



To distribution companies,
transmission companies,
generators, suppliers, consumers
and their representatives,
government policy makers and
any other interested parties

*Promoting choice and value for
all gas and electricity customers*

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Dear Colleague,

Decision on the RPI indexation method to apply to allowed revenues in the forthcoming RIIO price controls (T1 and GD1) and the TPCR4 rollover

On 19 April 2011 we published an open letter consultation¹ on changing how allowed revenues will be indexed for economy-wide inflation in the forthcoming price controls (RIIO-T1, RIIO-GD1 and the TPCR4 rollover). The consultation closed on 1 June 2011. After reviewing responses, the Authority has decided to amend the indexation approach in line with the preferred approach set out in our April consultation.

This letter explains the background to our consultation and outlines the responses to the consultation. It provides the reasons behind our decision on how the approach used for indexation is to be changed and sets out the steps now required to implement this decision.

Background to our consultation

On 30 March 2011, National Grid² brought to our attention an issue with the method we have traditionally used for indexing allowed revenues for economy-wide inflation, as measured by the RPI.³ The principles behind the method are to protect network companies against economy-wide inflation while protecting consumers against network companies gaining additional allowed revenues due to movements in RPI.

The method has not changed since privatisation, but a problem has now arisen due to the period of very low/negative inflation in 2009-10. We estimate that if the methodology remains unchanged, by the end of the RIIO-T1 and RIIO-GD1 price control period (from 2013 to 2021) network companies will not have been able to fully recover our assessment of their efficient costs, as determined at the RIIO price control review that is currently under way. Based on the latest forecasts for RPI, we estimate the shortfall would be around 4% of allowed revenue over the RIIO price control period and the TPCR4 rollover year. If our approach remains unchanged, in future price control periods the opposite situation could occur and customers could lose out due to network companies recovering additional revenues.

The problem arises from the mismatch between actual RPI inflation, and the inflation measure we have traditionally used in the licence for indexing allowed revenues. Currently (as determined by earlier price control reviews), allowed revenues are set in the prices of a

¹ <http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/Open%20letter%20-%20RPI%20Indexation.pdf>

² On behalf of National Grid Electricity Transmission (NGET) and National Grid Gas (NGG NTS).

³ Retail Prices Index

base year. These base allowances are then uplifted by RPI in each charging year during the price control period. However, a lagged measure of inflation is used to avoid the need to make a forecast of RPI. This lag creates the mismatch.

In previous price controls this mechanism has not created a material shortfall or windfall in recovery of allowed revenues. This is due to relatively stable RPI growth historically. There have been past price controls where network companies have recovered additional allowed revenues but others where they have faced shortfalls and therefore the effect on customers has been small. It is very unlikely that future price control periods will include the large swings in the other direction necessary to even out the shortfall that network companies are likely to experience over the RIIO price controls and TPCR4 rollover.

Our decision

In our consultation we set out the methodology of the preferred approach to resolving the problem, along with alternative approaches that we were considering. Having taken account of responses to our consultation, the Authority has decided to implement the preferred approach. Details of this approach can be found later in this letter. A summary of responses can be found in Annex 1.

This decision affects the treatment of all revenues (including incentive revenues) that are currently under review and indexed by RPI within the licence:

- RIIO-T1 and RIIO-GD1 revenues from 2013-14
- TPCR4 rollover revenue for 2012-13
- Transmission Investment for Renewable Generation (TIRG) and Transmission Investment Incentives (TII) revenues from 2012-13.

The intention behind the indexation mechanism has always been to provide protection to network companies against economy-wide inflation and protection to consumers from potential over-pricing of inflation risk by the network companies. Continuing with the current method does not provide this intended protection and could result in future gains for network companies that would not be in the interests of consumers. We have decided to implement our preferred approach, rather than the alternatives considered, as it provides the intended protection against economy-wide inflation risk, seeks to minimise the size of future true-up adjustments, and aids predictability of any future adjustments for suppliers.

