

10 October 2006

## **GAS DISTRIBUTION PRICE CONTROL REVIEW - FINANCIAL MODEL**

Ofgem has today published the financial model for the one year GDPCR extension review. The model is published to assist with the understanding of how the GDPCR extension price control allowances have been calculated.

The model also contains a number of indicative financial statements for the GDNs. These are indicative, based on notional assumptions, and do not represent Ofgem's views of the actual or forecast financial position of the GDNs.

### **Contents**

This document contains:

- i) An overview of the financial model's purpose and contents
- ii) Appendix I: A detailed guide to the calculations within the financial model; and
- iii) Appendix II: An audit letter from PKF, a firm of accountants and business advisers.

Separately, we have published the financial model itself in spreadsheet form. The model can be accessed via the URL link below:

[http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/17024\\_GDPCR.xls](http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/17024_GDPCR.xls)

The audit letter confirms that in all material respects, the model complies with Ofgem's regulatory, financial and economic assumptions. PKF also identify a number of simplifying assumptions within the model. We have reviewed these comments, and believe that none of these have a material impact on the accuracy of the price control calculations, and that the level of simplification is commensurate with the scope of a one year control.

All questions on the financial model or this guide to the financial model should be addressed to Gavin Knott, Gas Distribution, [gavin.knott@ofgem.gov.uk](mailto:gavin.knott@ofgem.gov.uk), 020 7901 7469.

## Overview of the Financial Model

The one year financial model is intended to provide an overview of the level of allowed revenue required to provide a return on the GDNs' efficiently incurred capital expenditure (capex) and replacement expenditure (repex), together with a roll-forward of the opex allowances.

Special consideration has been given to shrinkage and pensions, where costs have risen due to circumstances outside the GDNs' control, and the specific allowances for these areas of expenditure have been increased accordingly. More detail on these calculations can be seen within the financial model.

Within GDPCR, a new method has been used to calculate allowed returns on capital expenditure overspend, recognising the specific circumstances which occurred within the current price control, where the companies are forecasting a £843 million (65%) overspend on capex and non-mains repex. This has required the allocation of all capital and non-mains repex expenditure into "Pot 1", "Pot 2" and "Pot 3". More detail on the rationale underlying this allocation is provided in the GDPCR Initial Proposals, chapter 3<sup>1</sup>.

The financial model includes the calculation of the RAV roll-forward (real and nominal) and the allowed return and depreciation on the RAV, after taking into account the impact of the "Pot 1-3" structure for calculating allowed return on the RAV.

In addition, the financial model calculates the key financial reporting tables (balance sheet, cash flow, profit & loss account, tax). These are for the purpose of confirming the financial position of a GDN with Ofgem's notional capital structure and tax position. These do not and are not intended to represent the actual or forecast financial statements of the GDNs, who are free to set their own capital structure.

### 1. Model contents

The financial model is structured to provide output for one GDN at a time, but contains 8 data input sheets, one per GDN. Whilst the model therefore only will provide the financial statements and allowed revenue for a single GDN at a time, there is a macro button within the model which will run the analysis for each GDN and calculate the key outputs accordingly.

The contents are as follows:

#### 1.1. Price Control Allowance Calculations

- Summary of key inputs per GDN, plus financial inputs (primarily cost of capital)
- Calculations of price control allowed revenue based on key inputs
- Calculations of additional allowed revenue with respect to pension deficits and under-recoveries

#### 1.2. Inputs

- Input sheets for each GDN – combination of BPQ data and Ofgem analysis
- RPI factors
- Inputs to roll-forward of Transco RAV from 1 January 2001 to 31 March 2002

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<sup>1</sup> [http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/16829\\_169a.pdf](http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/16829_169a.pdf)

### 1.3. Financial Statements

- P&L (real & nominal)
- Current Tax (real & nominal)
- Balance Sheet (nominal)
- Cash Flow (nominal)

### 1.4. RAV roll-forward

- Transco RAV roll-forward adjustments to March 2002
- Real RAV roll-forward thereafter
- Nominal RAV roll-forward thereafter

### 1.5. Outputs

- Details of allowed revenue & RAV roll-forward by GDN
- Breakdown of change in allowed revenue (PO) by GDN and overall

## 2. Summary

The GDPCR one year control financial model does the following:

- amalgamates the various sets of data provided by the GDNs;
- adjusts for Ofgem's analysis;
- overlays Ofgem's generic assumptions on financial inputs, treatment of RAV additions;
- generates a roll-forward of allowed efficient RAV expenditure
- generates price control allowances for 2007-08;
- presents indicative financial statements based on a simplified notional capital structure for each GDN; and
- provides summary information on the allowed return, the change in allowed return, and the breakdown of the change in allowed return and tax for each GDN.



## 2. Inputs

Where appropriate, the BPQ input data is unadjusted. However, Ofgem have made adjustments in many areas, either to eliminate data which has been entered into the BPQ tables and is not consistent with our interpretation of the appropriate category of expense, or to reflect the views of ourselves and our consultants on whether the actual and forecast spend proposed by the companies meets Ofgem's efficiency tests. All the data for each GDN is consolidated into one GDN-specific input sheet within the model.

The input data is in a number of different pricing formats (2000 prices, 2005-06 prices, nominal, or nominal to 2005-06 then real). Therefore there are different adjustments made to conform the various inputs to the 2005-06 prices used in the price control allowance and RAV roll-forward calculations. All data in the model based on financial years ending March 31.

