V9.0	April 2021	Approved by Ofgem
V9.1	March 2022	<ul style="list-style-type: none"> <li>• Issued for industry Consultation</li> </ul>

		<ul style="list-style-type: none"> <li>Updated to include references to NGG’s role as contingency procurer of supplier demand following the implementation of UNC Modification 0791 ‘Contingency Gas Procurement Arrangements when a Supplier Acts Under a Deed of Undertaking’</li> <li>Minor housekeeping changes to improve readability</li> </ul>
V10.0	April 2022	Approved by Ofgem
V10.1	May 2022	<p>Issued for industry Consultation, with the following changes suggested</p> <ul style="list-style-type: none"> <li>Updated to align with the Entry Capacity Methodology Statement following Authority decision to approve version 7.0 of that document on 9<sup>th</sup> May 2022. The specific change allows NGG to withdraw capacity from monthly and weekly auctions at the Milford Haven ASEP between 30<sup>th</sup> May and 31<sup>st</sup> October 2022.</li> <li>Addition of a link to NGG’s Capacity Methodologies webpage in Part G</li> </ul>
V10.2	June 2022	Following the consultation, added a reference to the level of capacity to be release at Milford Haven between 30 <sup>th</sup> May 2022 and 31 <sup>st</sup> October 2022.
V11.0	September 2022	Approved by Ofgem
V11.1	February 2024	<ul style="list-style-type: none"> <li>Updated references of ‘National Grid Gas plc (NGG)’ to ‘National Gas Transmission (NGT)’</li> <li>Housekeeping changes to National Gas Transmission branding and website links</li> <li>Updates to reflect the implementation of UNC Modifications: 0822, 0833, 0844, 0845 and 0848S</li> <li>Clarification on System Management Services Adjustment Data Methodology use provided</li> <li>Clarification provided on Change Process referring to SMPS change and not a UNC Modification</li> <li>Emergency Procedures – updates to align with new terminology (‘E1 Network Gas Supply Emergency’)</li> <li>System Management Measures updated including deletion of temporary 2022 arrangements at Milford Haven</li> <li>Additional detail on the use of Operating Margins added</li> <li>Demand Side Response (DSR) trigger conditions added to Part D Section 5</li> </ul>

		<ul style="list-style-type: none"><li>• Addition of a new section (Section 6) to Part D providing detail on the DSR Market tool, resulting in Multi-Day Offers becoming Part D Section 7</li><li>• Clarification provided on the restriction of daily firm NTS Capacity</li><li>• Clarification provided on the timing when OM replenishment could occur</li></ul>
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# Part A - Introduction

## 1 Document Purpose

This document sets out the System Management Principles Statement ("the Statement") which National Gas Transmission ("NGT") is required to establish in accordance with Special Condition 9.19 "System Management Services" ("the Special Condition") of its Gas Transporter Licence. The Gas Transporter Licence is in respect of the National Transmission System ("NTS") ("the Licence") and granted pursuant to section 7 of the Gas Act 1986 (as amended) ("the Act"). The purpose of the Statement is to describe the basis on which NGT will employ system management services. The Licence places an obligation on NGT to operate the system in an efficient, economic and co-ordinated manner.

The Statement accompanies NGT incentive schemes and should be read with the Procurement Guidelines and the System Management Services Adjustment Data methodology<sup>1</sup>, where appropriate. The NGT incentive schemes are established by Ofgem to encourage certain operational and/or commercial behaviours on NGT as System Operator<sup>2</sup>. Accordingly, this document indicates the broad framework for NGT's system management decisions.

This document sets out processes and obligations aligned to, and to be interpreted and applied, in accordance with applicable national law.

Unless defined in the Statement, capitalised terms used herein shall have the same meanings given to them in the Licence or the Uniform Network Code (UNC). This document should therefore be read with the prevailing UNC and/or the Licence.

A copy of this document can be requested from [box.operationalliaison@nationalgrid.com](mailto:box.operationalliaison@nationalgrid.com)

## 2 National Gas Transmission Performance

In responding to the NGT incentive schemes and performing the functions described in this document, NGT will always try to follow the guidelines in this document and aims to act in good faith and in a reasonable and prudent manner, save to the extent that:

- there is any standard of performance already provided for by any statute, regulation or Licence condition to which NGT is subject; or
- the continued exercise of the discretions or functions described herein could cause NGT, in its reasonable opinion, to come into conflict with any provision of statute, the Licence or other regulation.

