



System Management Principles Statement

National Grid Gas Transmission

Published in accordance with Special Condition 8A of
the NGGT Gas Transporter Licence

1st April 2020 Version 8.0

nationalgrid

Contents

Contents	1
Modification and Document Revision History	2
1. Uniform Network Code (UNC) Modification History	2
2. Document Revision History	2
Part A – Introduction	4
1. Document Purpose	4
2. National Grid Gas Transmission Performance	4
3. Change process	4
Part B – General Principles and Criteria for System Management Actions	5
1. Licence Duties	5
2. Criteria	5
3. System Management Tools	5
4. Timing of Actions	5
5. Information Provision	6
6. Emergency Procedures	6
Part C – Statement underlying System Management Actions	6
1. System Management Measures and Other Actions	6
2. Overview of “Close to Gas Flow” System Management Decision Process	7
3. Requirements to Employ System Management Measures and Processes	7
3.1 National Requirement	8
3.2 Localised Requirement	8
Part D – System Management	9
1. System Management Services	9
2. Measures Not Involving System Management Services	9
3. Operating Margins	10
4. Eligible Balancing Actions – assessment of bids and offers	10
5. Margins Notice and Gas Balancing Notification	11
6. Multi-Day Offers	11
Part E – System Management Tool Deployment Ahead of Day	12
Part F – Daily System Management Considerations	13
Part G - Glossary	13
Part H – Further Information	14

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'

2. Document Revision History

Version	Date	Notes
v1.0	2 nd October 2002	First version
v2.0	1 st 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 th January 2006	Modified to incorporate Mod 0044, Mod 0061 and housekeeping (National Grid rebranding) changes
V2.3	9 th 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 th 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. 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 Nation Grid refers to its Transmission business</p> <p>Aesthetic changes to bring in line with National Grid branding</p> <p>Housekeeping changes</p>

Part A – Introduction

1. Document Purpose

This document sets out the System Management Principles Statement ("the Statement") which National Grid Gas Transmission (NGGT) is required to establish in accordance with Special Condition 8A "System Management Services" of its Gas Transporter Licence in respect of the National Transmission System (NTS) ("the Licence") ("the Special Condition") 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 NGGT will employ system management services. The Licence places an obligation on NGGT to operate the system in an efficient, economic and co-ordinated manner.

The Statement has been developed to accompany NGGT's System Operator (SO) incentive schemes and should be read in conjunction with the Procurement Guidelines and (if appropriate) the System Management Services Adjustment Data methodology.

NGGT recognises that its SO incentive schemes create commercial incentives that need to be considered in conjunction with its other obligations and therefore this document is designed to indicate the broad framework against which NGGT will make system management decisions.

This document sets out processes and obligations which are aligned to and shall be interpreted and applied in accordance with applicable national and European law.

Where Uniform Network Code (UNC) and/or NGGT Gas Transporter (GT) Licence defined terms are included within this document, the terms shall take the meaning as defined within the UNC and/or the GT Licence. This document should therefore be read in conjunction with the prevailing UNC and/or GT Licence.

2. National Grid Gas Transmission Performance

In responding to the System Operator (SO) incentive schemes and performing the functions described in this document, NGGT will seek always to follow the guidelines contained within this document and shall seek 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 NGGT is subject; or
- the continued exercise of the discretions or functions described herein could cause NGGT, in its reasonable opinion, to come into conflict with any provision of statute, the Licence or other regulation.

NGGT believe its behaviour should be appropriately constrained by the economic, efficient and co-ordinated obligation, for example, when its commercial incentives are no longer considered to be effective - such 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.

3. Change process

The Statement has been developed by NGGT and the form of the Statement has been approved by the Authority. It may only be modified in accordance with the processes set out in the Special Condition. NGGT will monitor the operation and application of the Statement and it is NGGT's intention that it will meet Users on a periodic basis to review the operation of the Statement and, where appropriate, to consider modifications to the Statement.

The Statement refers to several provisions contained in the Uniform Network Code (UNC). If any of the relevant provisions in the UNC are modified it may become necessary for NGGT to seek an amendment to the Statement in order 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 NGGT 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 assist it in the operation of the NTS, and when and for what purpose it would resort to measures not involving the use of system management services in the operation of the NTS. Furthermore, NGGT must act in a manner consistent with its statutory obligations to develop and maintain an efficient and economic pipeline system for the conveyance of gas, and avoid undue preference or undue discrimination in the connection of premises to the system or the conveyance of gas through the system.