The process for extracting the various sections of input data within that sheet is as follows: -

The detail below is split into the different sections within the input worksheets, labelled "Scotland", "Southern" etc within the financial model and classified by section in each sheet.

### 2.1. Allowances

These are primarily taken from the financial model used to evaluate the GDN separation allowances, including two late adjustments (SO and metering). These inputs were used to calculate the final published versions of the separated allowed revenues, which were included in the March 2004 open letter: -

[http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/6483\\_5604Openletter\\_GasDistributionPriceControl.pdf](http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/6483_5604Openletter_GasDistributionPriceControl.pdf)

The rows relating to SO and metering adjustments refer to late changes to the numbers, after opex and capex and RAV had been agreed for price control purposes, where allowances needed to be adjusted for reclassification between Transmission and Distribution. The SO adjustment is assumed to be an adjustment to allowable operating costs. The metering adjustment reflects a return on RAV for assets which were not included in the RAV.

Non-controllable operating costs comprise license fees and rates, which are assumed to be out of the control of the licensees.

### 2.2. Actuals

These are based on the BPQ data (see section 2.6. below), as adjusted for the assumed RPI factors, and for Ofgem's consistency review, to ensure that the balances are reported for each GDN on a consistent basis.

There is a table of RPI factors in the model. Ofgem uses the average RPI from each month of each price control year when converting from real prices to actual cash

allowances under the RPI – X mechanism, and when converting from the prices used in the Transco 2002-07 review, on a 2000 real basis, to the 2005-06 real prices used in the current review.

### **2.3. Repex – actuals vs allowances**

As 2.2. above.

### **2.4. Shrinkage and Pensions summary**

The shrinkage allowances have been calculated by reference to the overall opex allowance for 2002-03 to 2006-07. Whilst there was no explicit cash allowance or split of allowances by GDN, there was an allowed cost of shrinkage (21p per therm) which was used to establish these calculations.

Actual & forecast shrinkage costs are fed from the BPQs (via line 65 below).

“Actual shrinkage costs, adjusted for median price per therm”, are based on a calculation sheet which takes the actual shrinkage costs and actual shrinkage prices from the BPQ, and adjust the prices to Ofgem’s assumption (currently 57p per therm).

The pension allowances have also been calculated by reference to the overall opex allowance for 2002-03 to 2006-07. Whilst there was no explicit cash allowance or split of allowances by GDN, there was an allowed cost of pensions (8.5% of ongoing pensionable salary) which was used to establish these calculations. These are in line 66.

Pension actuals are fed from the BPQs (via line 67 – 71 below).

### **2.5. RAV roll-forward inputs**

This RAV roll-forward is started at March 2002 with the opening sculpted RAV. This is taken direct from the GDN separation allowance input sheets.

The RAV disposal figures are taken directly from the BPQs.

### **2.6. BPQ input data**

This data is all extracted directly or indirectly from the BPQs. In the case of the main categories used to establish allowances (capex, repex and opex) the data has been reviewed for consistency and in some cases adjustments made between the direct input data and Ofgem’s view on the allowances and actuals on a consistent basis.

Detail on the shrinkage and pension inputs are given in 2.4. above.

### **2.7. Balance Sheet Information**

Where appropriate, this data is all extracted directly from the BPQs. However, Ofgem’s core concern is the impact of its proposals on a notional GDN with Ofgem’s assumed gearing and interest rate structure. As such, other lines (such as intra-group borrowings, and tax assets) which result from the companies’ actual capital structure alone, are excluded from Ofgem’s notional balance sheet (and cash flow).

## 2.8. Ofgem adjustments

This section includes the analysis of the allocation of overspend and underspend, into:

- Pot 1 – “wasteful and unnecessary” – outside the price control as no allowances given. The number given for Pot 1 also includes other spend which is not allowed in the RAV, e.g. related party margins, GDN sales costs, since the treatment is the same.
- Pot 2 – “efficient overspend” – included in the RAV, but no allowances given for the first five years following inclusion
- Pot 3 – “re-opener” – included in the RAV, allowances given (including allowances for under-recoveries) as if included from the period incurred.

These different treatments of allowed spend, Pot 2 overspend and Pot 3 overspend result in separate allowance calculations being required for each category. The differences and the price control treatment of each category of spend is outlined in section 3. below.

In addition, the companies’ forecasts for capital and replacement expenditure for 2007-08 have been reviewed and adjustments are included between the company forecasts and Ofgem’s proposed allowances.

## 2.9. RPI factors

Tables of average and closing RPI factors are given for each year, for the purpose of converting between nominal and real values within the price control calculations. All allowance calculations are performed based on average year RPI (170.25 for the Transco review in 2000 prices, 193.11 for the current review in 2005-06 prices).

## 3. RAV roll-forward

The RAV roll-forward calculation drives the allowances for net RAV additions, PV of change in RAV and the capex roller incentive.

There are five RAV roll-forward tables within the “RealRAV” sheet.

- Allowed RAV for calculating annual returns (rows 10-14)
- Allowed RAV including Pot 3 overspend (rows 19-23)
- Ofgem RAV (rows 30-34)
- Pot 2 RAV (rows 94-102)
- Pot 3 RAV (rows 107-119)

Pot 2 and Pot 3 are different treatments of “overspend” between allowed and actual capex and non-mains repex. “Overspend” is calculated as follows:

- Actual capex + actual capitalised repex = Actual CAPX + 50% repex allowance + 100% of non-mains repex variance
- Allowed capex + allowed capitalised repex = Capex allowance + 50% repex allowance
- Overspend = Actual – allowable = CAPX variance + non-mains repex variance

The Pot 2 RAV and Pot 3 RAV are fed from the input sheet allocation of overspend into Pot 1 (disallowed and therefore outside the financial model), Pot 2 and Pot 3, which is input from Ofgem’s analysis by GDN and extracted to the Input sheet, rows 129-131.

