



# Daily NTS Capacity Pricing Principles

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Gas TCMF - 2<sup>nd</sup> July 2009

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## Introduction

### **This presentation covers the development of daily NTS capacity pricing in light of**

- ◆ ongoing concerns about the TO entry commodity charge and daily capacity discounts, and
- ◆ the comments made by Ofgem in its decision letter on pricing methodology proposal GCM05 which covered the pricing of daily NTS Exit (flat) Capacity

# GCM05 Decision Letter

In its GCM05 decision letter, Ofgem made the following comments;

*“Whilst we do not intend to veto the proposed approach, we would **note that NGG adopts a different approach to setting daily reserve prices under the gas entry capacity auction framework.** The approach taken for daily entry capacity is that there is a 33 per cent discount on the reserve price up to the day ahead and on the day the discount on the reserve price is 100 per cent i.e. a reserve price of zero.*

*In light of this we **consider that NGG should establish a principles-based approach to determining the level of reserve prices across the gas entry and gas exit auction frameworks.** The GCM05 report does not, however, set out clear principles for determining reserve prices on a consistent basis across the two regimes. We believe there is merit in reviewing this aspect across both entry and exit once the impacts of developments such as entry capacity substitution on forward booking levels have been properly assessed.”*

# Prevailing Principles

**All entry and exit NTS capacity prices (Daily, Monthly, Quarterly, annual) are based on a daily rate equal to 1/365<sup>th</sup> of the annuitised long run marginal cost with the following exceptions.**

- ◆ Exit charges are adjusted (additively) to collect allowed revenue whereas entry charges are not adjusted and shortfall is offset by the TO entry commodity charge.
  - This principle was not changed through GCM05
  
- ◆ Daily Entry Capacity
  - A 33% discount applies to day ahead entry capacity (DADSEC)
    - Prior to 2002, a discount of 25% applied to MSEC and 50% to DSEC and this ratio was retained (50%/75% = 67%)
  - A 100% discount applies to within day entry capacity (WDSEC) in compliance with the NTS Licence clearing obligation.

# Objectives of the Charging Methodology

## **1) (a) Where transportation prices are not established through an auction,**

- ◆ prices calculated in accordance with the methodology should reflect the costs incurred by the licensee in its transportation business;

## **(b) Where prices are established by auction, either**

- ◆ no reserve price is applied, or
- ◆ that reserve price is set at a level best calculated to promote efficiency and avoid undue preference in the supply of transportation services; and
- ◆ best calculated to promote competition between gas suppliers and between gas shippers;

## **2) So far as is consistent with (1) properly take account of developments in the transportation business;**

## **3) So far as is consistent with (1) and (2) facilitate effective competition between gas shippers and between gas suppliers.**

## Key charging changes in relation to NTS entry capacity (1)

No	Date	Key Changes
PC36	Nov 1998	Introduction of daily entry capacity priced at 4 times the administered charge rate for firm and zero for interruptible
PC48	July 1999	Introduction of monthly capacity auctions. MSEC Floor prices determined by the established LRMC methodology with a common 25% discount.
PC49	Aug 1999	DSEC ~ 1.5 x daily rate of cleared price obtained in the relevant monthly auction. (average of the top 50% by volume of accepted bids) or 1.0 x published charges.  DISEC ~ 0.1 x daily rate of cleared price obtained in the relevant monthly auction. (average of the top 50% by volume of accepted bids) or published charge.
PC51	Jan 2000	Introduction of within day auctions (WDDSEC) with a floor price multiple of 1.0 times the average of the top 50% by volume of accepted bids in the relevant auction of MSEC.
PC61	May 2000	MSEC floor price calculations take into account the quantities that have been identified for sale in the Network Code and  The adjustment for an assumption of equal revenue recovery from NTS entry and exit capacity should be discontinued.

