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~~Distribution~~

For Consultation

Distribution

System

Management

Principles

Statement

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SYSTEM MANAGEMENT PRINCIPLES STATEMENT

Document Revision History

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CONTENTS

Page

PART A: INTRODUCTION	<u>44</u>
1. Purpose of the document	<u>44</u>
2. National Grid Transeo Distribution UKDGAS DISTRIBUTION Gas <u>Distribution</u> Performance	<u>44</u>
3. Change process	<u>55</u>
PART B: GENERAL PRINCIPLES AND CRITERIA FOR SYSTEM MANAGEMENT ACTIONS	<u>66</u>
1. Licence Duties	<u>66</u>
2. Criteria	<u>66</u>
3. System Management Tools	<u>77</u>
4. Timing of Actions	<u>88</u>
5. Information Provision	<u>88</u>
6. Emergency Procedures	<u>88</u>
PART C: STATEMENT UNDERLYING SYSTEM MANAGEMENT ACTIONS	<u>99</u>
PART D: SYSTEM MANAGEMENT	<u>1010</u>
1. System Management Services	<u>1010</u>
PART E: SYSTEM MANAGEMENT TOOL DEPLOYMENT AHEAD OF THE DAY	<u>1111</u>
PART F: DAILY SYSTEM MANAGEMENT CONSIDERATIONS	<u>1212</u>
PART G: GLOSSARY	<u>1313</u>

PART A: INTRODUCTION

1. Purpose of the document

This document sets out the System Management Principles Statement ("the Statement") which ~~Transeo~~National Grid Gas Distribution (UKDGAS DISTRIBUTION)~~Gas Distribution~~ is required to establish in accordance with Standard Special Condition D5: "Licensee's procurement and use of system management services" of its Gas Transporters Licence ("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 ~~Transeo Distribution~~UKD Gas Distribution GAS DISTRIBUTION will employ system management services for its Distribution system. Transeo produces a similar document for its National Transmission System. The Licence places an obligation on the licensee to operate the system in an efficient, economic and co-ordinated manner.

The Statement has been developed to accompany ~~Transeo Distribution~~UKDGA Gas Distribution S DISTRIBUTION's DN incentive schemes and should be read in conjunction with its Distribution Procurement Guidelines.

For the avoidance of doubt the Guidelines refer to the DN's system balancing role and do not include energy balancing activities.

~~Transeo Distribution~~UKD Gas Distribution GAS DISTRIBUTION recognises that its DN 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 ~~Transeo Distribution~~UKD Gas Distribution GAS DISTRIBUTION will make system management decisions.

The document covers ~~Transeo Distribution~~UKD Gas Distribution GAS DISTRIBUTION's distribution system and references to pipeline and network should be construed accordingly. ~~Transeo Distribution~~UKD Gas Distribution GAS DISTRIBUTION's distribution system covers the following networks, as defined in Special Condition E2A of its licence:

- North West Network
- West Midlands Network
- East of England Network
- London Network

2. National Grid ~~Transeo Distribution~~UKD Gas Distribution GAS DISTRIBUTION Performance

In relation to responding to the DN incentive schemes and performing functions described in this document, ~~Transeo Distribution~~UKD Gas Distribution GAS DISTRIBUTION will seek at all times to follow the guidelines contained within and shall seek to act in good faith and in a reasonable and prudent manner in its dealings save to the extent that:

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

The Licence imposes on ~~TranSCO DistributionUKD Gas Distribution~~ GAS DISTRIBUTION an obligation to operate the system in an efficient, economic and co-ordinated manner. Ofgem has indicated that it would expect the obligation to be satisfied where ~~TranSCO DistributionUKD Gas Distribution~~ GAS DISTRIBUTION is responding to ~~its the commercial incentives in its~~ DN incentive schemes. However, Ofgem has indicated that ~~TranSCO DistributionUKD Gas Distribution~~ GAS DISTRIBUTION's behaviour should be appropriately constrained by the obligation to operate its pipeline system in an economic, efficient and co-ordinated obligation manner, for example, when its commercial incentives are not biting - 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 ~~TranSCO DistributionUKD Gas Distribution~~ GAS DISTRIBUTION 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. ~~TranSCO DistributionUKD Gas Distribution~~ GAS DISTRIBUTION will monitor the operation and application of the Statement and it is ~~TranSCO DistributionUKD Gas Distribution~~ GAS DISTRIBUTION'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 makes reference to a number of provisions contained in the Network Code Uniform Network Code. In the event that any of the relevant provisions in the Network Code Uniform Network Code are modified it may become necessary for ~~TranSCO DistributionUKD Gas Distribution~~ GAS DISTRIBUTION to seek an amendment to the Statement in order that it remains consistent with the Network Code Uniform Network Code. Prior to any such amendment the Network Code Uniform Network Code shall take precedence over the Statement.

For the avoidance of doubt, this Statement does not form part of the Network Code Uniform Network Code.

