

**Draft Modification Report**  
**Energy Balancing Incentive Redesign**  
**Modification Reference Number 0414**  
Version 12.0

This Draft Modification Report is made pursuant to Rule 8.9 of the Modification Rules and follows the format required under Rule 8.9.3.

**1. The Modification Proposal**

Transco formulated this proposal to facilitate discussion of alternative incentive structures that might better facilitate the relevant objectives. The Workstream debate gave rise to the view that an incentive that would encourage efficient linepack management to complement the existing price efficiency based approach should be implemented.

Taking account of the Workstream debate, Transco proposes the following energy incentive structure:

The daily incentive amount received or paid by Transco would be determined as the sum of two daily incentive amounts defined by risk/reward functions for each of the price and linepack components of the incentive.

A daily cap and collar of £4,000 and -£30,000 would be applied in respect of the risk/reward associated with each of the price and linepack components. The energy incentive arrangement would continue to be subject to the current +/-£2m annual cap and collar.

A Linepack Incentive Performance Measure, LIPM, would be defined as the absolute magnitude of the difference between opening and closing linepack volumes (in units of mcm) for the gas day.

The current buy and sell price incentive performance measures would be replaced with a single Price Incentive Performance Measure, PIPM, defined as:

$$\text{PIPM (\%)} = (\text{SMIBP} - \text{SMISP}) / (2 \times \text{SAP}) \times 100,$$

where SMIBP is the System Marginal Incentive Buy Price defined as the maximum of SAP and the price of the highest Market Offer Price transacted by Transco, and SMISP is the System Marginal Incentive Sell Price defined as minimum of SAP and the price of the lowest Market Offer Price transacted by Transco.

The daily incentive amounts for the linepack and price performance measures would be determined by the following risk/reward functions:-

$(LIPT - LIPM) / LIPT \times £4,000$ , and

$(PIPT - PIPM) / PIPT \times £4,000$ ,

where LIPT is the Linepack Incentive Performance Target and PIPT is Price Incentive Performance Target, representing the performance level for which a neutral outcome would be obtained for each component.

The performance targets LIPT and PIPT would be equal to 2.4 mcm and 10% respectively.

Transco seeks views as to the benefits of implementing the above proposal. Transco would also welcome views as to the methodology that should be applied to determine the value of the parameters in the incentive and as to what values should apply if the proposal is implemented.

An alternative incentive structure, referred to as the “hybrid model”, was discussed by the Workstream. The difference between the hybrid model and the proposed "additive model" is that an incentive reward is only obtained if both performance targets are achieved, but providing that at least one performance target is met then Transco would not face a loss. The net daily incentive amount would thus be zero if the following condition was true:-

$PIPM \leq PIPT / LIPT \times (2 \times LIPT - LIPM)$ , and

$LIPM > LIPT$  or  $PIPM > PIPT$ ,

and would otherwise be determined by the addition of the price and linepack daily incentive amounts.

Transco seeks views as to whether this alternative hybrid model would better facilitate the relevant objectives compared to the proposed additive model.

## **2. Transco’s Opinion**

As part of the New Gas Trading Arrangements (NGTA), an energy incentive was introduced on 1 October 1999 arising from the implementation of Modification Proposal 0313, “Modification of the Energy Balancing Regime”.

It was recognised that the incentive might need to be evolved as part of the ongoing NGTA development and that Ofgem would analyse the effects of the incentive as part of its review of the first six months operation of the NGTA regime.

Many participants within the industry recognised that a reconsideration of the incentive was needed and aspired to delivering an enhanced energy incentive that might better facilitate the relevant objectives for implementation from 1 October 2000. Transco therefore raised Modification Proposal 0414 “Energy Incentive Redesign”, which the July Modification Panel referred to the Energy and Capacity Workstream for consideration.

The Workstream debate about this modification proposal was extensive due to a recognition that the energy incentive is inextricably linked to Transco’s role, the nature of Transco’s balancing tools and shipper incentives to balance. Several shippers believed that Transco’s initial proposal for a “balancing neutrality based” incentive could encourage Transco to set wide cash-out prices just to “catch shippers out”.