## Key charging changes in relation to NTS entry capacity (2)

No	Date	Key Changes
PC62	May 2000	DSEC Floor Prices should follow the same methodology as that applied for MSEC and that a 50% discount should be applied to the adjusted administered charge rate. Daily interruptible (DISEC) reserve price of zero.
PC72	Feb 2002	In light of the issues raised and the detailed Licence drafting published at the time, it was decided not to propose the methodology change introducing WDDSEC zero prices, as outlined in PC72.
PC76	Nov 2002	Reserve prices for NTS TO entry capacity should be based on the UCAs specified in the GT Licence. Prices no longer adjusted for allowed revenue.  The relationship between MSEC and DADSEC reserve prices remain as at present, with DSEC reserve price at each entry point equal to two thirds MSEC reserve price  WDDSEC reserve prices should be zero
GCM01	Nov 2006	Introduction of the Transportation Model

## Ofgem's views on the Introduction of Zero Reserve Prices for WDDSEC Auctions

*“As set out in Ofgem’s PC 76 decision letter, Ofgem has consistently stated that reserve prices are only necessary in order to address competition concerns. We continue to consider that reserve prices could prevent all capacity from being released to market. **If entry capacity remains unsold or only sells at reserve prices this could suggest that reserve prices are preventing the market from clearing.**”*

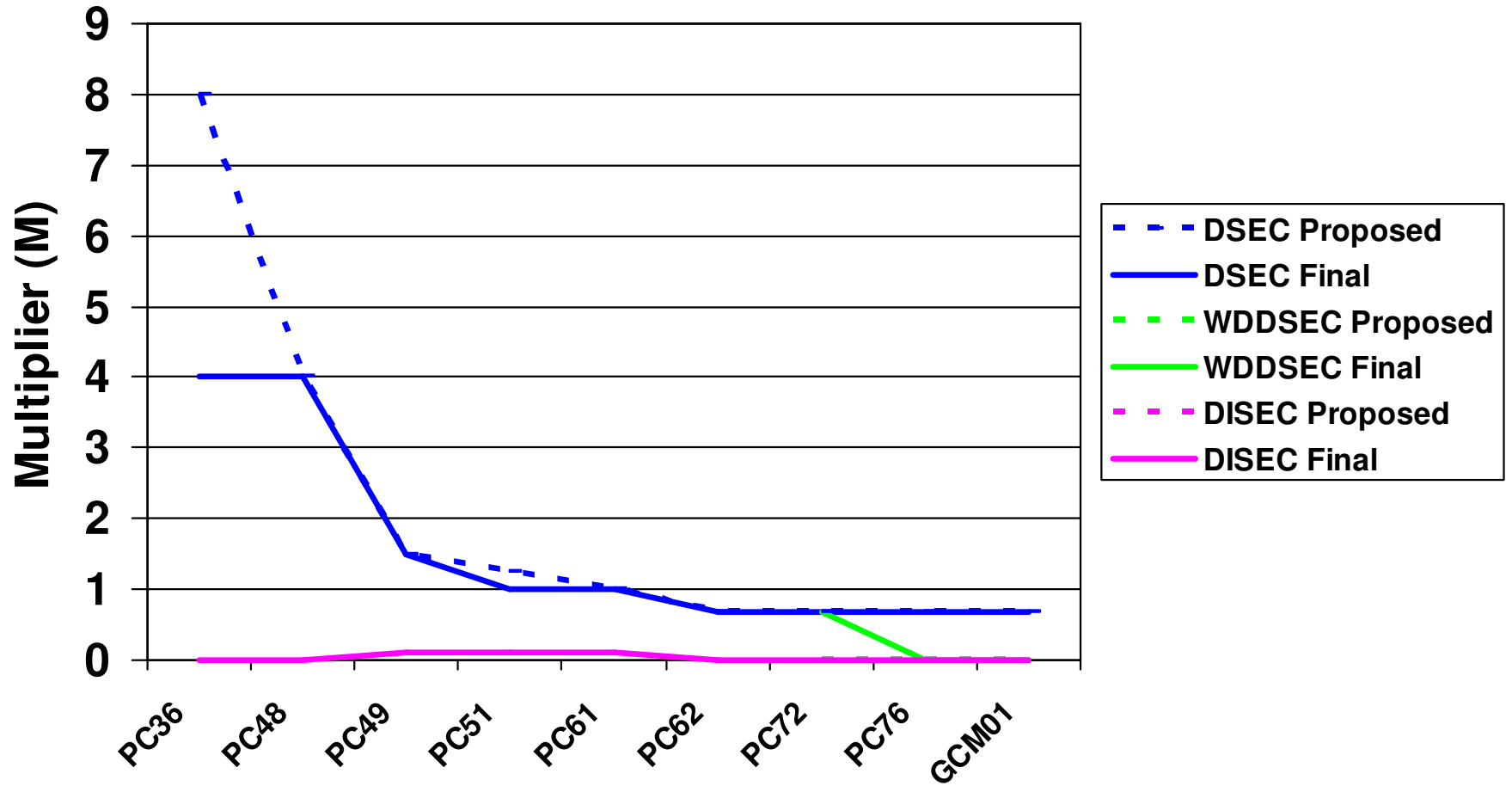
*Ofgem considers that **the introduction of zero reserve prices for within-day capacity will allow the market to clear and enable price discovery at entry points thereby better facilitating competition** between shippers and suppliers. Further, the introduction of zero reserve prices also ensures the removal of price differentials between terminals on the gas day thereby facilitating competition for capacity between terminals. The removal of these differentials should therefore also better facilitate competition between shippers and suppliers.*

