Setting price controls for 2015-20
Draft price control determination notice: technical appendix A6 – risk and reward
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Overview

This document sets out the approach to risk and reward used in setting the draft determinations for the five years from 1 April 2015 and summarises the results of our review of companies’ business plans.

As we set out in our risk and reward guidance, high quality business plans will include appropriate risks, rewards and penalties. Effective rewards and penalties benefit customers by providing meaningful incentives to deliver the best service and by ensuring risks are allocated to companies where they are best placed to manage them. The overall level of return (based on companies’ expected performance) directly impacts customer bills.

The key results of our review of the companies’ business plans are as follows.

- **All companies except one have accepted our risk and reward guidance on WACC and net margins in their June plans.**

- **Our draft proposals, if implemented, would save customers in excess of £2 billion over the period 2015-20**, relative to companies’ proposals at the risk-based review.

- **We have intervened in two areas** where we were not satisfied that the uplift was an efficient cost, the benefits of which outweighed it.
  - All WOCs except one have sought a small company premium. We are only allowing small company premiums for the two efficient companies for whom the benefits exceed the costs.
  - We have reduced price risk for customers by only allowing uncertainty mechanisms for water business rates and a specific mechanism for the Thames Tideway Tunnel.

The material we have published today sets out our draft proposals. Stakeholders now have the opportunity to comment on the proposals and the approach we have adopted in reaching our decision. We will consider carefully all of the representations ahead of making final determinations in December. In particular, companies will review whether to include further evidence as a result of the feedback we have given them. And we will maintain our high evidential bar to make sure that our final decisions represent the best possible deal for customers.
A6.1 Methodology

An effective balance of risks and rewards will benefit customers by providing meaningful incentives to deliver the best service and efficiency. We set out our approach to risk and reward and financeability in ‘Setting price controls for 2015-20 – final methodology and expectations for companies’ business plans’ (our ‘final methodology statement’) and ‘Setting price controls for 2015-20 – risk and reward guidance’ (our ‘risk and reward guidance’).

In reaching our draft determinations, we have assessed company business plans against our final methodology statement, risk and reward guidance and information notice on assessment of company-specific uplift (IN14/10). This appendix sets out our approach to risk and reward, and discusses cross-cutting issues that have arisen in reaching our draft determinations. It covers our approach to the assessment of:

- risk – setting out the impact of risks on the company business plan in terms of the expected return on regulatory equity (RoRE);
- uncertainty mechanisms – covering whether companies require additional specific mechanisms to manage risks associated with their business plan;
- returns – the allowed wholesale cost of capital and retail net margins including assessing company claims for uplifts on the wholesale cost of capital and how companies have passed through the reduction in the cost of capital from accepting our January risk and reward guidance to their customers. We also discuss evidence of changes in the cost of capital since our January risk and reward guidance; and
- revenue forecasting incentive mechanism – summarising our proposed new revenue forecasting mechanism taking account of responses to the earlier consultation.

Attached to this document are following annexes.

- Annex1 – update on market and regulatory developments on the cost of capital.
- Annex 2 – setting out drafting of the notified item of business rates.

There are also two separate annexes on a company-specific uplift on the cost of capital, which are published alongside this document.
• Assessment of benefits of a company-specific uplift on the cost of capital.
• PwC report on 'Company specific adjustments to the WACC. A report prepared for Ofwat'
A6.2 Risk

As set out in our final methodology statement, companies should own and be responsible for their business plans. To assist with the understanding of risks, we have asked companies to take a systematic and quantitative approach. This uses scenario modelling to assess the impact of risks relative to the return on regulatory equity (RoRE) and analyse the allocation of risks between investors and customers. We have asked companies to express the risk range on a P10/P90 basis such that there is a 10% probability of an outturn occurring below the identified range, and an equal 10% likelihood of achieving a return above the identified range.

Figure 3.1 sets out the RoRE ranges based on the company’s submissions, except for the ODI performance range, which reflect our calculations of the impact of our interventions on performance commitments and ODIs. Our interventions will change the level of penalties and rewards and the design of caps and collars for ODIs. We have modelled the impact of our changes, taking account of the impact of our interventions on companies’ proposed performance commitments and ODIs to help inform stakeholders of the potential impact of our interventions. We expect companies to consider the impact of the interventions and provide further information on the impact on the RoRE range in response to draft determinations.

We have not adjusted the company estimates of the RoRE range for totex performance, finance or SIM to reflect our interventions for the draft determination. This is because the likely impact of our interventions on a notionally efficient company’s risk is not clear at this point. For example, a change in the scope of a plan may change a company’s view of the specific risks of particular projects or the balance of capital and operating expenditure in their business and therefore cost performance risk. The extent to which the interventions impact on risk by changing scope of the plan or increasing the efficiency challenge, is best addressed by companies themselves. We expect companies will take account of our interventions and provide information on the expected impact on their RoRE range.
Figure A6.1 Company appointee level RoRE analysis

![Company appointee level RoRE analysis chart]

**Note:**
The figure shows the range of P10/P90 under/outperformance relative to the base case RoRE displayed as a numerical point estimate on the chart.

**Source:**
Ofwat analysis of company submissions.

The average variation in RoRE is from -4.6 percentage points to +2.6 percentage points, reflecting the companies’ assumptions around risk in individual areas. Wessex Water had the narrowest range from -3.7 percentage points to +2.3 percentage points and Sutton and East Surrey Water, the widest, from -5.8 percentage points to +2.6 percentage points.

The companies’ average proposed totex performance range is from -2.2 percentage points to +1.5 percentage points of RoRE. These RoRE ranges assume a 50% sharing rate from the totex menu. The downside skew in part reflects the view of some companies that they would invest totex outperformance in further projects. Some companies also stated that the range did not reflect the benefits of the new totex approach, which we might expect to increase the potential totex upside.
The companies’ average SIM range is from -0.4 percentage points to +0.2 percentage points, which is slightly narrower than the maximum possible based on the proposed maximum penalty and reward of 1% of revenue and maximum reward of 0.5% of revenue. This reflects a range of company views about the extent to which, on a P10/P90 basis, they could achieve top and bottom rankings.

The average financing risk across companies is -0.4 percentage points to +0.4 percentage points. There were a variety of views on whether the risks were biased to the upside or the downside, with the consensus being symmetrical around our allowed cost of debt.

ODI ranges in companies’ June business plans varied significantly, from -2.5 percentage points to -0.3 percentage points on the downside and from 0.1 percentage point to 1.1 percentage points on the upside. On average, companies proposed that ODIs could contribute -1.2 percentage points to +0.8 percentage points to RoRE. Following our interventions, including the reward and penalty cap of 2 percentage points of service RoRE, the ODI range is -1.7 percentage points to +0.6 percentage points. Three companies reach the penalty cap: Southern Water (both water and wastewater), Bristol Water and Anglian Water (water only). A further five companies are close to reaching the penalty cap: United Utilities (both services), South Staffordshire, Severn Trent (both services), Thames Water (water only) and Yorkshire Water (water only). Figure A6.1 shows the ODI range following our interventions.
A6.3 Uncertainty mechanisms

In our risk and reward guidance, we acknowledged that all companies face uncertainty about future costs and revenues. We consider that appropriate risk sharing mechanisms provide companies with incentives to reduce costs and provide better services.

Companies already have access to a range of uncertainty mechanisms including the licence provisions to cover a relevant change of circumstances (RCC) that share risks between companies and customers. In our final methodology statement, we noted that risk should only be fully transferred to customers when companies are unable to influence the impact on their business. As set out in our risk and reward guidance, when a company is able to materially influence the probability or magnitude of impacts, or mitigate the effect efficiently, then the risk should remain with the company, at least in part. This provides companies with strong incentives to manage risks. We also noted that companies should not assume that the PR09 arrangements for logging up/down and shortfalling are retained.

A6.3.1 Water business rates

In our risk and reward guidance, we stated that we would allow companies to include an uncertainty mechanism for the revaluation of business rates in 2017, although we considered that companies should retain a residual incentive to argue for reasonable treatment in the rating review on behalf of customers. All early draft determinations included a notified item for business rates. Table A3.1 summarises company submissions on a water business rates uncertainty mechanism. We continue to consider that the risks associated with water business rates are likely to be material and will apply across companies. We therefore consider that a water business rates uncertainty mechanism should apply across all companies (including Southern Water and Wessex Water which did not specifically propose a mechanism). We consider it would be in the best interests of customers if the sharing rate is 75%:25% customer:company, apart from South West Water where we accepted its proposal for an 80%:20% sharing rate, as it has included an appropriate company specific gain sharing mechanism.
Table A6.1 Company water business rate uncertainty mechanism proposals

<table>
<thead>
<tr>
<th>Proposed 75:25 sharing rate</th>
<th>Proposed 80:20 sharing rate</th>
<th>Proposed 100% sharing rate</th>
<th>Did not propose uncertainty mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anglian</td>
<td>Dee Valley</td>
<td>Yorkshire</td>
<td>Southern Wessex</td>
</tr>
<tr>
<td>Severn Trent</td>
<td>Portsmouth</td>
<td>Bristol</td>
<td></td>
</tr>
<tr>
<td>Thames</td>
<td>Sembcorp</td>
<td>Sutton &amp; East Surrey</td>
<td></td>
</tr>
<tr>
<td>United Utilities</td>
<td>Bournemouth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South East</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Staffordshire</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:
Sutton & East Surrey Water proposed a true up mechanism for water business rates.

We propose that the relevant uncertainty mechanism for water business rates should be a notified item for PR14 and as such could qualify for an interim determination, which allows price controls to be adjusted between periodic reviews. We consider that a notified item is the most appropriate mechanism, consistent with our four early draft determinations, as opposed to an automatic true-up. The formal interim determination mechanism is set out in each company’s licence. It can only be triggered by relevant items, the value of which, in aggregate, must exceed 10% of a company's turnover.

We consider that a notified item is appropriate because this approach protects customers’ interests by ensuring that companies are only compensated where a material increase in water business rates occurs. This maintains incentives on companies to manage risks below the materiality threshold as part of their normal course of business. In common with the approach in PR09 we will only take into account non-trivial changes into account into changes in price limits. We consider that changes would be trivial if the net present value of the change is less than 2% of the water service turnover. When assessing triviality we will use the same approach as materiality in calculating the net present value of changes, which is set out in the licence. For Southern Water and Wessex Water, which did not include a proposed uncertainty mechanism in their business plans (although Southern Water states it would accept an uncertainty mechanism, if it was a standard approach across the industry), we have included a notified item in their draft determination. This is to maintain a consistent approach across the sector aligned to the single notional cost of capital.
We have set out our proposed drafting of the water business rates notified item in annex 2 of this technical appendix.

