

Daily balancing and the Network Code

Daily balancing

1. To maintain the safe operation of the transmission and distribution system, the gas that is put into it by shippers must consistently balance the gas that is used by consumers, after allowing for changes in the amount of stored gas. As gas moves through Transco's system at slow speeds (typically 40 kph), supplies cannot instantly respond to increased demand. If gas had been landed in Scotland and was needed in the most distant location supplied, it would take around 23 hours to reach its destination. The use of gas is not constant or totally predictable: for example, non-daily metered supplies to domestic customers vary rapidly in response to changes in temperature.

2. Each shipper has a financial incentive to try to balance its inputs against its own customers' consumption. However, it does this on the basis of imperfect information, particularly on the gas consumed by domestic customers (which is forecast using algorithms). Owing to unexpected changes in the weather, unplanned gas production restrictions and similar uncertainties that may result in shippers' forecast gas needs being inaccurate, it is not feasible for every shipper to nominate its supplies such that they are exactly in balance at all times. A shipper may also cause an imbalance if it ships more or less gas than it has previously specified to Transco.

3. The Network Code (see paragraph 4.34) assigns Transco the responsibility for maintaining the physical balance of the network. If shippers' aggregate supply and demand are out of equilibrium, Transco must restore the balance. Usually Transco achieves this by buying or selling gas through the OCM. Transco also holds gas in store, known as top-up (see paragraph 4.14) and operating margins gas, to ensure that it is able to balance the system. Operating margins gas is the gas used by Transco to maintain system pressures under unforeseen circumstances that cannot be dealt with by trading on the OCM (see paragraph 4.29). These may include the periods between a loss of supply, plant failure, pipe break or unexpected change in the weather and other measures becoming effective. Operating margins gas also allows for the orderly rundown of the system in cases of major supply failure.

4. These measures may incur additional costs. Each shipper is financially responsible for the costs incurred to manage an imbalance in its supply and demand or a difference between its gas nominations and actual flows (and shippers are, in aggregate, responsible for any remaining balancing costs).

5. The need for many independent organizations to use the Transco network and keep it in balance makes it necessary for large amounts of information to be processed and made available by and to different parties. For example, shippers need to confirm their supply points and make gas nominations and Transco needs to know shippers' nominations and OCM deals. It also needs to measure gas flows and calculate daily imbalances for each shipper. This information exchange is achieved through a computer system known as UK-Link (see paragraph 8).

The Network Code

6. The Network Code is the contractual document entered into by Transco and each shipper using its system that sets the contractual and commercial rules for the conveyance of gas between points where it is received into Transco's system and points where it is taken from the system. It came into effect in March 1996 after two years of negotiation between Transco and the shippers. The Network Code provides financial incentives to ensure that each shipper gives Transco the necessary information regarding its gas flows and that each shipper meets its gas flow nominations, which enables Transco to maintain the system balance. The code requires the commercial balancing process to be carried out on a daily basis and sets out the actions that are required before the day concerned, during the day and after the day. Shippers are given an incentive to balance their own supply and demand.

7. The Network Code provides all system users with equal access to the transportation services and has the further objectives that gas transportation should meet market requirements on a

non-discriminatory basis; that system security and safety should be safeguarded; and that pricing should reflect the costs of the services concerned.

8. The Network Code processes are supported by UK-Link, a single integrated set of computer systems operated by Transco and used by all the parties involved in shipping gas from entry to supply point through the transportation system. UK-Link provides the means of communication of information such as gas-flow nominations, allocations and demand estimates. A separate system, operated by EnMO Ltd, another subsidiary of NGT, allows shippers to place bids through the OCM.

9. As the Network Code needs to adapt in response to developments, Transco's modification rules enable shippers, or Transco itself, to make proposals for changes. These proposals are considered by a modification panel that includes representatives of the shippers and Transco. After any necessary development work on the proposals has been reviewed, Transco is responsible for submitting a report to Ofgem that recommends either the approval or the rejection of the proposal. Ofgem then makes a final decision.