



Northern Ireland Authority for Utility Regulation

**Phoenix Natural Gas Licence Further Restructuring; Licence
Modifications to Replace the Volume Revenue Driver with a Part Fixed,
Part Connections Revenue Driver**

A DECISION PAPER

June 2009

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Introduction,

1. The Northern Ireland Authority for Utility Regulation (öThe Authorityö) issued a consultation paper on the 3rd April 2009 on proposed modifications to the license granted to Phoenix Natural Gas Ltd (öThe Licenseeö,) namely Part 2 Condition 2.3: Conveyance Charges, Other Terms for the Conveyance of Gas and the provision of Conveyance Services. http://www.niaur.gov.uk/uploads/news/2009-04-03_Phoenix_Revenue_Control_Licence_Mods.pdf
2. The proposals set out a change from the inherent incentive on the licensee to maximise volume of gas consumed to an incentive to maximise connections to the network. Two responses were received (CCNI and Airtricity) both of which supported the proposals. The responses are included at Appendix 1 together with Utility Regulator comment issues raised in the responses.

Decision

3. In pursuance of its powers under Paragraph 1 of Article 14 of the Gas (Northern Ireland) Order 1996 (the öOrderö), and having complied with the provisions of Article 14 (3) and 14 (4) of the Order, the Authority, with the consent of the Licensee, hereby modifies the licence for the conveyance of gas in Northern Ireland granted in 1996 to the Licensee under Article 8 (1) (a) of the Order.
4. The modification comes into effect on Friday 5th June 2009. The modified Condition 2.3 is included at Appendix 2.

Background and Context

5. The Belfast gas market has grown to over 122,000 connections in a 12 year period. Although the penetration rate in the domestic owner-occupied sector currently sits at approximately 30% and at 50% in the small I&C sector, further significant levels of connections are required in future years in order to reach the ultimate penetration levels.
6. The Authority is keen to ensure Phoenix Natural Gas Ltd. (PNG) is adequately incentivised to maximise connections to its network in future. This has long term benefits for all customers in reducing average network costs and furthers our objective to promote development of the gas industry.
7. In April 2007 the Authority consulted on proposed modifications to the price control conditions to give effect to the fundamentals of the licence restructuring agreement between the Authority and PNG reached in November 2006 as it applies to the distribution network; http://www.niaur.gov.uk/uploads/publications/Phoenix_Gas_price_control_conditions_consultation_April_07.pdf

8. Subsequently the third conveyance price control review set allowed costs for the period 2007-2011. A public information document was issued in February 2008 setting out the results of the review; <http://www.niaur.gov.uk/uploads/publications/PNG - Public Determination.pdf>
9. During the price control review, PNG proposed a move from the current mechanism whereby it is incentivised to maximize volumes in order to maximize distribution revenues (öweighted average revenue yield) to one where allowed distribution revenues are capped and a correction mechanism to reconcile revenues as a result of differences between actual and forecast volumes (öfixed revenue controlö) is introduced¹.
10. In the previous price control period throughput fluctuated around forecasts in response to weather and wholesale gas prices both of which are outside the control of the PNG.
11. The Authority considers that a volume revenue driver in the distribution business is not appropriate and does not necessarily deliver the optimum outcome for customers.
12. The Authority also considers that a connections driver in the sectors where further significant levels of connections are required to reach the ultimate forecast penetration levels is more appropriate in developing the market with benefits for customers via a larger customer base.
13. In designing the connections incentive mechanism, the determined forecast connections as well as marketing and incentives allowances have be taken into consideration.

Connections Incentive

14. The connections incentive scheme will operate as set out below.
15. The agreed methodology is an incentive scheme that considers the benefits in the context of revenue cap control methodology. The revenue generated by additional connections (or foregone due to a shortfall in new connections relative to forecast) would pass directly to customers in reduced/increased distribution charges in following years, all else being equal.
16. Customers will benefit if total cumulative connections at the end of the final year of the control period is greater than forecast.

¹ Over-recoveries of revenue will be rolled forward and returned to customers at the 7.5% rate of return currently specified within the PNG licence. Under-recoveries will be rolled forward at the base rate plus 1.5%.