### A6.3.2 Other uncertainty mechanisms

In response to the risk and reward guidance, companies withdrew a number of the additional uncertainty mechanisms which had been proposed in their December business plans. However, some companies continued to propose mechanisms (beyond those mechanisms provided for in licences) in their June business plan to cover a variety of potential risks, as set out in table A6.2.

**Table A6.2 Company submissions on uncertainty mechanisms (beyond water business rates)**

<table>
<thead>
<tr>
<th>Company</th>
<th>Name of uncertainty mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anglian</td>
<td>National Environment Programme</td>
</tr>
<tr>
<td></td>
<td>Household growth</td>
</tr>
<tr>
<td>Severn Trent</td>
<td>Birmingham resilience (withdrawn during draft determination process and replaced by ODI)</td>
</tr>
<tr>
<td>Thames</td>
<td>Thames Tideway Tunnel (TTT) package</td>
</tr>
<tr>
<td>United Utilities</td>
<td>Manchester Ship Canal</td>
</tr>
<tr>
<td>Bristol</td>
<td>Introduction of competition</td>
</tr>
<tr>
<td>Dee Valley</td>
<td>Traffic Management Act</td>
</tr>
<tr>
<td></td>
<td>Supply pipes transfer</td>
</tr>
<tr>
<td></td>
<td>Introduction of competition</td>
</tr>
<tr>
<td>Sutton &amp; East Surrey</td>
<td>Water Framework Directive</td>
</tr>
<tr>
<td></td>
<td>Open water costs</td>
</tr>
</tbody>
</table>

**Note:**

Wessex catchment mechanism provides a means of discussing changes with customers rather than transferring risk and so is not an uncertainty mechanism.

Given the other protections available and consistent with the risk and reward guidance, we consider that additional uncertainty mechanisms are only appropriate which satisfy the following criteria.
- Where the company has limited or no control over the cost risk, and where possible, has taken appropriate steps to mitigate the risk.
- That the company requires specific protection from the risk.
- That the risk that a mechanism is proposed to cover is material.
- Such an approach would be consistent with protecting the interests of customers.

We consider that most of the additional uncertainty mechanisms proposed by companies do not satisfy these criteria, or could be addressed by other measures such as ODIs, and have therefore not included them in our draft determinations. There is one exception where we have retained an uncertainty mechanism for Thames Tideway which allows changes in scope to be passed between Thames Water and the Infrastructure Provider undertaking the Thames Tideway project.

**A6.2.3 Gain sharing mechanisms**

As noted in our risk and reward guidance, a number of companies proposed specific mechanisms to share ‘gain and pain’ from under- and out-performance with their customers. As part of their enhanced draft determination, we accepted South West Water’s proposed Water Share mechanism, which provides for independent monitoring of their performance and sharing benefits of outperformance in the 2015-20 period with their customers. In their June business plans, five companies proposed some form of gain share mechanisms. We have intervened in two of these mechanisms. Sembcorp Bournemouth Water proposed a pain/gain sharing mechanism which has some similarities with South West's Water Share mechanism. However, Sembcorp Bournemouth Water has only provided limited detail of the proposed mechanism, and it provides for both pain and gain sharing with customers, in contrast to Water Share. We do not consider that the proposed arrangement as currently constructed adequately protects customers.

South East Water has proposed a cost of new debt tracker, which would mean that customers bear the risks from changes in interest rates within the price control period. As set out in our final methodology statement, we consider that interest rate risk is best borne by the company as they can control the timing and structure of debt, and have therefore intervened to remove this arrangement.
We have concerns about how other proposed gain-share mechanisms, such as dividend and out-performance sharing, work with incentive-based regulation. For example, whether caps on returns or dividends will weaken incentives on companies to seek efficiency gains in the period 2015-20, any weakening of incentives will be detrimental to customers in the longer term. However, as these proposals do not form part of our draft determination and are limited to gain-sharing and do not directly expose customers to risk of higher bills we do not propose to intervene. However, we ask companies to consider their interaction with the wholesale revenue forecasting incentive mechanism (WRFIM), menu regulation, incentives to improve performance within the price control period and cost sharing, in their responses to the draft determinations.

Table A6.3 Company submissions on pain/gain sharing mechanisms

<table>
<thead>
<tr>
<th>Company</th>
<th>Name of pain/gain sharing mechanism</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bristol</td>
<td>Share gains from outperformance above real RoRE of 11%, 50:50 with customers</td>
<td>None</td>
</tr>
<tr>
<td>Portsmouth</td>
<td>Share gains from outperformance above 6% return on RCV, 50:50 with customers</td>
<td>None</td>
</tr>
<tr>
<td>Sembcorp Bournemouth</td>
<td>Gain and pain sharing mechanism with details to be decided in period.</td>
<td>Removed</td>
</tr>
<tr>
<td>Sutton &amp; East Surrey</td>
<td>Dividends over 10% shared 50/50 with customers</td>
<td>None</td>
</tr>
<tr>
<td>South East</td>
<td>Pain/gain sharing mechanism to share interest costs variances on new bond issuance</td>
<td>Removed</td>
</tr>
</tbody>
</table>
A6.4 Returns

In our risk and reward guidance we set out our expectation of an appropriate industry cost of capital. We consider that the appropriate wholesale cost of capital should be 3.70% and the retail net margins of 1% for households and 2.5% for non-households in England. In our guidance, we stated that these returns amounted to a cost of capital at an appointee level of 3.85%.

In annex 1, we outline our view on market developments and regulatory decisions since our January guidance. Both regulatory determinations since January on the cost of equity and market evidence on cost of debt suggests that allowed cost of capital has fallen since our January guidance. We will consider whether any update is required to our allowed cost of capital at final determination.

In their revised business plans, all WaSCs accepted the guidance on the cost of capital and retail margins\(^1\), with all WoCs, apart from Dee Valley Water, accepting the guidance on retail margins, and all WoCs, apart from Affinity Water\(^2\), asking for a company-specific uplift on the cost of capital for the wholesale water control. This has led to a substantial reduction in customer bills both in period 2015-20 and beyond, as companies have used financeability tools to spread benefits over price review periods. We estimate the total benefits to customers around to be in excess of £2 billion.

\(^1\) Thames Water noted that its acceptance of risk and reward guidance was in the round of its business plan, including excepted outperformance for Ofwat RBR wholesale cost thresholds.

\(^2\) While Affinity Water set out a case in its original business plan submission, it subsequently accepted the 3.70% wholesale WACC in its risk and reward pre-qualification submission for enhanced status.
The company-specific uplift requested by the WoCs varied across companies, from 0.19 percentage points for Sembcorp Bournemouth Water, which did not request an uplift to the cost of equity, to 1.20 percentage points for Dee Valley Water, who along with Portsmouth Water broadly maintained its view on the overall cost of capital from its December plan.

**Table A6.4 Company-specific uplift requested in WoC business plans**

<table>
<thead>
<tr>
<th>Company</th>
<th>Implied wholesale WACC</th>
<th>Company specific uplift</th>
<th>Debt uplift</th>
<th>Equity uplift</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affinity</td>
<td>3.70%</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Bristol</td>
<td>4.40%</td>
<td>0.70%</td>
<td>0.40%</td>
<td>1.21%</td>
</tr>
</tbody>
</table>
Company | Implied wholesale WACC | Company specific uplift | Debt uplift | Equity uplift
--- | --- | --- | --- | ---
Dee Valley | 4.86% | 1.20% | 0.81% | 1.86%
Portsmouth | 4.20% | 0.50% | 0.40% | 0.67%
Sembcorp Bournemouth | 3.89% | 0.19% | 0.30% | n/a
South East | 4.06% | 0.36% | 0.40% | 0.29%
South Staffordshire | 4.10% | 0.40% | 0.47% | 0.29%
Sutton & East Surrey | 4.20% | 0.50% | 0.35% | 0.76%

Source:
Company business plan tables. For South Staffordshire Cambridge we have amended the cost of debt uplift in the table above to be consistent with their view of the WACC uplift.

We set out our approach to providing a company-specific uplift in the risk and reward guidance:

“...to justify a company-specific uplift in the WACC, companies will need to demonstrate both that they face a higher cost to raising finance and that there is an offsetting benefit to customers.”

Given the potential wide ranging implications of an uplift, we have carried out an extensive review of the evidence provided by water companies and undertaken our own assessment of the both the potential incremental financing costs of WoCs and the consumer benefits that could result if an uplift is provided.

To inform our review of the incremental financing costs we commissioned PwC to undertake an assessment of the cost of debt and equity for WoCs. This is set out in a separate report entitled, ‘Company specific adjustments to the WACC. A report prepared for Ofwat’, which is published alongside this document. We have also published a separate annex, which sets out our assessment of whether a company-specific uplift is justified for the WoCs, together with our assessment of the potential consumer benefits of providing an uplift.

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3 Portsmouth Water revised its cost of debt and equity following submission of their June business plan. The plan originally proposed 0.10% for cost of equity and 0.75% for cost of debt, although the WACC uplift was the same.
Our key conclusions are as follows.

- There is insufficient evidence that South East Water and Affinity, as larger WoCs, face higher financing costs in terms of debt or equity compared to WaSCs. We therefore consider that the industry wholesale WACC of 3.70% should apply to South East Water.

- There is insufficient evidence that the smaller WoCs (Bristol Water, Dee Valley Water, Portsmouth Water, Sembcorp Bournemouth Water, Sutton & East Surrey Water and South Staffordshire Water) face a higher cost of equity.

- We consider that, on balance, the smaller WoCs face a higher notional cost of debt due to the small size and difficulty accessing bond markets, which is equivalent to 25 basis points on the efficient notional cost of debt. This would increase their cost of debt to 3.00%, including issuance costs.

- The overall incremental financing costs for small WoCs is equivalent to 15 basis points\(^4\) on the WACC, giving a wholesale cost of capital of 3.85% (vanilla).

- We consider there is sufficient evidence that two small WoCs, Portsmouth Water and Sembcorp Bournemouth Water, provide benefits to customers as efficient wholesale comparators that more than offsets their higher incremental financing costs.

