



**Draft Determination of Terms and Conditions of the
Supply of Non-Potable Water from Dŵr Cymru Cyfyngedig
to Tata Steel UK Limited at Llanwern under
Section 56 of the Water Industry Act 1991**

July 2015

About this document

This is a consultation on Ofwat's draft determination of the relevant terms and conditions of the supply by Dŵr Cymru Cyfyngedig (**Dŵr Cymru**) to Tata Steel UK Limited (**Tata**) of non-potable water at Llanwern, under section 56 of the Water Industry Act 1991.

Over the past year, we have taken steps to increase the transparency of our casework. In making decisions on strategic casework matters, we want to be as transparent as we can with all stakeholders about how we have reached our conclusions. This document describes our investigation in relation to the disputed terms and conditions of a partially treated non-potable water supply agreement between Dŵr Cymru and Tata. It explains how we have reached our draft determination of the relevant terms and conditions of the supply in this case, which follows extensive communications with the parties.

We will consider carefully the responses we receive to this consultation before we make our final determination.

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Executive summary

Tata Steel UK Limited (**Tata**) operates a large steel works at Llanwern, near Newport in the south of Wales. The site is located in Dŵr Cymru Cyfyngedig's (**Dŵr Cymru**) supply area.

Tata is supplied with non-potable water via a discrete system of assets (**the Court Farm non-potable system**), which is used to supply Tata and other customers within the South East Wales Conjunctive Use System (**SEWCUS**). The Court Farm non-potable system comprises of a large number of assets, some of which are used exclusively for the supply to the Llanwern site and some of which are used both to supply this site and to supply other customers within the SEWCUS water resource zone.

The supply to the Llanwern site has been the subject of a number of agreements stretching back to the 1960s. The current dispute between the parties dates from 2004 when a previous agreement, signed in 1993, came to an end. At the termination of the 1993 agreement, Dŵr Cymru proposed to transfer Tata onto their standard large non-potable water user tariff. However Tata disputed this proposed approach arguing that the price for the supply to the Llanwern site should be based on Dŵr Cymru's actual costs specific to the supply at this site.

Where parties are unable to reach agreement on the terms and conditions for a "non-domestic" supply of water, they may refer the dispute to the Water Services Regulation Authority (**Ofwat**) under section 56 of the Water Industry Act 1991. We are required to determine such disputes by reference to what appears to us to be reasonable.

Where the charges for a "non-domestic" supply of water fall to be determined by Ofwat, we are also required by statute to have regard to the desirability of the supplier's recovering the expenses of complying with its obligation to make such supplies, and securing a reasonable return on its capital.

On 27 October and 28 November 2008, we received requests from Dŵr Cymru and Tata to determine a number of terms and conditions (including price terms) in respect of the supply of non-potable water by Dŵr Cymru to Tata's Llanwern site, near Newport in Wales.

This document set out our investigation and provisional determination in relation to the disputed price and non-price terms of the agreement for a "non-domestic" supply of water between Dŵr Cymru and Tata. In order to inform our understanding, we have issued three requests for information to the parties. One of the main objectives of these information requests was to gain an understanding of the costs associated with assets involved in the supply to Tata and to understand which assets were used solely for the supply to the Llanwern site and which were also used to supply other customers of Dŵr Cymru.

We have also commissioned a report from a leading economic consultancy, to provide an independent assessment of the most appropriate cost of capital methodology to use for this and future cases. We commissioned this report as we recognise that the cost of capital is an important issue in this case. As a result, we have set out our approach to the cost of capital in detail in annex 4.

On the basis of the information provided to Ofwat by the parties and the work undertaken by external consultants, and having applied our approach for resolving pricing disputes involving bulk supplies, **we have provisionally determined that the price for the supply of non-potable water from Dŵr Cymru to Tata should be 20.33 p/m³ at 2004/05 prices.** We have also determined certain non-price terms for the agreement between the parties alongside that price.

Having reached our provisional determination, we now invite the parties, and other interested stakeholders, to submit responses to it in order to inform our final determination in this case.

Consultation questions

We welcome views from both the parties, and from other interested stakeholders, on the issues set out in our draft determination, and specifically on the questions below.

- Q1 Do you have any comments on our approach to resolving bulk pricing disputes in this determination?

- Q2 Do you have any views on the different factors (and materiality of those factors) which may affect the costs of providing bulk water to large users? Please provide clear evidence to support your response to this question.

Responding to this consultation

Written responses to this consultation may be submitted electronically or in hard copy **by 21 August 2015** to:

Jonathan Eddleston
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Ofwat
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7 Hill Street
Birmingham
B5 4UA.

Email: tataconsultation@ofwat.gsi.gov.uk

Information provided in response to this consultation, including personal information, may be published or disclosed in accordance with access to information legislation – primarily the Freedom of Information Act 2000 (FoIA), the Data Protection Act 1998 and the Environmental Information Regulations 2004.

If you would like the information that you provide to be treated as confidential, please be aware that, under the FoIA, there is a statutory ‘Code of Practice’ which deals, among other things, with obligations of confidence. In view of this, it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information, we will take full account of your explanation, but we cannot give an assurance that we can maintain confidentiality in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on Ofwat.

If appropriate, please also provide redacted copies. If we consider that disclosure of that information will facilitate the exercise of our functions, and we do not consider that the reasons provided amount to sufficient justification to withhold disclosure, we may decide to disclose the information to other parties in due course. We will not accept blanket requests for confidentiality, or requests not supported by specific and clear reasons.

Next steps

The consultation closes on **21 August 2015**. Once we have considered responses received, we will make any changes we deem necessary before publishing our final determination.

