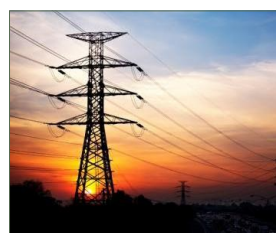


**Notice under Article 14(2) of the Gas  
(Northern Ireland) Order 1996**

**Proposed Modification to the Gas  
Conveyance Licence held by BGE (UK),  
Condition 2.2 Rate of Return provisions**

4<sup>th</sup> February 2016



# About the Utility Regulator

The Utility Regulator is the independent non-ministerial government department responsible for regulating Northern Ireland's electricity, gas, water and sewerage industries, to promote the short and long-term interests of consumers.

We are not a policy-making department of government, but we make sure that the energy and water utility industries in Northern Ireland are regulated and developed within ministerial policy as set out in our statutory duties.

We are governed by a Board of Directors and are accountable to the Northern Ireland Assembly through financial and annual reporting obligations.

We are based at Queens House in the centre of Belfast. The Chief Executive leads a management team of directors representing each of the key functional areas in the organisation: Corporate Affairs; Electricity; Gas; Retail and Social; and Water. The staff team includes economists, engineers, accountants, utility specialists, legal advisors and administration professionals.

## Our Mission

Value and sustainability in energy and water.

## Our Vision

We will make a difference for consumers by listening, innovating and leading.

## Our Values

Be a best practice regulator: transparent, consistent, proportional, accountable, and targeted.

Be a united team.

Be collaborative and co-operative.

Be professional.

Listen and explain.

Make a difference

Act with integrity.

## Abstract

This paper gives notice of amendments the Utility Regulator proposes to make to the gas conveyance licence held by BGE (UK). The proposed modification is to amend the parameters within which the Authority may set the Rate of Return on capital employed by the licence holder over a price control period. The reason for the modification is explained in this document which also sets out the text of the proposed change.

## Audience

This document is likely to be of interest to the licensee affected, other regulated companies in the energy industry, government and other statutory bodies and consumer groups with an interest in the energy industry.

## Consumer impact

The proposed modification will permit the Authority to set a rate of return which better reflects prevailing market conditions and the level of risk borne by the licence holder. Consumers will benefit from the more efficient allocation of capital that will follow the alignment of risk and return.

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## **NOTICE UNDER ARTICLE 14(2) OF THE GAS (NORTHERN IRELAND) ORDER 1996**

In pursuance of its powers under Article 14(1) of the Gas (Northern Ireland) Order 1996 (as amended) (the “Order”) the Northern Ireland authority for Utility Regulation (hereafter referred to as the Utility Regulator) hereby gives notice under Article 14(2) as follows:

1. The Utility Regulator proposes to modify the gas conveyance licence held by BGE (UK).
2. The proposed modification is to amend the parameters within which the Authority may set the Rate of Return on capital employed by the licence holder over a price control period.
3. The reason for the modification is explained in section 2 of this document.
4. The proposed modification is set out in Annex 1 of this document.
5. The purpose of this notice is to bring the proposed modification to the attention of persons likely to be affected by it, and to invite representations or objections in connection thereto. In line with Article 14(3) of the Order, any representations or objections with respect to the proposed modification may be made on or before 12.00 noon on 31 March 2016 to:

Graham Craig  
Utility Regulator  
Queens House  
14 Queens Street  
Belfast BT1 6ED

EMAIL: [graham.craig@uregni.gov.uk](mailto:graham.craig@uregni.gov.uk)

6. The Utility Regulator has, pursuant to Article 14(4) of the Order, served a copy of this notice on the licensee and sent a copy to the Department of enterprise Trade and Investment. The Utility Regulator has also sent a copy of this notice to the Consumer Council.
  
7. Dated this 4 February 2016.

## 1. Introduction

- 1.1. Our principal objective in carrying out the duties associated with our gas functions is to promote the development and maintenance of an efficient, economic and co-ordinated gas industry in Northern Ireland, and to do so consistently with our fulfilment of the objectives set out in the European Gas Directive<sup>1</sup>, and by having regard to a number of matters, as set out more fully in the Energy (Northern Ireland) Order 2003.
- 1.2. In line with these duties this document sets out proposals to modify the GNI(UK) rate of return licence conditions - Condition 2.2 Annex A Paragraph 5 'Rate of Return.'
- 1.3. This calculates the Weighted Average Cost of Capital (WACC) using the normal components, including the risk free rate, the cost of debt, the return on equity and the level of gearing. Of these, only the cost of debt is reviewed at each periodic review as the other components are fixed in condition 2.2. Section 2 explains that the changes made to the licence in 2008 to fix these components of WACC were made in return for an agreement by GNI(UK) to facilitate mutualisation.
- 1.4. For the reasons set out in section 2 of this document we consider that modifications to the rate of return licence conditions should be considered in advance of the commencement of the next price control period on 1 October 2017.
- 1.5. If the outcome of this consultation is that the licence is amended we will determine the price control which will apply to GNI(UK) from 1 October