17. We have determined that a scheme design based on the additional or shortfall revenue generated by a variance in forecast connections in the sectors included in the scheme is appropriate for PNG.

Scheme Design

18. We have included the following sectors in the incentive mechanism as we believe PNG has some control in maximising connections in these sectors.

Owner Occupier - defined in the PNG licence as the group of customers within Conveyance Category $i=1$, Conveyance Subcategory $j=1$.
Tariff I&C <2,500 - defined in the PNG licence as the group of customers within Conveyance Category $i=1$, Conveyance Subcategory $j=4$.

19. The scheme is designed to ðshareö the additional/shortfall revenue per connection between PNG and customers up to a maximum of 100%. We determine the revenue per connection over the control period based on forecast average consumption and determined distribution charges for each of the sectors included in the scheme. This will mean that for any given outcome in new connections the value of the incentive is pre-determined. The incentive value will increase (linearly) with additions/shortfalls in any year accepting increasing marginal effort in achieving additions and decreasing marginal effort in shortfalls.
20. The design assumes that PNG can control the level of new connections to a degree. The degree of control is assumed greater for shortfalls than for additions. Further, there is a floor of zero to the level of shortfall whereas there is, theoretically no limit to the upside. For this reason we consider that an asymmetry in the penalty for shortfalls and the reward for additions to baseline is appropriate. That is, the penalty for shortfalls relative to baseline is larger than the reward for additions to baseline for a given number of connections. We have enshrined the principle that the penalty for falling below baseline should be relatively small, and similar in magnitude to the reward, close to the baseline but rise the further it gets from baseline.
21. The incentive shall apply to new connections only and not to re-connections.

Appendix 1: Responses to Consultation and Utility Regulator Comments

CCNI Response

The Consumer Council welcomes the opportunity to respond to the consultation paper on Phoenix Natural Gas (PNG) Licence Further Restructuring: Proposed Licence Modifications.

The Consumer Council, in principle, is supportive of NIAUR's proposal to replace the volumes based incentive with a connections based incentive.

We recognise that consumers will benefit from a scheme which incentivises PNG to increase the number of connections to the gas network. With more consumers connected to the gas network, it is likely that this will result in a lower distribution charge per customer.

Further, we acknowledge that there are energy efficiency benefits from replacing an incentive scheme based on the amount of volumes of gas burned. Therefore we consider it appropriate that this is replaced with a connections based incentive.

Airtricity Response

Airtricity is responding to the Authority's recent consultation on changing the PNG price control to provide a connection incentive rather than volume-based revenue.

We strongly agree with the principle of a connection incentive, for both the resulting DUoS charge benefit to existing customers and for the environmental benefit of substituting natural gas for higher carbon fuels. However we believe that the opportunity should be taken at the same time to make some additional licence changes to improve transparency.

To improve the ability of suppliers to offer longer-term contracts, we believe that PNG should be required to publish information on its price control determinants at (quarterly) intervals throughout the year. This would assist suppliers in forecasting gas transport costs and provide an early indication of significant k-factor adjustments. When combined with readily-available information on forward gas prices, additional transparency of pipes charges will assist customers with budgeting for their energy costs. As PNG is a monopoly in its own area, we do not believe that this level of transparency could adversely affect the commercial interests of PNG; potentially it could be a positive publicity asset.

Utility Regulator Comment

The Authority is committed to facilitating competition in the gas supply market and ensuring that suppliers have all the information necessary to compete effectively. PNG are obliged by condition 2.3 of its conveyance licence to publish a conveyance charge statement by 1st October each year for the forthcoming year (see condition 2.3.2. at

appendix 2 to this document). Thus conveyance charges are known three months in advance for the following year. The charges set out in the statement incorporate all known factors including k factor at the time of publication.