NGT believes its behaviour should be appropriately constrained by the economic, efficient and co-ordinated obligation. An example would be when its commercial incentives are no longer considered to be effective - as when revenues relating to one or more incentive schemes are, or are expected to be, either greater than the incentive cap or lower than the incentive collar.

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<sup>1</sup> The System Management Services Adjustment Methodology applies where the UNC provides that any charge is to be determined by reference to costs and volumes of Relevant System Management Services

<sup>2</sup> NGT Licence, Special Condition 5.6 System Operator external incentives, revenues and costs (SOIRct)

### 3 Change Process

NGT has developed the Statement, and its form has been approved by the Authority. It may only be modified in accordance with the processes set out in the Special Condition 9.19. NGT will monitor the operation and application of the Statement and it is NGT's intention that it will meet Users periodically to review the operation of the Statement and, where appropriate, to consider changes to the Statement.

The Statement refers to several provisions in the UNC. If any of the relevant provisions in the UNC are modified it may become necessary for NGT to seek an amendment to the Statement so that it remains consistent with the UNC. Prior to any such amendment, the UNC shall take precedence over the Statement.

For the avoidance of doubt, this Statement does not form part of the UNC.

## Part B – General Principles and Criteria for System Management Actions

### 1 Licence Duties

In establishing the Statement, the Licence requires NGT to set out the principles and criteria by which it will determine, at different times and in different circumstances, which system management services it will use to help in operating the NTS; and when and why it would resort to measures not involving the use of system management services in operating the NTS. Furthermore, NGT must act in a manner consistent with its statutory obligations to develop and maintain an efficient and economic pipeline system for conveying gas and avoid undue preference or undue discrimination in connecting premises to the system or conveying gas through the system.

NGT's other principal regulatory obligation when managing the system is to take all reasonable steps to do so in accordance with the Statement.

Whilst NGT incentive schemes might be a primary driver for NGT to become more dynamic and responsive to developments in the market place, NGT is obligated, subject to the exclusions defined herein, to adhere to the Statement. NGT must periodically deliver to the Authority and each User an externally audited report to determine whether NGT has deployed system management measures in accordance with the Statement. Additionally, NGT is required to report whether any modification should be made to that Statement to reflect more closely the NGT practice.

### 2 Criteria

The Statement cannot set out the system management measures to be employed by NGT in every possible operational situation. The criteria applied for deploying system management services will take account of the NGT incentives; the obligation to be economic, efficient and co-ordinated; risk management considerations; the detail of considerations outlined in Part C; the aims included in Part F of this document and NGT's UNC obligations.

The Special Condition 9.19 recognises that in certain circumstances it may be necessary to depart from the Statement, but that such departures need to be considered before deciding whether the Statement needs amendment. The reasons for departing from the detail of the Statement may include:

- where not departing from the Statement would prejudice the interests of safety;
- where operational information indicates that insufficient time is available to employ particular measures in accordance with the detailed processes defined herein, if required effects are to be achieved;
- where the Statement has been shown to be inappropriate; or
- where NGT considers it to be more economic, efficient or co-ordinated to do so.

### **3 System Management Tools**

NGT's System Management tools are primarily designed to deliver flow rate changes for management of the system. Some tools are direct (e.g. OCM locational actions). Others are less direct such as Entry Capacity buyback, On-the-day Commodity Market Title actions (OCM), NBP (National Balancing Point) title or over-the-counter (OTC) NBP transactions.

NGT's use of such tools will be influenced by the financial implications of its incentive arrangements, the responsiveness of the market and the necessity to achieve timely gas flow rate changes on the system and its broader obligations.

NGT shall have discretion over which system management services envisaged within the Procurement Guidelines that it may deploy.

