

Draft Licence Modifications to implement Agreement April 07



Northern Ireland Authority for Utility Regulation

**Phoenix Natural Gas Licence Restructuring; Proposed Price Control
Licence Modifications**

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Introduction

Pursuant to Article 14(3) of the Gas (Northern Ireland) Order 1996 as amended by The Energy (Northern Ireland) Order 2003 the Northern Ireland Authority for Utility Regulation (the 'Authority') proposes to make modifications to Part 2; Condition 2.3; Conveyance Charges, other Terms for the Conveyance of Gas and the provision of Conveyance service of the Licence which was granted to Phoenix Natural Gas Ltd.(the 'Licensee') under Article 8 of the Order.

The purpose of proposed modifications to is to give effect to the fundamentals of the licence restructuring agreement (the agreement) between the Authority and Phoenix Natural Gas reached in November 2006 as it applies to the distribution network. The transmission assets are dealt with elsewhere and are to be transferred to a "not-for dividend-distribution" special purpose vehicle as part of the agreement.

The effect of the proposed modifications is to place the Licensee on a sustainable long-term financial footing and to ensure distribution charges are at a level so as to allow further development of the gas supply market. The conditions and modifications set out how distribution charges are determined and revenues, cash flows and regulatory asset values are calculated at periodic price control reviews.

A draft of the proposed licence conditions and modifications are attached at Annexe 1.

The Authority invites views on the proposed conditions and modifications. In addition views are invited on some specific issues outline below and in particular the future treatment of working capital and capex underperformance/overspend.

Further licence modifications on Financial and Operational Ring Fencing and Corporate Governance will be implemented over the coming weeks to finalise the agreement.

Responses to this consultation should be made by 18 May 2007 either in writing to

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The Utility Regulator intends and prefers to publish all comments received, but are prepared to facilitate those respondents who wish certain sections of their submission to remain confidential. Accordingly, respondents that so wish should submit these sections in an appendix that is clearly marked "Confidential".

Copies of the paper will be made available in large print, Braille, audio cassette and a variety of relevant minority languages if required.

*Draft Licence Modifications to implement Agreement April 07***Background and Context**

1. In November 2006 the Authority reached agreement with Phoenix Natural Gas and its owners on a new regulatory structure for the distribution and transmission networks. This was necessary as the original licence conditions, implied that investment would be recovered by 2016. This 20-year period (from the original date of grant of licence in 1996) was unrealistic for this type of investment. The Licence development plan terms required network investment to be front loaded so that not less than ninety per cent of premises in the licensed area may be readily connected to the Network no later than the twelfth anniversary of the Grant.
2. In addition, the licence required Phoenix to act to encourage the rapid and extensive development of the market for gas supplies in the Licensed Area and act to compete effectively in so far as is reasonably practicable with alternative fuel supplies for those premises passed by the network.
3. This meant that, in order to encourage connections to the network, prices had to be set so as to be competitive with alternative fuels after accounting for customers switching costs. To this end the supply business has operated on a no-profit no-loss basis and actual distribution charges have been significantly below the level required to recover investment in the network by 2016. Thus Phoenix has been systematically under recovering revenues relative to allowed revenues as determine by the 20-year licence period.
4. This under recovered revenue was allowed a rate of return based on base rates which have averaged around 2% real over the 10-year period from 1996, significantly below the allowed regulatory rate of return. Under recovered revenue had accumulated to over £100m by end of 2006.
5. If Phoenix was to achieve the original rate of return of 8.5% (pre-tax real) it would have to increase the distribution charge substantially above current levels. The effect of such a strategy on the return on investment depends on the response of connections and volume to this price increase. This situation was not, in the opinion of the Authority, in the best interests of customers or the Licensee.
6. It was therefore necessary to extend the period over which investment would be recovered in order that distribution charges are at a sustainable level and end user prices are at a level so as to encourage switching to natural gas. Having agreed that an extension to the recovery period was necessary it was then necessary to establish the opening regulatory asset value (OAV) that should apply at the start of this extended period.
7. In addition, as the risk profile for the Licensee was altered it was also necessary to establish the appropriate rate of return for this risk and the period over which it should apply. That is, what was the appropriate sharing of the benefits of restructuring between Phoenix and customers (existing and future)?

*Draft Licence Modifications to implement Agreement April 07***Extended Investment Recovery Period**

8. The extended recovery period is such that investment in network assets is depreciated over a period which is more closely aligned with their economic lives. For pipeline assets this has been agreed at 40 years. In addition, distribution charges will be set based on forecast costs and volume over an extended period (not the five years of each control period) so that the recovery of some current costs is deferred into the future when the customer base and volume is larger. This means that today's customer base is not unduly burdened due to frontloading of investment and a relatively short investment recovery period.