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<sup>1</sup> Directive 2009/73/EC of the European Parliament and the Council of 13 July concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC

2017 to 30 September 2022 on the basis of the amended licence conditions.

1.6. This document has 4 sections as set out below:

- **Section 1** Introduction
- **Section 2** Rationale for the Modification Proposal
- **Section 3** Rate of return post 1 October 2017 – proposed approach
- **Section 4** Explanation of Proposed Licence Modification
- **Annex 1** Text of Proposed Licence Modification

1.7. Please note that on 1 August 2015 BGE (UK), the company to whom the gas conveyance licence was originally granted, became GNI (UK). We propose to change the name on the front cover of the licence at a later date as part of a wider housekeeping exercise that will cover all licence holders. For the purposes of this consultation we will refer to the licence holder as GNI (UK).

### *Responding to this consultation*

1.8. Responses to this consultation paper should be submitted by 12.00 noon on 31 March 2016. Responses should be sent to:

Graham Craig  
Utility Regulator  
Queens House  
14 Queens Street  
Belfast BT1 6ED



graham.craig@uregni.gov.uk

- 1.9. The Utility Regulator's preference would be for responses to be submitted by e-mail.
- 1.10. Individual respondents may ask for their responses (in whole or in part) not to be published, or that their identity should be withheld from public disclosure. Where either of these is the case, the Utility Regulator will also ask respondents to supply the redacted version of the response that can be published.
- 1.11. As a public body and non-ministerial government department, the Utility Regulator is required to comply with the Freedom of Information Act (FOIA). The effect of FOIA may be that certain recorded information contained in consultation responses is required to be put into the public domain. Hence it is now possible that all responses made to consultations will be discoverable under FOIA, even if respondents ask us to treat responses as confidential. It is therefore important that respondents take account of this and in particular, if asking the Utility Regulator to treat responses as confidential, respondents should specify why they consider the information in question should be treated as such.
- 1.12. This paper is available in alternative formats such as audio, Braille etc. If an alternative format is required, please contact the office of the Utility Regulator, which will be happy to assist.

## 2. Rationale for Modification Proposal

### *Current rate of return licence condition*

- 2.1. GNI(UK)'s current rate of return price condition is contained in condition 2.2, Annex A paragraph 5 of its licence.
- 2.2. This calculates the WACC using the normal components, including the risk free rate, the cost of debt, the return on equity and the level of gearing. However, in the GNI(UK) licence three of the components of WACC are not reviewed at each periodic review as they are fixed in condition 2.2.
- 2.3. The condition sets the rate which reflects the gearing effect at 0.38%. In addition the return on equity equals 15%, and the level of financial gearing is constant at 72.5%.
- 2.4. In effect the only component of the WACC which is reviewed at each periodic review is the cost of debt, of which the licence states the risk free rate is '*set to reflect market rates prevailing at the time of the review.*' Also, the market rate for debt premium, excluding gearing effect, of similar utilities at the time of the review.
- 2.5. The original GNI(UK) gas conveyance licence granted on 12 February 2002 provided the UR with a great deal of flexibility in the setting of the rate of return that the licence holder would receive during any price control period. GNI(UK) considered that these conditions resulted in too much uncertainty as to the regulatory context within which the North West Pipeline (NWP) was then being constructed.
- 2.6. Consequently, the rate of return components of the licence were the subject of extensive discussions between the UR and GNI(UK) from 2003 onwards.

These discussions attempted to balance GNI(UK)'s wish for certainty as to the value to it of its investment in Northern Ireland with the UR's wish to ensure that customers were not locked into inflexible long-term arrangements which result in customers paying more than the underlying costs justify.

2.7. The UR also had regard to the fact that one potential scenario for the development of the NI system was an all-island tariff regime or at the very least a single TSO in NI and that any agreement on rate of return should not be a barrier to either of these scenarios. Therefore mutualisation of GNI(UK) pipelines was discussed between the UR and GNI(UK) as an option in the absence of an all-island tariff regime. At the time mutualisation was understood to mean ownership of the assets by a company limited by guarantee which is funded by 100% debt finance.