Transco believes that the current energy incentive encourages a degree of “price efficiency” in respect of Transco’s system balancing decision making process. It has therefore delivered the primary objective, although actions that set out to maximise the benefits of the existing incentive structure may not necessarily be consistent with cost containment. The proposed incorporation of a linepack incentive element in addition to a price incentive arrangement is believed by Transco to address some of the shipper concerns over a balancing neutrality based incentive approach, whilst providing a transparent interim measure to address the perceived shortcomings of the present incentive structure.

Transco proposes that, in addition to the incorporation of a linepack incentive, the current price incentive arrangement consisting of separate buy and sell price incentives is combined into a single risk / reward function. Transco believes that this achieves the same desired objective to incentivise Transco to consider the price efficiency of its balancing actions, but in a much simpler fashion.

Transco advocates the application of the “additive” model, as opposed to the “hybrid” approach as Transco believes that this form creates more continuous incentives ie. at all times Transco will face incentives to make marginal changes which impact either or both incentive measures to enhance net financial position under the incentive scheme. Whilst Transco believes that both incentive schemes offer an improvement over the current

incentive, the continuous incentive properties of the “additive” model are more likely to better encourage behaviours consistent with the relevant objectives.

Transco recognises that a number of Shippers want the incentive parameters to be set such that Transco faces a financial incentive which would yield a zero outcome even taking account of some expected performance improvement. Transco have thus determined the incentive parameters in accordance with the following methodology:-

The daily cap and collar of £4,000 and -£30,000 applied to the current price incentive arrangement have been maintained for the proposed revised price incentive. The same financial values have then been applied to the linepack incentive arrangement such that Transco’s daily risk/reward has been substantially increased. The price incentive "target" value has been set at 10%, broadly equivalent to double the current target of 5% applied separately to the buy and sell incentive arrangements. This increase from the current values was initially proposed by BGT "to recognise the fact that SMPs will need to be set at a sufficient differentials to ensure that there is a commercial incentive on shippers to balance". The linepack incentive "target" has then been set assuming historic values for the two performance measures observed in 1999/2000 gas year in order to yield a net incentive outcome of -£60,000 should an identical performance be repeated. This implies a Linepack Incentive Performance Target of 2.4 mcm.

**3. Extent to which the proposed modification would better facilitate the relevant objectives**

Transco believes that a financial incentive that promotes a consideration of expected end of day linepack, in association with a "price efficiency" consideration, is likely to lead to lower day-on-day swings in linepack thereby decreasing overall neutrality costs, and therefore may better facilitate:

Condition 7(a), "the efficient and economic operation by the licensee of its pipe-line system" and

Condition 7(c), "the securing of effective competition between relevant shippers and between relevant suppliers".

**4. The implications for Transco of implementing the Modification Proposal , including a) implications for the operation of the System:**

Transco believes that the introduction of a linepack incentive, in addition to the current price incentive, will reduce day-on-day linepack swings and hence encourage more stable and efficient operation of the network.

**b) development and capital cost and operating cost implications:**

A revision to the mechanisms for the calculation, administration and reporting of the incentive payment/reward would require some changes to Transco systems. In the short term manual processes may be used before systems approaches are fully implemented.

Capital and operating costs are anticipated to be minimal.

**c) extent to which it is appropriate for Transco to recover the costs, and proposal for the most appropriate way for Transco to recover the costs:**

Transco will not seek to recover incremental costs of implementation of this proposal.

**d) analysis of the consequences (if any) this proposal would have on price regulation:**

This proposal is not considered to have any consequences in respect of price regulation.

**5. The consequence of implementing the Modification Proposal on the level of contractual risk to Transco under the Network Code as modified by the Modification Proposal**

Whilst the incentive would preserve the +/-£2m cap / collar on the energy incentive, the proposed incentive parameters require a performance improvement in order to achieve a net zero outcome. In addition, Transco would be exposed to a maximum payment equal to twice that of the current value.