Opening Asset Value (OAV)

9. Unlike the original licence formulae which were based on discounted cash flows over the 20-year project period envisaged in 1996 the proposed modifications make explicit the regulatory asset value and how this is determined at each price control review.
10. The reference point for establishing the regulatory asset value for the beginning of the extended recovery period (the OAV) was that allowed under the original licence formulae. As previously explained, Phoenix has been under recovering relative to allowed revenue. However, over the period 1996-2006 Phoenix had outperformed relative to forecast costs at least partially offsetting the effect of under recovered revenue.
11. The agreed OAV is a function of actual investment (opex and capex), under-recovered revenue and a sharing of cost out performance for the period 1996-2006.
12. Under recovered revenue was allowed to earn a return significantly less than the regulated rate of return agreed in 1996 and was based on base rates which have averaged around 2% real over the period.
13. Out performance for the period 1996-2006 is shared between customers and Phoenix based on regulatory practice elsewhere while the net cash flow over the period established the base for the OAV.
14. These give an OAV of £316m at end of 2006 in 2006 prices. This may change slightly on submission of the audited 2006 regulatory accounts in June 2007.

Rate of Return (RoR)

15. Having agreed an extended recovery period it was necessary to establish an appropriate rate of return (RoR) on the OAV and future investment and the period over which the RoR would apply before review. Again the reference point was the existing licence. The under-recovered revenue element of the OAV will continue to earn a rate of return of 2% real but will be recovered by 2016, the original formulae end date.
16. The 8.5% RoR allowed in the current licence is reduced to 7.5% and is set for the period 2007-2016. This reflects the redistribution of risk between stakeholders. The RoR will be reviewed in 2016 in line with best regulatory practice at that time.

*Draft Licence Modifications to implement Agreement April 07***Benefits of Agreement**

17. Customers benefit in two ways from the agreement; no substantial increase in distribution charges which would otherwise be necessary in the absence of agreement and a reduced rate of return. The Authority estimates the value of benefits of the agreement to consumers to be in the region of £25m in 2006 present value terms. This value of benefits depends on what is assumed would have happened in the absence of agreement or referral of an alternative proposal to the Competition Commission.
18. The Licensee benefits from reduced uncertainty of recovering investment and return. The agreement should ensure that the market for the supply of gas continues to develop robustly as those premises not already connected switch to natural gas and costs are spread over a wider customer base to the benefit of all customers and the Licensee.

New Licence Conditions and Modifications

19. These proposed conditions and modifications, attached at annexe 1, set out how allowed revenues, cash flows and regulatory asset values are to be determined and calculated at each price control review.
20. The formulae for establishing the 'Total Regulatory Value' (TRV) at each review is set out in Condition 2.3.18. This is made up of the 'Depreciated Asset Value' ('DAV', Condition 2.3.17), the 'Profile Adjustment' ('PA', Condition 2.3.19) which takes account of forecast cost that have not been recovered in the control period due to the long term nature of the price control. These and other price control parameters will continue to be reviewed at five year intervals.

Depreciated Asset Value (DAV)

21. The DAV at the beginning of each control period is calculated as the DAV at the start of the previous control period (OAV in 2007) net of depreciation plus capex over the previous control period net of depreciation.
22. The discounted cash flow methodology in the original licence is based on forecast costs at the previous review and as such makes no allowance for passing on out performance in capex to customers.
23. The modified conditions allow the Licensee to retain the benefit (financing and depreciation) of capex out performance against agreed capex forecasts (for a given output) for the period from the year of out performance to the start of the following control period.
24. This continues to provide the Licensee with an incentive to make efficiency savings over a control period which are passed to customers at the beginning of the subsequent control period. The benefits of efficiency savings under this regime to the Licensee depend on their timing. The Authority will consider if a 'rolling incentive mechanism' would be appropriate for capex and opex efficiency gains over a control period. This would mean that the benefits of efficiency gains are retained by the Licensee for a

Draft Licence Modifications to implement Agreement April 07

defined period thus eliminating the effect of timing and strengthening the incentive to make efficiency gains. However, as a large proportion of network investment is now 'sunk' the potential for future capex efficiency gains is limited (but not absent) with service connections forming the major part of future investment.

25. Notwithstanding the 'sunk' investment it is important to consider how future overspend of capex relative to agreed forecasts and for a given output (connections and volume) should be treated. Allowing overspend into the DAV at the beginning of each control period may alter the incentives to make efficiency gains. Although the Licensee would bear the cost of any overspend during a control period, it would begin to recover, and earn the regulated return on, this at the beginning of the subsequent control period.
26. However, the situation is not straight forward and the treatment of capex overspend should depend on the reason for the overspend. An overspend in a given year may be the result of a deferral in a previous year. A 'rolling incentive mechanism' would reduce the incentive for this and if agreed outputs are delivered or exceeded this type of overspend would normally be allowed into the DAV.
27. The situation where there is a sustained capex overspend over a control period and thus capex, overall, exceeds agreed forecasts without enhancing or increasing outputs after accounting for economies of scale presents a problem. This implies an inefficient outcome and the current regulatory regime treats cost overspends as inefficient outcomes in the sense that the regulatory regime does not guarantee a particular level of return.
28. Another situation may be that an extraordinary event triggers an overspend. The Authority would consider the circumstances of such an event in determining whether this type of overspend is passed through to customers in subsequent control periods.