### **4 Timing of Actions**

NGT will determine whether measures will be employed close to the time of gas flow. These will take account of forecast system inputs and outputs and/or projected key pressures for each Gas Day, resulting from information received for the Gas Day from all sources including Local Operating Procedures (LOPs) (with connected facility operators), User Nominations, Distribution Network Demand and Offtake information provided by the Distribution Network Operators. By taking account of the information received from these sources, NGT will make operational decisions using the processes set out in this document.

NGT may also take actions ahead of the Gas Day for shrinkage purposes and for the contingency procurement of supplier demand. This may be to reduce the size or cost of further actions, or to improve the estimated risk profile where it is anticipated that system management action would be necessary close to, or during, the Gas Day. For shrinkage gas procurement, NGT may use any other information and its own assessments, to determine whether such actions would be appropriate. If the criteria are met for NGT to commence the procurement of gas in its role of contingency procurer of supplier demand, NGT shall act in accordance with the provisions set out in UNC TPD section D6.

### **5 Information Provision**

Where NGT's deployment of system management services has a primary impact upon Users' exposures, NGT will, as soon as reasonably practicable after such deployment, indicate to Users the impact of such deployment on charges. For example, Users are exposed to Entry Capacity

overrun charges whose calculation may depend on values associated with, for example, relevant Capacity Management Agreements. Similarly, energy imbalance cash-out prices are likely to be a function of the system management service tools deployed.

Where such deployment only has a secondary effect on Users (for example via impacts in the General Non-Transmission Services Charges or via cost apportionment methodologies) NGT will have discretion on information about the deployment of system management services it publishes, and when.

Sufficient information to establish the basis for any charges will either be released to support invoiced amounts or made available to an industry or Ofgem-appointed auditor to confirm the validity of the charges.

Information designated by section 4(1) of the REMIT regulation as “inside information” will be made publicly available in a timely manner in the form of “urgent market messages” posted on the NGT REMIT website (<https://www.remit.gb.net>).

REMIT is the regulation for wholesale energy market integrity and transparency, as incorporated into UK law via the European Union (Withdrawal) Act 2018

The REMIT “inside information” FAQ can be viewed at the following link:

<https://www.remit.gb.net/useful-information>

## 6 Emergency Procedures

Under the circumstances defined in the E1 Procedure for Network Gas Supply Emergency, under which emergency arrangements would be invoked, the processes and procedures in that document shall supersede all considerations arising from this Statement.

The Network Gas Supply Emergency Procedures can be viewed on our website at the following link: <https://www.nationalgas.com/sites/gas/files/documents/E1%20NGSE%20Procedure%20-%20Version%2011.pdf>

# Part C – Statement underlying System Management Actions

## 1 System Management Measures and Other Actions

Users can take actions that affect flow changes on the system. These may generate gas flows or an expectation of gas flows that the system cannot, or is unlikely to be able to, accommodate. When such flows, or projected flows, are unacceptable from an energy supply/demand or from a local transportation capability perspective, NGT may use any operational flexibility. This could include but is not limited to NTS compression and/or NTS Linepack to manage the situation.

In respect of energy supply/demand balancing, NGT fulfils the role of “residual system balancer” i.e., monitors and assesses gas supply and gas demand, making sure that it remains within efficient operational limits so that it can deliver the level of service agreed with its customers. NGT also fulfils a role (if required) of contingency procurer of supplier demand in respect of supply

points which temporarily have no Registered User subject to and in accordance with the provisions of UNC TPD section D6.

In respect of localised transportation capability, NGT may use the following tools to manage capability concerns:

- Distribution Network (DN) Flow Swaps;
- Scale back interruptible NTS Entry Capacity;
- Scale back Off-peak NTS Exit Capacity;
- Restrict the quantity of daily firm NTS Capacity made available. In almost all cases the restriction of daily firm capacity will not occur prior to the scaleback of off-peak/interruptible capacity. This is dependent on scheduling of auctions and prevailing System conditions at the time of restriction;
- Offtake Flow Reductions;
- Buy or sell locational gas;
- Buy back firm NTS Entry and/or Exit Capacity;
- Use other capacity tools, such as Capacity Management Agreements; and
- Operating Margins.