Transco is seeking a modification to the Operational Guidelines to permit system balancing actions after midnight within day. If this change is not approved, Transco would be denied the ability to respond to changes in shipper behaviour that may result from the incorporation of a linepack element into the energy incentive arrangement.

**6. The development implications and other implications for computer systems of Transco and related computer systems of Users**

A revision to the mechanisms for the calculation, administration and reporting of the incentive payment/reward would require some changes to Transco systems. No changes are anticipated to related computer systems of Users.

**7. The implications of implementing the Modification Proposal for Users**

A change in the nature of Transco's incentives and any consequential effect on balancing policy and hence potential cash-out prices may precipitate a change in balancing and trading behaviour of Users.

**8. The implications of implementing the Modification Proposal for Terminal Operators, Consumers, Connected System Operators, Suppliers, producers and, any Non-Network Code Party**

Transco believes that there will be no direct effect on the above parties.

**9. Consequences on the legislative and regulatory obligations and contractual relationships of Transco and each User and Non-Network Code Party of implementing the Modification Proposal**

No change to contractual relationships is anticipated

**10. Analysis of any advantages or disadvantages of implementation of the Modification Proposal**

Advantages:

Increased alignment between Transco's incentive and the provision of a low cost balancing service.

Addresses weaknesses of current incentive arrangement.

Provides continuous incentive properties.

Disadvantages:

Increased administrative complexity.

**11. Summary of the Representations (to the extent that the import of those representations are not reflected elsewhere in the Modification Report)**

The proposals in this document have already been the subject of lengthy consideration in the workstreams. Comprehensive detail and further information are included with the Workstream Report and Energy & Capacity Workstream and Development Group minutes.

In light of discussions, Transco would particularly welcome comments on the following:

- i) whether Transco should face an energy incentive;
- ii) how, if appropriate, such an incentive should be determined;
- iii) whether the "additive model" (as formally proposed) or the "hybrid model" (the alternative proposal about which views are sought) should be implemented;
- iv) how the methodology for determining incentive parameters should be determined, and the process by which such parameters should be established.

**12. The extent to which the implementation is required to enable Transco to facilitate compliance with safety or other legislation**

Not applicable.

**13. The extent to which the implementation is required having regard to any proposed change in the methodology established under Standard Condition 3(5) or the statement furnished by Transco under Standard Condition 3(1) of the Licence**

Not applicable

**14. Programme of works required as a consequence of implementing the Modification Proposal**

System changes would be required to various AT Link, financial, administration and reporting processes

**15. Proposed implementation timetable (including timetable for any necessary information systems changes)**

Transco proposes implementation with effect from 1st April 2001

**16. Recommendation concerning the implementation of the Modification Proposal**

Transco recommends that this proposal be implemented.

**17. Text**

**SECTION D. OPERATIONAL BALANCING, TRADING ARRANGEMENTS AND ENERGY BALANCING INCENTIVE**

*Add paragraph 1.4.1vii. as follows:*

“(vii) NTS Linepack shall mean , for a Day, the volume of gas within the National Transmission System [ascertained in accordance with the principles set out in the Operational Guidelines.]”

*Amend paragraph 3.1.1 to read as follows:*

“ ....

(i) System Marginal Incentive Buy Price differs from the System Marginal Incentive Sell Price; and

(ii) In respect of the Day the change in NTS Linepack from the Preceding Day .”

*Amend paragraph 3.1.2 to read as follows:*

“.... the “Price Incentive Arrangement”, and the arrangement giving effect to paragraph 3.1.1(ii) is the “Linepack Incentive Arrangement”. “.

*Amend paragraph 3.1.3 to read as follows:*

“(a) ...

(i) in relation to the Price Incentive Arrangement, the percentage determined as:

$$((\text{SMIBP} - \text{SMISP}) / (2 * \text{SAP})) * 100$$

where:

SAP is System Average Price;

SMISP is System Marginal Incentive Sell Price;

SMIBP is System Marginal Incentive Buy Price.