The Authority will consider these issues further and invites views on how capex in excess of agreed forecasts over a control period should be treated. Should the Licensee bear the full cost of this or should it or a proportion thereof, be included in DAV? How should this proportion be determined? How should outputs be accounted for in the treatment of over spend of capex?

Movements in Working Capital

29. The current licence includes a formula for a working capital adjustment. This requires customers to provide and fund movements in working capital. This is the difference in accruals and cash in a formula year. During the period 1996 - 2006 Phoenix under spent this allowance by £8.6m (2006 present value and prices). As this is a mechanistic formula based allowance there is no mechanism for sharing these 'profits' with customers.
30. However, treating movements in working capital as a 'pass through' removes the incentive on the Phoenix to optimise and manage working capital efficiently. Removing this allowance completely creates a 100% incentive on Phoenix to optimise as owners would have to fund this.

Draft Licence Modifications to implement Agreement April 07

The Authority invites views on how movements in working capital should be treated. Should owners fund this? Should customers fund it and if so should it be a pass through or a formula based allowance with the potential for out performance?

*Draft Licence Modifications to implement Agreement April 07***Annexe 1:****Condition 2.3: Conveyance Charges, Other Terms for the Conveyance of Gas and the provision of Conveyance services**2.3.8 Charging methodology for the conveyance of gas

The Licensee shall in setting its charges for the conveyance of gas in the Network use reasonable endeavours to ensure that in each Formula Year t commencing Formula Year 2007, the average conveyance revenue per therm of gas conveyed shall not exceed the maximum allowed average conveyance revenue per therm calculated in accordance with the following formula:

$$M_t = P_t (RPI_{F,t} / RPI_E) - K_t$$

where

M_t = the maximum allowed average conveyance revenue per therm for conveying gas in that Formula Year t ;

$RPI_{F,t}$ = the absolute value of the Retail Price Index for Formula Year t defined as the absolute value of the Retail Price Index published for September of Formula Year t ;

RPI_E = the Designated Parameter of that name established at the most recent Review (as the base reference point for the Retail Prices Index for September);

P_t = a value for that Formula Year t calculated in accordance with the following formula:

$$P_t = \sum_i (P_{E,i,t} \cdot W_{F,i,t})$$

where

Draft Licence Modifications to implement Agreement April 07

\sum_i = the summation across all four conveyance categories where i is representative of a Conveyance Category;

$P_{E,i,t}$ = the Determined Revenue Per Therm in respect of Conveyance Category i for Formula Year t ;

$W_{F,i,t}$ = a weighting for each of the Conveyance Categories calculated in respect of Formula Year t in accordance with the following formula:

$$W_{F,i,t} = V_{F,i,t} / \sum_i V_{F,i,t}$$

where

$V_{F,i,t}$ = in respect of each of the four Conveyance Categories the actual number of therms of gas conveyed in that Formula Year t , in respect of that conveyance category i ;

$\sum_i V_{F,i,t}$ = the summation of $V_{F,i,t}$ across all four Conveyance Categories in Formula Year t ;

K_t = a value representing a correction factor as set out in Condition 2.3.9.

For the avoidance of doubt, the Licensee shall forecast values of $RPI_{F,t}$, $V_{F,i,t}$ and K_t (to the extent that the values are not known by 1st October of the Formula Year $t-1$), so as by its reasonable endeavours it makes a best estimate of them.

Draft Licence Modifications to implement Agreement April 07

2.3.9 Correction Factor

For the purposes of Condition 2.3.8 K_t shall be calculated in accordance with the following formulae:

either
$$K_t = \frac{[Z_{F,t-1}(1 + I_{F,t}/100)]}{\sum_i V_{F,i,t}}$$

if $Z_{F,t-1}$ is greater than $-0.1 \left(M_{t-1} \sum_i V_{F,i,t-1} \right)$

or
$$K_t = \frac{\left[-0.1 \left(M_{t-1} \sum_i V_{F,i,t-1} \right) (1 + I_{F,t}/100) \right]}{\sum_i V_{F,i,t}}$$

if $Z_{F,t-1}$ is less than or equal to $-0.1 \left(M_{t-1} \sum_i V_{F,i,t-1} \right)$

where

$$Z_{F,t} = \left(R_{F,t} - P_t (RPI_{F,t} / RPI_E) \sum_i V_{F,i,t} \right) + Z_{F,t-1} (1 + I_{F,t})$$

$R_{F,t}$ = the Licensee's Total Conveyance Revenue in Formula Year t;

$I_{F,t}$ = the percentage interest rate in Formula Year t, which shall be:

where K_t (taking no account of $I_{F,t}$ for this purpose) has a positive value, the Average Specified Rate in Formula Year t plus three percentage points; or

where K_t (taking no account of $I_{F,t}$ for this purpose) has a negative value, the Average Specified Rate in Formula Year t.