Appendix 2: Modified Condition 2.3

Condition 2.3: Conveyance Charges, Other Terms for the Conveyance of Gas and the provision of Conveyance services

2.3.1 Determination of conveyance charges by the Licensee

Conveyance charges shall be determined by the Licensee in respect of Formula Year 1999 and each Formula Year thereafter and the Licensee shall subject to the provisions of Conditions 2.3.8, 2.3.14 and 2.3.7A, as the case may be, establish the methods and principles on which conveyance charges shall be determined for gas suppliers wishing and entitled (or entitled within the Formula Year in respect of which the methods and principles shall be determined or the next following Formula Year), to use the Network and the Licensee shall publish the same in accordance with Condition 2.3.2 provided that for the purposes of Condition 2.3.1(a) in establishing the methods and principles on which conveyance charges shall be determined the Licensee shall do so in a manner consistent with the subsequent application of the provisions of Condition 2.3.8.

2.3.2 Publication of conveyance charges and other terms for the conveyance of gas

Subject to Condition 2.3.3:

- (a) the licensee shall (no later than 1 October in each preceding year), for the forthcoming year, publish a statement of:
 - (i) its conveyance charging methodology for the use of the Network by gas suppliers for that forthcoming Formula Year, by which any such gas supplier may reasonably be able to calculate applicable conveyance charges; and
 - (ii) its other terms for the use by them of the Network (and in relation to the Network Code by reference to the Network Code);

in such manner as will secure adequate publicity for it; and

- (b) the Licensee shall send a copy of any such statement to any person who asks for one;

and subject to Condition 2.3.4(b) such statement shall clearly distinguish cases and classes of cases of gas supplier for whom the conveyance charging methodology may result in differing conveyance charges.

2.3.3 Approval of Authority to conveyance charges and other terms for the conveyance of gas

No later than one month and five working days before it intends to publish its statement under Condition 2.3.2 the Licensee shall notify the Authority of the contents of that statement, and:

- (a) provide the Authority with such information as will enable the Authority to be reasonably satisfied that the methodology and principles for the conveyance charges have been determined in accordance with the provisions of Condition 2.3.8;
- (b) provide the Authority with an explanation of the other terms for conveyance set out in the statement; and
- (c) prior to publication, obtain the Authority's approval to the form and content of that statement.

2.3.4 Charging for the conveyance of gas and prohibition on undue discrimination

The Licensee shall:

- (a) unless the Authority otherwise consents, not charge for the conveyance of gas in the Network during any Formula Year, or apply other terms for the conveyance of gas on any basis other than contained in its statement of conveyance charges published under Condition 2.3.2 in respect of that Formula Year;

- (b) not show any undue preference towards or undue discrimination against any gas supplier or case or classes of cases of gas supplier in the conveyance charges made or other terms for the conveyance of gas applied in relation to the Network; and
- (c) within 28 days of receiving a request for the quotation of conveyance charges for specified conveyance services by a gas supplier, provide the gas supplier with a specific statement of the conveyance charges and other terms for the conveyance of gas applicable to the conveyance services for which the gas supplier requested a quotation;

and for the purposes of Condition 2.3.4(c) and the Licensee's obligation to provide a specific statement of conveyance charges, a request for the quotation of conveyance charges for specified conveyance services shall be treated as such if it is in such form as the Licensee can reasonably be expected to provide a specific statement of conveyance charges in return.

2.3.5 Licensee's obligation to provide services for the conveyance of gas in accordance with the Network Code

The Licensee shall provide gas suppliers with conveyance services in accordance with the Network Code.

2.3.6 Resolution of Disputes

The Authority may, on the application of any person entitled (or claiming to be entitled) to require conveyance services by the Licensee, will refer the application in the first instance to the General Consumer Council who will try to resolve the dispute, provided the General Consumer Council shall give the Licensee not less than one month in which to make representations regarding such application: the General Consumer Council will settle any dispute between the applicant and the Licensee in so far as it relates to any of the following matters and at any time thereafter the Licensee shall provide a gas supplier with conveyancing services:

- (a) in accordance with the conveyance charges and/or other terms for the conveyance of gas, and where applicable the Licensee's connection charges, as determined by the Authority pursuant to it settling a dispute referred to the general Consumer Council in accordance with the above paragraph, and where the gas supplier is willing to accept the same and the Licensee has otherwise refused to provide such conveyancing services. If the General Consumer Council is unable to resolve the dispute the application will be referred back to the Authority. The Authority will try to resolve the dispute with reference to conditions 2.3.6 (a) and 2.3.6 (b)..
- (b) notwithstanding the provisions of Conditions 2.3.1 and 2.3.2, in accordance with a price determined by the Authority as will allow the Licensee to enjoy a revenue within the maximum amount recoverable under its conveyance charging methodology for the use of the Network by gas suppliers as may be realised under Conditions 2.3.8 and 2.3.14 as the case may be, and where applicable, the Licensee's connection charges, and on such other terms as the Authority reasonably considers appropriate in all the circumstances, including terms as to the Network Code, or as may establish, modify or amend a Network Code, where the Licensee's conveyance charges and other terms for the conveyance of gas and/or the Network Code:
 - (i) are insufficient to the reasonable satisfaction of the Authority for the conveyance services sought by the gas supplier;
 - (ii) the Licensee and gas supplier have been unable to reach agreement on appropriate terms; and
 - (iii) the gas supplier is willing to accept the Authority's determination;

provided that for the purposes of this Condition 2.3.6 the Authority is satisfied that any determination would not prejudice the efficient and safe operation of the Network or the conveyance by the Network of:

- (c) the quantities of gas which the Licensee requires or may reasonably be expected to require to be conveyed by the Network to enable the Licensee to comply with the conditions of the licence granted under paragraph 1(a) of the Grant; and
- (d) the quantities of gas of any person who has a right to have gas conveyed by the Network is entitled to require to be so conveyed in exercise of that right.

2.3.7 Additional duty to provide information

The Licensee shall advise the Authority by its report given under Condition 1.2 in respect of the immediately preceding Formula Year whilst that Condition applies, and thereafter by a report provided to the Authority no later than 1st March of each year for the immediately preceding Formula Year, of:

- (a) the number of separate arrangements with gas suppliers for gas conveyancing services provided; and
- (b) the volumes of gas offtaken from the Network by gas suppliers.

2.3.7A Direction by the Authority

(a) Where the Authority determines that it is necessary for the Licensee to revise:

- (i) the methods and principles on which it has determined the conveyance charges as provided in the Licensee's latest published statement; and/or

- (ii) the conveyance charges and other terms for the conveyance of gas determined and included in the latest published statement,

in order to ensure that they are (or continue to be) proportionate and applied in a non-discriminatory manner, the Authority may direct the Licensee to revise its methods, principles, charges or terms (as the case may be) in accordance with the provisions of the direction.

- (b) The Licensee shall comply with the requirements of any direction issued by the Authority under this Condition 2.3.7A and shall publish a revised statement in accordance with Condition 2.3.2.

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 *amount it recovers under its conveyance charging methodology for the use of the Network by gas suppliers* shall not exceed the *amount* calculated in accordance with the following formula:

$$M_t = (R_{E,t} + G_{F,t})(RPI_{F,t}/RPI_E) - K_t$$

where

M_t = the maximum amount recoverable under the Licensee's conveyance *charging methodology* in that Formula Year t ;

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

$$R_{E,t} = \text{the Determined Total Conveyance Revenue for that Formula Year } t$$
$$R_{E,t} = \sum_i (P_{E,i,t} \cdot V_{E,i,t})$$

$G_{F,t}$ = the Total Connections Incentive Revenue for Formula Year t
calculated in accordance with the following formula:

$\boxed{?}_{2,2}$ $\boxed{?}$ $\boxed{?}$ $\boxed{??}_{2,2,2,2}$ $\boxed{?}$ $\boxed{?}_{2,2,2,2}$ $\boxed{??}_{2,2,2,2}$
 $\boxed{??}$

where

$\sum_{i,j}$ = *the summation across all Conveyance Categories and Conveyance Subcategories where i is representative of a Conveyance Category and j of a Conveyance Subcategory;*

$N_{F,i,j,t}$ = *the actual number of New Connections in respect of Conveyance Category i and Conveyance Subcategory j for Formula Year t ;*

$N_{E,i,j,t}$ = *the Determined number of New Connections in respect of Conveyance Category i and Conveyance Subcategory j for Formula Year t ;*

$H_{E,i,j,t}$ = *the Determined Average Incentive Value in respect of Conveyance Category i and Conveyance Subcategory j and value of $(N_{F,i,j,t} - N_{E,i,j,t})$ for Formula Year t determined in accordance with the methodology agreed between the Authority and the Licensee;*

For the avoidance of doubt, the Connections Incentive shall apply from Formula Year 2008.