*Ofgem would note that in setting zero reserve prices for within-day sales, Transco will still be subject to its Licence obligation to avoid undue preference in the supply of transportation services.*

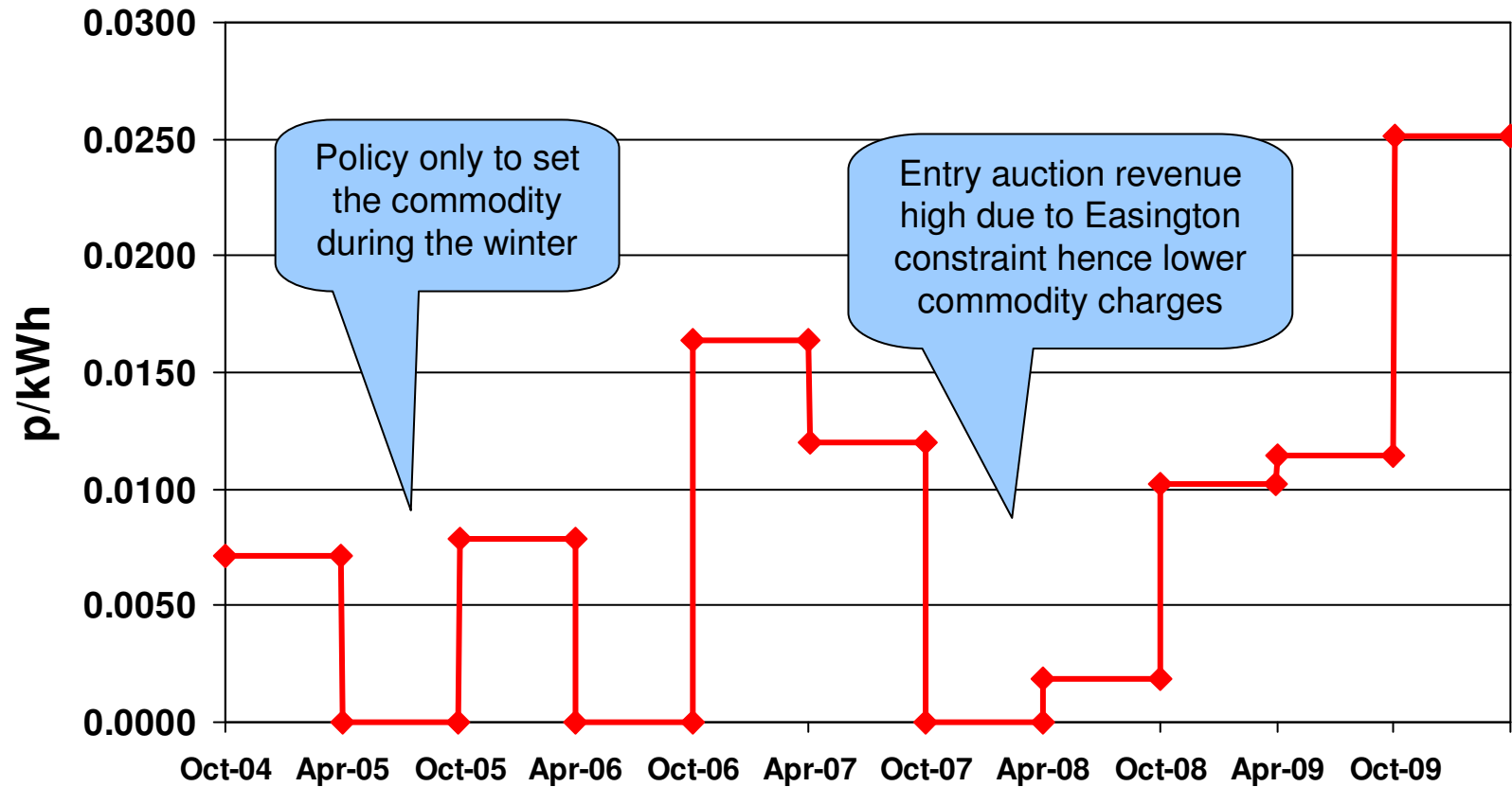
*Ofgem notes that some respondents have raised concerns regarding the potential impact of this proposal on Transco’s revenue. Ofgem however **considers that there is sufficient competition for entry capacity at the majority of beach terminals in the short term auctions to guard against any significant revenue under-recovery.**”*