NGGT's other principal regulatory obligation when carrying out system management actions is to take all reasonable steps to do so in accordance with the Statement.

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

2. Criteria

The Statement cannot set out the system management measures to be employed by NGGT in every possible operational situation. The criteria applied in respect of deployment of system management services will take account of the SO Incentives; the obligation to be economic, efficient and co-ordinated; risk management considerations; the detail of considerations outlined in Part C; and the aims included in Part F of this document.

The Special Condition 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 to not depart 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 NGGT considers it to be more economic, efficient or co-ordinated to do so.

3. System Management Tools

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

NGGT'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.

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

4. Timing of Actions

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

NGGT may also take actions ahead of the Gas Day. 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. NGGT may use any other information and its own assessments, to determine whether such actions would be appropriate.

5. Information Provision

Where NGGT's deployment of system management services has a primary impact upon Users' exposures, NGGT will, as soon as reasonably practicable after such deployment, indicate to Users the impact of such deployment on charges. For example, Users currently have exposure 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.

In respect of system management services where such deployment only has a secondary effect on Users (for example via impacts in the SO Commodity Charge or via cost apportionment methodologies) NGGT will have discretion as to what 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 National Grid REMIT website (<https://www.remit.gb.net>). Please click [here](#) for the REMIT "inside information" FAQ.

6. Emergency Procedures

Under the circumstances defined in the procedure for Network Gas Supply Emergency Procedures (National Grid T/PM/E/1) under which Emergency Procedures would be invoked, the processes and procedures in that document shall supersede all considerations arising from this Statement.

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, which 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 either from an energy supply/demand or from a localised transportation capability perspective, NGGT may choose to use any operational flexibility, including but not limited to NTS compression and/or linepack to manage the situation, or to have recourse to a wider range of tools.

In respect of energy supply/demand balancing NGGT fulfils the role of "residual system balancer".

In respect of localised transportation capability, NGGT makes incremental NTS capacity sales and manages excess NTS capacity rights. This role extends to facilitating shipper to shipper trading of NTS system entry and firm NTS exit capacity. In addition, NGGT may use the following tools to manage localised transportation capability:

- Buy or sell locational gas;
- Scale back interruptible NTS entry capacity;
- Buy back firm NTS entry and/or exit capacity;
- Scaleback Off-peak NTS Exit Capacity;
- Flow swaps;

- Offtake Flow Reductions;
- Restrict the quantity of daily firm NTS Capacity made available, please be aware this will never occur prior to the scaleback of off-peak/interruptible capacity;
- Use other capacity tools, such as Capacity Management Agreements; and
- Operating Margins

NGGT 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 3A, 3B and Condition 8C of the Licence.

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

Part E of this document describes the basis for the deployment of contractual tools that may be utilised ahead of gas flow where, in NGGT’s opinion, such usage may deliver better performance or risk management against the SO incentive schemes (having regard to NGGT’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, NGGT’s policy in respect of both procurement and deployment of system management services may well involve a combination of forward contracting activity with additional purchases/sales and deployment of tools much closer to gas flow. The consideration of which tools to procure and deploy will depend upon NGGT’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 taken based on the physical and commercial circumstances prevailing, or expected to prevail, at any time. It is recognised, however, that reliance on application of tools very close to the time of gas flow may generate high unit costs for such system management actions. Hence as an alternative, NGGT may use contractual tools (developed to assist system management efficiency), taking account of the risk/reward balance, well before actions are operationally required. This section focuses on the processes that will be applied to the management of 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 NGGT 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 linepack levels are anticipated to move outside ranges determined by NGGT.

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 linepack levels are anticipated to fall below or exceed an acceptable level. Such ranges will take account of the various 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 NGGT 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”).

It should be noted that system management measures are only employed to address a Localised Requirement in accordance with the defined processes in so far as the particular system management measures may reasonably be expected to alleviate the constraint or resolve the deficit.