- Allowed RAV for calculating annual returns

This is the table of RAV which can be reconciled to the combined price control allowances for capital and depreciation (after taking account of the capex roller) for each year from 2002-03 onwards. Therefore for 2002-07, it includes original allowed spend, and for 2008 onwards includes Pot 3, and Pot 2 with effect from 5 years after the spend is incurred. As a result the opening RAV for 2007-08 is not equal to the closing RAV in 2006-07.

- Allowed RAV including Pot 3 overspend

This is the table of RAV which includes all RAV spend on which allowances are earned (after taking account of the capex roller) - i.e. Opening RAV + price control allowances + Pot 3 overspend

- Ofgem RAV

The "Ofgem RAV" – i.e. the RAV to be used in the published RAV roll-forward tables – is equal to all efficient investment – i.e. Opening RAV + price control allowances + Pot 3 overspend + net Pot 2 spend (which may be positive in overspend scenario or negative in underspend scenario).

- Pot 2 RAV

The Pot 2 RAV is separately calculated to allow for the calculation of the return and depreciation on assets held in Pot 2, as such return is then excluded from allowed revenue under the capex roller incentive (see 4.6 below). Pot 2 additions for the five years 2002-07 are drawn from the input sheet, and then transferred from Pot 2 to the allowed RAV after five years.

- Pot 3 RAV

The Pot 3 RAV is separately identified in order to calculate the return and depreciation foregone on Pot 3 assets during the years 2002-07, which is then forward valued to the current price control and allowed as an under-recovery.

The Pot 3 calculation includes as an opening balance all pre-2002 assets which are allowed into the RAV as at 31 March 2002. Only the NTS offtakes are eligible for Pot 3 allowances, as the others have either already had allowances, are excluded or represent overspend which would not earn allowances until the beginning of the next price control.

All Pot 3 assets are transferred, with accumulated depreciation, to the allowed RAV for calculating annual returns as at 1 April 2007.

## 2.1. Opening RAV

Opening RAV (2002) =

- Sculpted RAV as allowed within the current control, plus
- pre-2002 assets which have been accepted for inclusion into the RAV since the setting of the 2002-07 control.

The pre-2002 assets which have been accepted for inclusion into the RAV since the setting of the 2002-07 control are calculated in the "RAV roll-forward to 0302" sheet. These are included in the RAV in cell F107 of the "RealRAV" sheet.

## 2.2. Depreciation

There are two methods for calculating depreciation on Gas Distribution Assets depending on whether they were acquired prior to March 2002 or after March 2002.

The model calculates depreciation separately for each of:

- Previously allowed RAV assets purchased pre-2002; (pre-2002 method)
- RAV assets allowed in 2002-3 and thereafter (post-2002 method)
- Pot 2 (post-2002 method)
- Pot 3 opening balance: Additional RAV assets included in the RAV as at 1 April 2002 based on the "RAV analysis to 0302" sheet; (pre-2002 method)
- Pot 3 additions (post-2002 method)

As a result of combining the above, the depreciation for each of the five categories of RAV roll-forward is evaluated.

### 3.2.1. Depreciation on pre-2002 assets

Depreciation on pre-2002 assets = gross opening assets \* depreciation factor where  
depreciation factor =  $\frac{(28*2+1)-i}{\left(\frac{(28*2)(28*2+1)}{2}\right)}$  for i = 1 to 56, i.e. numerator goes from 56 to

zero, and denominator is sum of 1 to 56, i.e.  $57/2 * 56$ . These depreciation factors were used in the 2002-07 price control. The formula has been checked to add to one if rolled out for 56 years. The formula is equivalent to assuming that the assets were purchased evenly over time, and that each has a life of 56 years.

The RAV is adjusted for disposals, which are removed from the gross RAV at the level of disposal proceeds, and the equivalent proportion of depreciation is removed from the accumulated depreciation balance.

The RAV calculations for Pre-2002 assets are in the RealRAV sheet, rows 46-56

### 3.2.2. Assets purchased following March 2002 and allowed for in the price control allowances.

Annual depreciation = Cumulative cost / 45.  
Depreciation removed proportionately for disposed assets

The RAV calculations for Post-2002 assets are in the RealRAV sheet, rows 64-81

### 3.2.3. "Pot 2"

Pot 2 assets are all post-2002 assets, and the depreciation is calculated accordingly.

The RAV calculations for Pot 2 assets are in the RealRAV sheet, rows 94-102

#### 3.2.4. "Pot 3".

The Pot 3 opening balance is all pre-2002 assets, and the depreciation is calculated accordingly. All Pot 3 additions are post-2002 assets, and the depreciation is calculated accordingly.

The RAV calculations for Pot 3 assets are in the "RealRAV" sheet, rows 107-119, including Pot 3 additions linked from the "Input" sheet, row 131.