*Draft Licence Modifications to implement Agreement April 07*2.3.10 Review Process & Disapplication Notices

Conditions 2.3.10 to 2.3.13 set out the process by which the core terms of the price control will be established by the Authority from time to time.

2.3.11 The Review

The Designated Parameters and the Determination Values applying in respect of each Formula Year t will be established in accordance with the process set out below (a “Review”).

A Review will take place at scheduled intervals by reference to the end of Formula Year $t=n$.

2.3.12 Terms Relevant to Reviews

In respect of each Review:

- (a) m , n and q are those Designated Parameters set out in Condition 2.3.21 as established at the preceding Review; and
- (b) a is, in respect of any quantifiable term, the most recent Formula Year in respect of which the Licensee has submitted an Actual Value for such a term for the purposes of Conditions 2.3.14 to 2.3.19.

2.3.13 Reviews Generally

In respect of each Review:

- (a) the Licensee shall provide to the Authority the Best Available Values required in accordance with Conditions 2.3.14 to 2.3.19, together with the Licensee’s proposed Designated Parameters for that Review, by the date occurring 15 months prior to the end of each Formula Year $t = n$.
- (b) the Authority will determine the Determination Values and the Designated Parameters that apply in those Formula Years t occurring during the period $t = n+1$ to $t = q$ (inclusive) and in doing so:
 - (i) the Authority shall have due consideration for the Best Available Values and proposed Designated Parameters submitted by the Licensee; and

Draft Licence Modifications to implement Agreement April 07

- (ii) base its determination of the Determined Revenue Per Therm for each Conveyance Category on the underlying calculations contained in Conditions 2.3.14 to 2.3.19;
- (c) the Authority shall, following its determination, give notice in writing to the Licensee of the Determination Values and the Designated Parameters that it proposes to apply in those Formula Years $t=n+1$ to $t=q$ inclusive (a "Determination Notice");
- (d) where the Licensee considers that the Authority's proposals in a Determination Notice would not be acceptable:
 - (i) the Licensee may within 28 days of the date of the Determination Notice request the Authority by notice (a "Review Disapplication Notice") not to establish the Determination Values and Designated Parameters set out in the Determination Notice and where such notice is given the Determination Values and Designated Parameters established by the preceding Review shall continue to apply;
 - (ii) where following the giving of a Review Disapplication Notice the Authority does not by the date falling 56 days after the date of the Review Disapplication Notice make a reference to the Competition Commission under Article 15 of the Order relating in whole or in part to a modification of this Condition 2.3.8, the Determination Notice shall have no effect and the Determination Values and Designated Parameters established at the preceding Review shall continue to apply; and
 - (iii) in the event of such a reference to the Competition Commission under (ii) above, this Condition 2.3 may be modified in accordance with the Order and in the manner specified in the report of the Competition Commission;

- Draft Licence Modifications to implement Agreement April 07*
- (e) without prejudice to paragraph (d) and to Article 14 of the Order, with effect from the first day of the Formula Year $t=n+1$ the effect of a Determination Notice given under paragraph (c) shall be such that:
- (i) the Determination Values set out in the Determination Notice shall apply for the purposes of and operation of this Condition 2.3 in relation to Formula Years $t=n+1$ to $t=q$;
 - (ii) Condition 2.3.21 shall be modified to include the Designated Parameters contained in the Determination Notice
- in each case in substitution for and instead of the Determination Values and Designated Parameters established by the preceding Review.

2.3.14 Establishing the Best Available Values

For the purposes of Condition 2.3.8 the following Best Available Values shall be submitted by the Licensee, in respect of each Formula Year t from $t=a$ submitted at the preceding Review up to and including $t=q$ for the current Review. These Best Available Values shall comprise Actual Values in respect of the Formula Years up to $t=a$ for the current Review, and the Licensee's best estimate or forecast in respect of the Formula Years from $t=a+1$ to $t=q$ (inclusive).

The Best Available Values are:

$V_{B,i,t}$	Best Available Volume in Formula Year t for Conveyance Category i ;
$C_{B,t}$	Best Available Capital Expenditure in Formula Year t ;
$O_{B,t}$	Best Available Operating Expenditure in Formula Year t ;
$D_{B,t}$	Best Available Annual Depreciation in Formula Year t ;
$Q_{B,t}$	Best Available Working Capital for Formula Year t ; and
$RPI_{B,t}$	Best Available Value of the Retail Prices Index for September of that Formula Year.

