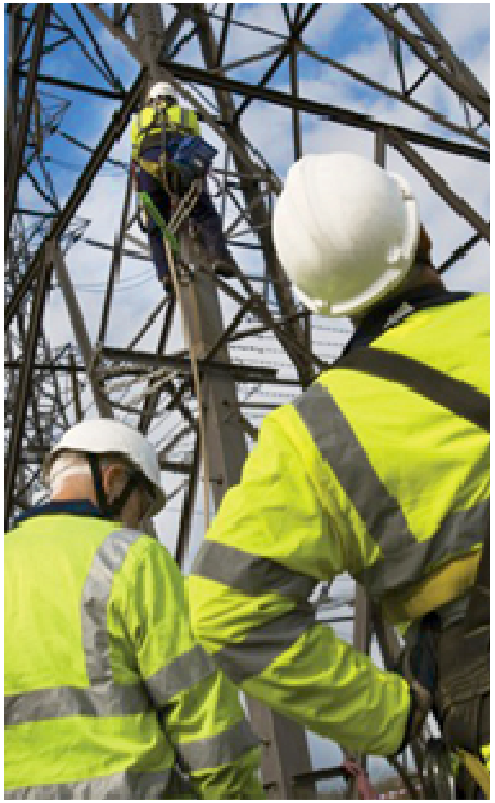
GCD 07 – Optional NTS Commodity Tariff

Gas TCMF 1 October 2009



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GCD 07 – Draft Discussion paper

- Discussion paper considers two broad approaches with sub options
  - *Option 1 - update current methodology, based on annuitised construction costs of alternative pipeline and terminal connection, to reflect latest costs.*
    - *1a – 10 year anuitisation (unchanged)*
    - *1b – 45 year anuitisation*
  - *Option 2a – revise methodology to reflect SO costs relating to flows over short distances.*
  - *Option 2b/2c– as option 2a plus annuitised construction costs of terminal connection (effectively a hybrid of 1 & 2)*

Draft GCD 07 –Views

- **Views were welcomed on the draft discussion paper**
  - **We received a significant number of views and questions;**
    - Appropriateness of a charge based only on distance; some costs should be allocated to SOQ
    - Incorrect flow distance calculation
    - The logic behind using either a system or site load factor
    - Impact of Storage by-pass

Review Against Relevant Objectives

Option	Licence & EU Objectives		
	Reflect the costs incurred	**Developments within the business**	**Not solely distance based charges**
1 - update current methodology: annuitised construction costs of alternative pipeline and terminal connection	Reflects avoided shipper costs.	Should avoid inefficient by-pass (from an industry perspective) as intended	Distance & SOQ
2a – revised methodology to reflect SO costs relating to flows over short distances.	Reflects costs incurred	Should avoid inefficient by-pass (from an industry perspective) as intended IF RATES LESS THAN OPTION 1	**Distance based only**
2b/2c – as option 2a plus annuitised construction costs of terminal connection	Hybrid of 1 and 2a	Hybrid of 1 and 2a	Distance & SOQ

Allocating SO Costs by Pipe Distance & Connection

- To avoid a distance only based solution (2a) and a solution that reflects avoided costs not costs incurred (1 & 2b/2c), we need to develop a further option
  - SO Costs (£m) could be allocated to both distance and SOQ
  - A proportion of SO costs (£m) could be divided by the peak flow distance (GWhkm) to generate a rate (£m/GWh/km = £/kWh/km)
    - Peak flow distance equals the sum of (the flow in each pipe multiplied by the length of the pipe)
    - This can be converted into a distance based price function (p/kWh/km) based on an assumption of the load factor.
  - A proportion of SO costs (£m) could be divided by the number of connections
    - This can be converted into a SOQ based price function (p/kWh/km) based on an assumption of the load factor.