### 4. Price Control Allowed Revenue

The allowed revenue for 2007-08 is calculated as the sum of:

- controllable opex allowance
- non-controllable opex allowance
- repex allowance
- Net RAV additions
- PV of change in RAV
- capex roller incentive allowance/(cost)
- tax allowance (based on actual tax payable)
- Other allowances (under-recoveries, pension deficit)

The model also checks the calculation of the allowances for the 2002-07 price control years, when there were some differences: -

- there was a metering adjustment – which has been included as a separate adjustment line in the 2002 – 07 allowance calculation.
- the WACC return on average RAV and depreciation were calculated separately, (with total comparable to Net RAV additions, plus PV change in RAV, but see 4.8.4. below)
- the tax allowance was an explicit %age of RAV based on the difference between a pre-tax cost of capital and vanilla WACC
- there was no capex roller incentive from the previous control

#### 4.1. Controllable Opex Allowance (includes ongoing pension allowance and shrinkage)

This is the sum of three separate allowance calculations for pensions, shrinkage, and other controllable opex. See 4.1.1. – 4.1.3. below.

This calculation is performed in the "Input" sheet – in the "allowances" section, for FY08 (column K). The calculated allowances (rather than actuals & forecasts) are highlighted in green. This calculation is in K96, together with the calculations for pensions and shrinkage which are in K94 & K95. The total then feeds into the price control allowance calculation in "Allowed rev - 07 method" sheet – K19.

##### 4.1.1. Controllable operating costs (excluding pensions and shrinkage)

Calculation is as follows:

- Take allowance or actual from price control input sheets,
- Subtract shrinkage allowance or actual
- Subtract pension allowance or actual
- Multiply by (1 – efficiency factor)

#### 4.1.2. Pensions

- Take actual pension costs for the average of 04/05 and 05/06
- Divide by ongoing contribution rate from that year
- Multiply by forecast ongoing contribution rate for FY08

Summary – take pensionable salaries for rollover year, and adjust for forecast ongoing contribution rate

#### 4.1.3. Shrinkage

- Take shrinkage forecast for FY08 – adjusted to Ofgem assumed price per therm
- Direct feed from shrinkage allowance input sheet (adjusted for RPI)

#### 4.2. Non-controllable opex allowances

These items are a pass-through where allowances are equal to actual out-turn. Therefore the allowance is indicative only. They are taken from the non-controllables for FY08 within the OPEX BPQ, being Formula Rates + Ofgem License Fee.

This calculation is performed in the "Input" sheet – in the "allowances" section, for FY08 (column K). The calculated allowances (rather than actuals & forecasts) are highlighted in green. This calculation is in K101. This then feeds into the price control allowance calculation in "Allowed rev - 07 method" sheet – K21.

#### 4.3. Repex allowance

This is 50 per cent of total repex for FY08, 50 per cent of mains repex + 50 per cent of non-mains repex. These numbers are taken from the BPQ, then adjusted for Ofgem's reviews of the numbers and analysis for efficiency.

This calculation is performed in the "Input" sheet – in the "allowances" section, for FY08 (column K). The calculated allowances (rather than actuals & forecasts) are highlighted in green. This calculation is in K112. This then feeds into the price control allowance calculation in "Allowed rev - 07 method" sheet – K20.

#### 4.4. Net RAV additions

This is the allowance for new amounts in the RAV (which will be effectively offset by the PV of the closing balance in 4.5. below to give a net allowance of the return on RAV.)

This calculation is performed in the "RealRAV" sheet which rolls forward the RAV for FY08 (column K). This calculation is in K32. This then feeds into the price control allowance calculation in "Allowed rev - 07 method" sheet – K22.

This is a sum of:

- Capex allowance. Both capex and repex are based on BPQ forecasts, adjusted for Ofgem's reviews of the numbers and analysis for efficiency.
- Capex element of repex allowance: equal to opex element of repex allowance (as both are 50 per cent of the total repex following efficiency review).

#### 4.5. PV of change in RAV

The closing RAV is equal to opening RAV + RAV additions (see 4.4. above) less RAV depreciation, plus disposals. Disposals are assumed to be zero for 2007-08.

The PV of change in RAV = Opening RAV – Closing RAV / (1 + vanilla WACC)  
The allowance for this is calculated in mid year prices by multiplying by (1 + vanilla WACC) ^ 0.5, since all price control allowances are assumed to be earned evenly through the year.

This calculation is performed in "Allowed rev - 07 method" sheet – K33, based on the opening and closing balances from "RealRAV" in K30 and K34 for 2007/08.

#### 4.6. Capex incentive payment / (receipt)

This is equivalent to the RAV allowance calculation (net additions + PV change in RAV) applied to the Pot 2 RAV.

This calculation is performed in "RealRAV" rows 134 to 140, and the total is fed into the "Allowed rev - 07 method" sheet – K23.

#### 4.7. Tax allowance

The tax allowance is calculated as follows:

Profit chargeable to corporation tax (PCTCT) =

- Price control allowances (excluding the tax allowance) with no corresponding chargeable expense (I); less
- Chargeable expenses with no corresponding price control allowance (X); plus
- Price control allowance for tax (T);

$$\Rightarrow \text{PCTCT} = I - X + T$$

and

$$T = t * \text{PCTCT} \text{ where } t = \text{marginal tax rate}$$

$$\Rightarrow T / t = I - X + T$$

$$\Rightarrow T = t (I - X + T)$$

$$\Rightarrow T - tT = t (I - X)$$

$$\Rightarrow T = t (I - X) / (1 - t)$$

i.e. after tax allowed taxable profit, grossed up for tax.

