TRANSCO NETWORK CODE MODIFICATION PROPOSAL No. 0433

"Change to System Cash Out Prices"
Version 1.0

Date: 16/10/2000

Proposed Implementation Date: 01/01/2001

Urgency: Non-Urgent

Justification

The Network Code energy balancing regime was designed to provide commercial incentives for shippers to balance inputs and offtakes on the Transco system by applying System cash-out prices to shipper imbalances measured at the end of each gas day. The prices to be applied to any imbalance volumes were intended to be market reflective and would thus achieve a degree of cost targetting to those shippers out of balance. Imbalances within a tolerance are cashed-out at a System Average Price, representing a 'neutral' price for 'modest' imbalances. Imbalance volumes falling outside of tolerance are cashed out at the appropriate System Marginal Price (SMP). The use of SMPs should incentivise shippers towards achieving a balance within tolerance. The derivation of these SMPs is dependent on Transco balancing actions. On days when Transco has taken no balancing actions, or where the highest price of any Transco trade is less than SAP then the SMPbuy Price will be set equal to SAP. Similarly, on days where Transco has taken no action or the lowest price for any Transco trade is greater than SAP then the SMPsell price will be set equal to SAP.

There may be circumstances where the SAP is attractive relative to the price at which shippers value gas and shippers thus have a commercial incentive to adopt a particular imbalance position. Unless Transco takes balancing actions that set unattractive SMPs for such shippers there will be no incentive for them to contain imbalances to within tolerances.

Transco has expressed concerns that the operation of the System is potentially affected by the level of gas imbalance that is being experienced, both within-day and at the end of day. Such imbalances have caused concerns regarding the efficient operation of the network and may have led to inappropriately targetted costs. The structure of the current cashout regime has remained largely unchanged despite the implementation of RGTA in October 1999. However, the degree of commercial freedom within the energy balancing regime has changed and it now appears that the current arrangements may no longer deliver shipper incentives consistent with efficient balancing of the System.

The issue of System cash-out prices was recently considered under Modification Proposal 0420. The proposal was rejected as it contained a flaw that would cause exteme prices to be retained within the cash-out mechanism indefinitely. Ofgem believed these flaws would create impacts in the gas market leading to distortions in competition between shippers and suppliers by setting non-market reflective cash-out prices for shippers out of balance.

In the decision letter for Proposal 0420 Ofgem stated that it is convinced that there is a need for reform of the cash-out regime in the short term and that the industry should consider alternative solutions. In view of concerns regarding the operation of the System Transco also seeks to enhance incentives for energy balancing to ensure that the System remains safely and efficiently balanced. This modification proposal will enable thorough discussion of a range of options and permit development of a robust solution that can be evaluated against a range of criteria.

Nature of Proposal

It is suggested that the cash-out regime should provide incentives for shippers to achieve an energy balance and a degree of cost targetting whereby those likely to be generating balancing costs are liable to pay at least some of those costs. Given the behavioural and informational uncertainties inherent in the operation of the regime different cash-out price mechanisms will achieve these primary objectives with differering levels of effectiveness. It is therefore important that the trade-offs between these primary objectives are considered when deciding on the preferred cash-out price derivation.

It would be preferable that the cash-out price derivation has other properties including. In particular it should provide an appropriate degree of transparency and deliver cashout prices that are reflective of the gas market conditions, although not necessarily being the result of particular transactions in the same day.

It is intended that the modification process be used to debate and establish appropriate criteria to be used to assess the effectiveness of any cash-out mechanism and establish, if possible, the relative weightings that might be applied to each criteria.

It has been suggested that the cash-out regime would be more effective if differentials between SMPs and SAPs were set more frequently. This modification proposal therefore defines several alternative approaches that might generate more frequent differentials. These are decribed in general terms below. Transco intends to issue a paper that describes each option in more detail in order to facilitate discussion.

To facilitate the identification of an appropriate alternative cash-out price mechanism the following key areas should be considered:

- the establishment of the System Average Price (SAP) to apply to imbalances within tolerance
- the identification of either reference prices or reference differentials
- the basis for determining the SMP prices based on different combinations of SAP and/or reference prices and/or reference differentials.

For example, the System Average Price may be determined in different ways;

1) SAP based on Transco trades only
2) SAP based on non-Transco trades only
3) SAP based on all trades

There may be a requirement to exclude certain trades from such calculations, e.g. constraint related trades or trades taken out of price order.

Additional reference prices or reference differentials may be defined that could then feed into the cash-out price determination process. These alternatives may be split into two groups;

Derived prices based on values of particular trades undertaken, and

Differential prices that might provide an indication of the value of flexibility.

- Derived Price options

System Weighted Average Marginal Price (SWAMP). The SMP is determined by consideration of a percentage of the trades made on a day. For example, the SMPbuy could be set through consideration of the highest [5]% of trades made.

SAPbuy and SAPsell: This method of establishing differential cashout prices splits SAP into the weighted average of its component sell and buy trades. Only Transco trades could be used to establish the direction of the trade.

SMP average: This method would be based on an average of the SMPs over a preceding number of days. The trades considered could be based on Transco only, shipper only or all trades. It would be necessary to limit this mechanism to consideration of actual trades and thus remove the divergence effects that might occur through the inclusion of a rolling average SMP.

Historical averages: Marginal prices could be set by the arithmetic average of the appropriate SMP in a preceding period.

- Differential Prices

This method could act as a proxy for flexibility values.

Volatility approach: A volatility index is used to derive the differentials. It might be based on a fixed period and look at a statistical measure of volatility of SMP prices. The index is then used to calculate an amount to be added or subtracted from the SAP.

Storage Flexibility approach: Differential values could be derived from the cost of storage services.

SAPs, reference prices or reference differentials could be generated by any of the above approaches or alternatives that might be developed. For example, the SMPs to be used in cash-out could be defined using a greater of / lesser of rule comparing the 'actual' marginal priced Transco trade, the 'default' value and the SAP. Alternatively, the default values might be applied only on days when Transco has not set SMPs through taking balancing actions.

It is intended that discussion of these options will assist in identifying the best approach for a cash-out mechanism that achieves the most satisfactory fit against the various requirements.

It is recognised that there is an interaction between this Modification Proposal and Modification Proposal 0414 "Energy Balancing Incentive Re-design". The current performance measure for Transco's energy incentive is based upon SMP-SAP differentials. If the cash out price definition process were amended it may be appropriate to change the basis of the energy incentive, and hence the interaction with Modification Proposal 0414.

Purpose of Proposal

Implementation of this proposal would increase the incentives on shippers to achieve a balance. With better incentives for individual shippers to balance the requirement for Transco to intervene as a residual balancer should reduce and the volumes of gas that are cashed-out for end of day imbalance would also reduce. This would reduce the value passing through the neutrality mechanism and thus achieve better cost targetting. Better cost targetting would facilitate achievement of the relevant objectives.

Consequence of not making this change

The regime will persist in which shippers will only face consistent and meaningful incentives to achieve an energy balance within tolerance if Transco has taken balancing actions to both buy and sell gas on behalf of the System and thus set System Marginal Prices that are different to SAP. The absence of such incentives may inhibit development of gas trading and thus hamper competition.

Area of Network Code Concerned

Section F: 1.2 System Prices (1.2.1).

Proposer's Representative

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Proposer

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