Pipe Distance & Connection Cost Allocation

- A definition of an appropriate split between cost allocation to pipe distances & connections would be required.
  - Pipe distance costs would be largely driven by physical operation e.g. monitoring of pressure along the relevant pipes.
  - Connection related costs would be largely driven by commercial operation e.g. processing of capacity holdings, allocations, nominations etc.
- Defining this split would involve significant analysis and interpretation which would still result in an inexact disaggregation.
- For pragmatic reasons a 50-50 split between pipe distance and connection costs could be assumed.

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 Flow Distance & SOQ (System average load factor)

SO Target Costs	£300.7	million	**1**	
Short-haul Proportion	34.6%		**2**	
Cost	£104.04	£m/annum	**3**	=**1** x **2**
Peak Flow Distance*	1,242,921	GWhkm/day	**4**	
Distance Proportion	50%		**5**	
Cost per unit peak flow distance	£0.000000	£m/GWhkm	**6**	= **5** x (**3**/365)/**4**
Cost per unit peak flow distance	0.000011	p/kWhkm	**7**	= **6** x 100
No of Offtakes	192	-	**8**	
Connection Proportion	50%		**9**	= **1**- **5**
Cost per offtake	£0.000742	£m/day	**10**	= **9** x (**1**/365)/**8**
Cost per offtake	74,231.02	p/day	**11**	= **10** x 10^8
System Load Factor	40%	**-**	**12**	
Cost per unit distance	0.000029	p/kWhkm	**13**	= **6**/**12**
Cost per unit SOQ-1	185,578	p/kWh(SOQ)/kWh	**14**	=**11**/**12**

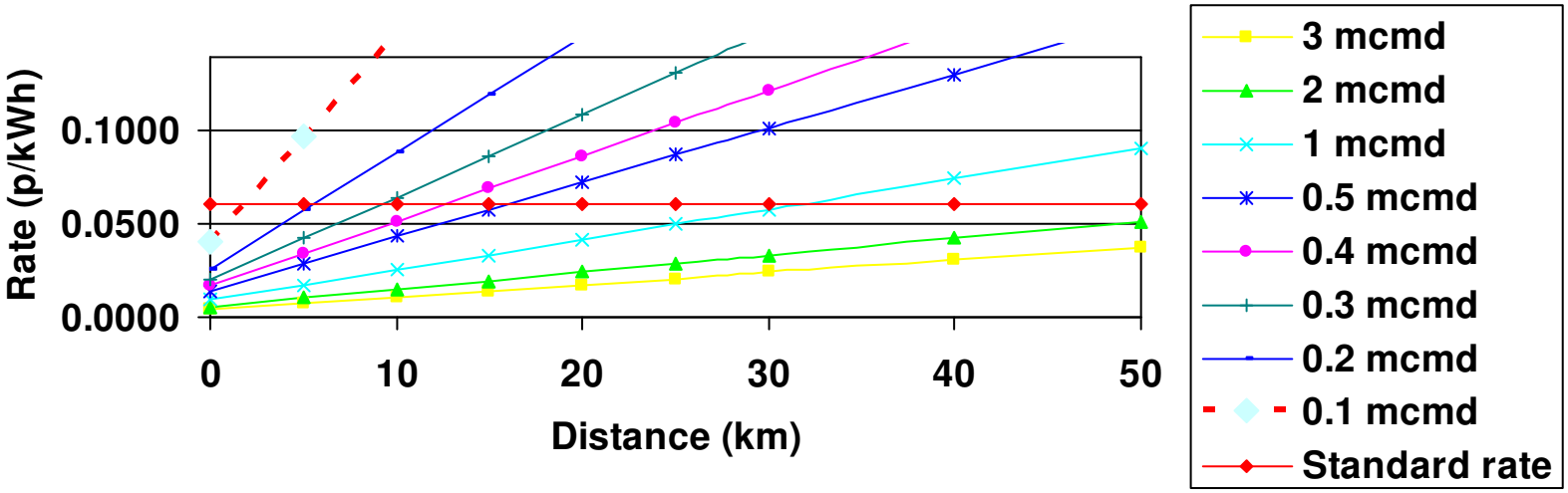
* Corrected value obtained from 2008/9 Transportation model