The calculations above are:

I (allowances with no corresponding tax expense) =

- RAV additions (4.4)
- Change in RAV allowance (4.5)
- Capex incentive cost (4.6)

- Additional allowances (see 4.8.) below

X (chargeable expenses with no corresponding price control allowance) =

- Interest payable (see below)
- 50% of repex allowance included in RAV
- Tax depreciation (numbers taken from BPQ responses)
- Capitalised pension contributions.

Interest is calculated as opening gearing \* average RAV \* corporate debt interest rate. Within the one year control, opening gearing is set to Ofgem's assumption of 62.5%.

If the tax allowance becomes negative, it is then changed to zero if negative tax allowances are not allowed, and this will feed through into the deferred tax calculation (not relevant to PO).

Check: The total allowances including tax allowance calculated using the formula are then input into the P&L as turnover, and the tax calculated using that turnover against chargeable costs. This can then be checked against the formula allowance. See 5.1. and 5.2. below

The tax allowance is calculated in the "Allowed rev - 07 method" sheet, K25

#### 4.8. Other allowances

The model is set up to calculate the following other allowances.

- Pension deficit closure
- Over-/(under-)recoveries of pension allowances during the current price control period
- Allowance for NTS charge relating to pension deficits for former employees of GDNs who were non-active as of 31 May 2005 (GDN sales)
- Returns on Pot 3 RAV not allowed within the 2002-07 price control allowances.

The other allowances are established in the "Allowed rev - 07 method" sheet, K41-44. The three relating to pensions are fed from the "Pensions Allowances" sheet which takes as inputs the NPV of the amounts required, and then converts to an annual allowance. The Pot 3 RAV returns are evaluated in the "RealRAV" sheet, rows 122-131.

##### 4.8.1. Pension deficit closure

This is based on forecast 31 March 2006 pension deficit, assuming closure over a 10 year period, on an NPV-neutral basis.

##### 4.8.2. Over-/(under-)recoveries of pension allowances during the current price control period

The amount for each year is calculated as:

- Pension actual; less
- Pension allowance;

Each annual under-recovery or over-recovery is forward-valued in PV terms (using mid period factors) to 31 March 2007, then allocated to the price control years according to one of a number of alternative formulae (trigger on the input sheet). The amounts are rolled forward at the pre-tax WACC (6.25%) to 31 March 2007, and the vanilla WACC is then used for the allocation between the years from March 2007 to March 2016 (depending on the choice of allocation formula).

#### 4.8.3. NTS charge

The NTS control includes an allowance to meet the cost of the pension scheme retained by the NTS favouring non-active former gas distribution employees who retired prior to May 2005, and whose pension costs are retained by National Grid.

This is allowed as a specific charge to the GDNs to recover from gas distribution customers, and has been allocated by GDN based on the number of customers. The total across all GDNs will be identical to the amount identified in the NTS price control. Note that the allowance for the NTS pension charge is included in the Pension Allowances sheet, but for price control purposes is treated as a pass through. Therefore within the P&L, it is added to non-controllable operating costs, as this is not a direct pension cost to the GDNs, but an external operating cost payable to the NTS.

#### 4.8.4. Returns on Pot 3 RAV not allowed within the 2002-07 price control allowances.

This is calculated as the return on the Pot 3 RAV additions (see 3.5.4. above), plus the Pot 3 RAV depreciation. The return is calculated using the simplified method of taking the vanilla WACC multiplied by the average RAV, as this was the method used in the 2002-07 price control.

Each annual amount is forward-valued in PV terms as at 31 March 2007, then allocated to the price control years according to one of a number of alternative formulae (trigger on the input sheet). The amounts are rolled forward at the pre-tax WACC (6.25%) to 31 March 2007, and the vanilla WACC is then used for the allocation between the years from March 2007 to March 2016 (depending on the choice of allocation formula).

The allowance under the "return on average RAV" method is calculated in the "Allowed rev – 02 method" sheet, rows 23 to 32, and reconciled to the GDN separation allowances for 2002-07 in rows 33 to 35

Check 1: the total allowance under the "change in RAV" method is then reconciled to the total allowance under the (simpler) return on average RAV method used in the 2002/07 control. The following items are considered and it is flagged if the unexplained difference is greater than 0.25m

- tax
- 6 month PV difference between return on average RAV all payable in mid-year values and PV return forward-valued to mid-year values. This relates to the fact that the "average RAV" method gives mid-year allowances that are actually calculated in end-of-year values
- difference between 6 months return on net RAV additions on simple (average RAV) and compounded (change in RAV forward-valued) basis

Check 2: Given that the average RAV and change in RAV methods reconcile, the calculations for allowances under the average RAV method for 02-07 are then reconciled to the actual price control allowances. It is flagged if any differences are greater than £2.5m. Note – they will be different as the disposals are included in the allowance calculation, so this is equivalent to an assumption that this shouldn't impact more than £0.5m per annum.

Note: Nominal RAV

There is also a nominal RAV calculation, which is reconciled back to the RealRAV calculation sheet. For this to be the case, there is a "Regulatory Indexation Allowance" in each year which is applied to the RAV (both Gross Additions and Cumulative Depreciation).

All nominal RAV calculations are therefore at year end RPI – i.e. : -

- Opening RAV (Gross RAV and cumulative Depreciation) is indexed from the 31 March opening RPI to the 31 March closing RPI
- All depreciation is calculated off this closing balance
- All additions to and removals from the RAV are forward valued to the year end RPI prior to addition to the RAV.

As a result the RAV reconciliation is therefore done by comparing the Nominal RAV, divided by the difference in year end RPI and 2005/06 average RPI, to the real RAV.