2.8. The UR was satisfied that it had reached agreement with GNI(UK) in July 2004 that the ability to mutualise should be retained and could be triggered after 1 October 2008 if the UR could demonstrate:

- That it is in the economic interest of customers in NI;
- That there has been no progress on all-island tariffication; and
- That GNI(UK)'s economic stake in the development of the network is fairly remunerated and not prejudiced as a result of the foregoing.

2.9. Condition 2.2 of the licence was then changed in July 2008 and the three components of WACC, gearing ratio being the most significant, were fixed. This resulted in a higher rate of return for GNI(UK) than would otherwise have been the case, had GNI(UK) not agreed to facilitate mutualisation.

- 2.10. Since 2008 the UR and the CER progressed the Common Arrangements for Gas (CAG) project, including the implementation of all-island gas transmission tariffs. The CAG project did not conclude. Therefore during the 2012-17 price control review the Utility Regulator began a process of engagement with GNI (UK) to examine the possibility of progressing mutualisation. Alongside this, our price control determination made specific reference to the potential need for significant modification of the cost of capital licence conditions.
- 2.11. Discussions on mutualisation continued after the price control determination. While these discussions are ongoing and may yet progress, we must move forward with our preparatory work for the next price control for GNI(UK) in the interim.
- 2.12. We recognize that only GNI(UK) and its shareholder can decide whether the assets should be sold. However, in the absence of mutualisation we consider that the rationale for the current licence conditions should be reviewed to determine whether they continue to facilitate the best outcome for customers.

### ***Assessment of appropriateness of GNI(UK) rate of return licence conditions***

- 2.13. Over many years UK economic regulators have refined their approach to establishing an appropriate rate of return for the companies under regulation. In essence the objective is to set a rate of return that reflects not only current market conditions, both debt and equity, but also reflects the level of risk associated with an investment in the regulated company as

compared to systematic market risk. By setting rate of return in this way regulators balance their statutory duties to on the one hand protect the interests of consumers while on the other ensuring that the regulated company can adequately finance its regulated activities.

2.14. As set out in its Consultation Paper, Network Price Controls: Proposals for a Cross Utility Approach, September 2011, the Utility Regulator has adopted this approach to setting the rate of return component of price controls. It is recognised that the Utility Regulator has an additional statutory duty to facilitate the development of an efficient gas industry in Northern Ireland. This however does not conflict with the general approach set out above.

2.15. This same paper also discussed the ways in which UK regulators in general and the Utility Regulator in particular approached setting each of the three components used to calculate rate of return, cost of equity, cost of debt, and the debt: equity gearing ratio.

### **Cost of Debt**

2.16. The cost of debt that any company may incur can be observed from market data irrespective of whether that debt is in the form of bank loans or publicly traded corporate bonds. The company itself may have issued bonds in which the cost of debt is directly observable. In the absence of such data bonds issued by other companies with a similar credit rating can be used as a proxy for the likely cost of debt for the regulated company. Such observations can be made in real time which has allowed Ofgem for example to vary the allowed cost of debt during the current RIIO= T1 and GD1 price control periods, rather than setting an ex-ante value for the entire period.

- 2.17. Traditionally regulators would have split the cost of debt between the risk free rate, usually derived from gilts, and the risk premium, the value at which corporate bonds issued by companies of a given credit rating traded above gilts. Such an approach has fallen out of favour and regulators are now more inclined to consider the cost of debt as a single figure.
- 2.18. The current GNI (UK) licence builds the cost of debt up in the more traditional way, with the total cost of debt comprising the risk free rate, a debt premium and an addition adjustment to take account of the gearing ratio. When setting the cost of debt for the GNI (UK) price control we made use of the same data sources as had Ofgem in their RIIO –T1 and GD1 determinations, but rather than applying the data directly we had to disaggregate the cost of debt into its component parts so as to comply with the licence.
- 2.19. The current licence drafting is therefore not ideal in that it is based on a traditional bottom up approach to constructing the cost of debt rather than a more contemporary approach which applies directly observable data. The 2012-17 price control determination demonstrates this has not unduly constrained the Utility Regulator in meeting its statutory duties but it is an aspect of the licence that merits some review.