Draft Licence Modifications to implement Agreement April 07

To the extent the Best Available Values comprise monetary amounts, the Licensee shall express each such value in constant price terms (calculated in accordance with this Condition 2.3.14). For each of the Best Available Values submitted in respect of Formula Years $t=a+1$ to $t=q$ (inclusive), constant price terms shall mean that such forecasted values are all stated in the same money of the day terms as at the time they are all forecasted. For each of the Best Available Values submitted in respect of Formula Years up to $t=a$, constant price terms shall mean that such Actual Values are all converted to the same money of the day terms by multiplying the Actual Value by the following ratio:

$$\frac{RPI_B}{RPI_{B,t}}$$

Where RPI_B is the Licensee's proposed value for the Designated Parameter, to apply to each of the Formula Years that are the subject of the current Review. It is the base reference point for the Retail Prices Index and will reflect the money of the day terms in which those Best Available Values that are forecasts were forecasted.

In complying with this obligation under Conditions 2.3.14 to 2.3.19 the Licensee shall submit full workings of the calculations and figures upon which its values and calculations are based.

2.3.15 Establishing Best Available Revenue Per Therm

In addition to the Best Available Values referred to in Condition 2.3.14, the Licensee shall, at each Review, also submit Best Available Revenue Per Therm values for each Formula Year t that is to occur during the period $t=n+1$ to $t=q$ (inclusive) for that Review. The Licensee shall provide Best Available Revenue Per Therm values for each Conveyance Category and for each such Formula Year ($P_{B,i,t}$).

Conditions 2.3.15 to 2.3.19 set out the Best Available Value categories and the underlying calculations upon which the Licensee should base its values of $P_{B,i,t}$.

The Licensee shall estimate values for the Best Available Revenue Per Therm ($P_{B,i,t}$) so that:

Draft Licence Modifications to implement Agreement April 07

- (a) such values comply with the requirements set out in this Condition 2.3.15;
- (b) the value for each Conveyance Category i will not, unless otherwise agreed with the Authority, differ between Formula Years t .

Each value of $P_{B,i,t}$ shall be set so that the cash flow (adjusted to reflect the allowed rate of return) over the Formula Years in question is equal to the difference between the Total Regulatory Value at the end of Formula Year n and the Depreciated Asset Value and Working Capital at the end of Formula Year q . This will be shown to be the case where the values of $P_{B,i,t}$ secure the following net present value result:

$$\sum_{t=n+1}^q \left(\frac{F_{B,t}}{(1+r_B)^{t-n}} \right) - TRV_{B,n} + \frac{DAV_{B,q} + Q_{B,q}}{(1+r_B)^{q-n}} = 0$$

For the purposes of Condition 2.3.15, the following terms shall have the following meanings:

n, q are Formula Years as defined in Condition 2.3.12. As the value of the Designated Parameter q for that Review is also being established as part of that Review, it will necessarily be the Licensee's proposed value of that Designated Parameter;

$\sum_{t=n+1}^q$ is the summation of data in respect of all Formula Years t from $t=n+1$ to $t=q$ inclusive;

$F_{B,t}$ is the Best Available Cash Flow for Formula Year t , (being a sum calculated in accordance with Condition 2.3.16);

r_B is the Licensee's proposed value of the Designated Parameter for rate of return to apply to each of the Formula Years within the relevant period. Provided that, where the Licensee does not propose the same value for each of the relevant Formula Years, $(1+r_B)^{t-n}$ shall be replaced with $(1+r_{B,n+1}) \cdot (1+r_{B,n+2}) \dots (1+r_{B,t})$ and $(1+r_B)^{q-n}$ shall be treated accordingly;

Draft Licence Modifications to implement Agreement April 07

$DAV_{B,t}$ is the Best Available Depreciated Asset Value for Formula Year t (being a sum calculated in accordance with Condition 2.3.17); and

$TRV_{B,n}$ is, the Best Available Total Regulatory Value at the end of Formula Year $t=n$ (being a sum calculated in accordance with Condition 2.3.18).

2.3.16 Calculating $F_{B,t}$ (Cash Flow)

$F_{B,t}$ is an amount equal to the sum of the Best Available Conveyance Revenues for all of the Conveyance Categories and the relevant Formula Year, less the Best Available Capital Expenditure for that Formula Year, less the Best Available Operating Expenditure for that Formula Year, adjusted (where applicable) for the Best Available Movement in Working Capital for that Formula Year, which shall be calculated as follows:

$$F_{B,t} = \sum_i (P_{B,i,t} \cdot V_{B,i,t}) - C_{B,t} - O_{B,t} - Q'_{B,t}$$

where $Q'_{B,t}$ is the difference between the Best Available Working Capital for Formula Year t and the Best Available Working Capital for Formula Year $t-1$, which shall be calculated as follows:

$$Q'_{B,t} = Q_{B,t} - Q_{B,t-1}$$

2.3.17 Calculating $DAV_{B,t}$ (Depreciated Asset Value)

$DAV_{B,t}$ is an amount equal to the indexed, depreciated, rolled forward value of the Depreciated Asset Value to date, measured at the end of each Formula Year. In respect of Formula Year $t=2006$, $DAV_{F,t} = \text{£}316.3\text{m}$. In respect of Formula Year t from 2007, it shall be the value of such amount applying to Formula Year $t-1$, plus the Best Available Capital Expenditure in Formula Year t , less the Best Available Annual Depreciation in Formula Year t , which shall be calculated as follows:

$$DAV_{B,t} = DAV_{B,t-1} + C_{B,t} - D_{B,t}$$

*Draft Licence Modifications to implement Agreement April 07*2.3.18 Calculating $TRV_{B,n}$ (Total Regulatory Value)