The nominal RAV does not impact price control allowances. It can be used measure debt/RAV ratios, and therefore the use of a year-end measure is appropriate.

Note: Breakdown output

There is an analysis of the change in allowed revenue between 2006-07 and 2007-08 within the Input sheet. This reflects an allocation of the impacts of the various changes in allowances and policy.

This breakdown is for information only, and does not impact allowances. The "change in model" number which reflects the impact of moving from the "average RAV" to "change in RAV" model also includes any rounding – which is less than 0.1% for all GDNs.

## 5. Financial Reporting Tables

The model also produces a Profit & Loss Account, a Balance Sheet, a Cash Flow, and a current tax note.

The following tables have been produced: -

Table	Real	Nominal
P&L	Yes, based on allowances & opex inputs. 2002-07 based on allowances	Yes, based on real table
Tax	Yes, all years	Yes, based on nominal P&L

Balance Sheet	No	Yes, based on input data & notional opening debt. March 2006 to March 2008.
Cash Flow	No	Yes, based on P&L and movements in notional balance sheet. 2006-07 and 2007-08

## 5.1. Profit and Loss Account

The Real Profit and Loss Account using the price control allowances in 2005-06 prices is calculated in the "P&L" sheet. The nominal P&L is in "P&L (nominal)"

The inputs to the profit and loss account are as follows:

### 5.1.1 Real P&L

Operating profit: sum of

- Turnover – allowed turnover from the price control calculation. Note that this represents the allowed turnover before profiling for 2002-07, not the allowed turnover after profiling, nor the actual turnover
- Controllable Operating costs (allowed)
- 100% repex (allowed)
- Non-controllable Operating costs (allowed) – includes NTS pension charge (see 4.8.3. above)
- Accounting Depreciation (actual/forecast, from BPO)
- Goodwill Amortisation (based on change in balance sheet – use nominal & work back)

PBIT = Operating Profit – Exceptionals (taken from nominal P&L)

PBT = PBIT – Interest

where interest = average RAV \* opening gearing \* interest assumption

PAT = PBT – Current Tax – Deferred Tax

where current tax is from tax calc, deferred tax assumes IFRS treatment, i.e. 30% tax including deferred tax. This is a simplifying assumption for the one year control, which may not reflect actual deferred tax liabilities.

Retained Profit = PAT – dividends

where dividends = return to shareholders = dividend yield from input sheet \* average RAV \* (1 – gearing)

### 5.1.2. Nominal P&L

Equal to real P&L \* inflation, with the exception of the lines listed below. The model inflates forecasts using half yearly averages for RPI until 2005/06, and 2.5% per annum thereafter.

The exceptions are: -

Goodwill amortisation = Change in balance sheet goodwill – assuming balance sheet goodwill is nominal

P&L exceptional items are taken to be zero for the one year control as they are outside the price control calculation and we are adopting a simplified approach.

## 5.2. Tax calculation

The Real Tax Calculation using the price control allowances in real 2005-06 prices is calculated in the "Tax" sheet. The nominal tax calculation is in "Tax (nominal)". Note: Opening TWDV for Plant, Long Lived Assets and Industrial Buildings refers to opening position at May 2005.

The current profit chargeable to corporation tax is calculated as:

- PBT from P&L
- add back Accounting depreciation from P&L
- add back Goodwill amortisation from P&L
- subtract capitalised pension contributions
- subtract capital allowances / tax depreciation – direct from BPQs & not reviewed in detail for the one year control

Then current tax = 30% \* PCTCT, with a max (tax, 0) condition if flagged.

Capital allowances are taken direct from the BPQ and have not been reviewed against actual tax returns for the companies. They are calculated on a nominal basis and the real values are derived from the nominal values.

## 5.3. Balance sheet

The Balance Sheet with 1 April 2007 debt adjusted to Ofgem notional debt is in "Balance Sheet (nominal)". Each balance sheet is rolled forward using the corresponding P&L calculation.

Note that the majority of entries to the balance sheet and cash flow are either directly calculated from the allowance model (e.g. profit), are driven by Ofgem's notional financial structure (e.g. borrowings) or have not been reviewed in any depth and are taken from company BPQ submissions (e.g. current assets). We believe that this is proportionate for a one year review.

### 5.3.1. Non-current assets

- Goodwill: Direct feed from balance sheet, assumed nominal
- Tangible Assets: Opening balance at March 2006 direct feed from balance sheet.
- Movement in Tangible Assets: Accounting Depreciation + Nominal CAPX –book value of disposed assets where nominal CAPX is based on actual, not allowance.

### 5.3.2. Current assets

- Cash at bank – direct feed for March 2006 then set to target number (model assumes zero)

- Others are direct feed from company BPO data.

#### 5.3.3. Current liabilities

- Borrowings set at zero
- Trade & Other creditors taken direct feed from company BPO data.

#### 5.3.4. Non-current liabilities

- Closing borrowings at 31 March 2007 set at closing RAV \* notional gearing
- Change taken from Cash Flow (nominal)
- Other long-term creditors direct feed from company BPO data

#### 5.3.5. Provisions

- Deferred tax – opening balance a direct feed, movements from P&L
- Current tax – opening balance a direct feed, currently rest set at zero
- Pension deficit – opening balance from company information and Ofgem's forecasts, no movement (assumes falls with deficit funding)
- Environmental provision – direct feed
- Restructuring provision – direct feed
- Other provisions – direct feed

#### 5.3.6. Capital and Reserves

- Opening balance for share capital and P&L reserve at March 06 – direct feeds
- Opening balance for "other reserves" – solved from the balance sheet
- Movements in share capital – none
- Movements in P&L and other reserves – one kept flat, other moves according to retained profit

For 2006, the balance sheet will automatically balance due to the backsolving of the other reserves. However for 2007 and 2008, whether the balance sheet balances is a useful check of the integrity of the inputs.