### **Cost of Equity**

- 2.20. Unlike the cost of debt the cost of equity has proved much less amenable to direct observation. Very few regulated companies issue shares which are traded on the stock market. Either these companies are privately owned or are part of a much larger group of companies whose share value reflects the value of the group as a whole rather than the single regulated

component part.

- 2.21. To overcome this difficulty UK economic regulators have applied the Capital Asset Pricing Model (CAPM) to calculate a company specific cost of equity. While other alternatives to CAPM have been developed by academic researchers, the CAPM approach remains the favoured approach by practitioners and economic regulators.
- 2.22. Stock market returns represent the returns investors expect. These are above the risk free rate as equity investment incurs systematic risk. By observing such returns over long periods and across the market as a whole it is possible to derive the return investors need above the risk free rate in return for exposing their equity to systematic risk. The company specific cost of equity is then calculated by comparing the company's exposure to systematic risk compared to that of the market as a whole, as measured by the equity beta.
- 2.23. Regulated companies have much less exposure to systematic risk than the market as a whole and so have an equity beta of less than 1.0. Consequently the equity returns required by investors are below average market returns.
- 2.24. The current GNI(UK) licence sets the cost of equity at 15% nominal (post tax) for the entire 25 year revenue recovery period. This clearly prevents the Utility Regulator from setting the cost of equity to reflect prevailing market conditions and/or the relative exposure to systematic risk. This limits the Utility Regulator's ability to meet its statutory duty to either protect consumers or ensure that the licence holder can finance itself.

2.25. The magnitude of this as an issue will depend on the divergence between the cost of equity in the licence and that which would have been generated by CAPM. The figure in the licence is 15% nominal which assuming a 2% rate of inflation equates to 12.75% real. The table below sets out the market rate of return on equity that UK regulators have assumed in recent price control decisions.

Table 1: Equity market return assumptions

Decision	Equity market return assumption	Year
CAA, Heathrow/Gatwick Airports	6.25%	2014
Competition Commission, NIE	6.5%	2014
Ofgem, RIIO-ED1	6.5%	2014
Ofwat, PR14	6.75%	2014
Ofcom, mobile networks	6.3%	2015
CMA, Bristol Water	6.5%	2015

2.26. Given this body of evidence an equity market return of 6.5% appears sensible; with a risk free rate of 1.25% this gives an equity premium of 5.25%. The table below sets out recent evidence with regard to a reasonable equity beta for a regulated company such as GNI(UK).

Table 2: Asset beta estimates

	Year	Regulator's estimates of asset beta
CC, GB regulated networks	2014	0.31 to 0.40
CC, NIE	2014	0.40
Ofgem, energy networks	2014	0.38
Ofwat, water and sewerage networks	2014	0.30
Commission for Energy Regulation, gas network	2012	0.35

2.27. Assuming a gearing of 55%, the range in table 2 would indicate that the cost of equity could be between 4.23% to 5.28% (post tax). The precise figures used in this calculation are open to dispute. What is not in dispute



however is that the cost of equity contained in the current licence is substantially above current market rates. That discrepancy is to the disadvantage of consumers.

- 2.28. The Utility Regulator could therefore more effectively carry out its statutory duties if the licence was modified such that it could set the cost of equity in line with prevailing market rates. As is the case with regard to the cost of debt.

### **Gearing**

- 2.29. Gearing reflects the mix of debt and equity funding a company uses to finance itself. Economic regulators have tended to set the gearing ratio at a level that Rating Agencies deem as being appropriate for the company to maintain a given credit rating.

- 2.30. The current GNI(UK) licence sets the gearing ratio at 72.5% for the entire 25 year revenue recovery period. This at first glance might not seem radically different from the gearing ratios assumed by economic regulators. A value of between 55% and 60% would be typical. However this must be seen in the context of GNI(UK) receiving a much higher cost of equity than other regulated companies. This should be reflected in a much higher gearing ratio as high cost equity is replaced by lower cost debt. Theory suggests that overall returns should not vary with the gearing ratio, however it is recognized that this theory is disrupted by the differing tax treatments of debt and equity.

- 2.31. It is likely that the current gearing ratio in combination with the high value put on equity is leading to a more generous allowance to GNI(UK) than is necessary to finance its activities. Consumers in effect are providing GNI

(UK) shareholders with greater returns than is necessary.