This decision does not affect our assessment of real price effects, eg changes in the price of wages or materials relative to growth in RPI, which will be carried out as part of the price control reviews. We will continue to set an ex ante allowance for real price effects.

We are publishing this decision prior to the submission of RIIO business plans, thereby enabling network companies to take the new approach into consideration.

Our approach provides the intended protection against inflation risk

The new approach will provide network companies with the intended protection while protecting the interests of current and future consumers. If the mechanism is left unchanged, future fluctuations in RPI could see network companies recovering more than our assessment of efficient costs in future price control periods. This would be to the detriment of consumers. The new approach provides an enduring mechanism that will see neither customers nor network companies gain or lose.

One of the alternative options considered would set an ex ante allowance for the expected differential caused by the mismatch. One respondent considered this a less complex approach. We consider that this approach leaves both network companies and customers in a vulnerable position, when compared with the approach that will be implemented. It requires an estimate of the mismatch for the duration of the price control period. This could

lead to over- or under-compensating the network companies over the RIIO price control if RPI were to deviate significantly from an eight year forecast.

The true-up adjustment

There is some risk that the annual true-up adjustment will add to year-on-year volatility in charges that suppliers, and therefore consumers face. The design of the mechanism aims to reduce the impact of volatility and to make the adjustment predictable with a lag between when the magnitude of the true-up is known and when it then feeds into charges. We are also, as part of the overall RIIO package, investigating whether additional measures are required to manage year-on-year volatility.

One respondent suggested an alternative approach that removed the requirement to forecast RPI growth but would still require a true-up adjustment, again with a two-year lag. There is no certain way of predicting the accuracy of forecasts and the resulting magnitude of true-up adjustments under the new approach. Analysis of the magnitude of historical true-ups, had these two alternative approaches been adopted, suggests that this alternative approach would create larger true-up adjustments. We therefore think this approach does not provide any additional merits to our preferred approach and could lead to larger true-up adjustments and increased year-on-year volatility going forward.

The approach to be applied for RIIO-T1, RIIO-GD1 and the TPCR4 rollover

Description of the approach

The new approach to indexing allowed revenues in the RIIO-T1, RIIO-GD1 and TPCR4 rollover removes the lag present in the current methodology. It requires using a forecast of RPI growth to inflate allowed revenues in each charging year. An annual true-up adjustment, with a two year lag, then protects network companies and consumers against any differences between forecast RPI and actual RPI.

For example, in setting allowed revenues for the first year of the RIIO price controls in 2013-14, it will work as follows. At the time of the price control, allowed revenues will be set in 2009-10 prices, ie those of the base year. The licence will then calculate allowed revenues (in the prices of the charging year) by uplifting these values for RPI growth using the following two components:

- Growth in average RPI between April 2009 – March 2010 and April 2011 – March 2012 using actual RPI data.
- Forecast growth in RPI between April 2011 – March 2012 and April 2013 – March 2014 (the subsection below sets out further details of our approach).

An annual true-up adjustment, which operates with a two-year lag, will then adjust allowed revenues to account for any differences between forecast RPI (in the second bullet above) and actual outturn RPI. For 2013-14 this adjustment will apply to charges in 2015-16. A worked example is included in Annex 2.

We propose to make sure that the licence includes all items of revenues (including incentive rates) in 2009-10 prices to simplify the calculations in the licence. In addition, we plan that incentives will typically be settled with a two year lag so that:

- The data are available at the time of setting allowed revenues.
- The relevant RPI adjustments only need to use actual RPI data without any true-ups being required.

Forecast to be used

As set out above, to operate this mechanism a forecast of RPI growth is required. In our consultation we set out potential forecasts that could be used and sought further suggestions from respondents. We have decided that the forecast published in the HM Treasury publication "Forecasts for the UK Economy"⁴ is the most suitable option as it represents an average of independent and City forecasts and is freely available to all which aids transparency. There was general agreement from respondents for this option and no other sources were suggested.