3.1 National Requirement

National Grid continually reviews system parameters throughout the gas day including (but not limited to) supply and demand notifications, actual and forecast 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 National Grid's determination as to whether the current or future system status is likely to impact on the safe or efficient operation of the network or if there will be a requirement to improve performance under the linepack component of the residual balancing incentive.

NGGT 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 NGGT to use when a National Requirement is triggered are:

- the OCM (Title Market);
- the 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 the assessment of OCM (and/or OTC) bids and offers that might be taken by NGGT 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 NGGT may consider other options open to it, 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 that are 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 the SO 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 NGGT (for example, due to a localised capacity constraint or a supply deficit or a plant failure) a Localised Requirement to use system management measures is triggered.

NGGT 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 NGGT to use when a Locational Requirement is triggered are:

- scaling back of off-peak NTS exit capacity;
- scaling back of interruptible NTS entry capacity;
- Restricting the quantity of daily firm NTS Entry Capacity made available;
- buying back firm NTS exit and/or entry capacity;
- Flow Swaps;
- Offtake Flow Reductions;
- use of other capacity tools, such as Capacity Management Agreements;
- Locational buys and sells on the OCM; and
- Operating Margins

NGGT will explore the use of one or more of the above options to affect the most economic and efficient management of a localised requirement.

For the avoidance of doubt NGGT 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 NGGT may consider other options open to it, up to and including either use of the Transportation Flow Advice process or initialising Emergency procedures.

Part D – System Management

1. System Management Services

These are described in Part C of the Procurement Guidelines, which additionally describes the possible applications of each type of tool or service.

Specific services include:

Energy Tools

NGGT 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

NGGT may use the UK Link capacity 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 Service Tools

NGGT 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.

Constrained Storage Services

NGGT may incentivise Users holding storage services at particular storage locations to provide NGGT with some control over gas flows into and out of such storage space.

Constrained Storage Services may be used to assist with the relief of output capacity constraints when the forecast demand is above the maximum pipeline capacity.

Demand and Supply Management Services

NGGT 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 Tools

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

2. Measures Not Involving System Management Services

NTS Linepack

NGGT may choose to use linepack (i.e. the volume of gas within the NTS) to absorb some differences between supply and demand. NGGT will seek to utilise 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.

Gas Supply Emergency Procedures

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

3. Operating Margins

It is possible that the above system management services may not deliver the required flow rate changes to achieve appropriate system management. In this event, NGGT 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 a supplier alert, the identification of a demand forecast change or pipeline and plant non-availability.

The use of Operating Margins in the context of the above will normally be the minimum required for operational requirements, although NGGT will have due regard to the SO Incentive Schemes and other obligations.

A quantity of Operating Margins will 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 Emergency Procedures. Operating Margins may also 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 a period of 24 hours after such an event, any ongoing reduction in capacity becomes the equivalent of a planned maintenance activity, and therefore cannot be supported by the use of Operating Margins.

Furthermore, if the residual volume of Operating Margins at any point in the winter falls below the Operating Margins Profile at individual sites or the Aggregate Operating Margins Profile nationally, NGGT 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 (national and European) financial services regulations, provide the legislative framework for those participants that operate on commodity-traded markets including the OCM and OTC gas markets. NGGT 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, NGGT, in its role as a residual system balancer, will enter various trades with Users via the OCM (and/or OTC). In undertaking this role NGGT 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, NGGT 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 NGGT indicates that supplies into the NTS are at, or very close to, the anticipated maximum available, then NGGT may be more likely to favour the OCM Physical or Locational markets rather than OCM NBP Title market, since NGGT 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 NGGT would still include that offer in any assessment of an Eligible Balancing Action. However, NGGT believes that it is prudent, economic, efficient and appropriate in relation to the legislative framework to

accept offers in price-order and therefore it is unlikely that in a fully functioning and liquid market such small volume, high-price 'isolated' offers would be accepted.

Minimum threshold volume

NGGT 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 NGGT where it considers this to be economic and efficient in accordance with its Licence obligations.

5. Margins Notice 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 UNC defined term that represents the sum of NGGT'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 take heed of 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.

A Margins Notice and Safety Monitor Report will be published daily on the National Grid website (<https://www.nationalgridgas.com/balancing/margins-notice-and-gas-balancing-notifications>), providing a rolling five-day view of supply & demand data.