(ii) in relation to the Linepack Incentive Arrangement, the volume determined as:

$$\text{abs} (\text{OLP} - \text{CLP})$$

where:

OLP is NTS linepack at 06:00 hours on the Gas Day;

CLP is NTS linepack at 06:00 hours on the following Gas Day.

(b) ....

(i) in relation to the Price Incentive Arrangement, ten percent (10%);



- (ii) in relation to the Linepack Incentive Arrangement, two point four MCM (2.4 MCM).

*Amend paragraph 3.1.4 to read as follows:*

“...., in relation to the Price Incentive Arrangement or the Linepack Incentive Arrangement, ... “

*Amend paragraph 3.1.5 to read as follows:*

- “(a) ....
  - (i) the Price Incentive Arrangement for superior performance, zero per cent (0%);
  - (ii) the Linepack Incentive Arrangement for superior performance, zero MCM (0 MCM);
  - (iii) the Price Incentive Arrangement for inferior performance, eighty five per cent (85%);
  - (iv) the Linepack Incentive Arrangement for inferior performance, twenty point four MCM (20.4 MCM);
- (b) ....
  - (i) the Price Incentive Arrangement for superior performance, £4,000 (being a positive amount);
  - (ii) the Linepack Incentive Arrangement for superior performance, £4,000 (being a positive amount);
  - (iii) the Price Incentive Arrangement for inferior performance, £30,000 (being a negative amount);
  - (iv) the Linepack Incentive Arrangement for inferior performance, £30,000 (being a negative amount);
- (c) ...., in respect of the Price Incentive Arrangement and the Linepack Incentive Arrangement:....
- (d) ....; New paragraph 3.1.5 (d) added by Modification 0373.
- (e) for each day the “System Marginal Incentive Buy Price” is the higher of the System Average Price and the price in pence/kWh which is equal to the highest Market Offer Price in relation to a Market Balancing Action for that Day; and
- (f) for each day the “System Marginal Incentive Sell Price” is the lowest of the System Average Price and the price in pence/kWh which is equal to the lowest Market Offer Price in relation to a Market Balancing Action for that Day. “

*Amend paragraph 3.1.6 to read as follows:*

“..., the Price Incentive Arrangement and the Linepack Incentive Arrangement, ....”.

*Amend paragraph 3.2.1 to read as follows:*

“... the Price Incentive Arrangement and the Linepack Incentive Arrangement, ....”.

*Amend paragraph 3.2.3 to read as follows:*

“...the Daily Incentive Amount for the Price Incentive Arrangement shall be equal to the Maximum Incentive Amount for ....”

*Amend paragraph 3.3 to read as follows:*

“(a) ....

- (i) ... the Price Incentive Arrangement ...
- (ii) ....the Linepack Incentive Arrangement ...

(b) ....

- (i) ....the Price Incentive Arrangement
- (ii) ....the Linepack Incentive Arrangement ...”.

*Amend paragraph 3.4.1 to read as follows:*

“... the Price Incentive Arrangement and the Linepack Incentive Arrangement, ...”.

*Amend paragraph 3.5.1 to read as follows:*

“... the Price Incentive Arrangement and the Linepack Incentive Arrangement, ...”.

*Amend paragraph 3.6.1 to read as follows:*

“... the Price Incentive Arrangement and the Linepack Incentive Arrangement, ...”.

*Amend paragraph 3.6.2 to read as follows:*

“(b) ....the Price Incentive Arrangement and the Linepack Incentive Arrangement, ...”.

*Amend paragraph 3.7 to read as follows:*

”... (under the Price Incentive Arrangement and the Linepack Incentive Arrangement collectively) ...

***Representations are now sought in respect of this Draft Report and prior to Transco finalising the Report***

Signed for and on behalf of Transco.

**Tim Davis**  
**Manager, Network Code**