- Consequently, we consider that Portsmouth Water and Sembcorp Bournemouth Water should be allowed to recover a company specific uplift of 15 basis points from their customers. As there is not sufficient evidence of benefits to customers from allowing the other small WoCs to recover their higher notional cost of debt, we do not propose to allow them to recover this cost from their customers.

We acknowledge that companies presented evidence of customer support for their proposed premium in their June business plans. While robust evidence of customer support for paying for a company's higher financing cost is important (particularly where some of the benefits are enjoyed by customers of other companies), it does

\(^4\) Amounts to 15.625 basis points rounded to 15 bps.
not in itself establish there are benefits to customers. We discuss company evidence further in the separate annex to this technical appendix. As we have identified issues research companies, we ask Portsmouth Water and Sembcorp Bournemouth Water to engage with their customers to identify whether customers are content to pay the uplift through bills, taking account of the benefit the uplift generates for themselves and customers more widely as part of their response to the draft determination.

As set out in the risk and reward guidance, we consider that the appropriate net margin for retail services is 1% for household and Welsh non-contestable non-household activities, and 2.5% for English non-household and Welsh contestable non-household services. This guidance was accepted by all companies except Dee Valley Water.

Dee Valley Water continued to submit that the appropriate margin for non-contestable services was 1.5% (which covers household and most of non-household retail as the under 50 ML non-household market is not opening up to competition), relying on the evidence it submitted in December 2013. However, Dee Valley Water did not submit robust evidence to support a company-specific premium in retail. We do not consider that a company-specific uplift should be provided as the risk involved in Dee Valley Water’s retail business is substantially the same as other companies’ retail businesses. We continue to consider that the appropriate margin for their non-contestable services is 1%.

A6.4.1 Wholesale revenue forecasting incentive mechanism (WRFIM)

In our final methodology statement, we confirmed that we would use different mechanisms from the existing revenue correction mechanism (RCM) to adjust companies’ allowed revenues at the 2019 price review to take account of differences between actual and projected demand in AMP6.

We published our ‘Consultation on the revenue forecasting incentive mechanism’ on 30 April. The consultation closed on 4 June. We summarise the responses and our views in annex 3 of this document.

Having considered these responses and the business plan revisions which companies have made to support these draft determinations, we set out our WRFIM process below.
At the end of each charging year in the period 2015-20, we will compare the projected allowed revenue for each wholesale service in that year in the final determinations with the revenues that companies actually recovered in that year (which they would report in July as part of their annual reporting, following external assurance).

For the purpose of deriving incentive adjustments to be applied at PR19, the differences between projected allowed revenues and actual revenues in a given year (t) would be reflected in adjusted allowed revenues in the second subsequent year (t+2) to derive the basis of the WRFIM incentive.

If a company’s actual wholesale revenues were to fall outside a pre-determined band around their forecasted levels in a given year, a penalty would apply unless the company was able to demonstrate to us, in its annual reporting, with convincing evidence why it should not. This uncertainty band would be of similar character to the ‘deadbands’ most companies have proposed for relevant outcome delivery incentives in their business plans.

Above a threshold of +/-3%, a penalty of 3% applies to the full revenue over- or under-recovery. Between +/-2% and +/-3%, a linear sliding scale of penalty ranging from zero to 3% applies. This penalty would be uplifted by two years’ wholesale WACC and RPI to account for the two-year lag in reflecting variations in later years’ allowed wholesale revenue adjustments.

In addition, if a company’s revenue forecasting deviation exceeded +/-6% in a given year it would also be required to submit more detailed variance analyses alongside the standard information required as part of companies’ normal annual regulatory reporting. We would use this in deciding whether to initiate further investigation. Historic evidence suggests such large annual variations are rare in the sector.

We note that allowed revenues set by the RPI+K factor in the licences will be unaffected by the WRFIM and other PR14 incentives, which the licences allow us instead to apply to allowed revenues set at the next period review, in the same way as existing incentive mechanisms. To derive any PR19 adjustment arising from the WFRIM, the under- or over-recovery of revenue in charge year (t-2) will be reflected in charge year (t) through a ‘notional’ annual allowed revenue used as the WRFIM incentive baseline, which is designed purely for the purpose of deriving the automatic WRFIM incentive adjustments at PR19.
In addition, we will not apply a WRFIM type mechanism to companies’ 2014-15 revenue projections provided in their business plans during the PR14 process. But we will complete the existing RCM reconciliation process for the 2014-15 ‘blind year’ after final determinations, and then consistently reflect this in adjustments to the WRFIM baseline for 2016-17, an approach supported by respondents to our consultation.
Annex 1: Updated information on the cost of capital

AA1.1 Introduction

In our risk and reward guidance we set out the appointee and wholesale cost of capital assumptions for PR14. These figures were based on publicly available data as at 31 December 2013. By the time final determinations are published (FDs), almost a year will have passed since our guidance was published. Due to this, as part of the FD process, we will need to consider whether there are changes in capital markets or regulatory determinations which would impact on our estimate of the cost of capital.

We do not propose amending the methodology we used in the risk and reward guidance to calculate the allowed return. However, we may revisit some of the key underlying figures used in the calculation of the WACC. We now discuss developments in the following areas:

- the total market return (TMR) used for cost of equity estimate;
- the cost of debt; and
- inflation;

AA1.2 New regulatory decisions: cost of equity

Since the publication of our risk and reward guidance in January 2014, there have been two important regulatory determinations that may inform our cost of capital calculation. The relevant details of each of these are set out below.

**Competition Commission: Northern Ireland Electricity (NIE) final determination**

In March 2014, the Competition Commission (CC) published its final determination for Northern Ireland Electricity’s (NIE) price redetermination for revenue period 5 (RP5). The CC used the same range for the Total Market Return (TMR), 5.0% to 6.5%, in both their final and provisional determinations. However, their implied point

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5 CC (March 2014) NIE Final Determination.
estimate increased to the upper end of their range. The equity beta range was reduced from 0.7 to 0.8 at the provisional determination to 0.6 to 0.7 at the final, with the result that the cost of equity range fell from 3.8% to 5.5% at provisional to 3.4% to 5.0% at final, with an implied point estimate near or at the top of this range.6 (see table below).

**Ofgem: RIIO-ED1 slow-track draft determination**

In July 2014, Ofgem published their draft determinations for electricity distribution companies (RIIO-ED-1)7. In February 2014, Ofgem decided to give greater weight to current market conditions when calculating the equity market return. Following this emphasis, Ofgem have used a TMR range of 5.0% to 6.5% and a point estimate of 6.5%. This TMR was combined with an equity beta of 0.9 to calculate a point estimate for the cost of equity of 6.0% (see table below).

**Table 6.6 Summary of recent regulatory precedents on the real cost of equity**

<table>
<thead>
<tr>
<th>Point estimate</th>
<th>Ofwat risk and reward guidance</th>
<th>CC NIE final determination</th>
<th>Ofgem ED-1 draft determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gearing</td>
<td>62.5%</td>
<td>45.0%</td>
<td>65.0%</td>
</tr>
<tr>
<td>Total market return</td>
<td>6.75%</td>
<td>6.50%</td>
<td>6.50%</td>
</tr>
<tr>
<td>Risk-free rate</td>
<td>1.25%</td>
<td>1.50%</td>
<td>1.50%</td>
</tr>
<tr>
<td>EMRP</td>
<td>5.50%</td>
<td>5.00%</td>
<td>5.00%</td>
</tr>
<tr>
<td>Asset beta</td>
<td>0.30</td>
<td>0.40</td>
<td>0.38</td>
</tr>
<tr>
<td>Debt beta</td>
<td>-</td>
<td>0.05</td>
<td>0.10</td>
</tr>
<tr>
<td>Equity beta</td>
<td>0.80</td>
<td>0.69</td>
<td>0.90</td>
</tr>
<tr>
<td><strong>Cost of equity (real)</strong></td>
<td><strong>5.65%</strong></td>
<td><strong>4.9%</strong></td>
<td><strong>6.0%</strong></td>
</tr>
</tbody>
</table>

**Source:**
Regulatory determinations.

---

6 The CC did not provide a point estimate for each of the individual inputs to the cost of equity estimate. For the purposes of this note, some of the point estimates have been inferred from the CC’s overall WACC calculation.

7 Ofgem (July 2014) RIIO-ED-1 Draft Determination
AA1.3 Cost of debt: Updated analysis

In our risk and reward guidance, we reviewed both the actual cost of debt of water companies, based on bonds they have issued in the past, as well as benchmark corporate debt indices to assess the appropriate cost of debt. We placed greater weight on the yields of benchmark corporate debt indices, while taking account of part of the historical outperformance typically achieved by water companies.

Market evidence since the publication of our guidance suggests that the corporate debt benchmark yields have decreased slightly. As shown in Figure 1, the average yield of the A and BBB rated 10+ year indices has decreased by approximately 30 basis points between 31 December 2013 and 31 July 2013.

Figure 6.3 Iboxx corporate debt indices

![Figure 6.3 Iboxx corporate debt indices](image)

Source:
DataStream.

Thames Water has issued a new eleven-year bond since the publication of our guidance. As at 31 July 2014 the bond had a nominal yield of 3.98%. Based on our

---

8 Thames Water Utilities Cayman Finance Ltd, 4.0% 2025 issued 19 June 2014.
inflation assumption of 2.8%, this implies a real yield of 1.14%, which is significantly lower than the 2.65% real cost of new debt included in our guidance (excluding allowance for issuance costs). This indicates that WaSCs are still able to access debt at rates considerably lower than the industry benchmark assumption used in the risk and reward guidance.

While we still anticipate that long-term interest rates will increase over AMP6, recent evidence suggests that this increase may be less than we expected at the time of the risk and reward guidance. We will continue to track movements in market benchmarks and water company bond issuances to determine whether our cost of debt estimate should be amended for the final determinations.

### AA1.4 Inflation: updated evidence

Because most bonds are issued in nominal terms, the real cost of embedded debt will change over time as inflation varies. To estimate the real cost of debt for 2015-20, we therefore need to take a view on the level of future inflation. In our risk and reward guidance, we have used an estimate of 2.8% based on expected longer term RPI. We note that this is lower than recent regulatory decisions.