$TRV_{B,n}$ is the Best Available Total Regulatory Value at the end of Formula Year $t = n$. It is the sum of the Best Available Depreciated Asset Value for Formula Year $t = n$ (or in other words the opening position at the beginning of Formula Year $t = n+1$), plus the Best Available Working Capital for Formula Year $t = n$ (or in other words the opening position at the beginning of Formula Year $t = n+1$), plus the Best Available Profile Adjustment as follows:

$$TRV_{B,n} = DAV_{B,n} + Q_{B,n} + PA_{B,n}$$

Where:

$PA_{B,n}$ is the Profile Adjustment (being an adjustment calculated in accordance with Condition 2.3.19), and

$Q_{B,t}$ is treated as a pass-through and is corrected to actuals at the end of each Review Period.

2.3.19 Calculating the Profile Adjustment

The Profile Adjustment is an adjustment to reflect the long-term nature of the price control set out in this Condition 2.3. The Determined Revenue Per Therm values are established at each Review by reference to the period to Formula Year $t=q$ and not by reference to the period to Formula Year $t=n$. At each Review therefore, it is necessary to recognise the financial impact of having set a deferred recovery profile at the previous Reviews, by allowing the value that has been deferred at the preceding Reviews to be included as part of the Total Regulatory Value within the current Review.

The Best Available Profile Adjustment for each Review shall be calculated as follows:

Draft Licence Modifications to implement Agreement April 07

$$PA_{B,n} = PA_{E,m} \cdot \frac{RPI_B}{RPI_E}$$

where $PA_{E,m}$ will have been Determined by the Authority at the preceding Review.

$PA_{E,m}$ will have been calculated by the Authority as follows:

$$PA_{E,m} = - \left(\begin{array}{l} \sum_{t=m+1}^n F_{E,t} \cdot (1+r_E)^{n-t} \\ -TRV_{E,m} \cdot (1+r_E)^{n-m} \\ +DAV_{E,n} + Q_{E,n} \end{array} \right)$$

Where:

m, n are Formula Years as defined in Condition 2.3.12;

$\sum_{t=m+1}^n$ is the summation of data in respect of all Formula Years from $m+1$ to n

(inclusive);

$F_{E,t}, r_{E,t}, TRV_{E,m}, DAV_{E,n}, Q_{E,n}$ are Determination Values and Designated Parameters established by the Authority at the previous Review in respect of Formula Years t, m or n (respectively);

r_E is the Designated Parameter for rate of return that applies to each of the Formula Years within the relevant period. Provided that, where the Authority did not establish the same value for each of the relevant Formula Years, $(1+r_E)^{n-t}$ shall be replaced with $(1+r_{E,t+1}) \cdot (1+r_{E,t+2}) \dots (1+r_{E,n})$ and $(1+r_E)^{n-m}$ shall be treated accordingly.

2.3.20 Closing Regulatory Value

Draft Licence Modifications to implement Agreement April 07

If $DAV_{E,t=q} > 0$, this value shall be returned to the Licensee in those Formula Years following $t = q$, in accordance with the principles determined by the Authority at that time, such principles to provide (inter alia) for an allowed rate of return and depreciation rate.

2.3.21 Current Designated Parameters

The Designated Parameters to apply in the first Formula Year and in each subsequent Formula Year up to and including Formula Year 2011 shall be:

Designated Parameter	Value
r_t	0.075
m	2006
n	2011
q	2046
RPI	200.1

*Draft Licence Modifications to implement Agreement April 07*2.3.22 Definitions and Interpretation

In this Condition 2.3, the following terms and expressions shall have the meanings attributed to them below:

- “Actual” used as an adjective in relation to another defined word or phrase, means the Actual Value to be attributed to it;
- “Actual Value” means, in relation to any quantifiable term and in respect of any Formula Year t , a value that is established as the accurate value to be attributed to that term at the end of that Formula Year by reference to verifiable data in the possession of the Licensee. An Actual Value is denoted in the terms of formulae in this Condition 2.3 by the use of an F subscript;
- “Average Conveyance Revenue per therm” means Total Conveyance Revenue in a Formula Year divided by the Total Volume in that Formula Year;
- “Average Specified Rate” means, in respect of a Formula Year, the average of the daily base rates of Northern Bank plc expressed as a percentage (or if such a rate ceases to be published, such other comparable rate as the Authority may specify)
- “Allowed Revenue” means, in respect of Conveyance Category i in Formula Year t , the Determined Revenue Per Unit multiplied by the Actual Volume in respect of that Conveyance Category in that year;
- “Annual Depreciation” means the annual depreciation of those assets included within the Depreciated Asset Value, allocated on a systematic basis over the useful lives of such assets, using policies and asset life assumptions approved by the Authority. The Depreciated Asset Value for 2006 shall be depreciated on a straight-line basis using a 40 year