### 5.4. Cash Flow

The Cash Flow statement, which is based on debt at 1 April 2007 adjusted to Ofgem notional debt is in "Cash Flow (nominal)". Each cash flow is calculated based on the corresponding P&L calculation.

#### 5.4.1 Nominal Cash Flow

This is calculated as the sum of: -

- Operating Cash Flow
- Return on investments and servicing of finance
- Tax
- Dividends
- Capex
- Financing

in order to get to a cash flow – note that it is the financing number not the cash flow which is the relevant output, as cash is assumed zero for 2007 & 2008.

#### 5.4.2. Operating cash flow

- Operating profit, depreciation, amortisation – feed from nominal P&L
- Less Profit/(Add Loss) on disposal of fixed assets – feed from BPQ – assumes nominal
- Decrease / (increase) in stocks, trade debtors, other debtors & current assets feed from balance sheet
- Increase / (decrease) in trade creditors, other short-term creditors, other long-term creditors feed from balance sheet
- Increase / (decrease) in provisions feed from balance sheet on environmental and other provisions
- Cash flow from exceptional items: P&L exceptionals + change in restructuring provisions from the balance sheet

Sum of above gives operating cash flow

#### 5.4.3. Non-operating cash flow

- Interest – follows P&L
- Tax – follows P&L plus change in current provision. Note: the model makes the simplifying assumption that tax is paid wholly in the year in which it accrues.
- Dividends paid – direct from P&L
- CAPX & Disposals of fixed assets – actuals from RAV roll-forward schedule

Sum of above gives non-operating cash flow

#### 5.4.4. Financing

Financing cash flow = (operating + non-operating) \* (- 1), adjusted for the change in actual cash in FY07 only, to change from opening to target cash (i.e. zero).

## **Glossary**

The following terms are used within the guide to the financial model: -

BPO – Business Plan Questionnaire – a detailed review of actual and forecast business performance prepared by the GDNs for Ofgem using a format proposed by Ofgem.

Capex/CAPX – Capital Expenditure

GDN – Gas Distribution Network – one of the eight regulated gas distribution networks within Great Britain

GDPCR – Gas Distribution Price Control Review – the ongoing review into the resetting of the price control for the eight GDNs for the period 2007-13.

NTS – The National Transmission System for gas, currently owned and operated by National Grid, for which a price control was set together with the price control for gas distribution for the period 2002-07.

Opex – Operating Expenditure

P&L – Profit and Loss Account

PAT – Profit After Tax

PBT – Profit Before Tax

PBIT - Profit Before Interest and Tax

RAV – Regulatory Asset Value – the value of capital investment in networks on which Ofgem allow, within the price control allowances, a return on capital and a depreciation return.

Repex – Replacement Expenditure

RPI – Retail Price Index – used by Ofgem as an indicator of inflation when calculating changes in allowances.

SO – System Operator – an activity within the National Transmission System regulated by Ofgem within the Transmission Price Control Review

TWDV – Tax Written Down Value

Transco – the owner of the eight GDNs prior to GDN separation in 2003-04

Vanilla WACC – the WACC calculated on the basis of pre-tax debt, post-tax equity, which is equivalent to the cash allowance required to meet financing obligations.

WACC – Weighted average Cost of Capital – the average cost, given assumed proportions of debt and equity, of financing an entity.

**Appendix II – Copy of PKF audit letter**



Accountants &  
business advisers

Office of Gas and Electricity Markets (Ofgem)  
9 Millbank  
London  
SW1P 3GE

Our ref: BT/pj

5 October 2006

Dear Sirs

**Re: Gas Distribution Price Control Review Financial Model**

In accordance with our proposal dated 21 July 2006 setting out the scope of work, PKF have examined the Financial Model (the 'Model') relating to the Gas Distribution Price Control Review.

**Opinion**

Our work is subject to the assumptions and comments, which are summarised in Appendix A, and subject to the representations and responses from the Model Author in respect of our Base Case findings reports upon which we have relied. As a result of our review we confirm that the Model, version 'GDPCR One Year Extension Initial Proposals.xls' as sent to us at 17:20 on the 22 September 2006:

- Is logically constructed, internally consistent and is materially accurate in terms of its formulae, algorithms and calculations;
- Reflects, in all material respects, and is consistent with the Model User Guide Version 'Guide to financial model Initial Proposals PKF 270906.doc';
- Functions, in all material respects, in accordance with Ofgem's financial, regulatory and economic assumptions, as provided to us (as listed in the Model User Guide) and calculates allowed revenues consistent therewith;
- Reflects, in all material respects, the provisions of the relevant accounting and financial reporting standards of UK GAAP;
- Reflects, in all material respects, the provisions of relevant UK taxation standards and legislation.

Our work was limited to the matters set out above and accordingly did not include, for the avoidance of

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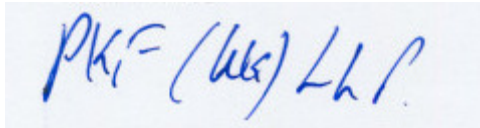
doubt, any form of review of the commercial merits, technical feasibility, or the factual accuracy of the input data. Further, we have not considered the validity of the underlying technical assumptions which are outside our expertise.