NGT also buys and sells gas and procures other services to cover a range of commercial and operating needs including NTS Shrinkage and Operating Margins, subject to the restrictions placed on it by Special Conditions 2.3 System Operator Revenue Restriction (SOARt), 5.5 Entry Capacity and Exit Capacity Constraint Management (CMt), and Condition 5.6 System Operator external incentives, revenues and costs (SOIRct) of the Licence.

## 2 Overview of “Close to Gas Flow” System Management Decision Process

Part E of this document describes the basis for deploying contractual tools that may be used ahead of gas flow where, in NGT’s opinion, such usage may deliver better performance or risk management against NGT incentive schemes (having regard to NGT’s other obligations). Such tools will be used to mitigate the risks associated with flow management actions close to the time of gas flow.

However, it may not be efficient, prudent or even possible to rely exclusively on forward contracting to manage system flows within system capabilities. Therefore, NGT’s policy on both procurement and deployment of system management services may combine forward contracting activity with additional purchases/sales and deployment of tools much closer to gas flow. The tools procured and deployed will depend on NGT’s perception of the inherent risk/rewards associated with particular positions. Therefore, this section is designed to define the considerations that will feature in the “close to gas flow” system management decision processes.

System management decisions which are made based on actual or imminent gas flows will be based on the physical and commercial circumstances prevailing, or expected to prevail, at any time. It is recognised, however, that relying on tools very close to the time of gas flow may generate high unit costs for such system management actions. Hence as an alternative, NGT may use contractual tools (which improve system management efficiency), taking account of the risk/reward balance, well before actions are operationally required. This section focuses on the processes applied to managing physical flows.

Economic and efficient operation of the system is likely to be achieved by having the flexibility to deploy tools at any time (e.g. application of energy or capacity tools very late in the Gas Day). However, other imperatives may imply that this is undesirable and hence NGT would not generally expect to take actions between midnight and the end of the Gas Day in respect of that Gas Day.

In the event of a National Requirement (defined in section C 3.1 below), system management actions may be needed where NTS Linepack levels are anticipated to move outside ranges determined by NGT.

In the event of a Localised Requirement (defined in section C 3.2 below), system management actions may be needed where actual or projected key operational parameters or local NTS Linepack levels are anticipated to fall below or exceed an acceptable level. Such ranges will take account of the various NGT incentive schemes, having due regard to other obligations and always in a manner designed to maintain the safety of the system.

Any such system management actions will be employed by NGT in accordance with a particular process as set out in section 3 below.

### **3 Requirements to Employ System Management Measures and Processes**

For the purposes of this Statement:

- a National Requirement to use system management measures is one that affects the whole NTS ("National Requirement"); and
- a Localised Requirement to use system management measures is one where the measures are targeted at a specific location or locations of the NTS ("Localised Requirement").

System management measures are only employed to address a Localised Requirement in accordance with the defined processes when the particular system management measures may reasonably be expected to alleviate the constraint or resolve the deficit.

#### **3.1 National Requirement**

NGT continually reviews system parameters throughout the Gas Day including (but not limited to) supply and demand notifications, actual and forecast NTS Linepack positions, weather conditions and subsequent likely demand profiles, compression requirements, and OCM Market trends.

A National Requirement to use system management measures will be based on these parameters and NGT's decision as to whether:

- the current or future system status is likely to impact on the safe or efficient operation of the network; or
- there will be a requirement to improve performance under the NTS Linepack component of the residual balancing incentive.

NGT shall have discretion on which system management services envisaged within the Procurement Guidelines it may deploy.

The primary system management tools available for NGT to use when a National Requirement is triggered are:

- the On-the-day Commodity Market (OCM) (Title Market);

- the Over-the-counter (OTC) markets when taking Eligible Balancing Actions for a Gas Day on or for which a Gas Balancing Notification has been triggered, as described in Part D.5;
- Operating Margins; and  
Demand Side Response,

The basis for assessing OCM (and/or OTC) bids and offers that might be taken by NGT as an Eligible Balancing Action is described in Part D.4.

If the steps described above fail to mitigate against flows being outside of system capability then NGT may consider other options, up to and including either use of the Transportation Flow Advice process or initialising Emergency Procedures.

### 3.2 Localised Requirement

A Localised Requirement to use system management measures is determined by the following process:

- Step 1 -** Determine key operational parameters to be maintained throughout the Gas Day.
  