1 Introduction

- 1.1 The Water Services Regulation Authority (**Ofwat**) has received applications from Dŵr Cymru Cyfyngedig (**Dŵr Cymru**) and Tata Steel UK Limited (**Tata**) requesting it to determine certain terms and conditions of the supply of non-potable water from Dŵr Cymru to Tata at Llanwern under section 56 of the Water Industry Act 1991 (the **Act**).
- 1.2 Ofwat has considered these applications and accepted them as it is clear that Dŵr Cymru and Tata (together, **the parties**) are unable to reach agreement on the relevant terms and conditions.
- 1.3 Since accepting the parties' applications, Ofwat has engaged in a detailed process to gather and assess the information necessary to make a draft determination.
- 1.4 Ofwat has now fully assessed the information received from the parties and other relevant information. This document sets out Ofwat's provisional determination of the matters in dispute, and adopts the following structure –
 - a. the applicable legal and policy framework (at **Section 2**);
 - b. the factual background (at **Section 3**);
 - c. the scope of the dispute the terms and conditions to be determined (at **Section 4**); and
 - d. Our (draft) determination of the disputed terms and conditions (at **Section 5**);
- 1.5 **Appendix 1** consists of a draft agreement for the supply of water by Dŵr Cymru to Tata, which includes the terms in dispute between the parties as we have provisionally determined them. These terms are highlighted in bold for the parties' ease of reference.
- 1.6 In addition, in order to ensure that both parties have access to the information Ofwat has relied upon for the purposes of making this draft determination, **Appendix 2** contains a list of all key documents and correspondence since the matter was referred to Ofwat for determination in October 2008. The parties have been provided with non-confidential copies of all of these documents and correspondence.
- 1.7 **Appendix 3** to this draft determination sets out a chronology of the requests for information (**RFIs**) which we have issued as part of our investigation, and the responses to those RFIs which we have received from the parties.
- 1.8 Finally, **Appendix 4** sets out in detail our approach to the cost of capital for price determination cases.

2 Applicable legal and policy framework

- 2.1 Under section 55 of the Act, water undertakers have a duty, where requested, to provide supplies of water for “non-domestic” purposes (section 55(2) of the Act), provided that this does not involve incurring unreasonable expenditure or otherwise put at risk the ability of the water undertaker in question to meet any of its existing obligations to provide water or probable future obligations to supply water for domestic or other purposes (section 55(3) of the Act).
- 2.2 In default of an agreement to provide such supplies for “non-domestic” purposes, section 56 of the Act says that Ofwat shall determine any terms or conditions or other matter which falls to be determined for the purpose of such a supply¹. That determination is to be made “**according to what appears [to Ofwat] to be reasonable**” (section 56(1)(b) of the Act).
- 2.3 Further statutory provisions apply in relation to the charges (i.e. the price) for a supply provided in compliance with section 55 of the Act:
- a. In particular, under section 56(5)(a) of the Act, Ofwat may only determine such charges in the context of a determination under section 56(1)(b) of the Act to the extent that, at the time of the request for the supply in question, “**no provision is in force by virtue of a charges scheme under section 143 of the Act in respect of supplies of the applicable description.**” In other words, the existence of a charges scheme covering the supply requested under section 55 of the Act precludes Ofwat from determining the charges for that supply for the purposes of any determination under section 56(1)(b) of the Act. Where a charges scheme in respect of the supply in question is in place at the time of the request, then, pursuant to section 56(6) of the Act, it is the relevant charges scheme which will govern the price of that supply.
 - b. Where there is no applicable charges scheme, Ofwat is then obliged to determine the charges for the supply (just as it is obliged to determine any other terms and conditions for the supply, in the absence of agreement between the relevant parties). In that regard, section 56(5)(b) of the Act provides that, when determining the charges in respect of such a supply, Ofwat must have regard to the desirability of the relevant water undertaker –
 - (i) **recovering the expenses of complying with its obligations under section 55 of the Act; and**
 - (ii) **securing a reasonable return on its capital.**

¹ We do have the power to refer the matter to arbitration under section 56, but have chose not to do so in this case.

- 2.4 Section 55(7) of the Act provides that the terms and conditions ultimately determined by Ofwat in the context of a determination under section 56(1)(b) of the Act in default of agreement between the parties, shall have effect as if they were contained in such an agreement.
- 2.5 Section 56 of the Act is one of several provisions in the Act under which Ofwat has the function of resolving pricing disputes involving bulk water and sewerage services. Whilst decisions under each of these provisions have to be decided by reference to their particular statutory criteria, certain issues, such as how to assess costs and possible adverse effects (including companies' ability to finance their functions and the effects on competition and efficiency), have to be considered in relation to all of them. Ofwat has been concerned to ensure that it acts consistently in resolving the different pricing disputes that can be referred to it and therefore has developed and published an analytical framework to be applied, as far as possible, to all such disputes (**the published framework**)².
- 2.6 The published framework lists the statutory circumstances in which it will be considered, sets out Ofwat's objective in seeking consistency, and explains that Ofwat will have regard to certain of its general duties which arise under section 2 of the Act. Although in the case of section 56 determinations, those duties are not applicable³. The published framework also explains Ofwat's normal starting point in assessing costs for the purpose of bulk price determinations and the tests to be applied in establishing costs in such determinations.
- 2.7 How Ofwat has discharged its section 56 duties and applied its published framework in this case is explained in Chapter 5. Ofwat confirms, for the reasons set out in detail in that chapter, that it considers the terms and conditions which it has provisionally determined to be applicable to the supply of water by Dŵr Cymru to Tata at Llanwern to be reasonable in all the circumstances of this case.

² Bulk supply pricing – a statement of our policy principles (February 2011) -
IN 13/08 Ensuring consistency in our approach to resolving pricing disputes (August 2013)
Negotiating bulk supplies – a framework (August 2013)
IN 14/04 Ensuring consistency in our approach to resolving pricing disputes involving bulk supplies (January 2014)

Our framework for resolving pricing disputes involving bulk supplies (January 2014): see http://www.ofwat.gov.uk/regulating/casework/investigation/pap_pos_bulksupplydispute

³ Although this is the effect of section 2(6) of the Act, some of the points which Ofwat had to consider in this case, such as, for example, the need to have regard to the desirability of Dŵr Cymru recovering the expenses of complying with its obligations and securing a reasonable return on its capital, have similarities with the principles which underlie Ofwat's section 2 duties.