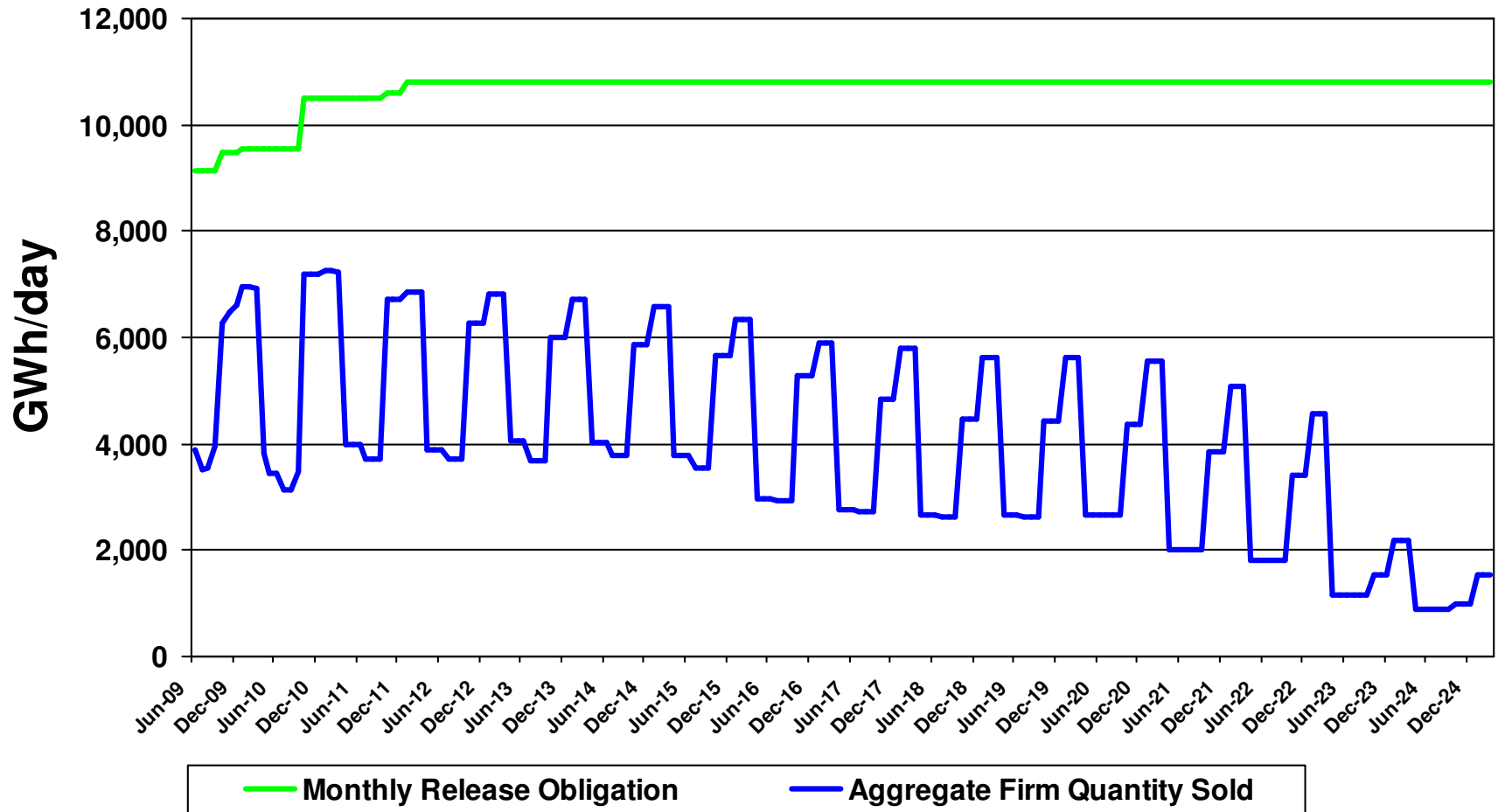
# NTS Daily Entry Capacity Price History