In their provisional determination for NIE, the CC used a range of 2.7% to 3.2% for RPI inflation. This was based on a variety of evidence including OBR and HM Treasury consensus forecasts as well as historic data on the CPI-RPI wedge. In its final determination, the CC used a single inflation assumption of 3.25% based solely on the December 2013 OBR forecast of RPI (see table below). We have also included the March 2014 OBR forecasts for reference.

#### Table 6.7 OBR RPI inflation forecasts

<table>
<thead>
<tr>
<th>Date of RPI Forecast</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 2014</td>
<td>2.6%</td>
<td>3.2%</td>
<td>3.6%</td>
<td>3.8%</td>
<td>3.9%</td>
</tr>
<tr>
<td>December 2013</td>
<td>2.9%</td>
<td>3.3%</td>
<td>3.6%</td>
<td>3.7%</td>
<td>4.0%</td>
</tr>
</tbody>
</table>

Source: Office for Budget Responsibility.

---

9 According to Capital IQ this bond has an embedded call option, which can first be exercised in 19 June 2015. All else equal, one would expect the yield on callable bonds to be higher than non-callable bonds.
Ofgem’s approach to setting the allowed cost of debt in its draft determinations for ED-1 is based on a trailing average of the iBoxx corporate debt indices adjusted for inflation\(^{10}\). Ofgem use the Bank of England’s implied inflation data, which is based on the difference between yields on nominal and real gilt yields.

As at 31 July 2014 the difference between nominal and index-linked government bonds was 3.1\% on 10-year bonds and 3.4\% on 20-year bonds. Allowing for a 0.3\% inflation risk premium in breakeven spreads suggests underlying inflation expectations of 2.9\% to 3.1\%, slightly higher than at the time of the January risk and reward guidance\(^{11}\).

Both the CC’s inflation assumption of 3.25\% and the current level of implied inflation on long-term gilts, are higher than the 2.8\% we assumed in our risk and reward guidance. We will review our longer term average RPI inflation assumption for final determinations.

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\(^{10}\) Ofgem index the cost of debt using a long-term average of the real yield of the Iboxx indices, which they refer to as a ‘trombone index’.

\(^{11}\) The average inflation risk premium between 1997 and 2007, as calculated by the Bank of England, was 0.3\%. Bank of England, ‘Quarterly Bulletin’, 2012 Q3, Volume 52, no. 3.
Annex 2: Drafting for notified item for water business rates

[Explanatory overview: Ofwat identified in its risk and reward guidance that uncertainty in relation to water business rates is greater than for wastewater and that Ofwat would allow companies an uncertainty mechanism in relation to the water business rates revaluation. Ofwat has therefore excluded the impact of this water business rates revaluation in its cost assessment. Ofwat notes that any over and underspending in relation to water business rates would also be subject to sharing through the totex menu. The relevant cost for a water business rate notified item is calculated as the uncertainty mechanism sharing rate (75%, apart from 80% for South West) minus the menu cost sharing rate multiplied by the difference between actual and allowed water business rate costs.]

For the purposes of this determination the Water Services Regulation Authority (Ofwat) gives notice that it has not allowed in full for the effect on the Appointed Business of the coming into force on 1 April 2017 of a new central non-domestic rating list in relation to water supply hereditaments to the extent that the effect could not have been avoided by prudent management action.

This Notified Item is a two-way Notified Item: that is, Ofwat may instigate an interim determination, or if the Company instigates an interim determination, Ofwat may take into account any difference whether favourable or unfavourable to the Company

The costs or savings attributable to this Notified Item shall for each relevant Charging Year comprise the product of the following formula for the Company:

\[
[\text{Water Business Rate Sharing Rate} - \text{Menu Cost Sharing Rate}] \times (\text{Applicable Water Business Rate Costs}_t - (\text{Water Business Rate Cost Allowance}_t \times \text{Menu Choice Expenditure Factor}))
\]

AA2.1 Definitions

Words and expressions used in this Notified Item have the same meaning as in your Instrument of Appointment unless the contrary intention appears.

Water Business Rates – the rateable value determined under the Local Government Finance Act 1988 of water supply hereditaments used wholly or mainly for the
purposes of a water undertaker or for ancillary purposes shown in the central rating list

“central rating list” shall be construed in accordance with section 52(1) of the Local Government Finance Act 1988.

“water supply hereditaments” means the hereditaments described:

- in relation to England, in regulation 15(1) of the Central Rating List (England) Regulations 2005 (SI 2005/551); and

Applicable Water Business Rate Costs \( t \) – to the extent that they could not have been avoided by prudent management action, the amount(s) payable in respect of Water Business Rates (such amount(s) payable being a function of rateable value multiplied by UBR (rate in the pound) less transitional relief) in Charging Year \( t \) minus any contributions towards Water Business Rates received, or likely to be received, by the Appointed Business in that year.

Menu Choice – the Company’s menu choice on the [enhanced] menu set out in table [A1] of the technical appendix to final determinations. All references to the menu in this document refer to this table

Menu Choice Expenditure Factor – the allowed expenditure under the Company’s menu choice divided by what would have been the allowed expenditure if the company’s menu choice had been 100.

Menu Cost Sharing Rate – the cost sharing rate set out in the menu that follows from the Company’s menu choice

Water Business Rate Sharing Rate = [80% for South West Water, 75% for all other Companies]

Prudent Management Action shall be assessed by reference to the circumstances which were known or which ought reasonably to have been known to the Appointee at the relevant time

Inflation Factor (or RPIF) \( t \) = \( \frac{RPI_t}{RPI_{2012}} \)
RPI\textsubscript{t} - the Retail Prices Index published, or likely to be published, for November in Charging Year \textit{t}.

RPI\textsubscript{2012} – the Retail Prices Index for November 2012.

Water Business Rate Cost Allowance\textsubscript{t} – the figure for relevant Charging Year set out in the following table multiplied by the Inflation Factor.

\textbf{Table A6.5  Water Business Rate Constant}

<table>
<thead>
<tr>
<th></th>
<th>£m 2012-13 prices</th>
<th>2017-18</th>
<th>2018-19</th>
<th>2019-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anglian</td>
<td></td>
<td>40.9</td>
<td>40.9</td>
<td>40.9</td>
</tr>
<tr>
<td>Dŵr Cymru</td>
<td></td>
<td>16.6</td>
<td>16.6</td>
<td>16.6</td>
</tr>
<tr>
<td>Northumbrian</td>
<td></td>
<td>21.5</td>
<td>21.5</td>
<td>21.5</td>
</tr>
<tr>
<td>Severn Trent</td>
<td></td>
<td>43.0</td>
<td>43.1</td>
<td>43.1</td>
</tr>
<tr>
<td>South West</td>
<td></td>
<td>16.7</td>
<td>16.7</td>
<td>16.7</td>
</tr>
<tr>
<td>Southern</td>
<td></td>
<td>9.8</td>
<td>9.8</td>
<td>9.8</td>
</tr>
<tr>
<td>Thames</td>
<td></td>
<td>51.6</td>
<td>51.6</td>
<td>51.6</td>
</tr>
<tr>
<td>United</td>
<td></td>
<td>57.4</td>
<td>57.4</td>
<td>57.4</td>
</tr>
<tr>
<td>Wessex</td>
<td></td>
<td>16.6</td>
<td>16.6</td>
<td>16.6</td>
</tr>
<tr>
<td>Yorkshire</td>
<td></td>
<td>36.3</td>
<td>36.3</td>
<td>36.3</td>
</tr>
<tr>
<td>Affinity</td>
<td></td>
<td>13.8</td>
<td>13.8</td>
<td>13.8</td>
</tr>
<tr>
<td>Bristol</td>
<td></td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Dee Valley</td>
<td></td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Portsmouth</td>
<td></td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>Sembcorp Bournemouth</td>
<td></td>
<td>3.3</td>
<td>3.3</td>
<td>3.3</td>
</tr>
<tr>
<td>South East</td>
<td></td>
<td>13.6</td>
<td>13.6</td>
<td>13.6</td>
</tr>
<tr>
<td>South Staffordshire</td>
<td></td>
<td>5.2</td>
<td>5.2</td>
<td>5.2</td>
</tr>
<tr>
<td>Sutton &amp; East Surrey Water</td>
<td></td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
</tr>
</tbody>
</table>
AA2.2 Explanatory notes/guidance

For each relevant Charging Year:

**Step 1 – Company’s allowed costs:**

Ofwat will take as its starting point the costs for Water Business Rates that the Company was allowed in its price limit and increase this to reflect inflation so that it is in a common price base with actual costs.

The first step is to calculate “Water Business Rate Cost Allowance” by multiplying the amount set out in the table above (the “Water Business Rate Constant”) by the Inflation Factor. This is then multiplied by a factor to reflect the company's menu choice (the "Menu Choice Expenditure Factor").

**Step 2 – Differential between allowed and actual costs:**

The next step is to calculate how the Company's actual costs for Water Business Rates differ from the costs for Water Business Rates that the Company was allowed in its price limit.

To calculate this, Ofwat will take the company's actual costs for Water Business Rates (Water Business Rate Actual Cost), remove any costs that were within prudent management control or do not relate to the change in the revaluation of water business rates and deduct third party (for example, developer) contributions to Water Business Rates to arrive at the Applicable Water Business Rate Costs.

The Applicable Water Business Rate Costs are then subtracted from Company's “Water Business Rate Cost Allowance” from step 1.

**Step 3 – calculate the cost sharing rate**

To calculate the appropriate percentage of costs that qualify for the Notified Item the Menu Cost Sharing Rate is subtracted from the Water Business Rate Sharing Rate.

**Step 4 – apply the cost sharing rate to the differential**

The final step is to calculate the relevant cost for the Water Business Rates Notified Item by multiplying the cost sharing rate from step 3 by the differential from step 2.
Annex 3: WRFIM – summary of consultation responses and our decisions

Here, we summarise the responses we received to our ‘Consultation on the wholesale revenue forecasting incentive mechanism for AMP6’ and how we have reflected them in our final proposals for this mechanism (as discussed in section A6.3 of this technical appendix).

The consultation set out our proposed changes to the way we incentivise companies to accurately forecast their allowed wholesale revenues during AMP6, and sought views on extending similar incentives to the forecasting of allowed retail revenues and revenues in 2014-15.

We received 15 written responses – 14 from companies and one from the Consumer Council for Water (CCWater). We summarise the responses we received to specific individual questions and, where relevant, the more general responses we received.