We acknowledge that historically the difference between actual RPI and this forecast has varied; for four of the last five years the forecast has underestimated RPI growth by between 0.5 and 2.5 percentage points. We remain of the view, however, that this source still represents the best available option for the reasons outlined above.

The forecasts to be used for each charging year will be those set out in the "Forecasts for the UK Economy" published in the November prior to each charging year. The use of this edition allows the network companies to have this information when publishing indicative tariffs in December.

The forecasts to be used are the average of "New Forecasts" for RPI inflation published in the "Forecasts for the UK Economy". The forecasts in this publication are calendar year averages, therefore it will be necessary to pro-rata this to a financial year averages. For instance, inflation for 2013-14 would be calculated as $0.75 * (\text{Forecast RPI growth for 2013}) + 0.25 * (\text{Forecast RPI growth for 2014})$.

By way of example, the table below sets out how to calculate RPI growth when setting allowed revenues for 2013-14 from base revenue allowances in 2009-10 prices.

Table 1: RPI growth used in the calculation

Financial Years	RPI growth used	Source
2009-10 to 2011-12	Actual RPI growth rate (%)	ONS data for the RPI (all items)
2012-13	$0.75 * \text{Forecast RPI growth for 2012} + 0.25 * \text{Forecast RPI growth for 2013}$	November 2012, "Forecasts for the UK Economy"
2013-14	$0.75 * \text{Forecast RPI growth for 2013} + 0.25 * \text{Forecast RPI growth for 2014}$	November 2012, "Forecasts for the UK Economy"

In early December each year we will publish the financial year RPI growth that will apply to allowed revenues for the following charging year.

If in any year the HM Treasury does not publish a forecast of the appropriate RPI measure, in time for setting allowed revenues for the following year, the Authority will, after consultation with the licensees, determine the appropriate rate to use.

True-up adjustment

A true-up adjustment is necessary to protect both consumers and network companies against any difference between forecast RPI growth and actual RPI growth. A two-year lag in the adjustment is also necessary as actual RPI for each charging year will not be known until the month following the end of that charging year. This makes it too late to make the adjustment to allowed revenues with a one year lag.

⁴ http://www.hm-treasury.gov.uk/data_forecasts_index.htm

For example, for 2013-14 actual RPI growth will be known in April 2014. The true-up adjustment will then take effect in 2015-16. Suppliers and customers will therefore be able to estimate the magnitude of any true-up adjustment eight months prior to indicative charges being published and 12 months before these charges take effect.

The adjustment will be made annually, therefore the first adjustment for gas distribution companies will feed into allowed revenues for 2015-16. For transmission operators it will be in 2014-15, as there will be a true-up for the rollover year.

Discount/interest rate to apply

The true-up adjustment will be net present value neutral. We will use the allowed rate of return (WACC) in each relevant year as the discount rate.

Next Steps

Over the coming months, we will be working with the RIIO and TPCR4 rollover licence drafting working groups to develop the necessary licence drafting to accommodate the change in methodology.

The new methodology will likely be applied to the next electricity distribution price control (RIIO-ED1) that will set allowed revenues from April 2015. We will consult on this as part of the RIIO-ED1 price control review.

Please contact Joanna Campbell (joanna.campbell@ofgem.gov.uk) if you have any queries regarding this letter.

Yours faithfully,



Rachel Fletcher
Partner, Distribution
Signed on behalf of the Authority and authorised for that purpose

Insofar as the same may apply, this letter shall constitute sufficient notice of reasons for the purposes of s49A of the Electricity Act 1989 and s38A of the Gas Act 1986.