# TO Entry Commodity Prices



# NTS Entry Capacity Quantities



# Summary of Entry Issues

## Early Experiences ( 1998 - 2002)

- ◆ Bidding behaviour for early entry capacity auctions resulted in significant over recovery
- ◆ This may have been due to;
  - northern constraints and competition for St Fergus capacity, and
  - limited experience of entry auctions
- ◆ This resulted in charging methodology proposals that looked at resolving over recovery and reducing entry capacity floor/reserve prices.

## Recent Experiences( 2002 - Present)

- ◆ Over recent years, auctions have resulted in under recovery, other than when a constraint became material in the Easington area.
- ◆ This may be due to;
  - Increased experience of auctions and lack of locational competition for capacity
  - Increased certainty of capacity availability associated with baselines
  - Profiling of capacity across the year
  - The clearing obligation
- ◆ This has resulted in the introduction of the TO Commodity Charge and its increasing rate over the years

# Going Forward

## National Grid believes that

- ◆ Incentivising **long term bookings**, such that National Grid can take account of such bookings prior to investment decisions, is **consistent with user commitment and investment signals**.
- ◆ Incentivising **medium term bookings**, such that National Grid can take account of such bookings prior to maintenance decisions, is **consistent with efficient operation of the system**.
- ◆ Incentivising **bookings ahead of the gas day**, such that National Grid can take account of such bookings prior to operational (configuration & compressor scheduling) decisions, is **consistent with efficient operation of the system**.