3 Factual background

(A) The parties

- 3.1 Dŵr Cymru is a water and sewerage undertaker appointed under the Act. It provides water and sewerage services to most of Wales and some parts of England.
- 3.2 Tata is a large steel and iron producing company. It has three sites in Dŵr Cymru's area of appointment – **Llanwern** (near Newport in South Wales), Shotton (in North Wales) and Trostre (near Llanelli in South West Wales). In accordance with the parties' requests, this determination relates to the supply of non-potable water provided by Dŵr Cymru to Tata at Llanwern only.

(B) Chronology of key events

- 3.3 The supply of non-potable water from Dŵr Cymru to Tata at Llanwern was originally delivered under the terms of an individual agreement dated 11 February 1960 (the **1960 agreement**)⁴, which had a 30-year term. The 1960 agreement required Dŵr Cymru to supply a maximum volume of 20 million gallons per day, equivalent to 91 mega litres per day (**MI/d**), of non-potable water to Tata. In consideration for this supply, Tata was to reimburse Dŵr Cymru for certain capital and operating costs incurred in providing it.⁵
- 3.4 Following the expiry of the 1960 agreement, a further individual agreement was, after protracted negotiations, signed between the parties (the **1993 agreement**).⁶ The 1993 agreement required Dŵr Cymru to supply a maximum volume of 91 MI/d to Tata, and provided for a tariff consisting of a reservation charge of 3.5p/m³ and a volumetric charge of 9.5p/m³, with both charges indexed annually by reference to the Producer Price Index until the expiry of the agreement on 31 March 2004.
- 3.5 During the term of the 1993 agreement, the level of demand from Llanwern reduced significantly. In 2003/04 – the final year of the 1993 agreement – Tata's demand was 24.2 MI/d (down from 70.4 MI/d in 2000/01, 44.3MI/d in 2001/02, and 28.0MI/d in 2002/03).
- 3.6 In April 2003, and prior to the expiry of the 1993 agreement, Dŵr Cymru introduced a new standard tariff for large users of non-potable water, as part of its charges scheme for the year 2004/05. Dŵr Cymru informed Tata that, on expiry of

⁴ In fact, the 1960 agreement was between the Mayor Aldermen and Burgesses of the County Borough of Newport and Richard Thomas & Baldwins Limited – these were predecessors, respectively, of Dŵr Cymru and Tata.

⁵ As detailed in the 1960 agreement, the capital and operating costs included among other items: (1) capital expenditure attributable to the supply to Tata including any expenditure on renewables and replacement; (2) interest payments attributable to loan charges; (3) costs incurred in obtaining the necessary statutory powers in the design and supervision of the construction of the works; (4) local rates and running, maintenance and repair costs; and (5) purchase of water.

⁶ The 1993 agreement was between Dŵr Cymru and British Steel plc, the latter being another predecessor of Tata.

the 1993 agreement, it intended to migrate Tata onto the new standard tariff for large users of non-potable water, with effect from 1 April 2004. However, when the 1993 agreement expired, Tata resisted Dŵr Cymru's attempts to migrate it onto the new standard tariff for large users of non-potable water, and sought instead to negotiate a new individual agreement.

- 3.7 In April 2005, Dŵr Cymru issued a claim against Tata for the difference between the sums actually paid by Tata since 1 April 2004 and the sums which would be payable by Tata under the relevant tariff for large users of non-potable water. That litigation ultimately resulted in a judgment of the Court of Appeal in Tata's favour.⁷ The effect of that judgment was that the parties were required to agree the terms of the supply as opposed to Tata being automatically migrated onto the large user tariff. In default of an agreement, the parties would have to refer the dispute to Ofwat for determination under section 56 of the Act.
- 3.8 From April 2007, in light of the Court of Appeal's judgment, the parties attempted to reach agreement on the terms of the continued supply of non-potable water to the Llanwern site, but no such agreement was reached. Accordingly, the parties requested (by letters of 27 October 2008 (Dŵr Cymru) and 28 November 2008 (Tata)) that Ofwat determine the terms of the supply under section 56 of the Act.
- 3.9 Following the parties' requests, Ofwat has engaged in correspondence with the parties, including making requests for information, to enable Ofwat to arrive at a determination of reasonable terms and conditions for the supply. Further detail on this process appears at Appendices 2 and 3 to this draft determination.
- 3.10 We note that since the expiry of the 1993 agreement, Dŵr Cymru has continued to supply non-potable water to Tata at Llanwern, for which Tata has paid an amount (the **Interim Price**) [REDACTED]

⁷ Dŵr Cymru Cyfyngedig v Corus UK Ltd and another [2007] EWCA Civ 285.

4 Scope of the dispute: the terms and conditions to be determined

4.1 Dŵr Cymru's letter to Ofwat of 7 October 2008, which contained its initial request for a determination under Section 56 of the Act, included a draft agreement for the supply of non-potable water to Tata at Llanwern, indicating both the clauses which Dŵr Cymru considered to be non-contentious as between the parties, and those which were in dispute (the **draft agreement**). In a letter to Ofwat dated 28 November 2008, in which Tata made its own request for a determination under section 56 of the Act, Tata confirmed the clauses which were in dispute in the draft agreement.

4.2 By reference to the draft agreement, the following terms and conditions fall to be determined by Ofwat:

Clause 3.1	Obligation for Dŵr Cymru to supply maximum quantity of water
Clause 3.2	Obligation for Tata to take a minimum quantity of water
Clause 3.3	Variation of maximum and minimum quantities
Clause 4.1.1	Quality of water supplied (specifically the percentage of the water to be supplied which must contain no more than 10 mg/l of suspended solids)
Clause 4.2	Sampling arrangements
Clause 9	Charges
Clause 10.4	Procedure for disconnection for non-payment
Clause 10.4.3	Payment of security deposit prior to reconnection
Clause 14.4	Provision as to termination of the agreement

4.3 The parties have also requested that Ofwat "back-date" the price that we determine to be appropriate for the supply to Tata at Llanwern, so that it applies as from the expiry of the 1993 agreement between the parties in March 2004 (since which period Tata have been paying the Interim Price). The charges for each year of the supply since March 2004 are within the scope of this determination because the parties have agreed that the new agreement commences with effect from 1 April 2004 (clause 2).