- Step 2 -** Determine the System Capability at the relevant location or locations based on current and forecast system status, network configuration, forecast and notified supply and demand, and pipeline and plant availability.
  
- Step 3 -** Before and during the Gas Day maintain, forecast and review projections of key operational parameters based on notified NTS input and outputs, pipeline and plant availability and network configuration.
  
- Step 4 -** Refine network configuration (including compressor utilisation and NTS supply and offtake profiling rate management) taking account of system management costs/benefits in the light of NGT incentive schemes and economic and efficient system operation considerations.
  
- Step 5 -** If key NTS operational parameters are projected to fall outside acceptable ranges determined by NGT, for example, due to a localised capacity constraint or a supply deficit (A shortage of supply affecting part of the system) or a plant failure, a Localised Requirement to use system management measures is triggered.

NGT shall have discretion in respect of which system management services envisaged within the Procurement Guidelines it may deploy.

The primary system management tools available for NGT to use when a Locational Requirement is triggered are:

- Flow swaps;
- Scaling back of Off-peak NTS Exit Capacity;
- Scaling back of Interruptible NTS Entry Capacity;



- Restricting the quantity of daily firm NTS Entry and Exit Capacity made available;
- Locational buys and sells on the OCM;
- Offtake Flow Reductions;
- Buying back firm NTS Exit and/or Entry Capacity;
- Use of other capacity tools, such as Capacity Management Agreements; and
- Operating Margins

NGT will explore one or more of the above options towards the most economic and efficient management of a localised requirement.

For the avoidance of doubt NGT will not be obligated to “Buy-Back” NTS Capacity holdings created because of a shipper holding a negative capacity position.

If, having applied the system management principles set out above, flows in excess of system capability continue, or are expected to continue, then NGT may consider other options, up to and including either use of the Transportation Flow Advice process or initialising Emergency procedures.

## Part D – System Management

### 1 System Management Services

Specific services for system management include:

#### Energy Tools

NGT may use the ICE Endex operated On-the-day Commodity Market (OCM), or any other market, mechanism or contract to buy and sell gas for the purposes of system management.

#### Capacity Tools

NGT may use the Gemini / Gemini exit system, or any other market, mechanism or contract to buy and sell system NTS Entry or Exit Capacity for the purposes of system management.

#### Storage Services

NGT may procure any storage service from storage facility users, or any other market, mechanism or contract relating to physical or commercially based storage products for the purposes of system management.

#### Demand and Supply Management Services

NGT may incentivise Users or end consumers to enter into contracts to affect desired gas flow offtake or delivery into the system.

#### Other Commercial and Contractual Services

NGT may develop further services or enter into contracts that will enable it to better manage its operational and commercial risks.

### 2 Measures Not Involving System Management Services

#### NTS Linepack



NGT may use Linepack (i.e. the volume of gas within the NTS) to absorb some differences between supply and demand. NGT will use Linepack as a means of avoiding the deployment of other balancing measures. In this sense use of Linepack is not a balancing measure, as it does not directly impact gas flows onto or off the system.

### Network Gas Supply Emergency Procedures

The Network Gas Supply Emergency Procedures are described in Part B section 6.

## 3 Operating Margins

The above system management services may not deliver the required flow rate changes to achieve appropriate system management. In this event, NGT may need to deploy Operating Margins gas.

Typically, Operating Margins will be used to maintain system pressures in the period before other system management services become effective. Primarily, Operating Margins will be used in the immediate period following either:

- an unplanned reduction in supply, or the identification of a demand forecast change leading to an operational balancing requirement which cannot in the short term be met by other actions; or
- pipeline and plant non-availability. Operating Margins may be used to support system pressures on the Gas Day in the event of a compressor trip, pipe break or other failure or damage to transmission plant. Following 24 hours after such an event, any ongoing reduction in capacity becomes equivalent to planned maintenance activity, and therefore cannot be supported by the use of Operating Margins.

The use of Operating Margins in the above context will normally be the minimum required for operational requirements, although NGT will have due regard to NGT incentive schemes and other obligations.