Annex 1 – Summary of responses to our consultation

We received responses from gas and electricity transmission companies, gas distribution companies, electricity distribution companies, a supplier, and two individuals. Responses are published on our website.⁵ The majority of respondents agreed that a change to the current mechanism is required. National Grid, SP transmission, Northern Gas Network, UK Power Networks and Wales & West Utilities all agreed that our preferred approach was the most appropriate. Scottish and Southern Energy (SSE) and Nicholas Francis of Reckon LLP agreed that the current mechanism does not provide the intended protection but suggested alternative approaches to our preferred approach.

EDF Energy noted they are unconvinced that this is a material issue that needs addressing as it is due to a specific period of negative inflation. They have concerns over the year-on-year volatility in charges that the additional true-up mechanism may create. They did though agree that if the decision is to change the methodology then our proposed solution and the proposed forecast to use are the most appropriate.

Electricity North West were also unconvinced that a one-off event should result in a change in the mechanism for all future price controls. They also had concerns over the additional volatility caused by true-up adjustments. In their response they stated that any consequences from this one-off event of negative inflation should be dealt with through the allowances that Ofgem sets for real price effects rather than altering the current mechanism for RPI indexation.

Wales & West Utilities are concerned that they do not have protection against economy-wide inflation in the short term due to the two year lag in the true-up adjustment.

Nicholas Francis, a partner at Reckon LLP, thinks that our preferred approach adds unnecessary complexity to the licence and an ex ante allowance for the predicted mismatch would provide the desired protection while minimising the complexity. He noted that no mechanism that adjusts revenue allowances for RPI will fully protect against changes in prices faced by network companies, eg wages and material costs.

SSE suggested an alternative approach in their response. This alternative approach does not require a forecast (as it uses the most recent available 12 months of RPI data when setting charges, ie January to December prior to the charging year). This approach also requires a true-up adjustment as it will not include full inflation from the base year to the charging year.

SSE noted that any change should apply to revenue allowances for RIIO-T1, RIIO-GD1 and also to TPCR4 rollover allowances if they are also to be expressed in 2009-10 prices in the licence. They do not believe that any change should be applied to TIRG and are currently unclear on how TII will be treated going forward.

Several respondents commented on whether the cost of capital should be affected by changing the approach to RPI indexation. Their comments suggested that until now this was an unknown risk and therefore correcting the mechanism would not lower the cost of capital but remove the need to increase it.

⁵ <http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=92&refer=Networks/Trans/PriceControls/RIIO-T1/ConRes>

Annex 2 – Worked example of deriving the RPI adjustment and the true-up adjustment⁶

The example below illustrates how the indexation and true-up adjustment will work when setting allowed revenues for 2013-14. Revenues will be set in 2009-10 prices. Revenues will then be indexed for RPI to convert to 2013-14 prices. A true-up adjustment will then occur two years later in 2015-16, to account for the difference in forecast RPI and actual RPI. This example is based on assumed numbers.

Deriving the RPI adjustment

A forecast for RPI growth is derived from the HM Treasury published forecasts. An example of these is reproduced in Table 2.

Table 2: HM Treasury “New forecasts”, taken from the May 2011 publication[^]

Calendar year	Average growth (%)
2011	5.1
2012	3.6
2013	3.4
2014	3.4
2015	3.1

[^]From Table M3: Medium-term forecasts for CPI and RPI inflation, of the “Forecasts for the UK Economy”.

From these calendar year forecasts a financial year average is calculated for 2012-13 and 2013-14 using the following formulae:

$$\text{Forecast RPI growth for 2012-13} = 0.75 * \text{Forecast RPI growth for 2012} + 0.25 * \text{Forecast RPI growth for 2013} = 0.75 * 3.6\% + 0.25 * 3.4\% = 3.6\%$$

$$\text{Forecast RPI growth for 2013-14} = 0.75 * \text{Forecast RPI growth for 2013} + 0.25 * \text{Forecast RPI growth for 2014} = 0.75 * 3.4\% + 0.25 * 3.4\% = 3.4\%$$

Allowed revenues for 2013-14 will be set by indexing base revenues by RPI, through a term in the licence. The RPI indexation term (RPI_t) will be calculated as the growth in RPI between the base year and the charging year, 2013-14. The figures in Table 3 below are used in the calculation.