5 Our (draft) determination of the disputed terms and conditions

- 5.1 This section sets out Ofwat's provisional determination of the disputed price and non-price terms for the supply of non-potable water from Dŵr Cymru to Tata at Llanwern listed in Section 4 above.
- 5.2 Under heading (A) below, we set out our provisional determination of the price of the supply (clause 9 of the draft agreement). Our provisional determination of the other terms in dispute (clauses 3.1, 3.2, 3.3, 4.1.1, 4.2, 10.4, 10.4.3 and 14.4 of the draft agreement) appears under heading (B) ("**[t]he non-price terms**").

(A) The price of the supply

(ii) Views of the parties

Dŵr Cymru

- 5.3 We understand that Dŵr Cymru's **general** approach to pricing policy is to proceed by means of a "top-down" allocation of costs between customer classes. This involves the allocation of Dŵr Cymru's total water supply costs to specific customer classes to determine a revenue requirement for each of those classes of customer. The allocation is performed on the basis of what are judged to be the relevant cost "drivers" (e.g. volume, peak use, number of bills, etc.) This "top-down" approach is then used to calculate Dŵr Cymru's standard "tariff" prices for the different customer classes which appear in its published charges scheme.
- 5.4 The "industrial" tariff is applicable to customers who use a large volume of water at a single site. The tariff is itself sub-divided into "potable" and "non-potable", and these categories are further sub-divided into different "bands" defined by reference to the customer's "indicative" annual consumption in Ml/year. Different fixed and volumetric charges apply in respect of each band. In addition, the volumetric charge applied to an industrial user of non-potable water will vary depending on whether the water supplied is partially treated or "raw" (i.e. untreated).
- 5.5 In this way, Dŵr Cymru's approach to pricing allows for some differences in price to reflect the differences in the service being provided to different broad customer classes. However, all customers who fall within a particular band of a particular tariff will pay the **same** price for a given supply of water (for industrial users, the price also depends on whether the water is potable, partially treated, or "raw"); there is thus no attempt to calculate the precise costs of supplying individual users. In Dŵr Cymru's view, this allows the costs of high cost and low cost systems to be aggregated and shared across its customer base using a single consistent methodology.

- 5.6 Against this background, Dŵr Cymru considers that the appropriate approach is simply to apply the price that would be applicable to the supply to Tata at Llanwern under the relevant tariff in its published charges scheme. Although the Court of Appeal ruled that Dŵr Cymru could not simply migrate Tata onto its charges scheme, Dŵr Cymru considers that its approach to setting standard tariff prices should nonetheless be adopted by Ofwat for the purposes of this price determination. Dŵr Cymru's view is that such an approach represents a fair allocation of costs to all customer classes on a consistent basis, and if a different approach were taken to individual customers, this principle of fairness would be violated.
- 5.7 The supply of water to Tata at Llanwern is a supply of partially-treated, non-potable water to an industrial user at a specific site. Dŵr Cymru accordingly proposes that Ofwat should fix the price of that supply at the level which would be applicable to such a user under the relevant tariff in Dŵr Cymru's published charges scheme (the **Tariff Price**). Dŵr Cymru notes that the Llanwern site falls within the small class of customers categorised as "large industrial non-potable".
- 5.8 Dŵr Cymru further considers that the application of a "site-specific" charge to Tata for the supply at Llanwern could amount to a breach of Condition E of Dŵr Cymru's Instrument of Appointment (which prohibits Dŵr Cymru from showing undue preference to, or undue discrimination against, any class of customers or potential customers in fixing or agreeing charges). Dŵr Cymru also contends that the system which supplies Llanwern is, if anything, more extensive and more complex than that which supplies other non-potable customers, so that any site-specific charge would have to be higher than the Tariff Price.
- 5.9 Under Dŵr Cymru's 2014/2015 scheme of charges, the Tariff Price which would be applicable to Tata is 43.3p/m³ plus a fixed charge of £39,840.⁸

Tata

- 5.10 Tata considers that Ofwat's determination of the price of the supply should reflect the "**special features**" of the supply to the Llanwern site.
- 5.11 Tata contends that the relevant special features in this case are (in summary):
- a. The volumes supplied to Tata at Llanwern are very large, and the economies of scale resulting from that supply, are such that the supply cannot be simply be categorised along with other large industrial users of non-potable water. In this regard, Tata noted in its letter of 28 November 2008 that the supply at Llanwern was, at that time, "**the largest supply of non-potable water made in Wales**";
 - b. Tata's predecessor, Richard Thomas & Baldwins Limited, contributed more than 70% of the capital/finance costs of the infrastructure currently

⁸ Dŵr Cymru 'Scheme of Charges 2014 – 2015' (available at https://www.Dwr.cymru.com/library/leaflets_publications_english/scheme_of_charges.pdf)

used by Dŵr Cymru to supply the Llanwern site.⁹ Tata considers that this is a further factor which differentiates it from other large industrial users of non-potable water, and that this would make the application of the Tariff Price to the supply at Llanwern inappropriate. Instead, Tata contends that the capital contributions made by Tata’s predecessor should be reflected in Ofwat’s determination of the price of the supply.

5.12 Against that background, Tata considers that the application of both the Tariff Price, and the Interim Price which it has been paying Dŵr Cymru since 1 April 2004, would be wholly unjustifiable, having regard to these special features. Tata also considers that both the Tariff Price and the price which it has been paying since 1 April 2004 are excessive and unfair. Instead, Tata’s position is that Ofwat should look at the actual cost of the supply at Llanwern. In other words, Tata advocates a “**bottom-up**” approach to the calculation of the price of the supply. In addition, Tata considers that “**further credit**” should be given to reflect the substantial capital contributions which it says were made by its predecessor towards the infrastructure at the Llanwern site.