Charging Functions

Option	Distance element	SOQ element
Original	1203(SOQ)^-0.834 x D	365 x SOQ^-0.654
Option 1a	2719(SOQ)^-0.834 x D	16648.91 x SOQ^-0.90941
Option 1b	1876(SOQ)^-0.834 x D	8430.40 x SOQ^-0.8836
Option 2d	0.000028 X D	182359 x SOQ^-1

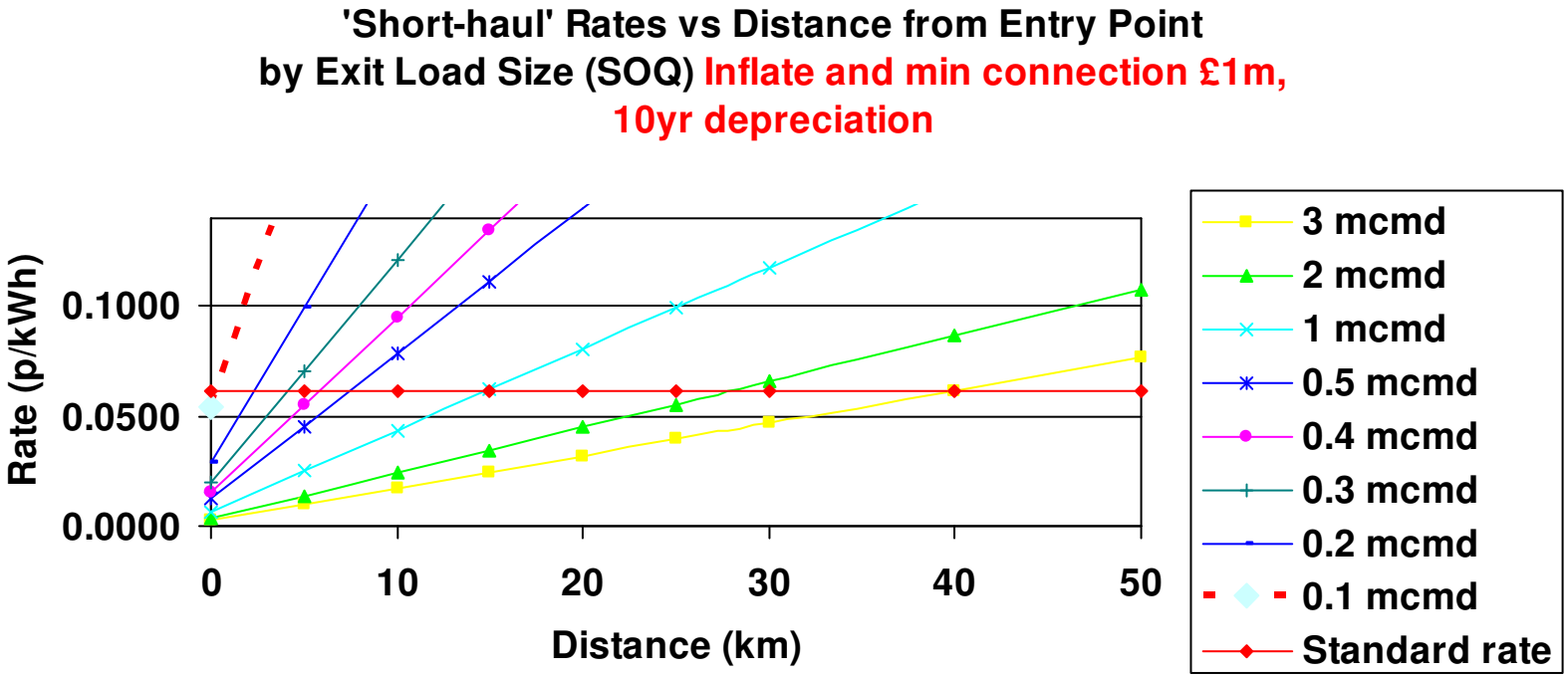
‘Short-haul’ & Standard Commodity Rates - prevailing charges