A quantity of Operating Margins gas will also be kept in reserve to manage the orderly run-down of the System following the exhaustion of all other storage gas and during periods of high demand, as detailed in the Network Gas Supply Emergency Procedures.

Furthermore, if the residual volume of Operating Margins at any point during the year falls below the Operating Margins Profile at individual sites or the Aggregate Operating Margins Profile nationally, NGT will seek to replenish Operating Margins to the extent of the Operating Margins Profile or Aggregate Operating Margins Profile where it is practical to do so.

## 4 Eligible Balancing Actions – assessment of bids and offers

### Financial Services Regulations

The Financial Services and Markets Act (FSMA) 2000 and other relevant financial services regulations, provide the legislative framework for those participants that operate on commodity-traded markets, including the OCM and OTC gas markets. NGT will ensure that it undertakes its residual system-balancing role in accordance with the FSMA and other relevant financial services regulations.

## Residual system balancing

To maintain the safe and efficient operation of the Total System, NGT, as residual system balancer, will enter trades with Users via the OCM (and/or OTC). NGT will, where necessary, accept and/or post bids and/or offers on the OCM/OTC. In assessing the economics and efficiencies of a particular bid and/or offer, NGT will consider whether the combination of quantity, price and timing is likely to result in a positive impact on the supply-demand imbalance for the Gas Day (or days) that are being assessed.

Where all information available to NGT indicates that supplies into the NTS are at, or very close to, the anticipated maximum available, then NGT may be more likely to favour the OCM Physical or Locational markets rather than OCM NBP Title market. This is because NGT considers that in such circumstances those markets are more likely to produce a required direct physical effect.

## Price versus volume

In the unlikely scenario that a small volume offer is priced significantly higher than other offers for a Gas Day, then NGT would still include that offer in any assessment of an Eligible Balancing Action. However, NGT believes that it is prudent, economic, efficient and appropriate within the legislative framework to accept offers in price-order and therefore it is unlikely (in a fully functioning and liquid market) that such small volume, high-price 'isolated' offers would be accepted.

## Minimum threshold volume

NGT believes that the minimum-sized Market Balancing Action likely in itself to have a discernible impact on the total system imbalance position is approximately 3 GWh. Therefore, Market Balancing Actions intended to have a more immediate and tangible impact on the total system imbalance are likely to be in excess of 3 GWh. Such Market Balancing Actions might consist of multiple trades including 'minimum volume' bids/offers of 100,000 kWh.

The smallest bid/offer volume of gas capable of being posted by Market Participants is 100,000 kWh. A bid/offer of this size is not likely in itself to have a discernible impact on the total system imbalance position: but it would be accepted by NGT where it considers this to be economic and efficient in accordance with its Licence obligations.

# 5 Margins Notices and Gas Balancing Notification

## Margins Notice

A Margins Notice will be issued if the day ahead (D-1) total NTS forecast demand is equal to or greater than the Expected Available Supply (a term that represents the sum of NGT's non-storage supply assumptions, and qualifying storage deliverability as defined in UNC TPD section V 5.9.9 (a)).

The intent of the Margins Notice is to provide NTS Users with early notice of a potential supply/demand imbalance for the next Gas Day, encouraging them to monitor the rolling Daily Margins Report and reassess their position relative to prevailing forecasts.

Where a Margins Notice is issued, it will remain in place until the end of the Gas Day to which it is applicable, unless superseded by a Gas Balancing Notification.

Following reforms introduced as part of UNC Modification 0822, the issuing of a Margins Notice is the trigger for NGT to open the Demand Side Response (DSR) Market and assess D-1 DSR volumes.

A Margins Notice and Safety Monitor Report will be published daily on the NGT website (<https://www.nationalgas.com/balancing/safety-monitors>), providing a rolling five-day view of supply & demand data.

### Margins Notice Forecast

A Margins Notice Forecast is issued daily between the months October – April and provides an indicative view of the Supply and Demand patterns for the following seven days. Following reforms introduced as part of UNC Modification 0845, the Margins Notice Forecast which confirms there is a forecast supply deficit of 14 mcm or more at D-5 is a trigger for NGT to consider opening the D-5 DSR Market and accessing pre-contracted DSR Option volumes.