(iii) Our analytical approach

5.13 Our analytical approach has been taken in the context of the legal and policy framework set out in chapter 2. Specifically, section 56(1)(b) WIA91 provides for Ofwat to determine the disputed terms and condition of an agreement “**according to what appears to [Ofwat] to be reasonable**”. In addition, section 56(5)(b) of the Act provides that in making this determination, Ofwat “**must have regard to the desirability of the [relevant water] undertaker’s –**

(i) **recovering the expenses of complying with its obligations under section 55 [of the Act]; and**

(ii) **securing a reasonable return on its capital.”**

5.14 In reaching our determination of the “**reasonable**” price for the supply in this case, we have examined the relevant costs incurred by Dŵr Cymru in providing that supply. We have also reviewed the cost of capital used by Ofwat in the 2014 Price Review, and considered whether it is reasonable to use that cost of capital given the particular circumstances of the supply. The results of this analysis are set out below.

5.15 The published framework has been used in this case to inform our assessment of the costs to which we must have regard for the purposes of section 56(5)(b) of the Act. This, in turn, informs our judgement of what a “**reasonable**” price should be for Dŵr Cymru’s supply of water to Tata at Llanwern.

⁹ Tata has argued that the relevant percentage capital contributions were as follows (by reference to certain specific assets involved in the supply to Tata at Llanwern: Court Farm partial treatment works (72%); ■■■ main from ■■■■■■■■■■ to Court Farm (41%); ■■■ mains ■■■■■■■■■■ to Court Farm and from Court Farm to Waltwood Reservoir (100%); and ■■■■■ intake works (100%).

- 5.16 We believe that it is reasonable in resolving bulk supply pricing to use the price being disputed as a starting point for our determination. We term this the “business-as-usual” approach. This would normally involve setting charges on the basis of a top-down approach using average accounting costs (**AAC**) as this approach generally provides a practical and proportionate means of reflecting the cost of provision, and is consistent with what has been, to date, the usual method of cost assessment in the water sector.
- 5.17 Nevertheless we recognise that there may be circumstances in which the business-as-usual approach is not “**reasonable**”. We have applied the analytical approach in the published framework in assessing what is a reasonable price to determine in this case. This involves asking three questions in relation to the price used as a starting point, namely whether the price:
- a. is inappropriate given the geographic nature of the supply;
 - b. would give rise to competition concerns; or
 - c. would give rise to efficiency concerns.
- 5.18 We also believe that it may be reasonable to make provision for the ability to revisit price determinations in the future as necessary, for example through the use of a “trigger” mechanism or “re-opener” clause to allow the parties to renegotiate the price in the event of a material change in our charging policy after the date of the determination, and to refer the matter back to Ofwat if no agreement can be reached: we consider this issue at paragraphs 5.152 to 5.156 below.

iv. **Applying the analytical approach to the present case**

- 5.19 This section sets out how we have applied the analytical approach to assess the costs of the supply to Tata at Llanwern. Having reached a price for the supply that we regard as reasonable and in line with the specific statutory factors which we are required to consider, we then explain our mechanism for minimising any potential inconsistencies with our potential future approach to charging, through the inclusion of a “re-opener” clause.

The nature of the supply to Tata at Llanwern

- 5.20 In order to assess the costs attributable to the supply to Tata at Llanwern, it is important to consider the different elements of that supply, and the specific assets involved. The following account reflects our understanding of the parties’ responses to the requests for information we have made in this case (see **Appendix 3**).
- 5.21 Dŵr Cymru supplies partially treated non-potable water to the Llanwern site using a water supply system known as “**the Court Farm Non-Potable System**”. The Court Farm Non-Potable System falls within the “South East Wales Conjunctive Use System” water resource zone (the **SEWCUS zone**), which is the largest water

resource zone in Wales, serving almost 1.5m people, principally in Cardiff and Newport. The SEWCUS zone is essentially self-contained, with a high degree of substitutability between the assets used to supply any given customer within the zone. It is planned and managed as a single zone, with very limited, if any, interconnection to other water resource zones in Dŵr Cymru's appointed area. The Llanwern site is supplied with water which may have been abstracted at any

This raw water is then transported (via various possible routes) to a partial treatment works at Court Farm, which is exclusively used to partially treat non-potable water destined for Tata's Llanwern site. Once this partial treatment has taken place, the non-potable water is distributed via a discrete pipe to Tata's own service reservoir at Waltwood, near the Llanwern site.

- 5.22 As set out further below at paragraphs 5.57 to 6.63 and paragraphs 5.81 to 5.83, some of the infrastructure used to supply partially treated water to Tata at Llanwern is **also** used to supply potable water to customers within the SEWCUS water resource zone more generally. For example, the water extracted from the various extraction points referred to above is not only used to supply partially treated water to Tata via the Court Farm partial treatment works, but also to supply potable water to other customers within the SEWCUS zone, via potable treatment works at both Court Farm and Sluvad.
- 5.23 As also referred to above, as well as commonly used assets there are also certain assets that are used solely to supply partially-treated water to Tata, e.g. the pipeline from Court Farm to Tata's own service reservoir at Waltwood.

Our assessment of the cost of supplying Tata at Llanwern

- 5.24 In this case we consider that the price being disputed is the Tariff Price, which (as set out above) is calculated on the basis of an AAC approach. Although we note that Tata has also complained about the level of the Interim Price, the Tariff Price is the price that would apply in the absence of an individual agreement and the whole dispute between the parties in this case arose from Dŵr Cymru's attempt to migrate Tata onto its large user tariff on expiry of the 1993 agreement. We therefore consider it appropriate to take the Tariff Price as the price being disputed, and the starting point for our analysis in the present case.
- 5.25 In line with our analytical approach, we therefore consider the Tariff Price (and the AAC approach on which it is based) in relation to the three questions set out paragraph **Error! Reference source not found.** above.