All comments and opinions above are given solely in respect of the Model version 'GDPCR One Year Extension Initial Proposals.xls' as sent to us at 17:20 on the 22 September 2006 and cease to be valid if there are any subsequent changes to the Model. The published version is derived from this version by removal of certain inputs and sheets which Ofgem have agreed with the GDNs to keep confidential.

The changes have not been reviewed but we can confirm that the key outputs in the 'Breakdown output' sheet have not changed.

This letter has been prepared for the information and benefit of the addressees. No party other than the addressees from time to time may place reliance on any matters contained within this letter.

Yours sincerely

A rectangular area containing a handwritten signature in blue ink that reads "PKF (UK) LLP".

**PKF (UK) LLP**

## **ASSUMPTIONS AND COMMENTS ON THE MODEL**

### **Background and Model Assumptions**

1. We understand that the objective of the Model is to calculate the allowed revenue for the 8 Gas Distribution Networks ('GDNs') for 2007/08 on the basis of the assumptions and input data contained within the Model.
2. The Model is designed foremost as a regulatory evaluation tool to measure pro forma financial performance under regulatory assumptions. It is not designed as an operational model. Thus, while it can be used to reflect actual performance by replacing forecasts with actuals, it will not readily allow comparisons of actuals against forecasts.
3. The Model is primarily based on annual periods and provides information at each 31 March.
4. The Model assumes all the GDNs have a gearing of 62.5%, although the actual levels of gearing within each GDN will vary.
5. The Model rolls forward the closing RAV from the review period ending at March 2002 with changes for adjustments and investments between December 2000 and March 2002.
6. The Model is denominated in millions of pounds sterling except where otherwise stated. It does not provide for or require any other currency denominations.
7. The Model uses real inputs which are inflated using the average of the monthly RPI figures for the 12 months ending in March of each year.

### **Findings and Comments on the Model**

8. Below are the key comments arising out of our review of the Model, excluding those matters which have been resolved with the Model Author. We have categorised our findings to reflect the scope of our review.

### ***Model Logic and Assumptions***

9. VAT has not been shown in the model and we have not reviewed the compliance of the model with VAT legislation.
10. In some cases, the GDNs have used constant levels of stock, other creditors, trade debtors and other balance sheet inputs as simplifying assumptions for the year to March 2008.

### ***Review of UK GAAP***

11. The Model balance sheets include values under the heading 'other provisions'. We have been informed that these relate to specific provisions although we have not received any supporting documentation for these provisions.

12. The Model assumes that 100% of the repex is expensed in the Profit and Loss Account in line with the historic accounting treatment, and the treatment indicated by the GDNs in their input data. We have not received a detailed breakdown of the repex expenditure and are therefore unable to determine if any elements of these costs should be capitalised.
13. The depreciation values within the Model are drawn directly from the input data and inflated without detailed calculations by class of asset. However, this does not affect the key outputs as depreciation is excluded from the calculation of the price control allowances and the financial ratios.
14. The Model does not restrict dividend payments by the availability of sufficient retained profits or cash. If the GDNs are separate companies then the Model may forecast distributions which breach the Companies Act requirements to restrict dividends to distributable profits.
15. Although we have reviewed the Model under UK GAAP we would like to raise the issue that during the review period some GDNs may adopt IFRS and this may change the calculation of the financial statements.

#### ***Review of Tax***

16. The Model adopts a simplifying assumption in calculating the periodic deferred tax charge, this being computed as the difference between 30% of pre-tax profit and the corporation tax payable for the period. Where the effective rate of tax for any company is in the order of 30%, this assumption is not unreasonable but the effective rate for several of the companies is significantly different which may result in deferred tax being significantly misstated in the balance sheet. As the Model does not include any timing difference calculations, we are unable to quantify the amount of any such misstatement. This does not affect the key outputs as deferred tax is excluded from the calculation of the price control allowances and the financial ratios.
17. The Model assumes that corporation tax is payable wholly within the year in which it accrues whereas, under current UK tax rules, only 50% is required to be so paid.
18. The underlying calculations which support the single capital allowance figure within the Model calculate industrial buildings allowances for the period to March 2008 as 4% of the opening tax written down values. The allowances should however be calculated as 4% of the original cost of the qualifying assets. We do not have any information as to the qualifying costs thus whilst the Model is likely to understate tax allowances in the above period, we are unable to quantify the amount of any such understatement. The Model assumes that all intra-group transactions are on arms length terms such that no transfer pricing adjustments are required. The Model Author has confirmed that all such transactions are required by the relevant license to be on arms length terms and on this basis we accept the Model assumption as reasonable.
19. The underlying calculations which support the single capital allowance figure within the Model allocates capital expenditure additions in the period to March 2008 as between amounts qualifying for industrial buildings allowances, long life capital allowances and short life capital allowances. In the absence of any supporting detailed analysis, we have accepted all these amounts as given and offer no further opinion thereon.
20. As agreed with the Model Author, we have not sought to compare the underlying opening capital allowances written down values to prior period computations. We are not therefore in any position to comment on the consistency of the capital allowances within the Model with those computations. As further agreed, we have not reviewed details of any ongoing HM Revenue &

Customs enquiries into those computations. We are thus unable to comment as to whether there are any significant matters under enquiry which may therefore impact either on the validity of the capital allowances or on the Model's tax calculations generally.