In considering these responses, we have also taken into account the responses we received to our ‘Consultation on wholesale and retail charges for 2015-16 and charges scheme rules’, which we discuss in the charging technical appendix.

Most respondents broadly agreed with the objectives and principles underpinning the proposed incentive mechanism as it applied to wholesale revenues in the next control period. But a number of queries were raised over the mechanics of the proposed incentive – in particular, whether the controls on allowed revenues (through the K factor) would be affected within the next control period. Companies also made a number of suggestions over the size and application of the proposed revenue flexibility threshold and penalty rate. And there were also requests for more clarity over the relationship with charging rules and reporting requirements.

However, there was little support for also applying a similar incentive mechanism to the forecasting of allowed retail revenues in the next control period, or the forecasting of 2014-15 revenues.

Having considered these responses and the further business plan revisions that companies have made to support these draft determinations, we set out our conclusions for the mechanism in the remainder of this annex. In summary, we have:
• decided to proceed with implementing the WRFIM in 2015-20 on broadly the basis set out in the consultation, but we have now defined the formula more precisely and have clarified the relationship of the incentive mechanism with charging rules and annual reporting requirements as a package to help safeguard current and future consumers from the risks of sustained revenue mis-forecasting;
• revised one aspect of our threshold and penalty proposals to introduce a second threshold before full graduated penalties would apply; this ensures that material penalties do not arise from very small variations around the originally-proposed threshold, and to take account of the greater risks to revenues that might arise from higher metering penetration in the short term. – we have set out the updated finalised formula below; and
• decided not to proceed with an equivalent type of forecasting incentive mechanism for allowed retail revenues and forecast 2014-15 revenues.

**AA3.1 Background**

In our final methodology statement, we confirmed that, consistent with the introduction of separate forms of wholesale and retail price controls, we would use different mechanisms to the existing RCM to adjust companies’ allowed revenues at PR19 to take account of differences between actual and projected demand.

Our analysis in the RBR of some large deviations (as detailed in figure A6.4 below) from forecast revenues in PR09 highlighted a risk that large amounts of allowed revenue can be moved between entire price control periods under the current form of RCM with no net financial impacts on companies’ returns. This can risk having significant impacts on the prices that future customers pay for regulated water services in these different price control periods, and hence potentially affect the efficiency and fairness of the prices paid by current versus future customers. We note that updated information in June business plans was unavailable in producing the consultation in April; however, having reviewed these updates, their impact is minor and does not affect the basic pattern set out in the consultation.
Our price control methodology seeks to ensure that the new forms of price control provided a suitable allocation of risk and award between customers and companies. As part of this, we want to ensure that those demand risks which are shared with customers by companies are shared more fairly between current and future customers.

In line with our final methodology statement, and alongside our draft determinations for enhanced companies, we consulted on the detail of the proposed new approach for allocating these demand risks for the new form of wholesale controls on allowed revenues (the wholesale revenue forecasting incentive mechanism – WRFIM). We also discussed options for the retail controls and incentives for forecasting 2014-15 revenues relevant for setting the future controls.

The objectives of our consultation proposals were to:

- mitigate the risks to future customers from substantial annual revenue over- or under-recoveries from charges set in the next control period;
- safeguard against the potential risk that companies could misuse the additional charging flexibility offered by revenue controls to transfer the collection of allowed revenues between years in ways that are not aligned with customers’ interests;
- incentivise companies to forecast wholesale revenues more accurately to improve the quality of information available to stakeholders in the sector; and
- avoid sustained forecasting errors continuing in the future where possible.
AA3.2 Summary of our proposed approach and questions in consultation

In our final determinations, we will set projected allowed revenues for regulated wholesale water and wholesale wastewater services for each year of the control period using the demand projections we adopt for the final determinations. In general, we expect these final determination demand projections to reflect companies’ own business planning assumptions, following customer engagement. These will include any updates to December business plan assumptions reflected in companies’ revised business plan submissions, or representations made to our draft determinations. This will enable companies to retain consistency between the business planning assumptions for the next control period and their up-to-date assured actual data for 2013-14 (used to underpin regulatory accounts and risk and compliance statements).

During 2015-20, actual demand for wholesale services (particularly volume of water handled and number of connections) will vary from these final determination projection assumptions. These demand variations will affect the actual revenues that companies collect from charges covered by the wholesale revenue controls in each year. Therefore, these actual collected revenues will differ from the projected allowed revenues associated with the K factors in price limits.

However, under companies’ existing licences, these K factors are only intended to be changed at periodic or interim reviews: they cannot be changed more gradually between reviews to adapt to such changes in actual demand – some of which are difficult to predict (for example, those arising from weather variations). While this creates greater regulatory certainty for companies and their customers, inevitably it also constrains how revenues and charges can be adjusted to deal with demand changes from year to year. At present, given these constraints, the RCM creates potentially large price impacts for customers at the next periodic review, as the present value of allowed revenues is protected but actual revenues have deviated significantly from final determination assumptions – the differences are cumulated and passed on to future customers at the periodic review.

Given this background with the existing framework, in our price control methodology we decided to retain the basic allocation of demand risk by continuing to allow companies the fixed present value of allowed wholesale revenues over the PR14 control period. This reflected responses to our consultation on the price control methodology.
However, we proposed to introduce a mechanism of the form of the WRFIM to incentivise more accurate forecasting of actual revenues on an annual basis. As with other PR14 incentives (such as delivery and cost performance incentives), we will adjust allowed revenues at PR19 for the value of the WRFIM (if any) in the event that actual revenues deviate significantly from those projected when companies put forward their business planning assumptions following engagement with customers.

To achieve the objectives for the incentive discussed above, in our consultation we proposed a WRFIM mechanism for AMP6 of the form set out in the following equation.

\[
RFIM_t = - \left( RR_{t-2} - AR_{t-2} \right) \times \left[ 1 + \left( \frac{1}{100} + PR \right) \right] \times \left[ 1 + \left( \frac{1}{100} \right) \right] \times (1 + RPI_{t-1}) \times (1 + RPI_t)
\]

Where:

- \( RR_{t-2} \) the \textbf{revenue recovered in charging year t-2}, with the first year subject to the adjustment beginning in 1 April 2015
- \( AR_{t-2} \) the \textbf{allowed revenue in charging year t-2}, with the first year subject to the adjustment beginning in 1 April 2015, and with the allowed revenue from the charging years beginning 1 April 2017 being adjusted by the RFIM for that year.
- \( I \) The \textbf{specified discount rate}.
- \( PR \) The \textbf{penalty rate}, taking a positive value if \( RR_{t-2} > [(1 + RFT) \times AR_{t-2}] \), a negative value if \( RR_{t-2} < [(1 - RFT) \times AR_{t-2}] \), or else being equal to 0.
- \( RFT \) the \textbf{revenue flexibility threshold}.
- \( RPI_t \) the \textbf{Retail Prices Index} used for wholesale price controls for year t as specified in Condition B in the licence.

To apply the incentive using this equation, we proposed the following reporting process.

- At the end of each AMP6 charging year, we will compare the projected allowed revenue for each wholesale service in that year in the final determinations with the revenues that companies actually recovered in that year (which they would report in July as part of their annual reporting, following external assurance).
• For the purpose of deriving incentive adjustments arising from the WRFIM (applied at PR19 in lieu of the existing RCM), these differences between projected allowed revenues in final determinations and actual revenues in a given year (t) would be reflected in adjusted allowed revenues in the subsequent year (t+2) to derive the basis of the WRFIM incentive. The year (t+2) would be the first year when actual wholesale charges could be adapted, if companies chose, to help smooth the effects of unexpected demand variations on the charges that customers pay. However, actual annual charge variations that companies chose to make would be constrained by the safeguards provided by the charging rules we have in place from time to time, and a variety of intervening factors will cause actual demand and revenues to fluctuate within the control period.

• If a company’s actual wholesale revenues were to fall outside a pre-determined threshold (‘uncertainty band’) around their forecasted levels in a given year, a pre-defined penalty would apply unless the company was able to provide us, in its annual reporting, with convincing evidence why it should not. This uncertainty band would be of similar character to the deadbands most companies have proposed for relevant penalty-only financial delivery incentives in their business plans, following customer engagement, to take account of less manageable fluctuations and risks within the period.

• We proposed a threshold of +/-2% for the WRFIM for this purpose, based on historic statistical evidence of revenue variations from projected values in AMP4 and AMP5, and a penalty of 3% of the full over- or under-recovery of variations outside this uncertainty band (this penalty would be uplifted by two years’ wholesale WACC and RPI to account for the two year lag in reflecting variations in later years’ allowed wholesale revenue adjustments).

• In addition, if a company’s revenue forecasting deviation exceeded a wider threshold in a given year, it would also be required to submit more detailed variance analyses, alongside the standard information required as part of companies’ normal annual regulatory reporting, which we would use in deciding whether to initiate further investigation of the larger variations concerned. We proposed a wider threshold of +/-6% for this purpose, based on historic evidence that such large annual variations were relatively rare in the sector.
Because the retail controls are on allowed revenue per customer for relevant retail activities, and allowed revenues will automatically adjust when the number of customers served changes within the period (either as a result of the number of connected premises or, in the case of contestable customers, the effects of competition), we saw less of a need for this form of revenue forecasting incentive for retail revenues. However, we were open to respondents’ views on this issue.

Also, because the accuracy of the final determinations will in part depend on the projections made by companies for the ‘blind’ AMP5 year of 2014-15 in their business plans, in our consultation we also raised the possibility of applying the WRFIM incentive framework to this year’s projections (the RCM insulates companies from demand risk to the affected allowed revenues in AMP5, provided we are satisfied with the evidence put forward in business plans to apply the RCM on the basis set out at PR09).

Based on these proposals, we asked the following questions.

1. Do you agree with the need for a revenue forecasting incentive in AMP6?

2. Do you have any comments on our proposed approach to the wholesale revenue forecasting incentive mechanism (WRFIM)?

3. Do you agree with a revenue flexibility threshold of +2%/-2% of adjusted allowed revenue for the wholesale water and wastewater controls? Please provide supporting evidence and analysis should you wish to propose a different level of flexibility.

4. Do you agree with a penalty rate of 3%? Please provide supporting evidence and analysis should you wish to propose a different penalty rate.

5. Do you agree with the use of separate revenue forecasting incentive mechanism in the retail control? If so, do you agree with the use of an equivalent mechanism as in the wholesale control, with the same parameters?