The geographic nature of supply

- 5.26 In this section we consider whether there are any geographic considerations which would justify departing from the price being disputed, the Tariff Price. This may be the case where a price based on an AAC approach does not adequately reflect the “local” costs involved in supplying the particular customer in question.
- 5.27 The price needs to reflect the costs reasonably associated with the provision of the relevant services. Different approaches to cost assessment may be reasonable in different cases, depending on the nature of the supply in question. As we noted in **Bulk supply pricing – a statement of our policy principles**¹⁰:

‘If a service is provided using a network, it may be genuinely difficult to distinguish between the costs associated with an individual customer with a service and other services. The provision of services involves the same network, which means there may be:

- ‘joint’ costs
- ‘common’ costs
- network benefits.

In such cases, we will typically take account of issues of practicability and proportionality when considering the extent to which efforts should be made to reflect the costs of serving particular customer requirements. Consider the following examples:

- If a network has a large number of relatively small users on a network, a common charging scheme that involves a significant degree of averaging can provide a practical and proportionate means of reflecting the costs of provision. This is despite the fact there may be some relevant differences in circumstances between particular customers that will not be closely reflected in the resulting charges.
- If there are fewer users, and the network interactions are more limited, the balance of arguments may be more in favour of a specific cost assessment.”

- 5.28 Accordingly, a key consideration in our assessment of whether to depart from the Tariff Price in the present case is the extent to which the costs of the supply to Tata at Llanwern can be regarded as being common to Tata and other users, or alternatively as being specific to the supply to Tata at Llanwern. In the latter case, adopting a “local accounting cost” (**LAC**) approach may better reflect the costs attributable to supplying Tata.

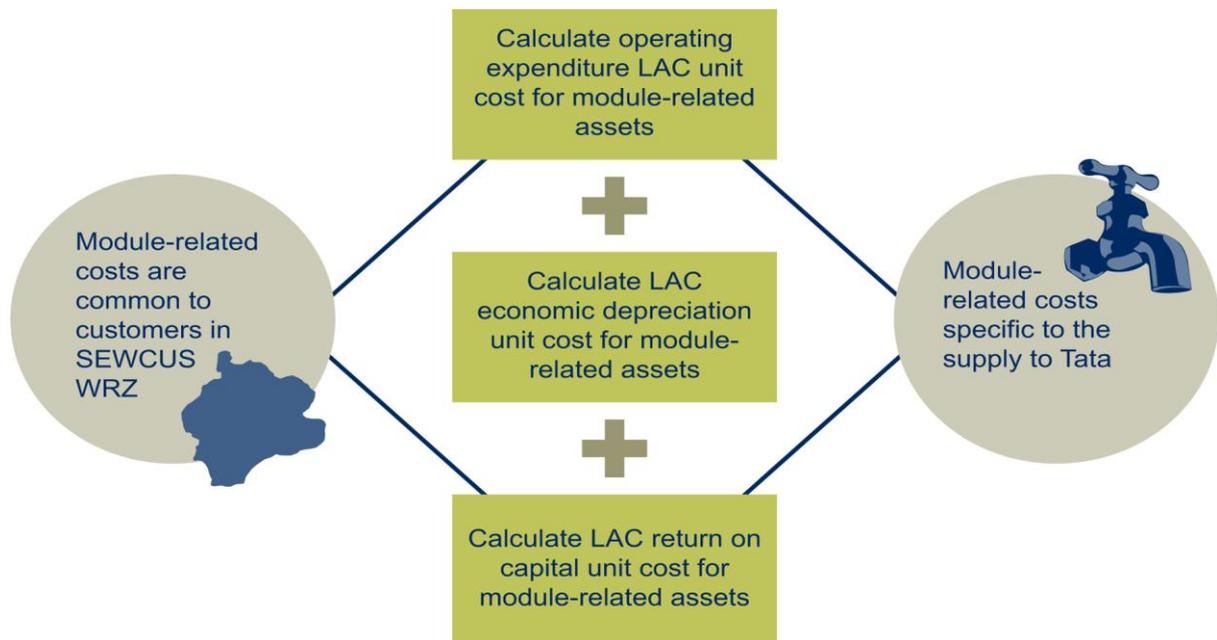
¹⁰ https://www.ofwat.gov.uk/competition/inset/pap_pos110228navbulksupply.pdf

5.29 It is also important to distinguish between two categories of “common” cost which may arise in the present case. **First**, costs may be common across Dŵr Cymru’s **entire area of appointment**. This would be the case if a particular asset involved in the supply to Tata at Llanwern were also used to supply customers across the whole of Dŵr Cymru’s customer base. In such a case, an AAC approach may be appropriate. In the present case, however, Tata is supplied via a discrete system of assets (the Court Farm Non-Potable System), which is used to supply Tata and other customers within the SEWCUS zone, but not to supply customers in other water resource zones within Dŵr Cymru’s area of appointment. Accordingly, we have considered a **second** category of common costs; namely, those costs which are common to Tata and to other customers supplied via the Court Farm Non-Potable System, but not to customers in other water resource zones across Dŵr Cymru’s area of appointment.

5.30 There is also a **third** category of cost which is relevant to this determination, namely costs which are **wholly discrete** to the supply to Tata at Llanwern.