**Capacity Pricing principles should incorporate these incentives while also facilitating price discovery where sufficient competition exists**



# Appendix: Detailed Summary of Relevant Charging Proposals

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Gas TCMF – For Information (Not to be presented)

2<sup>nd</sup> July 2009

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# November 1998 PC36 - “Daily Capacity Services at Entry” (Not Vetoed)

## BACKGROUND

- ◆ Shippers had requested that daily entry capacity (DSEC) should be made available.
  - Under the prevailing arrangements, prior to the introduction of auctions, entry capacity annual charges were based on administered prices based on LRMCs adjusted to recover allowed revenue.
- ◆ PC36 proposed a daily capacity charge multiplier of  $M$  equals eight for a new daily capacity service.
- ◆ ***It was anticipated that together, with an overrun multiplier of  $M$  equals sixteen, proposed through the Network Code modification panel, the multipliers would maintain sufficient incentive to keep annual entry capacity booking above 95% of maximum forecast.***
- ◆ In addition a daily “secondary capacity” (Interruptible ~ DISEC) service was proposed.
  - The service would consist of any unutilised booked annual capacity on a day after consideration of the daily allocation levels at each supply point.

## PROPOSALS FOR CONSULTATION

- ◆ Floor prices of
  - zero p/kWh for the daily secondary capacity service and
  - $M = \text{eight}$  for the daily capacity charge where  $M$  is multiplied by the equivalent daily rate for the appropriate annual capacity booking.

## FINAL PROPOSALS

- ◆ A DSEC service should have a floor price of 4 times the daily rate of annual capacity charges applicable at each entry point.
- ◆ A daily secondary capacity service should have a floor price of zero.

# July 1999 PC 48 - “Methodology for determining floor prices for auctions of monthly entry capacity” (Not vetoed)

## BACKGROUND

- ◆ PC48 set out a methodology for establishing floor prices for use in monthly entry capacity (MSEC) auctions.
  - This followed industry discussions surrounding the Reform of Gas Trading Arrangements (RGTA) and the concept of using a price auction to allocate MSEC.
- ◆ The prevailing administered entry charges were based upon a long run marginal cost (LRMC) methodology.

## PROPOSALS FOR CONSULTATION

- ◆ A methodology for calculating initial floor prices in the MSEC auctions based upon LRMCs, and
- ◆ a discount factor determined by a concentration ratio measurement at each auction location. (Herfindahl-Hirschman index)

## FINAL PROPOSALS

- ◆ MSEC Floor prices should be based on entry charges determined by the established LRMC methodology.
  - Adjustments should be made to take into account quantities of capacity determined by a Seasonal Normal Demand Profile and scaled to a level consistent with 50% recovery of NTS capacity charges.
- ◆ A common discount of 25% shall be applied to all entry charges to determine the floor price in MSEC auctions.



# August 1999 PC49 – “Prices for unsold monthly capacity and floor prices for daily capacity auctions” (Not Vetoed)

## BACKGROUND

- ◆ The PC49 proposal sought to “encourage participation in the proposed MSEC auctions from 1 October 1999 as the primary means of capacity allocation.” Consideration had also been given to cleared prices in the daily auctions.

## PROPOSALS FOR CONSULTATION

- ◆ Unsold MSEC should be sold at 1.5 times the cleared (2<sup>nd</sup> highest) price obtained in the relevant monthly auction
- ◆ Floor prices
  - DSEC ~ 1.5 x cleared price obtained in the relevant monthly auction. (2<sup>nd</sup> highest accepted price or published charges).
  - DISEC ~ 0.2 x cleared price obtained in the relevant monthly auction. (2<sup>nd</sup> highest accepted price or published charges).

## FINAL PROPOSALS

- ◆ Unsold MSEC shall be sold at 1 times the cleared price obtained in the relevant monthly auction. (average of the top 50% by volume of accepted bids).
- ◆ Floor prices
  - DSEC ~ 1.5 x daily rate of cleared price obtained in the relevant monthly auction. (average of the top 50% by volume of accepted bids) or 1.0 x published charges.
  - DISEC ~ 0.1 x daily rate of cleared price obtained in the relevant monthly auction. (average of the top 50% by volume of accepted bids) or published charge.