- 2.32. In addition recent experience with the financing of high pressure gas networks in NI provides clear evidence that the type of assets operated under the GNI(UK) licence can be financed using a one hundred per cent debt model.
- 2.33. For example, on 31 March 2008 the Belfast Gas Transmission Pipeline (BGTP), which began operations in 1998, was purchased from Phoenix Energy Holdings using one hundred percent debt finance. More recently, in February – May 2014, the successful applicant for the high pressure licence pipelines necessary to take gas to the west of Northern Ireland, Northern Ireland Energy Holdings (NIEH), based their financial model on one hundred per cent debt financing of the assets once operational through the issuance of a bond.
- 2.34. Like the BGTP, the GNI(UK) transmission pipeline assets have been operational for a number of years. No further capital expenditure will be required other than what might be regarded as ongoing operational maintenance. The licensed activity is therefore not unique, when compared to other energy utilities where the network continues to develop.
- 2.35. For these reasons therefore we consider that the UR could more effectively fulfill its statutory duties if the licence was modified such that it could set the gearing ratio in a way that better reflected the costs of debt and equity funding and to facilitate the possibility of 100% debt funding.

### **Summary**

- 2.36. In summary it is clear that the attitude of regulators to the components of

WACC which are fixed in the GNI(UK) licence have changed markedly in ways which could not have been foreseen in 2008. As a consequence these components are fixed for GNI(UK) at levels which are significantly out of step with recent price control determinations by the UR and other regulators and do not reflect the market rates revealed in the recent competitive licence award process for high pressure pipelines to the west of Northern Ireland. Consequently, we have concluded that the current licence conditions do not facilitate the best outcome for customers.

### 3. Rate of Return Post 1 October 2017 – Approach

- 3.1. Should we determine to make the licence modifications proposed in Section 4 then we will be required to determine rate of return for the price control period commencing 1 October 2017 in line with the modified licence condition. We consider it good regulatory practice at this point in time to set out our high level approach to setting an appropriate rate of return at the next price control review.
- 3.2. In setting the rate of return we will
  - use a standard CAPM (Capital Asset Pricing Model) methodology for assessing a suitable rate of return for the Gas Transmission Networks;
  - use all available similar regulatory settlements to benchmark appropriate rates.
- 3.3. Ultimately the objective of an economic regulator is to set a rate of return that reflects the cost of capital, both debt and equity, that the markets will bear given the level of risk associated with the business. It is important that we properly assess the level of risk associated with the licensed activity.
- 3.4. As previously noted the GNI(UK) conveyance licence funds existing transmission pipeline assets that have been operational for a number of years. This transition from a development phase to an ongoing operation and maintenance phase of the assets was effectively what was recognised in the agreement by GNI(UK) discussed in section 2, to facilitate mutualisation in return for the earlier settlement which provided for necessary certainty during the development period. The benefits of the licence provisions put in place at that time have been delivered and are no

longer required. In this context no further capital expenditure will be required other than what might be regarded as ongoing operational maintenance. Therefore we consider that a one hundred per cent debt model could now be applied to GNI(UK).

- 3.5. The recent examples as to the willingness of the markets to fund similar licences set out in section 2 provide clear evidence that the type of assets operated under the GNI(UK) licence can be financed using a one hundred per cent debt model, and at an interest rate below that currently allowed in the GNI(UK) price control determination i.e. 3.20%.
- 3.6. When the Belfast Gas Transmission Pipeline was purchased from Phoenix Energy Holdings in 2008, using one hundred percent debt finance, over £100m was raised at an average bond rate of 2.5% (real). The NIEH application for the high pressure licence pipelines necessary to take gas to the west of Northern Ireland demonstrated using prevailing market data and previous experience that the cost of this debt would be 1.98% (real).
- 3.7. There is however one important difference between the two examples cited and the GNI(UK) licence. Both BGTL and NIEH are subject to an 'operating cost pass through' model, they do not face any risk as a result of deviations between allowed and actual operating expenditure. GNI(UK) operates under a 'revenue cap' model where they absorb the risk of deviations between allowed and actual operating expenditure.
- 3.8. This difference in risk profile would be reflected in a higher cost of capital for GNI(UK). As part of the gas to the west licence application we consulted on estimating the adjustment needed to the cost of capital to take account of the difference in risk between the two models. We published our

[conclusions](#) in April 2014 setting the adjustment factor at 0.22% (pre tax).

- 3.9. This analysis demonstrated that while the GNI (UK) revenue cap licence would indeed require a higher cost of capital to secure the necessary finance, any premium would be small.
  
