

## An Introduction to Gas Operations

Gas Operations are responsible for the safe & efficient operation of the National Gas Transmission System in the UK and are responsible for:

- Undertaking the daily physical operation and commercial trading arrangements.
- Managing the entry & exit capacity on the National Gas Transmission System.
- Reconciling gas energy usage and 'after the day' allocations for Gas Shippers.
- Monitoring and maintaining gas quality throughout the National Gas Transmission System.

### The Role of the GNCC

The Gas National Control Centre (GNCC) keep the National Transmission System (NTS) balanced between the gas demands of the consumers (both Industry and Domestic) and supplies.

The GNCC are constantly looking at the safe, secure and controlled transmission of gas for today and tomorrow. They move gas through the NTS by using over 25 compressor stations strategically sited around the country.

Throughout the gas day (which starts at 06:00 each day) the GNCC match supply with demand to ensure a safe and secure delivery of gas to consumers. There are a number of commercial and/or physical tools available to the GNCC to ensure the NTS remains in balance. These include:

- Utilising available linepack (gas physically contained within the NTS)
- Reducing demand by interrupting gas consumers (with specific interruptible contracts)
- Buying or selling gas on the 'On the day Commodity Market' (OCM)
- Issuing Gas Balancing Alerts to notify the industry of supply/demand imbalances.
- Reducing supply by scaling or buying back entry capacity entitlements

This provides the right amount of gas delivered at the right pressure to the right location throughout the UK every minute of every day.



To perform its duties, the GNCC liaises with the Distribution Networks, Shippers, Traders, operators of gas terminals (around the UK coastline) and gas storage facilities and large gas consumers.

The systems that are used are extremely comprehensive and sophisticated – they receive hundreds of thousands elements of data every day, which allow the GNCC to monitor flows, pressures and gas quality around the system and take any actions necessary to ensure that the NTS remains ‘balanced’.

### **Integrated Gas Management System**

The integrated Gas Management System (iGMS) is used to monitor and control the flow of gas around the NTS.

The system is networked to allow communication exchanges between the GNCC and over 250 sites and allows remote controlled movement of valves and other equipment to control flows and pressures throughout the NTS.

### **Gemini**

Gemini is a system jointly used by National Grid, Shippers and Traders to commercially manage gas transportation on the NTS.

The functions performed by Gemini are at the heart of the commercial gas regime.

Capacity –

- Capacity auctions
- Capacity trading (between Shippers)
- NTS Exit capacity registration

Energy –

- Provision of nominations (intended gas flows into and out of the NTS).
- Energy trading

Measurements & Allocations –

- Measurement records for physical gas flows into and out of the system, including both NTS and LDZ sites.
- Allocations (used as a basis for invoicing).

Shipper invoicing activities are managed on behalf of National Grid by Xoserve.