6. Do you agree with the proposed cap and collar mechanism as a trigger to further investigation to provide additional safeguards to customers?

7. Do you agree we could additionally use the WRFIM to incentivise accurate projections of revenues for 2014-15 in our final determinations?
8. Do you have any comments in relation to the details and mechanics of the iteration process?

In our consultation, we explained we would consider further the relationship between the WRFIM for the control period with the annual charging rules in the light of responses we received to the consultation on our expectations for charging rules that we ran in parallel with the one on WRFIM. We also said that we would consult further on the reporting requirements for the WRFIM when we had decided on whether to implement the proposed mechanism. In this annex, we provide further detail on the relationship with charging rules in line with our conclusions on the rules expected for 2015-16 in the charging technical appendix, and explain how we will be consulting further on the details of reporting requirements in the context of the wider reporting requirements associated with our PR14 framework.

AA3.3 Detailed responses

Q1 Do you agree with the need for a revenue forecasting incentive in AMP6?

Most respondents were supportive of the general thrust of the proposed WRFIM approach. But some expressed concerns, and a number requested greater clarity on how the mechanism would work, and on the form of supporting evidence we were seeking in relation to the new mechanism. We summarise the key points of concern raised in the consultation responses below.

Table A6.8 Case for revenue forecasting incentive – responses

<table>
<thead>
<tr>
<th>Type of response</th>
<th>Specifics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concern with case</td>
<td>Not convinced that mechanism is needed in AMP6; it is not proportionate.</td>
</tr>
<tr>
<td></td>
<td>The incentive mechanism may constrain innovation.</td>
</tr>
<tr>
<td>Clarification needed over proposals</td>
<td>Unclear how allowed revenues could be adjusted annually.</td>
</tr>
<tr>
<td></td>
<td>Unclear over companies’ freedom to choose revenue forecasting methodology.</td>
</tr>
</tbody>
</table>

**Concern with case**

Three companies were not convinced over the need for the mechanism, noting:
• demand fluctuations arise from uncontrollable variations (such as summer weather);
• the new form of control is fundamentally different and, therefore, variances against it are untested; and
• companies will already have incentives to 'do the right thing' for customers, such that a regulatory mechanism is not a proportionate response and is inconsistent with Ofwat’s wider intention to reduce regulatory burden.

In this context, Bristol Water suggested that companies could be made responsible for adjusting bill levels to maintain consistency with allowed revenues without the need for such a formal ex ante incentive mechanism.

South West Water was concerned that innovation could be constrained, as companies would only become aware retrospectively whether or not Ofwat accepted the case for 'exceptional circumstances’ to avoid the proposed forecasting incentives.

**Our view**

While demand variations are undoubtedly uncontrollable to a degree, companies have proposed to take a range of risks arising from such variations in the ODIs they have developed in their business plans following customer engagement. This indicates that, in general, companies have indicated an ability to manage and be accountable for risks such as demand, and that the concerns can be represented as ones over the extent to which they consider they should be managing these demand forecasting risks when they affect actual revenues collected from customers.

Based on the general support for some form of ex ante incentive, and the history of variable revenue forecasting performance while the RCM has been in place, we have decided to implement the basic form of WRFIM set out in our consultation. We can review further the need to continue with an ex ante incentive at PR19, when companies’ performance under the new framework can be considered more generally.

We agree that year-to-year fluctuations in the demand for wholesale services are, to some extent, beyond companies’ control – particularly in the shorter term. We set out a deadband proposal in the consultation for this purpose, based on historic evidence over a ten-year period of weather fluctuations. This is aligned to the concept of deadbands that most companies use for some of their relevant proposed financial delivery incentives. Following consideration of the evidence in the consultation responses which did not offer strong evidence to the contrary, and our review of
companies’ revised business plans where revised forecast errors in the June business plan submissions do not affect the substance of the consultation, we still consider that the 2% threshold for the deadband represents a reasonable allowance for less controllable and predictable annual fluctuations in wholesale revenues.

While the potential for the discretionary annual application of the mechanism to constrain innovation is an issue in principle, it is less of a concern than the application of the RCM every five years (where we use retrospective regulatory judgement for the whole period in the light of, for example, companies’ own decisions not to use the full K factor increases to allowed revenues – as has happened in 2014-15). The opportunity for companies to make representations each year (including in July 2015, if relevant, to provide a track record as a result of the need to complete the application of the RCM) for relevant ‘exceptional’ circumstances will generate precedent and regulatory certainty more promptly under the new price control framework than applying a discretionary quinquennial ex post adjustment review for the first time with the new controls at PR19.

Impact on allowed revenues

Some respondents sought clarification over how the revenue baseline used for the WRFIM (the results of which would be applied at PR19) would be adjusted each year (while K factors set out in accordance with the final determinations and the licence remain unchanged). Some companies assumed that actual allowed revenues would be adjusted annually (forcing charges to change each year), while others assumed that net adjustments would be made to allowed revenues for the following control period at PR19, along with adjustments arising from the other (delivery and cost performance) incentives set at PR14.

Our view

We confirm that the allowance set by the RPI+K factor in the licences will be unaffected by the WRFIM and other PR14 incentives. The under- or over-recovery of revenue in charge year (t-2) will be reflected in charge year (t) through a ‘notional’ annual allowed revenue used as the WRFIM baseline, which is designed purely for the purpose of deriving the automatic WRFIM incentive adjustments at PR19.

Clarification

Sembcorp Bournemouth Water commented that it was unclear from the consultation whether companies were allowed to take ownership of their own revenue forecasting approaches (for example, reconciling water resources management plans – WRMPs – and business planning projections of demand).
Our view

We expect companies to be responsible for their own revenue forecasting approaches, using more up-to-date information as it becomes available, including within the price control period. This is a normal part of business planning and risk management, and has been reflected more generally in the price control methodology through the weight we have placed on companies’ own proposed risk and reward packages, including delivery incentives, following customer engagement.

Thames Tideway Tunnel

For Thames’ wastewater service, we consider WRFIM covers all of the revenue Thames collects for its wholesale wastewater control, the separate TTT control and the revenue that passes through to the infrastructure providers (IP). The WRFIM has a representation scheme for companies to provide evidence in their annual reporting for why we should not apply the pre-defined penalty when their actual revenues fall outside the flexibility threshold. The pass through of revenue to the IP would fall under that representation scheme.

Surface water drainage rebates

Although this was not a consultation question and no comments were made on the issue by respondents, we note that the surface water drainage (SWD) rebates schemes implemented by companies in AMP6 could affect the implementation of WRFIM.

Under existing regulatory reporting framework including the regulatory accounting guidance for AMP5, SWD rebates form part of companies’ revenues, and unlike uncontrollable demand risks, the rebates are under the control of companies’ management, so to the extent that other customer charges can be adjusted to take account of rebates within the overall revenue controls, they would have no impact on potential revenue forecasting errors. In addition, even if the refunds of historically mis-billed SWD services could have implication for customers’ bills, their magnitudes tend to be very small compared to the total bills and so their impacts on forecasting errors are unlikely to be material. We expect to consult further on how companies should deal with SWD rebates, and how these should be accounted for in regulatory reporting, in 2015-20 in the autumn.
Q2 Do you have any comments on our proposed approach to the wholesale revenue forecasting incentive mechanism (WRFIM)?

Below, we summarise the main issues that respondents raised on the mechanics of the WRFIM.

Table A6.9 WRFIM mechanism – responses

<table>
<thead>
<tr>
<th>Type of response</th>
<th>Specifics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concern</strong></td>
<td>Unclear on bill implications. Annual adjustments may not correct cumulative impacts of deviations.</td>
</tr>
<tr>
<td><strong>Clarification</strong></td>
<td>Relationship between final determinations and actual revenue price bases unclear. How prior year deviations are dealt with in lagged formula. Precise details of variables in the WRFIM formula.</td>
</tr>
</tbody>
</table>

Concern

CCWater considered that the consultation was unclear over the potential customer bill implications of WRFIM.

Bristol Water also suggested that, by only reviewing the accuracy of forecasts on an annual basis, the cumulative effects of discrepancies might not fully be corrected for.

Our view

We note that the licences do not allow the K factors themselves to be adjusted in response to the WRFIM. We explained above that these factors can only be adjusted following periodic or interim reviews, and this preserves a greater degree of regulatory certainty for both companies and customers. But within this basic framework, the effect of the WRFIM will be to incentivise companies to forecast actual annual revenue (which will never exactly equal allowed revenue in any year) more accurately, and to take action where appropriate to align revenue collected more closely with allowed revenue over time, and so avoid material WRFIM penalties. This should help to improve bill stability both within AMP6 and – in particular – between control periods.
Also, as we explained in our consultation, customers are expected to have the additional safeguards of charging rules. We have proposed that companies must assess the impact on their customers through impact assessments for any significant bill increase. In the charging technical appendix, we confirm that we will keep the threshold under review and only remove it when we are confident of a suitable alternative.

And we propose that companies’ revenue forecasts will continue to be reviewed on a yearly basis as part of normal budgetary and business planning. The worked examples in our consultation suggest that any second order compounding impacts would be relatively immaterial in the context of the type of uncontrollable fluctuations being expected and already allowed for by the uncertainty band before any penalties would be imposed. Therefore, we consider that any cumulative impacts of deviations would be relatively marginal.

**Clarification**

Northumbrian Water queried how the price bases used for setting projected allowed revenues in our final determinations and those used for comparing actual annual revenues would be made consistent, in order to apply the WRFIM.

South East Water requested guidance on how the WRFIM will deal with prior year under- or over-recoveries, given the two-year lag proposed for the mechanism.

**Our view**

Projected allowed revenues in the final determinations will be set in 2012-13 prices. The comparisons between projected allowed revenues in the final determinations and actual revenues in each year will be in the prices of the year concerned (although the licence continues to require the use of the movement in the November RPI to establish the allowed revenues in each year).

The WRFIM formula we proposed in our consultation then accounts for inflation in the two-year gap between the year of the over- or under-recovery \((t-2)\) and the year \((t)\) for the purposes of deriving any consequential WRFIM penalty using the same inflation factors applied to derive allowed revenues in each year. In this way, the formula in our consultation ensured that the price bases and inflation indices used for revenues and revenue adjustments within the price control period will remain consistent when they are compared to each other for each year. As with RCM and other PR14 incentives, the incentive will then be applied at PR19 to apply for future bill adjustments in line with the price indexation applied for price controls in AMP7.
Exactly as deviations in year (t-2) will be applied to allowed revenue baseline adjustments in year (t) with the WRFIM formula in this way, in the same way, revenue deviations in year (t-1) will be applied to the adjustment in year (t+1).