- 3.10. The above analysis represents our initial thinking and is subject to further consideration and consultation. It is also recognized that this analysis is only applicable to GNI (UK) because of the unusual history set out above. We see no repercussions for other network licence holders

## 4. Explanation of Proposed Licence Modification

- 4.1. The draft licence modifications we propose to make are marked up in Annex 1.
- 4.2. In the rate of return formula we propose to replace the existing terms which deal with the calculation of the cost of debt with one generic term for the cost of debt. The new term for the cost of debt is  $d_t$ . In addition we have added a clarification to the  $g$  term in the formula which denotes the gearing to clarify the year the gearing relates to.
- 4.3. The licence drafting proposed aims to ensure that the UR may determine the cost of debt, the cost of equity, and the level of the gearing at each review taking relevant considerations into account. In order to give effect to this intention we propose to delete the licence drafting which defined the risk free rate and the market rate for debt and which reflects the gearing effect at 0.38%.
- 4.4. Consequent to this the terms which define the return on equity, the level of gearing and the cost of debt are defined to ensure that the Authority may determine each of these components of WACC at each review taking relevant considerations into account.

## Annex 1: Proposed Licence Modification

Annex 1 contains the draft licence modifications we wish to make for the purpose set out in section 2 above. The extent of the proposed licence modification below is limited to Condition 2.2 Annex A paragraph 5 Rate of Return of the existing GNI (UK) Conveyance licence.

- Proposed deletions are indicated by text which has been struck through.
- Proposed additions are indicated by red text highlighted in yellow.

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### ANNEX A: ACTUAL REQUIRED REVENUE FORMULA

This Annex forms part of Condition 2.2.

#### 1. Rate of Return

The applicable Rate of Return is expressed on a vanilla weighted average cost of capital basis and will apply to the North West Pipeline, South North Pipeline, and each of the Spurs and any associated Postalised Distribution Pipelines.

- (a) The ~~regulatory allowed~~ nominal weighted average rate of return in month  $m$  is calculated according to the following formula:

$$r_{m_t} = [ 1 + g_t \left( (1 + d_t \frac{r_{f_t} + r_{p_t}}{r_{f_t} + r_{p_t}}) \cdot (1 + i_t) - 1 \right) + (1 - g_t) \cdot r_{e_t} ]^{1/12} - 1$$

where:

$r_{m_t}$  is the nominal weighted average rate of return in month  $m$ ;



~~$r_{f_t}$  is the real Risk Free Rate in Gas Year t which shall mean:-~~

- ~~(i) with respect to the period from the First Operational Commencement Date until the date of the first review, being 1<sup>st</sup> October 2007, 2.7%;~~
- ~~(ii) with respect to the period thereafter, a rate set to reflect market rates prevailing at the time of the review;~~

~~$r_{p_t}$  is the regulatory allowed real risk premium on debt in year t, calculated as follows:~~

$$\del r_{p_t} = \del MRDP_t + \del EoG_t$$

~~Where:~~

~~MRDP means the market rate for debt premium excluding the gearing effect and :-~~

- ~~(i) with respect to the period from the First Operational Commencement Date until the date of the first review, being 1<sup>st</sup> October 2007, is set at 1.45%;~~
- ~~(ii) with respect to the period thereafter, market rates for the debt premium, excluding gearing effect, of similar utilities at the time of the review;~~

~~EoG This rate is set at 0.38%, reflecting the gearing effect, for the period  $m=1$  to  $m=300$  inclusive and is not open to be reset at the time of~~

each review;

$re_t$  is the ~~regulatory allowed~~ nominal **post tax** rate of return on equity in Gas Year  $t$  and shall ~~equal 15% for  $t = 1 \dots 25$~~  **be determined by the Authority to apply at and with effect from each Review Date taking account of (amongst other relevant considerations) the prevailing market rates at the time of the determination;**

$g_t$  is the ~~regulatory allowed~~ level of financial gearing **as determined by the Authority to apply at and with effect from each Review Date;** and shall be constant at 72.5% for  $m = 1 \dots 300$  inclusive.

$d_t$  **is the cost of debt as determined by the Authority to apply at and with effect from each Review Date, taking account of (amongst other relevant considerations) the prevailing market rates at the time of the determination.**

(b) The regulatory allowed real weighted average rate of return in month  $m$  is calculated according to the following formula:

$$rr_m = \frac{(1 + rn_m)}{(1 + i_m)} - 1$$

(c) The regulatory allowed nominal weighted average rate of return in Gas Year  $t$  is calculated according to the following formula:

$$m_t = (1+r_m)^{12} - 1$$