Optional “Short-haul” Commodity Charge: SO Cost Allocation

Gas TCMF

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Introduction

At the May & June 2009 Gas TCMF meetings, National Grid gave presentations covering issues associated with the prevailing NTS Optional ('Short-haul') Commodity Charge & the NTS Charging Methodology rate calculation process.

- 'Short-haul' was introduced in 1998 to reflect more accurately the costs of gas transportation from a terminal to a nearby large supply point to avoid inefficient by-pass.
  - Shippers can elect to pay the optional tariff as an alternative to both the entry and exit NTS commodity charges.
  - The tariff is derived from the estimated cost of laying and operating a dedicated pipeline of NTS specification (i.e. the cost of by-passing the NTS).
  - A charging function has been calculated based on flow rate and pipeline distance.
  - Available to all daily-metered supply points, although in practice it is only attractive for large supply points situated close to terminals

Issue

The NTS Optional Commodity Charge has been set to reflect the cost of constructing and operating an alternative pipe between the specified entry point and the relevant exit point

At the June 2009 gas TCMF meeting it was agreed that National Grid would investigate a methodology which looked to map NTS SO costs directly onto short transportation distances

The aim of the methodology review is

1. **To encourage an economic and efficient transmission system by discouraging uneconomic bypass.**

2. **To improve the cost reflectivity of the 'short-haul' tariff.**

Consideration of alternative methodologies

National Grid will

- continue to investigate options for updating the prevailing charging function based on the costs of an alternative pipe, but
- Will also investigate an alternative approach of calculating the charge based on allocating SO costs directly to short distances.

When looking into a potential revised optional commodity charge, we need to look at mapping individual SO cost components onto transportation over short-distances i.e. onto 'short-haul' flows

SO Cost Allocation

SO Cost Component	Arguments for Inclusion	Arguments for Exclusion
Shrinkage: Own Use Gas (OUG) ~ Compression		Short-haul flows would not require compression provided that the relevant exit point was upstream of the first NTS compressor.
Shrinkage: Un-accounted for Gas (UAG)	UAG is largely driven by meter error. A share of the metering inaccuracies may have arisen from the relevant meters.	
Internal Costs	The administration of the sites is comparable to other NTS sites.	The majority of System Operator costs are fixed and would not change with a change in short-haul flows.
Operating Margins & Constrained LNG (CLNG)		Short-haul flows, based on their proximity to supply points, do not receive a benefit from these services which are anticipated to be used at times of high system demand to support the system extremities.
Deemed Interruption	These costs are linked to the exit charges that interruptible supply points would otherwise pay.	Acknowledged that NTS Exit Reform will replace this term and associated foregone revenue. This is the cost of having an interruptible service. At times of high demand (when interruption may be necessary) short-haul flows, due to their proximity to entry points, do not benefit from the service.
Outcome of Incentive Schemes	It could be argued that each component of the incentive scheme should be considered to be included/excluded on an individual basis; however, if the optional commodity charge is expressed as a percentage of the standard SO commodity then this will automatically be included but only in proportion to those costs included in the composition of the optional commodity rate.	
Under or over-recovery from previous year ('K')	If the optional commodity charge is expressed as a percentage of the standard SO commodity then this will automatically be included but only in relation to those costs included in the composition of the optional commodity rate.	

SO Cost Allocation

SO Cost Component	Cost Proportion	National Grid Initial View	Cost Proportion
Shrinkage: Own Use Gas (OUG) ~ Compression	27%	Exclude	
Shrinkage: Un-accounted for Gas (UAG)	8%	Include	8%
Internal Costs	26%	Include	26%
Operating Margins & Constrained LNG (CLNG)	11%	Exclude	
Deemed Interruption	27%	Exclude	
Total	100%	-	34%

Allocating by Pipe Distance

SO Costs (£m) can be divided by the total length of the NTS (km) to generate a unit cost based on length (£m/km); however, this creates a problems in terms of which flow to use to convert this number (£m/km) into a price (p/kWh).

This can be overcome by dividing the SO Cost by the peak flow distance (GWhkm)

- i.e. the sum of (the flow in each pipe multiplied by the length of the pipe)

to give a cost in terms of £m/GWhkm which can be converted into a distance based price function (p/kWh/km) based on an assumption of the load factor.

Allocating by Flow Distance – Example 1 (Site specific load factor)

SO Target Costs	£300.7	million
Short-haul Proportion	34%	
Cost	£102.24	£m/annum
Cost	0.28010411	£m/day
Peak Flow Distance*	28753.73	GWhkm/day
Cost per unit peak flow distance	0.000010	£m/GWhkm
Cost per unit peak flow distance	0.0010	p/kWhkm
Load Factor	75%	-
Rate per unit of distance**	0.0013	p/kWhkm

* Obtained from 2008/9 Transportation model

** NB Price independent of SOQ

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Allocating by Flow Distance – Example 2 (System average load factor)

SO Target Costs	£300.7	million
Short-haul Proportion	34%	
Cost	£102.24	£m/annum
Peak Flow Distance*	28753.73	GWhkm/day
System Load Factor	40%	-
Annual Flow Distance	4198045.022	GWhkm/annum
Cost per unit flow distance	0.000024	£m/GWhkm
Rate per unit of distance**	0.0024	p/kWhkm

* Obtained from 2008/9 Transportation model

** NB Price independent of SOQ

Issues

Is this a reasonable methodology?

- Is it appropriate to map SO costs onto 'short-haul' flows in this way?
- Is it appropriate that this will only be a distance related charge and will therefore apply equally to demands of any size that are equidistant from an entry point?
- Should all costs be divided by the flow distance or should some of the costs be divided by the number or size/capacity of exit points?
- What minimal price should apply? (e.g. assume minimum distance is 0.5 km)

Would limits need to be placed on applicable exit points?

- Only downstream of an entry point?
- Not further than the next NTS compressor?