'Short-haul' Rates vs Distance from Entry Point by Exit Load Size (SOQ) Original (includes a connection element and 10yr depreciation)



Standard Rate of 0.0611 p/kWh (as at 1/10/09) calculated as follows:	
TO Entry Commodity Charge	0.0249 p/kWh
SO Entry Commodity Charge	0.0181 p/kWh
SO Exit Commodity Charge	0.0181 p/kWh
Total Charge	**0.0611 p/kWh**

‘Short-haul’ & Standard Commodity Rates Option 1.a



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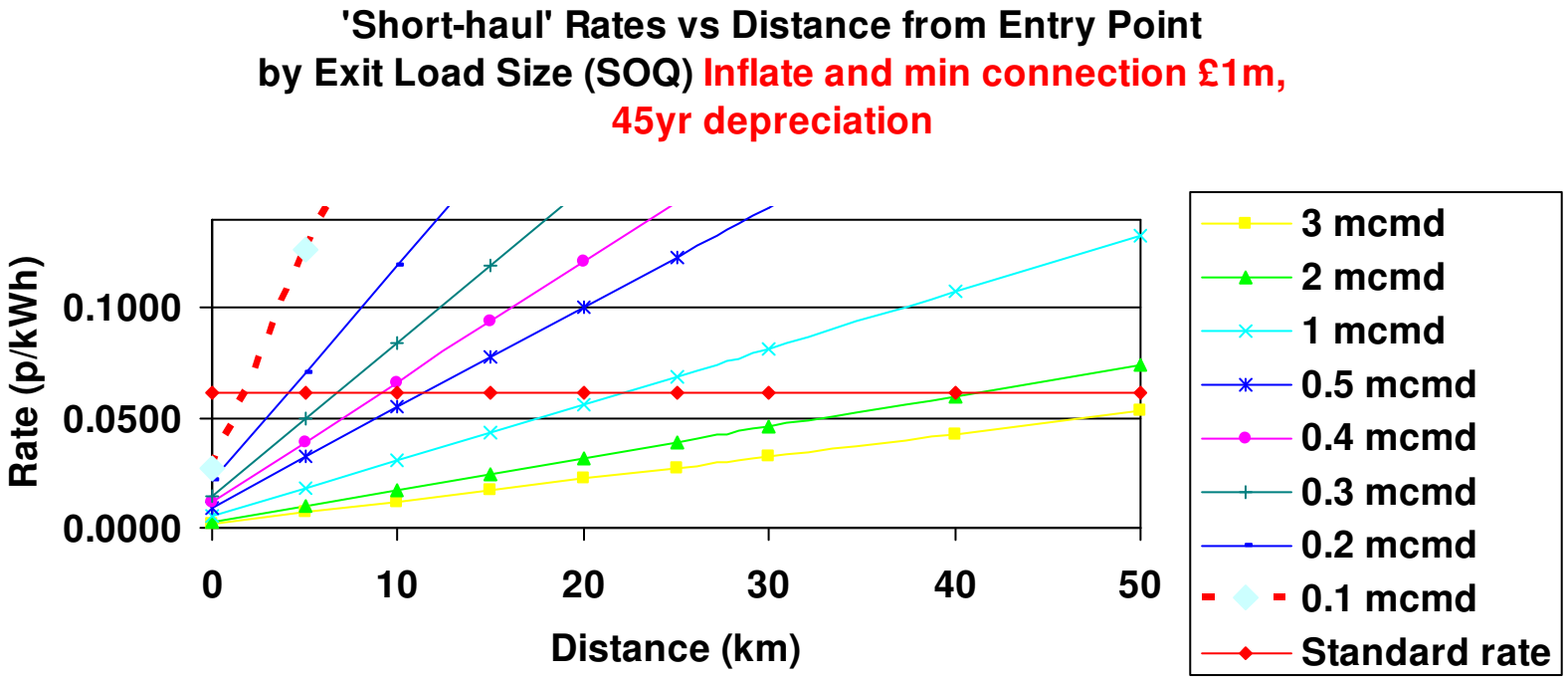
‘Short-haul’ & Standard Commodity Rates Option 1b