PART B: GENERAL PRINCIPLES AND CRITERIA FOR SYSTEM MANAGEMENT ACTIONS

1. Licence Duties

In establishing the Statement the Licence requires ~~Transeo DistributionUKD~~~~Gas Distribution~~~~GAS DISTRIBUTION~~ 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 distribution pipe-line system to which the licence relates, and for what purpose, and when it would resort to measures not involving the use of system management services in the operation of the distribution pipe-line system. Furthermore in establishing the Statement ~~Transeo DistributionUKD~~~~Gas Distribution~~~~GAS DISTRIBUTION~~ must do so 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.

~~Transeo DistributionUKD~~~~Gas Distribution~~~~GAS DISTRIBUTION~~'s other principal regulatory obligation when carrying out the system management actions is to take all reasonable steps to do so in accordance with the Statement.

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

2. Criteria

The Statement cannot set out the particular system management measures to be employed by ~~Transeo DistributionUKD~~~~Gas Distribution~~~~GAS DISTRIBUTION~~ in every possible operational situation.

The criteria applied in respect of deployment of system management services will take account of the DN Incentives; the obligation to be economic, efficient and co-ordinated; risk management considerations; 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 circumstances exist where not to do so would prejudice the interests of safety;
- where operational information indicates 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 ~~TranSCO Distribution~~UKD Gas Distribution~~GAS DISTRIBUTION~~ considers it to be more economic, efficient or co-ordinated to do so.

3. System Management Tools

The System Management tools used by ~~TranSCO Distribution~~UKD Gas Distribution~~GAS DISTRIBUTION~~ are designed to ensure the economic, efficient and coordinated delivery of gas to networks and supply points connected to the Distribution system in accordance with the Gas Safety Management Regulations under demand conditions as stipulated by its Licence within the commercial framework prescribed by Network Code~~Uniform Network Code~~. It does this through the management of system capacity and provision of linepack on the Distribution system facilitated by:

- provision of pipe-line capacity or use of storage within the Distribution system
- procurement of flow capability products e.g. NTS (Flat) Offtake Capacity and NTS (Flexibility) Offtake Capacity from the National Transmission System
- submission of revised offtake profile notices to NTS to amend flows into the Distribution system
- provision of diurnal storage.

~~TranSCO Distribution~~UKD Gas Distribution~~GAS DISTRIBUTION~~ also has to procure shrinkage gas to make good the losses on the Distribution system incurred for instance as a result of leakage ~~or use of gas for pre-heating at pressure reduction stations.~~

the use of gas for pre-heating at pressure reduction stations or theft of gas for which the transporter is responsible for managing.

~~TranSCO Distribution~~UKD Gas Distribution~~GAS DISTRIBUTION~~'s use of such tools will be influenced by the financial implications of its incentive arrangements, the necessity to achieve timely gas flow rate changes on the system and its broader obligations.

~~Transeo DistributionUKD Gas DistributionGAS DISTRIBUTION~~ shall have discretion in respect of which system management services envisaged within the Distribution Procurement Guidelines it may deploy.

Whilst not required as part of the requirements of this document ~~Transeo DistributionUKD Gas DistributionGAS DISTRIBUTION~~ may also utilise interruption in accordance with the terms of the ~~Network CodeUniform Network Code~~ for the purposes of system management. The ~~Network CodeUniform Network Code~~ allows for interruption to be used for:

- constraint management purposes, i.e. to address a Transportation Constraint ;
- emergencies; or
- testing.

4. Timing of Actions

~~Transeo DistributionUKD Gas DistributionGAS DISTRIBUTION~~ will determine whether measures will be employed close to the time of gas flow taking account of programmed system inputs, forecast outputs and/or projected key pressures for each Gas Day and as a result of information received for the Gas Day from all sources including LOPs (with connected facility operators) and User Nominations. By taking account of the information received from these sources ~~Transeo DistributionUKD Gas DistributionGAS DISTRIBUTION~~ will make operational decisions and apply the decision-making processes set out in this document.

~~Transeo DistributionUKD Gas DistributionGAS DISTRIBUTION~~ may also take actions well ahead of the Gas Day. This may be to reduce the size or cost of actions, or to improve the estimated risk profile against the DN Incentive Schemes given the expectation of possible prompt system management action requirement being necessary close to, or during, the Gas Day. ~~Transeo DistributionUKD Gas DistributionGAS DISTRIBUTION~~ may use any other information, or its own assessments, to assess whether such actions would be appropriate.

5. Information Provision

Where ~~Transeo DistributionUKD Gas DistributionGAS DISTRIBUTION~~'s deployment of system management services has a primary impact upon Users' exposures, for instance on Users charges, ~~Transeo DistributionUKD Gas DistributionGAS DISTRIBUTION~~ will, as soon as reasonably practicable after such deployment, indicate to Users the impact of such deployment on charges.

In respect of system management services where such deployment only has a secondary effect on Users ~~Transeo DistributionUKD Gas DistributionGAS~~

DISTRIBUTION 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 be either released to support invoiced amounts or made available to an industry or Ofgem appointed auditor to confirm the validity of the charges.