**Formula clarification**

Northumbrian Water suggested that specific format details for each of the variables required in the WRFIM formula should be clarified as integers, numbers or percentages (that is, 3, 0.03, or 3%). For clarity, it also suggested that all variables requiring the t subscript should be consistently defined as the year of revenue variance (from final determination projections) or year of the WRFIM baseline adjustment, and applied when they are expected to change over time before a further price review.

**Our view**

As suggested by Northumbrian Water, we have clarified and confirmed the details of variables in WRFIM mechanism as follows.

- **PR, I and RFT** – the formula requires these variables to be entered as integers (in our consultation, we discussed these as percentages in the narrative).

- **RPI** – the definition on page 16 of our consultation mentioned the Retail Prices Index, which is a figure (for example, 241.5), whereas the licence requires wholesale revenue controls to adjust by the percentage change in the RPI between the November in the current and previous years. We confirm that RPI in the WRFIM formula is a percentage (for example, 3.5%).

- **t** – year t in the formula refers to the year of WRFIM adjustment.

We note that WRFIM and the financial model use financial year average RPI, while companies’ wholesale revenue controls are linked to November RPI. However, we do not consider this is an issue, because the WRFIM assesses compliance after the event, and we will have nominal outturns and will re-base them consistently using relevant RPI.
**Q3** Do you agree with a revenue flexibility threshold of +2%/−2% of adjusted allowed revenue for the wholesale water and wastewater controls? Please provide supporting evidence and analysis should you wish to propose a different level of flexibility.

A number of companies raised concerns on how the size of this threshold should be set and applied.

**Table A6.10 Flexibility threshold – responses**

<table>
<thead>
<tr>
<th>Type</th>
<th>Query</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concern</td>
<td>Charging rules will not affect WRFIM. Companies should be enabled to justify deviations before automatic penalty is applied. Threshold should vary with household metering penetration. Threshold should be higher.</td>
</tr>
</tbody>
</table>

**Concern – need to apply threshold on a discretionary basis**

Some respondents stressed that companies should be allowed to explain why variation has occurred, including explaining the relevance of non-controllable circumstances, before any penalty was automatically applied.

**Our view**

In our consultation, we proposed that companies can provide evidence in their annual reporting as to why the general WRFIM threshold should not apply in a given year. In line with the responses, we confirm that we will provide this opportunity to companies to set out in their annual reporting particular circumstances that would be relevant to the application of the WRFIM.

We will not apply the incentive in a mechanistic way if there is persuasive evidence that discretion should be applied in the circumstances (such as unusual weather variations). This will allow us to identify whether:

- common sector changes (for example, from weather impacts being felt across a number of companies) had the same impacts on companies’ wholesale revenues and so whether demand risks were being efficiently managed; or
- particular companies suffered uncontrollable changes not covered by the ex ante uncertainty band for the sector as a whole.
Concern – metering

Some companies disagreed with our assumption that increased meter penetration should provide additional information to companies to improve the effectiveness of supply/demand management and revenue forecasting, and hence the business response to weather variations over time. They noted that revenues from unmetered properties did not change with the weather and customer use over the shorter term, while metered property revenue varied with customer use, which was outside of companies’ control. As a result, some respondents proposed that the threshold for the WRFIM uncertainty band should be increased in areas where meter penetration was higher.

Our view

A number of companies’ business plans justified increased metering penetration as a means of delivering greater capability to manage their supply/demand balances more effectively (in conjunction with investment in network resilience), including the use of better information and pricing flexibility, in line with WRMPs. But some have pointed out that these longer-term benefits may not be secured without more shorter-term revenue volatility.

We analysed 19 companies’ (the South Staffordshire Water and Cambridge Water areas are treated separately) annual water revenue forecasting error and metering penetration (measured revenue as share of all revenue, for all customers and for household customers) during 2010-15, yielding 95 observations (19 companies over 5 years). However, analysis of this historical information does not indicate a robust relationship between revenue volatility and metering penetration. In particular, the correlation ratios are low, ranging from 0.03 to 0.09 by different measures. Regressions also show an insignificant effect of metering penetration on forecasting error, and this result is robust across various regression specifications, including ones controlling for companies and year fixed effects. So, any predefined ex ante penalty graduation based on metering penetration would be difficult to evidence.

In balancing these findings and effects for current and future consumers via the incentive of the threshold, we have decided that flexibility threshold will not automatically link to metering penetration. However, we have taken into account the risks of higher metering to revenue volatility in our proposal for a less sharp WRFIM penalty, via introducing a higher threshold as discussed below.
Concern – threshold levels

Some companies drew attention to the use of higher intervention thresholds in other regulated sectors – citing, as shown in figure 2 in the consultation, some regulatory precedent for higher thresholds for the regulated network elements in other sectors (for example, 6% for electricity and gas distribution and 4% for gas transmission). Respondents argued that demand and revenues were less predictable for wholesale water services given weather and customer behaviour changes (such as changes in use and closure of large premises).

South West Water further argued that the historic 0-2% average demand forecasting variations cited in the consultation could be misleading, and that a statistically superior basis for the WRFIM threshold could be a given confidence interval. For example, an interval of 1 standard deviation would imply a threshold of +/-3.6% – which could be rounded down to +/-3.5%, or up to a higher figure, such as 5%, if Ofwat also decided to impose binding restrictions on bill changes through charging rules. However, Northumbrian Water did not think that, in practice, there would be any relationship between allowed changes in annual charges and the annual revenue variations relevant to the WRFIM.

Our view

With regard to a less demanding general threshold, the higher regulatory intervention trigger cited related to more extensive regulatory interventions in energy, as explained in our consultation. Further, in responding to our methodology proposals, companies previously argued that, compared with energy networks, the relevant costs for cost-reflective wholesale charges that varied in response to shorter-term demand changes were lower as a proportion of the total. Accordingly, companies argued that introducing a variable term in the water form of wholesale revenue control would be disproportionate as costs were less exposed to demand changes. Given this, we consider that caution should be used in reading across particular percentages from other sectors and regulatory frameworks.

Also, we should note that any restrictions on annual charge increases that we propose through charging rules would not be able to limit the total amount of revenue allowed and collected in line with the periodic review determination, and therefore binding restrictions in charging rules are not expected to have material impacts on companies’ abilities to manage the deviations between forecasted and actual total wholesale revenues.
Further, as with companies' own ODI deadband proposals, any given figure derived from statistical analysis of historical variations (such as, say, 1 standard deviation) should be treated with caution given the different forms of future measures and incentives relevant to the new price control framework. There is no inherent historical statistical variation which necessarily represents a more accurate measure of uncontrollable and unpredictable revenue variation in the new framework. Therefore, consistent with the variations we have observed, we have decided to retain the 2% basic threshold.

**Q4** Do you agree with a penalty rate of 3%? Please provide supporting evidence and analysis should you wish to propose a different penalty rate.

A number of companies raised concerns and suggestions on the design of the penalty rate. Below, we summarise the main issues and our proposed responses.

**Table A6.11 Penalty rate – responses**

<table>
<thead>
<tr>
<th>Type</th>
<th>Query</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concern</td>
<td>Penalties should apply at end of period.</td>
</tr>
<tr>
<td></td>
<td>Penalty should vary with size of deviation.</td>
</tr>
<tr>
<td></td>
<td>Penalty rate should be lower.</td>
</tr>
<tr>
<td></td>
<td>No penalty for under-recovery.</td>
</tr>
</tbody>
</table>

**Concern – penalties should apply at end of period**

Northumbrian Water argued that, while the annual intervention threshold of 6% deviations could be retained, annual variations beyond 2% should not be automatically penalised. Instead, any penalties should be assessed at PR19 following evaluation of variations over the period as a whole (as with the RCM). South West Water was concerned that a mechanism that affected the baseline for deriving penalties with a two-year lag would act as a barrier to companies anticipating revenue variations and smoothing out bill changes over the price review period. Leaving the Ofwat penalty determination to the end of the period would allow companies to calculate in-period bill and charges profiles, rather than being dependent on Ofwat’s annual decisions.
Our view

We note that the additional company flexibility that would be created by dropping the annual Ofwat assessment of revenue deviations would potentially reduce burdens and improve company ownership of the risks concerned, and allow the causes of and responses to revenue deviations to be assessed taking one year with another.

However, we explained in our charging consultation that the new forms of control will be subject to the evolving charging rules framework during the next control period following the commencement of the relevant provisions of the Water Act 2014, as companies adjust to the new regulatory and competitive environment being introduced.

For this purpose, we have indicated that a closer monitoring of the effects of the new mechanisms (including the requirements for impact assessments for larger annual bill changes for individual types of customer) would be proportionate at this stage in the development of the new framework. Our annual WRFIM proposals were designed to be consistent with this evolutionary framework, and offer sharper incentives on companies to improve revenue projections under the new framework as soon as possible. So we propose to retain the annual approach, although subject to its discretionary application, and the reflection in price controls only at PR19.

Concern – penalty should vary with size of deviation

Northumbrian Water was concerned that, with no mitigation, the WRFIM formula would imply a cliff-edge for the annual penalty – deviation by a single penny could trigger the 3% penalty on the whole deviation concerned. It proposed some graduation to avoid this cliff-edge.

Our view

We accept that our consultation proposal implied such a ‘cliff-edge’. Although there is evidence from companies’ proposed deadbands for ODIs of some similar cliff-edges, their proposals are not uniform across the sector, given the different circumstances and the views of customers. We reviewed ODIs in companies’ revised business plans to examine whether cliff-edges are widespread among deadband structures in penalty only ODIs, as WRFIM is a penalty only incentive mechanism. We found that the use of cliff-edges is rare, and this is consistent with companies’ concerns on cliff edge in their representations to WRFIM consultation.
For the sector-wide WRFIM, we have further considered simple and proportionate ways of smoothing the potential cliff-edge of the consultation proposal while retaining the effect of the incentives concerned. We have decided to introduce a linear sliding scale of penalty rate (from zero to the consultation proposal of 3%) between the 2% uncertainty band threshold and a higher threshold. As well as addressing the cliff-edge concern, this would also help to address the more general concern over the tightness of the threshold to uncontrollable demand variation while the new forms of control are being used for the first time.