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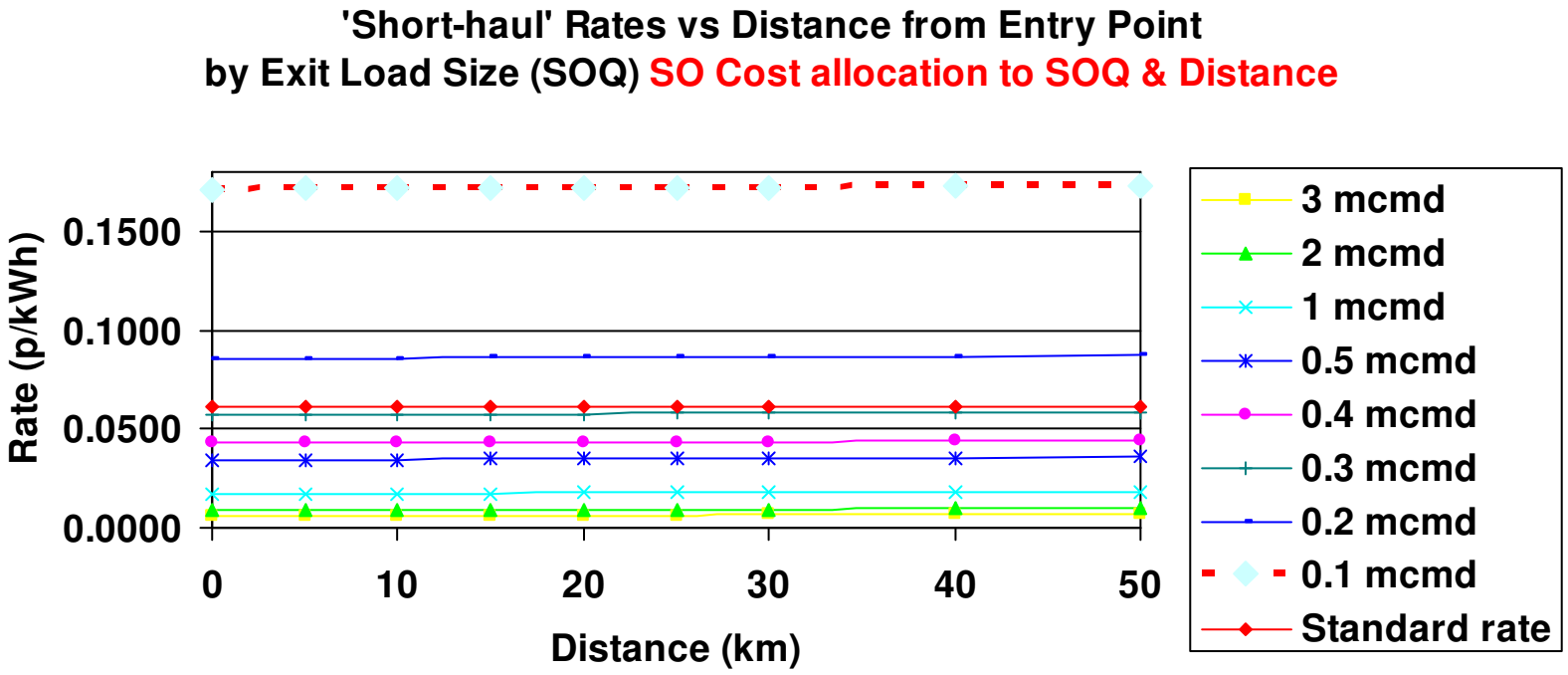
‘Short-haul’ & Standard Commodity Rates Option 2