Table 3: Assumed inputs for the example calculation

Input	Assumed value
Actual RPI in 2009-10	215.8
Actual RPI growth 2010-11	5.0%
Actual RPI growth 2011-12*	4.7%
Forecast RPI growth 2012-13	3.6%
Forecast RPI growth 2013-14	3.4%
Allowed revenue for 2013-14 (in 2009-10 prices)	£100
Outturn RPI in 2012-13**	248.0
Outturn RPI in 2013-14**	258.0
WACC	4.9% ^{^^}

* When allowed revenues for 2013-14 are set this figure will be known.

** These will be known in April 2014, when published by the ONS.

^{^^} For illustration purposes only.

⁶ Note, since initially published on 1 July 2011

- the references to WACC have been amended.

- the calculation has been updated to ensure the true-up term is calculated in 2009-10 prices.

The RPI_t term is the arithmetic average of the RPI from April 2013 to March 2014 divided by the arithmetic average of the RPI from April 2009 to March 2010. It is derived as follows.

First, the average RPI in 2013-14 is calculated by compounding the growth rates from Table 3:

$$\begin{aligned} \text{Forecast RPI in 2013-14} &= \text{Actual RPI in 2009-10} * (1 + 2010-11 \text{ growth}) * (1 + 2011-12 \text{ growth}) * (1 + 2012-13 \text{ growth}) * (1 + 2013-14 \text{ growth}) \\ &= 215.8 * (1 + 0.05) * (1 + 0.047) * (1 + 0.036) * (1 + 0.034) = 254.1 \end{aligned}$$

The RPI_t term can then be calculated:

$$RPI_t = \text{Forecast RPI in 2013-14} / \text{Actual RPI in 2009-10} = 254.1 / 215.8 = 1.18$$

Allowed revenues are then indexed using this term and this figure is what network companies are allowed to recover in 2013-14. It is calculated as follows:

$$\begin{aligned} \text{Allowed revenues (2013-14 prices)} &= \text{Allowed revenues (2009-10 prices)} * RPI_t \\ &= 100 * 1.18 = \text{£118} \end{aligned}$$

Deriving the true-up adjustment

The true-up adjustment for 2013-14 will occur in 2015-16. There will be a term included in the licence that will feed into the maximum allowed revenue calculation.

Once RPI is known for 2013-14, outturn RPI_{t-2} can be calculated:

$$\begin{aligned} \text{Outturn } RPI_{t-2} &= \text{Outturn RPI in 2013-14} / \text{Actual RPI in 2009-10} = 258 / 215.8 \\ &= 1.20 \end{aligned}$$

The true-up adjustment will take the difference between the two calculations of RPI growth above and multiply by allowed revenue in 2013-14. In order for the true-up term to be in 2009-10 prices we divide the difference between the outturn RPI term and the forecast RPI term by the outturn RPI term:

$$\begin{aligned} \text{True-up (2009-10 prices)} &= ((\text{Outturn } RPI_{t-2} - RPI_{t-2}) / \text{Outturn } RPI_{t-2}) * \text{allowed revenues (2009-10 prices) in 2013-14} \\ &= ((1.20 - 1.18) / 1.20) * 100 = 1.50 \end{aligned}$$

This value is then multiplied by a discount rate so that the adjustment made is net present value (NPV) neutral. We will adjust the true-up term for WACC for two years. The true-up will be discounted by real WACC for each of the two years. In this example we assume the same rate over the two years:

$$\begin{aligned} \text{True-up (NPV neutral in 2009-10 prices)} &= \text{True-up} * (1 + \text{WACC})^2 \\ &= 1.50 * (1 + 0.049)^2 = 1.65 \end{aligned}$$