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 $RPI_{F,t}$, $V_{F,i,t}$, $N_{F,i,j,t}$, 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.

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
$$K_t = Z_{F,t-1} (1 + I_{F,t} / 100)$$

if
$$Z_{F,t-1} \text{ is greater than } -0.1(M_{t-1})$$

or
$$K_t = -0.1(M_{t-1})(1 + I_{F,t} / 100)$$

if
$$Z_{F,t-1} \text{ is less than or equal to } -0.1(M_{t-1})$$

where

$$Z_{F,t} = (M_{F,t} - (R_{E,t} + G_{F,t})(RPI_{F,t} / RPI_E)) + Z_{F,t-1}(1 + I_{F,t})$$

$M_{F,t}$ = the actual amount recovered by the Licensee under its conveyance charging methodology for the use of the Network by gas suppliers 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, r_t 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 *plus one and a half percentage points*.

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 2.3.22 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
 - (ii) base its determination of the Determined Revenue Per Therm for each Conveyance Category *and Determined Total Conveyance Revenue* 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;
- (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 2.3.22 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 <i>before adjustments for movements in Capital Creditors</i> in Formula Year t ;
$CC_{B,t}$	Best Available Capital Creditors 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 ;
$N_{B,i,j,t}$	Best Available number of New Connections in respect of Conveyance Category i and Conveyance Subcategory j for Formula Year t ;
$H_{B,i,j,t}$	Best Available Average Incentive Value in respect of Conveyance Category i and Conveyance Subcategory j and value of $(N_{F,i,j,t} - N_{E,i,j,t})$ for Formula Year t ; and
$RPI_{B,t}$	Best Available Value of the Retail Prices Index for September of that Formula Year.

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 and Total Conveyance Revenue

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 $(P_{B,i,t})$. *The Licensee shall provide Best Available Total Conveyance Revenue for each Conveyance Category $(R_{B,i,t})$ and for each such Formula Year $(R_{B,t})$ where*

$$R_{B,i,t} = P_{B,i,t} \cdot V_{B,i,t} \text{ and}$$

$$R_{B,t} = \sum_i R_{B,i,t}$$

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:

- (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, Working Capital and Capital Creditors 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:

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

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;

$DAV_{B,t}$ 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 Best Available *Total Conveyance Revenue* for the relevant Formula Year, less the Best Available Capital Expenditure *for that Formula Year, adjusted (where applicable) for the Best Available Movement in Capital Creditors* 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:

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

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:

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

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

$$CC'_{B,t} = CC_{B,t} - CC_{B,t-1}$$

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 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:

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

The Depreciated Asset Value at the end of Formula Year $t = n$ shall be subject to any direction that is set out in the Determination Notice for the preceding Review that relates to the treatment of the difference between the Actual Value of Capital Expenditure and the Determined Value of Capital Expenditure.

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 *Capital Creditors 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:

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

Where:

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

$Q_{B,t}$ and $CC_{B,t}$ are treated as a pass-through and are corrected to actuals at the end of each Review Period *as described in condition 2.3.23*.

In respect of Formula Year $t=2006$, $TRV_{F,t} = £312.8m$.

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:

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

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:

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

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);

$F_{E,t}$, $r_{E,t}$, $TRV_{E,m}$, $DAV_{E,n}$, $CC_{E,n}$, $Q_{E,n}$ 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

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 New Connections

The Licensee shall, at each Review, submit Best Available Values for the number of New Connections it expects in each Conveyance Category i and Conveyance Subcategory j in the period $t=n+1$ to $t=q$.

2.3.22 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

2.3.23 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 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)

“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 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 Creditors”

means, in respect of each Formula Year and to the extent that they relate to the Controlled Charges:

- (i) Any monies due from the Licensee, relating to Capital Expenditure, at the end of that Formula Year; plus
- (ii) Any payments due from the Licensee, relating to Capital Expenditure, that, at the end of that Formula Year, constitute accruals.