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Impact of Options on Standard Commodity Rate

Option	Short-haul Revenue	Standard Commodity impact
Original	£6.60m	-
Option 1a	£9.56m	-0.0002
Option 1b	£6.70m	0.0000
Option 2	£3.62m	+0.0002

Note: assumes existing sites remain on short – haul and no additional sites move to short – haul

System or Site Load Factor

- Option 1
  - update current methodology: annuitised construction costs of alternative pipeline and terminal connection
- As this option is looking at a site specific connection,
  - the potential site load factor (50%-75%) is probably the most appropriate

- Option 2
  - revised methodology to reflect SO costs relating to connections and flows over short distances.
- As this option is looking at allocating system costs,
  - The system load factor (~40%) is probably the most appropriate when allocating costs to distance;

Is the application of the charge at storage sites appropriate?

- Application at storage exit points.
  - Storage points are not eligible entry points for ‘short-haul’ however, storage points are eligible exit points.
    - This may have been an oversight given that ‘short-haul’ was introduced when commodity only applied to exit.
  - Storage points currently avoid NTS commodity charges since storage is deemed to be part of the wider system
    - to charge commodity for storage gas might be double counting as the charges are paid for a unit of gas at entry to the system (beach) and on final exit (customer) from the system
  - By allowing the short haul rate for storage exit, a unit of gas flowing via a storage site can avoid paying entry commodity (beach) which might be significantly higher than the short haul rate.

Storage Sites & NTS By-Pass

- If storage sites by-passed the NTS i.e. injected directly from offshore supplies, this would not increase costs for other users.
  - **Prevailing Arrangements**
    - Storage points currently avoid NTS commodity charges since storage is deemed to be part of the wider system
    - All gas entering an NTS storage site is delivered from and re-delivered to the NTS
  - **Storage By-pass**
    - If a storage site by-passed the NTS it would no longer be treated as an NTS storage site
    - Withdrawal flows from storage to the NTS would then attract the full NTS entry commodity charge rate
    - For this reason it would not be economic for a storage site to partially by-pass the NTS as there would be no avoided NTS costs and hence there is no justification for applying shorthaul rates to storage injection (NTS Exit at storage)

Historic SO Costs as a % of Commodity Revenue

Formula Year	2006/7	2007/8	2008/9
UAG	2.1%	8%	23.3%*
Internal Costs	23.3%	26.6%	21.8%

*This is currently subject to review due to measurement errors – further details can be found at http://www.gasgovernance.com/industryinfo/MER/

Next Steps

- Update discussion document following comments on draft based;
- Charging Options
  - **Option 1** – Update based on 10 or 45 Year depreciation and 50% or 75% load factor
  - **Option 2d** – SO costs allocated to Distance and SOQ for connections between a terminal
  - **Options 2b/c** – Hybrid of methodology options 1 & 2
- Other Changes
  - Exclude storage exit from short-haul eligibility
  - Define ASEP connection point as the nearest SEP
  - Limit to NTS connections between the terminal and the next NTS compressor
  - Exclude alternative allocation options
  - Update charging function annually

Potential Timelines
(latest dates for October/April implementation)

Process	Days	Timeline (A)	Timeline (B)
TCMF Meetings from		May 2009	
Discussion Paper		November 2009	November 2009
Charging / UNC Proposal Consultation	**28 / 21***	February 2010	December 2009
Prepare Final Proposals / UNC FMR**	**21***	April 2010	January 2010
Submit Final proposals / UNC FMR ~ RIA*****	**92**	01 May 2010	NA
Decision - Notice of Charges	**61**	01 August 2010	01 February 2010
Implementation	**-**	01 October 2010	01 April 2010

* 15 working days ~ 21 Calendar days

** FMR ~ UNC Final Modification Report

*** RIA ~ Regulatory Impact Assessment