### Gas Balancing Notification

The Gas Balancing Notification (GBN) is a warning given at the discretion of NGT based on expectations of the impact of a significant supply or demand event. The intent of the GBN is to stimulate a market response to address an NTS physical imbalance following the events leading to its issue. A GBN will be issued by NGT via its Active Notification Services (ANS) communication system.

Following the issue of a GBN, NGT will undertake an assessment of all available market offers; OCM (and OTC) volumes, prices (including Multi-Day Assessment Price (MDAP), see Section 6), single day and multi-day. These market offers will be assessed against the relevant Gas Day(s) for which an Eligible Balancing Action is likely to address a supply/demand imbalance position. Since multi-day offers can cover up to seven days, this means that the MDAP assessment might be made utilising up to seven relevant Gas Days.

If issued, a GBN is one of the triggers for opening the DSR Market and NGT to access DSR reduction volumes.

### OCM and OTC offers

NGT may, once a GBN has been issued and where a National Requirement has been identified, take Eligible Balancing Actions using the OCM and/or OTC bi-lateral contracts with non-OCM Users, where it is considered economic and efficient to do so.

## 6 Demand Side Response (DSR)

In addition to NGT accepting OCM and/or bi-lateral contracts with non-OCM users, for a National Requirement NGT may also accept DSR Offers at DMA and DMC supply points from DSR Participants, whom may be either Users or Consumers, who can offer the minimum offer quantity of 100,000 kwh/d.

DSR may be offered to NGT by a shipper voluntarily on the day when the system conditions for opening the DSR market are met. Alternatively, a shipper or a consumer may commit, prior to the Winter Period (1<sup>st</sup> November – 30<sup>th</sup> April), to reduce demand at a site if required by NGT via a DSR Option.

### Exercise

In order for NGT to exercise a within day or day ahead DSR Option, a Margins Notice or Gas Balancing Notification must be in place for the relevant day. In respect of a 5 day ahead option, Forecast Total System Demand for five days ahead must exceed Expected Available Supply by at least 14 mcm in order for NGT to consider exercising available DSR volumes procured via the annual tender event. By 17:00 on D-5, NGT must inform all Users of the projected imbalance and that it will be exercising a 5 day ahead option.

There are two execution methods available to NGT which are dictated by the product and type of DSR participating. DSR for Users is exercised as an energy trade whereas Consumer direct DSR is exercised as an instruction to reduce their gas consumption because these parties are unlikely to be subscribed to the OCM.

The below table confirms the product type and how it impacts the setting of the daily System Marginal Prices (SAP).

Product	User DSR	Consumer DSR
Within Day	Contributes towards setting	No impact
D-1	Contributes towards setting	No impact
D-5	No impact	No impact

## 7 Multi-Day Offers

Where assessed as economic and efficient to do so, NGT might undertake an Eligible Balancing Action on or in relation to a specific Gas Day for which a GBN is in place by accepting a ‘multi-day’ offer either on the OCM and/or through an OTC bilateral contract(s).

### Assessment

When assessing a multi-day offer, NGT will decide, based on the information that it has available, whether it is likely that the traded gas volumes might be required for following days. NGT will take its decision based on the best information available at the time of the assessment, including (but not limited to) forecasts of supply and demand, recent supply-demand performance, notified outages, Users’ nominations, and weather data. When accepting such multi-day offers, NGT will apply a ‘probability’ (see below) of requirement to every day of a multi-day offer.

### Apportioning costs/revenues

To apportion the costs/revenues of such trades for cash-out and Balancing Neutrality purposes appropriately, against those days where it has been identified that gas is required to address an actual or forecast supply/demand imbalance position;

1. NGT will apply the relevant probability prevailing at the time the trade is accepted.
2. The probability for each multi-day trade will be based on an evaluation of a National Requirement for each of the days included in the multi-day trade.
3. A multi-day trade will be taken in accordance with FSMA regulations and the obligations placed on NGT by its GT Licence, considering the total effect of that particular trade across all Gas Days in that period.