öCapital Expenditureö

means that capital expenditure in Formula Year *t* *before adjustments for Movements in Capital Creditors* 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”
and *“Conveyance*

means a particular group of customers defined for the purposes of calculating the maximum conveyance

Subcategory”

revenue and applying a connections incentive, the four Conveyance Categories i, and their Conveyance Subcategories j (where applicable) being:

i = 1 firm gas demand of less than 2,500 therms per annum which uses distribution pipe-line for conveyance;

Subcategories j:

j = 1 domestic owner occupied;

j = 2 domestic new build;

j = 3 domestic N.I.H.E;

j = 4 industrial and commercial

i = 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;

i = 3 large industrial and commercial - firm gas demand of over 25,000 therms per annum which uses distribution pipe-line for conveyance;

Subcategories j:

j = 1 firm gas demand of 25,000 - 75,000 therms per annum;

firm gas demand of over 75,000 therms per annum.i = 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 2.3.26, the applicable values from time to time for which are set out in Condition 2.3.22; and those parameters that have been established (subject to any restrictions imposed under Condition 2.3.26) as such by the Authority in accordance with Conditions 2.3.11 to 2.3.13 (highlighted by use of the <i>E</i> subscript); and, in respect of Best Available Values, the Licensee’s proposed values for those parameters (highlighted by use of the <i>B</i> subscript). The Designated Parameters set at one Review will apply unless and until revised at the next Review. Unless a Designated Parameter has a <i>t</i> 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 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 <i>t</i> , 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;

“New Connection”

*means a first time connection of a premises or site to the Network in Formula Year *t* and thus is one which has not previously contributed to the revenue of the Licensee for the conveyance of gas;*

“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 Licensee 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

	Network, such purchases to be on an economic basis;
öRetail Prices Indexö or öRPIö	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;
öRevenue Per Thermö	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;
öReviewö	has the meaning attributed to it in Condition 2.3.11;
öReview Disapplication Noticeö	means a notice given in accordance with Condition 2.3.13 (d);
öTotal Conveyance Revenueö	<i>means the allowed revenue for the conveyance of gas determined by the Authority;</i>
öTotal Volumeö	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 due from the Licensee that, at the end of that Formula Year, constitute accruals.

In this Condition 2.3, revenue, expenditure, debtors, prepayments, creditors and accruals *including Capital Creditors* are the amounts which are confirmed by the *auditors to be relevant to the provision of conveyance services within the meaning of this Licence and which are equal to such of those relevant amounts as have been included under appropriate headings in the financial statements of the Licensee's Separate Business of conveying gas to, through and within the Licensed Area as specified in Condition 1.3* for each period in question

2.3.24 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.

2.3.25 Best Available Values, Determination Values and Actual Values

Description	Best Available Values	Determination Values	Actual Values
Volume (for Conveyance Categories i)	$V_{B,i,t}$	$V_{E,i,t}$	$V_{F,i,t}$
Capital Expenditure	$C_{B,t}$	$C_{E,t}$	
<i>Capital Creditors</i>	$CC_{B,t}$	$CC_{E,t}$	
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)	$P_{B,i,t}$	$P_{E,i,t}$	$P_{F,i,t}$
<i>Total Conveyance Revenue</i>	$R_{B,t}$	$R_{E,t}$	

<i>Number of New Connections (for Conveyance Categories i and Conveyance Subcategories j)</i>	$N_{B,i,j,t}$	$N_{E,i,j,t}$	$N_{F,i,j,t}$
<i>Average Incentive Value (for Conveyance Categories i and Conveyance Subcategories j)</i>	$H_{B,i,j,t}$	$H_{E,i,j,t}$	
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).

2.3.26 Designated Parameters

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

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 ;

CC_t	<i>Capital Creditors in Formula Year t;</i>
CC'_t	<i>Movement in Capital Creditors in Formula Year t;</i>
E	subscript to denote Determination Values;
F	subscript to denote Actual Values;
i	subscript to denote a Conveyance Category;
j	<i>subscript to denote a Conveyance Subcategory;</i>
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).