Gas Balancing Notification

The Gas Balancing Notification (GBN) is a warning given at the discretion of NGGT 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 NGGT via its ANS services.

Following the issue of a GBN, NGGT 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 markets 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 7 days, this means that the MDAP assessment might be made utilising up to 7 relevant Gas Days.

OCM and OTC demand-side offers

NGGT may, once a GBN has been issued and where a **National Requirement** has been identified, take Eligible Balancing Actions utilising the OCM and/or OTC bi-lateral contracts with non-OCM Users where it is considered economic and efficient to do so. This includes Demand Side Response offers submitted via the OCM (Locational). In doing so, NGGT will consider all available offers including OCM (NBP Title, Physical and Locational), OTC, single day and multi-day offers.

6. Multi-Day Offers

Where it has been assessed as economic and efficient to do so, NGGT 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

At the time of assessing a multi-day offer, NGGT will take an informed decision, based on the information that it has available, as to the likelihood that the traded gas volumes might be required for subsequent days. NGGT will undertake 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. At the time of the acceptance of such multi-day offers, NGGT 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 cashout 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. NGGT 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 NGGT by its GT Licence with consideration to 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 the calculation of a revised multi-day 'assessment' price for each offer that is available.

NGGT 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, NGGT will endeavour to publish to the market the probabilities that are to be utilised as soon as possible and at least within 1 hour. Publication will take place prior to any Eligible Balancing Actions being accepted that might include multi-day offers. NGGT will also publish updated probabilities within an hour of being re-calculated.

Use of revised multi-day assessment price (MDAP)

NGGT 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 to do so relative to other System Management tools, and with due consideration to the total effect of that particular multi-day trade across all Gas Days in that period and FSMA 2000 legislation.

Market Information and reporting

NGGT 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 provide the rationale for taking such trades, including the analysis underlying the probability assessments it considered. NGGT will disseminate such information to 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 NGGT website. Further, NGGT 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 NGGT 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 NGGT 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 and so, rather than wait until close to gas flow to achieve the aims defined in Part F, it may be appropriate to consider deployment of 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.

NGGT will seek to develop and implement such tools wherever it appears viable to do so, taking account of its obligations to maintain a safe and secure system and its risk/reward profile defined in the context of the System Operator incentive schemes. NGGT 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 NGGT and will be guided by consideration of the incentive schemes subject to NGGT' 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 - Glossary

Capacity Constraint	A constraint affecting part of the System which results in the gas flows in that part of the System needing to be restricted
Gas Day	The period from 0500 hours on one day to 0459 hours on the following day
GBN	Gas Balancing Notification
Linepack	The volume of gas within the NTS pipelines calculated in accordance with the methodology for determining NTS Linepack which NGGT is required to establish in accordance with Special Condition 3D (Part D) (e) of the Licence.
LOPs	Local Operating Procedures agreed between NGGT and Delivery Facility Operators
NGGT	National Grid Gas Transmission
NTS	National Transmission System
OCM	On-the-day Commodity Market - Trading System or contingency balancing arrangements
OTC	Over-the-counter market
Predicted Closing Linepack	The expected end-of-Gas Day linepack level
REMIT	REGULATION (EU) No 1227/2011 on wholesale energy market integrity and transparency

Supply Deficit	A shortage of supply affecting part of the system
System Operator Incentive Schemes	Incentive schemes established by Ofgem to encourage certain operational and/or commercial behaviours on NGGT as System Operator

Part H – Further Information

- Uniform Network Code:
<http://www.gasgovernance.co.uk/UNC>
- REMIT Regulation:
<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32011R1227>
- Network Gas Supply Emergency Procedure E1:
<https://www.nationalgridgas.com/document/76221/download>
- Financial Services and Markets Act (FSMA) 2000:
<http://www.legislation.gov.uk/ukpga/2000/8/contents>
- Margins Notice and Safety Monitor Report:
<https://www.nationalgridgas.com/balancing/margins-notice-and-gas-balancing-notifications>

nationalgrid

National Grid plc
National Grid House,
Warwick Technology Park,
Gallows Hill, Warwick.
CV34 6DA United Kingdom
Registered in England and Wales
No. 4031152

nationalgrid.com