As stated above, we retain the lower threshold of 2% below which no penalty applies and the long-stop threshold to trigger further investigation at 6%. Within these, an upper threshold of 2.8% (around which historic errors would have had equal probability of falling, assuming a normal distribution) could be used to soften the cliff-edge but keep stronger incentives over the period 2015-20.

Although metering penetration cannot be statistically linked to higher revenue forecasting variations, we propose in practice to extend the upper threshold to 3% to provide further safeguards to companies more affected by the impact of uncontrollable annual demand fluctuations on revenue (for example, from weather). In addition, a higher upper threshold of 3% (when all variations would count to the penalty) is consistent with the more extreme variations and consistent with alternative rates put forward by some companies.

Therefore, we revise and confirm the penalty rate and corresponding revenue flexibility threshold in the updated WRFIM formula as following:

\[
RFT \text{ the revenue flexibility threshold. Lower threshold is 2\% and upper threshold is 3\%.}
\]

\[
PR \text{ The penalty rate, taking a positive value if } RR_{t-2} > [(1 + RFT) \times AR_{t-2}], \text{ a negative value if } RR_{t-2} < [(1 - RFT) \times AR_{t-2}], \text{ or else being equal to 0.}
\]

Denote the forecast error \( RR_{t-2} - AR_{t-2} \)/\( AR_{t-2} = x\% \), the magnitude of penalty rate is: (i) 3\% for all variations if \(|x\%| > 3\%\); (ii) 3\% \( \times \) \((|x\%| - 2\%)/(3\% - 2\%)) \) if 2\% < \(|x\%| < 3\%\).

**Concern – penalty levels/applicability for under-recovery**

South West Water noted that our proposed 3\% penalty rate was higher than that in other sectors, where a lower rate of 1.5\% to 2\% is often used, with higher rates of 3\% to 4\% only used for higher levels of over- and under-recovery (for example, above the 6\% investigation threshold that we suggested in our consultation). So it
proposed a lower penalty rate of 2%, as did Bristol Water. South West Water also suggested that the penalties for over-recovery should be higher, citing regulatory precedent such as Ofgem’s implementation of a similar mechanism in its RIIO-T1 price controls, which used Bank of England Official Bank Rate for under-recovery and Bank rate +400 basis points for over-recovery.

Southern Water considered that penalties for variations increased the cost of capital and that the existence of an annual reporting framework afforded adequate reputational incentive without the need for financial penalties. And it emphasised the risks of any level of financial WRFIM penalty, and its annual input from Ofwat, to undermine companies’ accountability to customers to determine bill profiles that are acceptable from year to year on a self-regulatory basis.

**Our view**

In our consultation, we explained the rationale for the single 3% rate proposed for annual revenue variations in either direction, and considered the level of the rate in that context. We note that, in the last section, we revise and confirm the two layer penalty rates, and the 3% rate links to the penalty outside the upper threshold. We respond to the comments in this context.

The worked examples we set out in the consultation illustrated that the penalty is likely to be very modest relative to the impact of other PR14 (delivery and cost performance) incentives, and would only arise in respect of deviations that companies could not explain were uncontrollable by efficiently managed companies.

Accordingly, we do not think the size of penalty should materially affect the cost of capital for efficiently managed companies, and, given the opportunities for them to mitigate the impacts, would not be not disproportionate in the context of the history of instances of poor revenue projections under the RCM. Under-recovery can adversely affect future customers, whose higher bills would otherwise fund the deviations concerned, such that a symmetric penalty creates balanced incentives to protect both current and future customers.

So we confirm the 3% rate for the penalty rate outside upper flexibility threshold.

**Q5** Do you agree with the use of a separate revenue forecasting incentive mechanism in the retail control? If so, do you agree with the use of an equivalent mechanism as in the wholesale control, with the same parameters?

We consulted on the following two options.
• **Option 1** – no RFIM mechanism applied to household retail revenues.

• **Option 2** – the same type of incentive mechanism applied to household retail revenues.

We indicated a preference for option 1 as we were less convinced of the need for the form of WRFIM incentive developed for revenue caps for the different forms of retail controls.

All but Dŵr Cymru respondent agreed with option 1. Dŵr Cymru stated that it would beneficial if there was a consistent approach to all revenue forecasting, including non-contestable retail revenues, but did not provide any supporting argument or evidence.

**Our view**

Based on these responses, we have decided to proceed with option 1 and not to implement an RFIM mechanism for the household retail revenue controls. Companies already have greater incentives to align actual revenues for non-contestable retail household revenues to the allowed revenues set in the price determination in a given year than those in place for the wholesale controls. The additional burden created by developing separate fully aligned incentives for the retail controls appears disproportionate given the expected small impact of such an incentive relative to allowed revenues. Instead, household revenue forecasting will be required as part of the annual reporting framework to implement the controls, discussed in the household retail technical appendix.

**Q6** Do you agree with the proposed cap and collar mechanism as a trigger to further investigation to provide additional safeguards to customers?

**Table A6.12 Additional issues – responses**

<table>
<thead>
<tr>
<th>Concern</th>
<th>Query</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concern</td>
<td>Proposed actions/potential penalties should be specified in advance.</td>
</tr>
<tr>
<td></td>
<td>Ofwat should consult CCWater and others should such situation arise.</td>
</tr>
</tbody>
</table>
Concern

Dee Valley Water noted that Ofwat will not apply the penalty in the 2%-6% variation band in a mechanistic way, and expected to rely on companies to explain any variances. It expressed concern that leaving the evidence expectations for this process open and unclear introduced further regulatory risk in practice: it suggested that Ofwat should set out at the outset the detail of the information required. These requirements should not be too onerous.

CCWater agreed that +/-6% or more variations should warrant further Ofwat investigation as to whether their companies had provided robust evidence of relevant exceptional factors (such as extreme weather) to justify the variations and, based on this, consideration of further intervention beyond the ex ante graduated incentives of the WRFIM. But it suggested Ofwat should consult CCWater and other interested parties in such circumstances: companies should carry the normal business risks associated with these uncertainties, and should not expect to receive further significant revenue adjustments outside of the suggested ex ante parameters, unless there was compelling evidence that service delivery would otherwise be placed at risk. Thames Water suggested that the type of action/potential penalty proposals should be specified in advance of the price control determination, and form part of it.

Our view

In our consultation, we explained that our minimum annual reporting requirements for WRFIM would be the subject of further detailed technical consultation. These will be aligned to the reporting requirements arising from other decisions at PR14, including regulatory financial reporting covered by the Regulatory Accounting Guidelines (RAGs), on which we plan to consult on in September. Therefore, we will include our proposals for these WRFIM reporting requirements alongside our regulatory financial reporting proposals.

We accept that regulatory risks should not be increased by a lack of clarity over the potential further regulatory consequences of large variations. But we remain of the view, as set out in the consultation, that the causes of larger variations and thus the proportionality of any further interventions could be many and varied. Accordingly, they would need case-by-case consideration, noting that large variations of the form warranting such investigation have in the past been relatively rare.
In some circumstances, consultation with interested parties may be appropriate for this purpose to gather wider views and evidence. In the first instance, we would expect companies to have engaged with customers to set out the causes of large variations and proposals to deal with them. However, notwithstanding companies’ own ongoing engagement with customers, we have set out proposals for CCWater to be consulted regarding companies’ charging proposals. We will also need to consider the interaction of these processes in the light of our final charging rules proposals following commencement of the Water Act 2014. We will further consult on potential options in due course.

Q7 Do you agree we could additionally use the WRFIM to incentivise accurate projections of revenues for 2014-15 in our final determinations?

<table>
<thead>
<tr>
<th>Type</th>
<th>Query</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concern</td>
<td>Incentivising accurate forecasts is retrospective and not proportionate at this late stage in PR14; several companies have finalised revenue forecasts.</td>
</tr>
</tbody>
</table>

**Concern**

Some companies suggested that prices for 2014-15 have already been set (in line with the previous periodic review arrangements), and several have already submitted their revenue forecasts to Ofwat as part of their final business plans in the PR14 process. In a number of cases, these projections have reflected the impact of companies’ foregoing planned revenues voluntarily for 2014-15.

So there was a concern that our consultation proposal to extend the form of WRFIM incentive to accurate forecasting in 2014-15 was no longer appropriate in practice, and would amount to retrospective changes to the existing (RCM) incentives already in place for AMP5. But was no objection to our proposal to complete the existing RCM reconciliation process for the 2014-15 ‘blind year’ after final determinations, and then consistently reflect this in adjustments to the WRFIM baseline for 2016-17, as set out in the consultation.

**Our view**

Given that our final reporting requirements for 2014-15 are not yet aligned to those that will be needed for the new separate controls for AMP6, we acknowledge the procedural and incentive arguments made by companies in this area, and have decided not to apply a WRFIM type mechanism to 2014-15 revenue projections.
Q8 Do you have any comments in relation to the details and mechanics of the iteration process?

<table>
<thead>
<tr>
<th>Type</th>
<th>Query</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concern</td>
<td>Iteration process could force perverse company behaviours to recover revenues, to consumer detriment.</td>
</tr>
</tbody>
</table>

Concern

CCWater was concerned that if a company faced a WRFIM penalty it might take actions to avoid it which would be to the detriment of existing consumers. For example, an under-recovery of allowed revenue may incentivise more aggressive debt recovery that could lead to some customers in genuine financial hardship facing disproportionate action from the company. It sought clarity on the safeguards that Ofwat would put in place to address such risks.

Our view

It is true that increasing the incentive on companies to be accountable for revenue collection from existing customers (rather than postponing the consequences of variations for future customers, in the next price review) could create some more behavioural pressure to adhere to companies’ revenue plans. However, we think that this should serve largely to reinforce the framework of companies’ accountability to its customers that underpins our PR14 framework more generally.

As part of this wider framework, we expect companies to take ownership of their charging schemes (including social tariffs and other arrangements to deal with customers in difficulty) subject to our charging rules and subject to relevant Government guidance. We have proposed that companies should carry out impact assessments of significant bill variations as a requirement of our charging rules. We have provided further details of these safeguards in the charging technical appendix.
Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We are responsible for making sure that the water sector in England and Wales provides customers with a good quality and efficient service at a fair price.