Draft Licence Modifications to implement Agreement April 07

- asset life;
- “Best Available” used as an adjective in relation to another defined word or phrase, means the Best Available Value to be attributed to it;
- “Best Available Value” means, in relation to any quantifiable term, a value for which the Licensee is required to provide best available information in accordance with Condition 2.3.14 or 2.3.15 and which, in respect of past Formula Years and to the extent possible, is based on Actual Values, and otherwise is a forecast best estimate. A Best Available Value is denoted in the terms of formulae in this Condition 2.3 by the use of a *B* subscript;
- “Capital Expenditure” means that capital expenditure for the development, construction, maintenance and operation of the Network in order to provide conveyance services in an economically efficient and safe manner given forecast development, including but not limited to the capital costs of standard credit and prepayment gas meters which the Licensee may be required to provide under Condition 2.6.1 and payments which may be made by the Licensee under Conditions 2.6.2(a)(ii) and 2.6.3(a)(ii) and expenditure on capital works by the Licensee undertaken by affiliates or related undertakings, but excluding costs which may be recoverable by the Licensee under Conditions 2.4, 2.6.2(a)(i) and 2.6.3(a)(i);
- “Conveyance Category” means a particular group of customers defined for the purposes of calculating the maximum allowable average conveyance revenue per therm, the four categories being:

Draft Licence Modifications to implement Agreement April 07

1. domestic - firm gas demand of less than 2,500 therms per annum which uses distribution pipe-line for conveyance;
2. small and medium industrial and commercial - firm gas demand of 2,500 - 25,000 therms per annum which uses distribution pipe-line for conveyance;
3. large industrial and commercial - firm gas demand of over 25,000 therms per annum which uses distribution pipe-line for conveyance;
4. interruptible - gas demand which can be interrupted under the terms of the supply contract and which uses distribution pipe-line for conveyance;

“Designated Parameters” means those parameters set out in Condition 2.3.25, the applicable values from time to time for which are set out in Condition 2.3.21; and those parameters that have been established (subject to any restrictions imposed under Condition 2.3.25) as such by the Authority in accordance with Conditions 2.3.11 to 2.3.13 (highlighted by use of the E subscript); and, in respect of Best Available Values, the Licensee’s proposed values for those parameters (highlighted by use of the B subscript). The Designated Parameters set at one Review will apply unless and until revised at the next Review. Unless a Designated Parameter has a t subscript, the value set at a Review must be the same for each Formula Year in the period $t=n+1$ to $t=q$;

“Determined” used as an adjective in relation to another defined word or phrase, means the Determination Value to be

Draft Licence Modifications to implement Agreement April 07

attributed to it;

“Determination Notice” means a notice given in accordance with Condition 2.3.13 (c);

“Determination Value” means, in respect of each Formula Year t , a value that has been determined by the Authority to apply in respect of that Formula Year in accordance with Condition 2.3.13. A Determination Value is denoted in the terms of formulae in this Condition 2.3 by the use of an E subscript;

“Formula Year” means a year commencing on 1 January;

“Operating Expenditure” means that operating expenditure for the development, construction, maintenance and operation of the Network to provide conveyance services in an economically efficient and safe manner given forecast development and throughput, including but not limited to the charge for commissioning gas, such commissioning gas to be purchased on an economic basis, and including but not limited to the installation and operating costs of standard credit and pre-payment gas meters which the Licensee may be required to provide under Condition 2.6.1, and payments which may be made by the Licence under Conditions 2.6.2(ii) and 2.6.3(ii) and the charges for services to the Licensee by affiliates or related undertakings of the Licensee, but excluding costs which may be recoverable by the Licensee under Conditions 2.4, 2.6.2(i) and 2.6.3(i). For the avoidance of doubt, allowed operating expenditure shall include but not be limited to the charge for gas purchased from companies affiliated to the Licensee for the purpose of operating the

Draft Licence Modifications to implement Agreement April 07

	Network, such purchases to be on an economic basis;
“Retail Prices Index” or “RPI”	means the General Index of Retail Prices published by the Office of National Statistics each month in respect of all items; or (a) if the Index for the specified month in any year shall not have been published on or before the last day of the sixth month after the specified month, such index for such month or months as the Authority may after consultation with the Licensee determine to be appropriate in the circumstances; or b) if there is a material change in the basis of the Index, such other index as the Authority may after consultation with the Licensee determine to be appropriate in the circumstances;
“Revenue Per Therm”	means, in respect of any Formula Year <i>t</i> , the Total Conveyance Revenue for that Formula Year divided by the Total Volume for that Formula Year;
“Review”	has the meaning attributed to it in Condition 2.3.11;
“Review Disapplication Notice”	means a notice given in accordance with Condition 2.3.13 (d);
“Total Conveyance Revenue”	means the revenue (measured on an accruals basis) derived by the Licensee from the provision of conveyance services after deduction of value added tax (if any) and any other taxes based directly on this revenue;