5.31 In relation to the **second and third** categories of cost, some form of LAC approach is likely better to reflect the costs attributable to the supply to Tata. The table below sets out our approach to determine the LAC unit cost:

Figure 1: Our approach to determining LAC unit costs



5.32 In order to assess whether it is reasonable to depart from the Tariff Price based on AAC on the basis of geographical considerations, we have categorised the costs associated with the supply to Tata at Llanwern into the following ‘modules’ that capture self-contained activities across the value chain to deliver partially treated water to Tata: **(1) Water Resources; (2) Treatment; (3) Distribution; and (4) Retail Costs and M&G assets.**



Overall cost of capital approach

- 5.33 Before considering the specific modules associated with the supply to Tata, it is helpful to set out our general approach to cost of capital assessment given that this is relevant to all four “modules”.
- 5.34 The cost of capital is a key element in developing the relevant price in the context of this case. In general, the provision of water services is relatively capital intensive and Dŵr Cymru has considerable assets in place to supply Tata. We are also required to have regard to the desirability of Dŵr Cymru “securing a reasonable return on its capital” when making our determination (section 56(5)(b)(ii) of the Act).
- 5.35 For the PR14 price control, we set a water and wastewater wholesale cost of capital (i.e. excluding the retail part of water companies’ returns) that was based on an appointee cost of capital adjusted for the removal of the retail margin. We consider the appointee cost of capital to be a reasonable starting point as the basis of a cost of capital to apply in a price determination case because it: (1) represents our best forward looking view of the cost of capital applicable to appointed companies such as Dŵr Cymru; and (2) is based on a robust methodology that has been subject to significant scrutiny from industry’s stakeholders during the PR14 price control review process.
- 5.36 Further, we asked an independent economic advisor, Grant Thornton, to assess the appropriate cost of capital to apply in this and similar cases involving supplies to large users¹¹. Grant Thornton used the cost of capital assessment from the PR14 price control as its starting point¹². It concluded that an activity-specific cost of capital, which is higher than the appointee cost of capital used for price

¹¹ See Cost of capital for price determination cases: A report for Ofwat. Grant Thornton. August 2014.

¹² [Setting price controls for 2015-20 – risk and reward guidance. OFWAT. January 2014.](#)

controls, should be applied in this and other cases. However, at final determinations for PR14 (in December 2014) we revised our view of the relevant cost of capital for the purpose of the price control. Because this change took place after its initial report to us, we asked Grant Thornton to consider whether it should revise its view of the cost of capital for this and other cases. Grant Thornton considered that the additional information used to determine the cost of capital for final determination did warrant revising its view of the relevant cost of capital for supplies to (very) large users and reissued its report¹³.

5.37 We have reviewed Grant Thornton's advice and evaluated whether to apply the cost of capital it has proposed, or to use some other measure. In performing our evaluation we have sought to address the following three questions:

- Should the starting point of our assessment be the appointee cost of capital developed for our final PR14 determinations?
- Should a activity-specific or appointee cost of capital apply in this case based on the conclusions of Grant Thornton's report?
- Should we update Grant Thornton's report to reflect cost of capital changes at our final PR14 determinations?

5.38 We deal with each of these in turn below and then set out how we apply Grant Thornton's cost of capital in this case.

A long term cost of capital approach?

5.39 Price determinations under the Act are not linked to price control periods and the determined prices are not set for any particular period, but rather are intended to apply for the length of the supply agreement. Consequently, we consider that the most appropriate view of the relevant costs, including the cost of capital, used for the purpose of a determination should be our best view of the long-term costs of supply.

5.40 This conclusion then raises the question of whether a cost of capital set for the purpose of a price control which applies for only five years should be used in the context of a price determination which we consider should endure for the length of the supply agreement.

5.41 Given the price determinations are expected to extend beyond price control periods, we consider that the cost of capital applied in these and other determinations should reflect a reasonable long term view of an efficient rate of return. However, we recognize that taking a long term view is inherently less precise as there is greater uncertainty about future economic conditions in the longer term. Nevertheless, we think that this is a reasonable approach to ensure that the price we determine results in a stable, long term agreement between the parties.

¹³ See Cost of capital for price determination cases: A report for Ofwat. Grant Thornton. August 2014.

5.42 Given that Grant Thornton’s preferred approach is to start its analysis based on the PR14 appointee cost of capital, we consider that a reasonable first step for this determination would be to examine whether this figure is also a reasonable efficient long term estimate for an appointed company.

5.43 We have assessed whether, based on the evidence currently available, the final PR14 appointee cost of capital (3.74% vanilla WACC) is also a reasonable estimate of the long term cost of capital appointed companies will face over a longer term horizon¹⁴, rather than simply reflecting the costs companies will face over the 2015-2020 price control period. For that we have analysed separately the individual building block components of the final PR14 appointee cost of capital and assessed whether they fall within a reasonable expected long term range.

5.44 Appendix 4 sets out in detail the analysis we have performed on the key elements of the cost of capital: the cost of equity and the cost of debt. Based on that analysis, we have concluded that the appointee cost of capital produced for our final PR14 determinations is also a reasonable long term estimate. As result, we consider that the final PR14 appointee cost of capital figure is a reasonable starting point on which to base our analysis to derive a suitable forward looking cost of capital for this determination

An activity-specific cost of capital?

5.45 As part of its work, Grant Thornton examined whether it would be appropriate to apply a different cost of capital to a notional appointee cost of capital in cases involving supplies to large users.

5.46 Grant Thornton’s August 2014 final report indicates that there are sufficient differences in terms of “non-diversifiable” risks¹⁵ between: (i) a notional company that only supplies non-potable water to large users; and (ii) a notional company that supplied potable and non-potable water to all types of customers, to justify departing from a notional appointee cost of capital in the present case towards what we term an ‘activity-specific’ cost of capital.

5.47 In its report, Grant Thornton notes that demand from large users such as Tata is generally more variable in response to fluctuations in general economic conditions when compared to the demand from customers more broadly. In an industry characterised by the presence of substantial fixed costs, greater volatility of demand reduces suppliers’ certainty in relation to cost recovery. Grant Thornton considers that this fact materially increases the cost of capital of a notional company which only supplies large users, when compared to the cost of capital for a notional company supplying potable and non-potable water to all types of customers.

¹⁴ We have considered a 15 year forward-looking view in our subsequent analysis.

¹⁵ Investment in an asset is affected by “diversifiable” and “non-diversifiable” risk. “Diversifiable” risk can be eliminated by holding a portfolio of assets so that the “upside” risks on some assets compensate for the “downside risks” on other assets. “Non-diversifiable” risk cannot be diversified away, and therefore, investors require a risk premium to compensate them for their exposure to risk which they cannot manage by diversification.