# January 2000 PC 51 – “Determination of Daily System Entry Capacity Floor Prices” (Not Vetoed)

## BACKGROUND

- ◆ PC51 proposed a change to the calculation of floor prices for DSEC, intended to strike an appropriate balance between MSEC and DSEC floor prices. ***When floor prices were set, it was intended that they should provide an incentive for shippers to book MSEC.***
- ◆ Modification Proposal 0365 introduced within day capacity mechanism effective from 1 April 2000
  - It was argued that creating an effective within day capacity market would require the removal of the majority of DISEC for sale at D-1. If this were to be accepted, and the calculation of floor prices was not changed, the aggregate costs of DSEC would be likely to increase.
- ◆ Modification Proposal 0371 introduced a variable profile auction of MSEC, from 1 April 2000, to include a fifth auction round in which any capacity unsold in the previous four rounds will be made available to other terminals.

## PROPOSALS FOR CONSULTATION

- ◆ Auctions of DSEC should have a floor price of 1.25 times the weighted average (by volume) of the top 50% of all accepted bids in the relevant MSEC auction At ASEPs where an allocation of MSEC has been made in the relevant auction.

## FINAL PROPOSALS

- ◆ Within day auctions of DSEC shall have a floor price multiple of 1.0 times the average of the top 50% by volume of accepted bids in the relevant auction of MSEC.

# May 2000 PC61 – “Monthly System Entry Capacity Floor Prices” (Not Vetoed)

## BACKGROUND

- ◆ Floor prices for MSEC are set in a manner that provides a notional 25% reduction of income when compared to the proportion of projected formula income that prices would otherwise have aimed to recover from NTS entry capacity charges.
  - In order to achieve that level of discount the floor price calculation must take into account the quantities of entry capacity to be sold at auction.
  - The prevailing methodology was based upon an assumption that the volume will be equal to average demand, known as seasonal normal demand.
  - Since the introduction of the methodology the monthly quantities have been increased further than average demand levels and it is possible that changes to the quantities could be made in the future.

## PROPOSALS FOR CONSULTATION

- ◆ The methodology for calculating MSEC floor prices would include a 25% discount from projected formula income after taking into account the quantities of MSEC that have been identified for sale in the Network Code.
- ◆ In addition a previous adjustment for an assumed 50/50 recovery of NTS capacity income from entry and exit charges is to be removed.

## FINAL PROPOSALS

- ◆ MSEC floor price calculations take into account the quantities that have been identified for sale in the Network Code and
- ◆ The adjustment for an assumption of equal revenue recovery from NTS entry and exit capacity should be discontinued.

# May 2000 PC62 – “Daily System Entry Capacity Floor Prices” (Not Vetoed)

## BACKGROUND

- ◆ Prevailing auctions of DSEC included floor prices that ensured that, on average, it would always have been a cheaper option for a shipper to purchase firm entry capacity at the relevant auction of MSEC. That had been cited by a number of industry participants as a contributory factor in producing high prices at auctions of MSEC.
- ◆ PC62 sought to amend the DSEC floor price methodology to remove the link between the outcome of MSEC auctions and the formulation of DSEC floor prices.

## PROPOSALS FOR CONSULTATION

- ◆ From 1 October 2000.
  - DSEC floor price determination will be the same as the methodology for calculating MSEC floor prices except that prices will not be discounted from a level consistent with zero under or over recovery of formula income.
  - Interruptible System Entry Capacity (DISEC) floor prices will be set at 0.1 times the floor prices previously determined for DSEC.

## FINAL PROPOSALS (with effect from 1 October 2000):

- ◆ DSEC Floor Prices should follow the same methodology as that applied for MSEC and that a 50% discount should be applied to the adjusted administered charge rate.
- ◆ If Monthly Interruptible System Entry Capacity is not available,
  - Interruptible System Entry Capacity Floor Prices should follow the same methodology as that applied for MSEC and that a 90% discount should be applied to the adjusted administered charge rate.
  - Otherwise Daily Interruptible System Entry Capacity Floor Prices should be zero.