### Derivation of probabilities

The probabilities will be based on an evaluation of a National Requirement making multi-day offers economic and efficient, for example, for each of the next seven Gas Days once a GBN has been issued. These probabilities will effectively be a “probability of requirement” (PR) for each day in question. The PR will then be used in calculating a revised multi-day ‘assessment’ price for each offer available.

NGT will evaluate and update the probabilities as and when new information (for example, supply forecast data) becomes available.

#### Publication of probabilities to the market

Following the issue of a GBN, and where multi-day offers are available on the OCM or OTC, NGT aims to publish to the market the probabilities utilised as soon as possible and at least within one hour. Publication will take place before any Eligible Balancing Actions being accepted that might include multi-day offers. NGT will also publish updated probabilities within an hour of being re-calculated.

#### Use of revised multi-day assessment price (MDAP)

NGT will assess an Eligible Balancing Action against all the available OCM/OTC market offers in the revised price-order stack, i.e. by utilising any single-day offer prices and the revised MDAP. Multi-day trades will be accepted where it is considered economic and efficient, relative to other System Management tools; and with due consideration to the total effect of that particular multi-day trade across every Gas Day in that period and FSMA 2000 legislation.

#### Market Information and reporting

NGT will make available to Users and the wider market the relevant information (where commercial confidentiality permits) utilised during the assessment of the multi-day trades that it accepts; and will provide the rationale for taking such trades, including the analysis underlying the probability assessments it considered.

NGT will share such information with the wider market in an equitable and timely manner through appropriate media. These will include, but not necessarily be limited to, the Customer Forum, the Operational Forum and the NGT website. Further, NGT will provide the market with the opportunity to discuss the commercial, operational and information aspects of any national requirement and resultant multi-day trades through the NGT Operational Forum and UNC Transmission Workgroup.

## Part E – System Management Tool Deployment Ahead of Day

Rather than wait for imminent gas flows to imply either a National or Localised Requirement for system management actions, it may be appropriate for NGT to deploy tools ahead of the Gas Day. This may be assessed on risk management, efficiency or cost grounds, amongst other considerations (as described elsewhere).

For example, it may be that gas flows at particular points are expected to exceed the capability of the system. In this case, rather than wait until close to gas flow to achieve the aims defined in Part F, it may be appropriate to consider deploying system management tool(s) at an earlier

stage. As a further example, if a supply deficit can be anticipated well in advance, it may be appropriate to use system management tools to encourage an appropriate gas flow change at the relevant location well ahead of gas flow.

NGT will seek to develop and implement such tools wherever it appears viable, taking account of its obligations to maintain a safe and secure system and its risk/reward profile defined in the context of NGT incentive schemes. NGT may also seek to develop new tools and liquidity to improve the effectiveness, range or cost of system management services in the longer term.

The deployment of such tools will be at the discretion of NGT and guided by considering the incentive schemes, subject to NGT's other obligations.

## Part F – Daily System Management Considerations

The following points represent the aims of system management processes close to the time of gas flow:

- To maintain national/local Linepack levels and other key operational parameters within predetermined operating ranges at all times within the Gas Day whilst ensuring safe operation
- To address NTS entry and exit constraints where flows are forecast to exceed assessed system capability
- To identify potential operational or commercial requirements to use storage services (including Operating Margins)
- To facilitate efficient operation of the trading arrangements (e.g. in respect of shipper to shipper trading of System Entry Capacity)

## Part G – Further Information

- Uniform Network Code:  
<http://www.gasgovernance.co.uk/UNC>
- National Gas Transmission Gas plc Licence:  
<https://www.ofgem.gov.uk/licences-industry-codes-and-standards/licences/licence-conditions>
- REMIT Regulation:  
<https://www.legislation.gov.uk/ukxi/2019/534/schedule/1>
- E1 Network Gas Supply Emergency Procedure:  
<https://www.nationalgas.com/safety-and-emergencies/network-gas-supply-emergencies-ngse>
- Financial Services and Markets Act (FSMA) 2000:  
<http://www.legislation.gov.uk/ukpga/2000/8/contents>

- Margins Notice and Safety Monitor Report:  
<https://www.nationalgas.com/balancing/safety-monitors>
- Capacity Methodology Statements:  
<https://www.nationalgas.com/capacity/capacity-methodology-statements>