6. Emergency Procedures

Under the circumstances defined in Transco's Emergency Procedure documentation Network Gas Supply Emergency Procedures (T/PM/E/1) and the Local Gas Supply Emergency Procedure (T/PM/E/2) 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**

Not Used

PART D: SYSTEM MANAGEMENT

1. System Management Services

Services include:

Energy Tools

~~Transco Distribution may use the APX-operated On the day Commodity Market (OCM), or any other market, mechanism or contract to buy and sell gas for the procurement of shrinkage gas.~~

Capacity Tools

~~Transco Distribution~~UKD Gas Distribution~~GAS DISTRIBUTION~~ may use NTS capacity services (NTS (Flat) Offtake Capacity and NTS (Flexibility) Offtake Capacity for the purposes of system management.

Storage Service Tools

~~Transco Distribution~~UKD Gas Distribution~~GAS DISTRIBUTION~~ may procure any storage service from storage facility owners or operators, or any other market, mechanism or contract relating to physical or commercially based storage products for the purposes of system management where such storage facilities are connected to the pipeline system owned by the DN.

Demand and Supply Management Services

~~Transco Distribution~~UKD Gas Distribution~~GAS DISTRIBUTION~~ may incentivise Users or end consumers to enter into contracts to affect desired gas flow offtake or delivery into the system in accordance with the terms of the ~~Network Code~~Uniform Network Code.

Other Commercial and Contractual Tools

~~Transco Distribution~~UKD Gas Distribution~~GAS DISTRIBUTION~~ may develop further services or enter into contracts that will enable it to better manage both its operational and commercial risks.

UKD Gas Distribution~~GAS DISTRIBUTION~~ Diurnal Storage resources.

UKD Gas Distribution~~GAS DISTRIBUTION~~ will provide diurnal storage from its own dedicated resources and storage sites as required to meet the gas demands of customers, including storage available from Linepack, low pressure and high pressure storage vessels, and other means at its disposal. All such storage will be used and where necessary replenished in the same gas day. **Linepack**

~~Although not strictly a system management service to the extent of the inherent flexibility within the Distribution system, Transco Distribution will seek to utilise linepack as a means of avoiding the deployment of other balancing measures. Linepack is in this sense not a balancing measure in so far as its use does not impact gas flows onto or off the system.~~

PART E: SYSTEM MANAGEMENT TOOL DEPLOYMENT AHEAD OF THE DAY

Rather than wait for imminent gas flows– for system management actions it may be appropriate for ~~Transeo DistributionUKD Gas Distribution~~GAS DISTRIBUTION 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.

~~Transeo DistributionUKD Gas Distribution~~GAS DISTRIBUTION 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 DN incentive schemes. ~~Transeo DistributionUKD Gas Distribution~~GAS DISTRIBUTION 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 ~~Transeo DistributionUKD Gas Distribution~~GAS DISTRIBUTION and will be guided by consideration of the incentive schemes subject to ~~Transeo DistributionUKD Gas Distribution~~GAS DISTRIBUTION's other obligations.

PART F: DAILY SYSTEM MANAGEMENT CONSIDERATIONS

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

- To maintain linepack levels and other key operational parameters within predetermined operating ranges at all times within the Gas Day whilst ensuring safe operation.
- To address exit constraints where flows are forecast to exceed assessed system capability.
- To implement interruption and give notice of potential interruption conditions.
- To identify potential operational or commercial requirements to use storage services.

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 0600 hours on one day to 0600 hours on the following day
LDZ	Local Distribution Zone
Linepack	The volume of gas within the DN pipelines calculated to facilitate delivery of gas to networks and supply points connected to the distribution system in accordance with the gas safety Management Regulations under demand conditions as stipulated by its GT Licence.
LNG	Liquefied Natural Gas
LOPs	Local Operating Procedures agreed between Transco and Delivery Facility Operators
MCM	Million Cubic Metres
NTS	The National Transmission System
NTS Offtake (Flat) Capacity	Is capacity which a Distribution Network operator is treated as using in causing or permitting gas to flow from the NTS at a rate which (for a given daily quantity) is even over the course of a Day
NTS Offtake (Flexibility) Capacity	Is capacity which a Distribution Network operator is treated as using or releasing from utilisation in causing or permitting gas to flow from the NTS to the extent that (for a given Daily Quantity) the rate of offtake or flow is not even over the course of a Day
OCM	On the Day Commodity Market - Trading System or contingency balancing arrangements

**Projected Closing
Linepack**

The expected end of Gas Day linepack level

Diurnal storage

Is the quantity of gas required in any given gas day that will balance the input (supply) to match the gas demand at the parts of the day where that demand exceeds the supply. This gas will then be put back into store over night with a net storage use effect across the day of zero. It should be noted that diurnal storage can take several forms including internal LDZ storage, either low or high pressure, and NTS swing.

**DN Incentive
Schemes**

Incentive schemes established by Ofgem to incentivise certain operational and/or commercial behaviours on Transco as Distribution Network Operator