# February 2002 PC72 – “Daily System Entry Capacity Floor Prices” (No final proposals)

## BACKGROUND

- ◆ The prevailing Transportation Charging Methodology allowed for floor prices for DSEC to be set using the same methodology as is used for determining MSEC floor prices but using a 50% discount to the LRMC-based adjusted administered charge rate.
- ◆ Ofgem’s Final Proposals for the NTS SO Incentives indicated that the “obligation to offer the baseline capacity for sale should end at the day ahead stage provided all such capacity has been offered for sale in a market that has been allowed to clear.”
  - Under these proposals, there was discretion as to which market that would be, provided the obligation is satisfied prior to the start of the gas day.”
- ◆ To meet the proposed obligation with effect from 1 April 2002, it was proposed to amend the Transportation Charging methodology such that floor prices for DSEC were set to zero.

## PROPOSALS FOR CONSULTATION

- ◆ With effect from 1 April 2002, floor prices for DSEC would be zero.
  - Respondents’ views on alternative approaches to meeting the proposed obligation that all previously unsold baseline capacity should be offered for sale in a market that is allowed to clear were also invited.

## FINAL PROPOSALS

- ◆ In light of the issues raised and the detailed Licence drafting published at the time, it was decided not to propose the methodology change, as outlined in PC72.

# November 2002: PC76 – “NTS TO Entry Capacity Auction Reserve Prices and Exit Charges” (Not Vetoed)

## BACKGROUND

- ◆ The PCR outcome applicable from April 2002 introduced new requirements with regard to offering for sale entry capacity and developing the exit regime.
  - Obligations to release licence defined baseline capacity quantities
  - Unit cost adjusters (UCAs) defining incremental revenue as a result of releasing incremental entry capacity

## PROPOSALS FOR CONSULTATION

- ◆ Reserve prices for NTS TO entry capacity should be based on the UCAs specified in the GT Licence. ***NB Prices no longer adjusted for allowed revenue.***
  - MSEC reserve prices should be equal to the annuitised equivalent of the UCAs assuming an annuity discount factor of 6.25% per annum;
- ◆ The relationship between MSEC and DSEC reserve prices remain, with DSEC reserve prices at each entry point equal to two thirds MSEC reserve prices at each entry point;

## FINAL PROPOSALS

- ◆ QSEC baseline reserve prices should be equal to the annuitised equivalent of the UCAs assuming an annuity discount factor of 6.25% per annum;
  - MSEC reserve prices should be equal to the QSEC baseline reserve price;
- ◆ The relationship between MSEC and DADSEC reserve prices remain as at present, with DSEC reserve price at each entry point equal to two thirds MSEC reserve price;
- ◆ WDDSEC reserve prices should be zero

# November 2006: GCM01 – “Alternative Methodologies for Determination of NTS Entry and Exit Capacity Prices” (Not Vetoed)

## BACKGROUND

- ◆ The PCR outcome applicable from April 2007 introduced revised entry obligations and an expectation that entry prices would be de-linked with revenue drivers (UCAs)

## PROPOSALS FOR CONSULTATION

- ◆ QSEC and MSEC reserve prices should be equal to the annuitised LRMC Calculated from
  - Either Transcost or a new NTS Charging Transportation Model
  - input data based on the relevant year for MSEC and the preceding year for QSEC and
  - With each entry point adjusted to either the maximum forecast daily flow or the obligated capacity level
  - assuming an annuity discount factor of 6.25% per annum;
- ◆ No change was proposed to either
  - the relationship between MSEC and DADSEC reserve prices, with DSEC reserve price at each entry point equal to two thirds MSEC reserve price;
  - WDDSEC reserve prices of zero

## FINAL PROPOSALS

- ◆ QSEC and MSEC reserve prices should be equal to the annuitised LRMC
  - Calculated from the Transportation Model with input data based on the relevant year for MSEC and the preceding year for QSEC and each entry point adjusted to the obligated capacity level
  - assuming an annuity discount factor of 6.25% per annum;