Draft Licence Modifications to implement Agreement April 07

- “Total Volume” means the aggregate quantity of gas, in therms, taken off the Network as a result of arrangements with gas suppliers in the Formula Year;
- “Working Capital” means, in respect of each Formula Year and to the extent only that they relate to the Controlled Charges:
- (i) any monies due to the Licensee, at the end of that Formula Year; plus
 - (ii) any payments by the Licensee that, at the end of that Formula Year, constitute prepayments; plus
 - (iii) any grants that are, at the end of that Formula Year, still due to the Licensee; less
 - (iv) any monies due from the Licensee, at the end of that Formula Year; less
 - (v) any payments to the Licensee that, at the end of that Formula Year, constitute prepayments.

In this Condition 2.3, “revenue”, “expenditure”, “debtors”, “prepayments”, “creditors” and “accruals” are the amounts that are confirmed by the Licensee as relating to the Licensee’s Separate Business of conveying gas by distribution pipe-lines for each period in question.

2.3.23 Determination Values

The Determination Values to apply in the first Formula Year (year $m+1$) and in each subsequent Formula Year up to and including Formula Year n shall be as notified by the Authority to the Licensee in accordance with Condition 2.3.13.

2.3.24 Best Available Values, Determination Values and Actual Values

Draft Licence Modifications to implement Agreement April 07

Description	Best Available Values	Determination Values	Actual Values
Volume (for Conveyance Categories <i>i</i>)	$V_{B,i,t}$	$V_{E,i,t}$	$V_{F,i,t}$
Capital Expenditure	$C_{B,t}$	$C_{E,t}$	
Operating Expenditure	$O_{B,t}$	$O_{E,t}$	
Annual Depreciation	$D_{B,t}$	$D_{E,t}$	
Cash Flow (calculated in accordance with Condition 2.3.16)	$F_{B,t}$	$F_{E,t}$	
Working Capital	$Q_{B,t}$	$Q_{E,t}$	
Revenue Per Therm (for Conveyance Categories <i>i</i>)	$P_{B,i,t}$	$P_{E,i,t}$	$P_{F,i,t}$
Depreciated Asset Value (calculated in accordance with Condition 2.3.17)	$DAV_{B,t}$	$DAV_{E,t}$	
Total Regulatory Value (calculated in accordance with Condition 2.3.18)*	$TRV_{B,n}$	$TRV_{E,m}$	
Profile Adjustment (calculated in accordance with Condition 2.3.19)*	$PA_{B,n}$	$PA_{E,m}$	

* at end of Formula Year *n* (for the Review in which Best Available Values are being submitted) or at the end of Formula Year *m* (on and following determination of Determination Values for that Review).

2.3.25 Designated Parameters

Description	Designated Parameters	Limitation to the application of re-designated values

Draft Licence Modifications to implement Agreement April 07

Rate of return	r_t	Means a pre-tax rate of return of 7.5% up to and including Formula Year 2016 applied to real cashflows, after which time it may be reviewed by the Authority;
Trigger for Reviews (as defined in Condition 2.3.11)	n	A Formula Year
The Formula Year that was n for the preceding review	m	A Formula Year
The forecasting horizon for review calculations (as defined in Condition 2.3.12)	q	Shall be the Formula Year 2046 until 2041, after which time it may be the Formula Year 2046 or any Formula Year after 2046
The indexation base *	RPI	None

* which will, in respect of the Determination Values determined at the Review in question, reflect the prices in which those Determination Values are expressed. It can therefore be used, in conjunction with $RPI_{F,t}$, to adjust the Determined Revenue Per Therm value to allow for changes in the Retail Prices Index in the period since the value of the Determined Revenue Per Therm was determined.

Key to other formula parameters:

a subscript to denote a Formula Year as defined in Condition 2.3.12;

B subscript to denote a Best Available Value;

C_t Capital Expenditure in Formula Year t ;

E subscript to denote Determination Values;

F subscript to denote Actual Values;

Draft Licence Modifications to implement Agreement April 07

- i subscript to denote a Conveyance Category;
- I_t Average Specified Rate in Formula Year t
- m subscript to denote a Formula Year as defined in Condition 2.3.12;
- Q_t Working Capital in Formula Year t
- Q'_t Movement in Working Capital in Formula Year t ;
- O_t Operating Expenditure in Formula Year t ;
- PA_t Profile Adjustment (calculated in accordance with Condition 2.3.19) in Formula Year t ;
- RPI_E, RPI_B Retail Prices Index base reference points (as defined in Conditions 2.3.8 and 2.3.14);
- $RPI_{F,t}$, Retail Prices Index value for September of Formula Year = t ;
- t subscript to denote any Formula Year;
- $Z_{F,i,t}$ the Actual Value for accumulated under or over-recoveries for Formula Year t and Conveyance Category i (calculated in accordance with Condition 2.3.9).