- 5.48 Accordingly, Grant Thornton has calculated a forward-looking notional activity-specific cost of capital for the activity of supplying non-potable water to large industrial users only. In terms of methodology, the starting point of their assessment is Ofwat's January 2014 "Risk and Reward Guidance" notional company-wide cost of capital (3.85% vanilla WACC) developed for the PR14 price control. At the time, Grant Thornton considered this figure to be the best estimate for the cost of capital for the industry and used it as the basis to calculate a forward-looking notional activity-specific cost of capital for the activity of supplying non-potable water to large industrial users only.
- 5.49 Specifically, Grant Thornton uplifted Ofwat's January 2014 appointee cost of capital figure to reflect the impact of the greater non-diversifiable risks associated with supplying non-potable water to large industrial users only. This resulted in an activity-specific (pre-tax) cost of capital of 4.62%.
- 5.50 However, Ofwat's assessment of the underlying appointee cost of capital for a notional efficient company changed subsequent to the publication of the "Risk and Reward Guidance". As noted above, our December 2014 final PR14 price control determinations established a notional appointee cost of capital of 3.74%, which is slightly lower than the 3.84% calculated for our January 2014 guidance and used by Grant Thornton as the starting point for its August 2014 calculations.
- 5.51 Since we have already established that our final PR14 price control determination notional appointee cost of capital is also a reasonable long term estimate (see 5.44 above), we have updated Grant Thornton's calculations to ensure that their activity-specific changes and uplifts are applied to our preferred cost of capital starting point. Table 1 below presents the results of our analysis, details of which can be found in [Appendix 4](#):

Table 1: Ofwat’s update of Grant Thornton’s activity-specific cost of capital

Activity-specific cost of capital:	Grant Thornton’s August 2014 estimate:	Ofwat’s update to reflect changes at PR14 final determinations:
Vanilla	4.41%	4.32%
Pre-tax	4.81%	4.62%

5.52 Accordingly, we propose to use an activity-specific pre-tax cost of capital based on our updated figure of 4.62%.

Our overall cost of capital approach for this determination

5.53 In terms of our overall approach to cost of capital in this determination, it is important to note that in the context of this case it is our view that it would be inappropriate to appraise all assets using an activity-specific cost of capital. Where assets are common to the supply to Tata and the supply of potable water to other customers e.g. households, it remains reasonable to appraise those assets by reference to the notional company-wide cost of capital. This is because, following Grant Thornton’s rationale, any demand volatility resulting from supplying a large user such as Tata via such common assets will be ‘smoothed out’ by the more substantial, stable and predictable demand for potable water from other customers. In contrast, those assets that are discrete to the supply to Tata at Llanwern will be subject to the greater demand volatility arising from supplying a large user, without any ‘smoothing out’ effect (because these assets are, by definition, not affected by the demand of other customers). It is our conclusion that this latter category of assets should be appraised using an activity-specific cost of capital.

5.54 Based on this analysis, we propose to appraise the common assets relevant to this determination using a 3.97% pre-tax cost of capital figure based on PR14’s appointee level cost of capital¹⁶. Further, assets that are discrete to Tata are to be appraised using a pre-tax activity-specific cost of capital of 4.62%.

¹⁶ Ofwat’s risk and reward guidance sets out an appointee vanilla cost of capital figure of 3.74%. For the purposes of this price determination we use a 10% effective notional tax rate used in our final Risk and Reward guidance to calculate a pre-tax cost of capital. This is also the effective tax rate that we have applied to update of Grant Thornton’s activity-specific cost of capital.

Application of the ‘geographic nature of supply’ test to the four modules

5.55 In the following section:

- a. We describe the nature of the infrastructure used to supply water to Tata at Llanwern, which we have divided for the purposes of this assessment into modules comprising: (i) water resources, (ii) treatment and (iii) distribution. In addition, we refer to a fourth “module”, namely retail costs, which, in our view, also constitute a relevant cost for the purposes of assessing a reasonable charge for the supply at Llanwern;
- b. In relation to each module, we set out our view of the reasonable approach to cost assessment which should be applied, then estimate the costs associated with that module and, by extension, the price to be paid by Tata in respect of that module. For those modules for which we consider it is reasonable to depart from an AAC approach in favour of an LAC approach, this requires us to take a view on a reasonable: (i) depreciation allowance, (ii) return on capital, and (iii) operating expenditure, since these elements form the “building blocks” of a cost-reflective LAC based price.
- c. We calculate the total price for the supply of partially treated water to Tata, being the sum of the charges we determine to be appropriate in respect of each of the four modules (subject to the consideration of competition/efficiency concerns below).



(a) Water resource assets

5.56 In this context, “**water resources**” means those assets used to abstract raw water and to transport it to the treatment works at Court Farm.¹⁷ The assets in question are:

¹⁷ The assets comprising the treatment works at Court Farm are considered under the “treatment” module below. Partially treated water is then distributed from Court Farm to Tata’s service reservoir at Llanwern (considered under the “distribution” module below).

■ [REDACTED]
[REDACTED]

■ [REDACTED]
[REDACTED]

■ [REDACTED]

■ [REDACTED]
[REDACTED]

■ [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] So far as we can ascertain,
these assets are not relevant to the supply of partially treated water to
Tata, and they are mentioned for completeness only.

(b) Reasonable approach to cost assessment

5.57 Our understanding is that all of the water resource assets referred to above are “shared” between Tata’s Llanwern site, which is supplied with partially-treated non-potable water from the Court Farm partial treatment works, and potable customers within the SEWCUS zone that are supplied by the Court Farm potable treatment works. The relevant assets involve a significant degree of flexibility and substitutability. Thus:

■ [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

■ [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

■ [REDACTED]
[REDACTED]
[REDACTED]

5.58 Moreover, raw water abstracted from the [REDACTED] river abstraction points and conveyed via the assets described above to the Court Farm site may be used either for the supply of potable water from the potable treatment works at Court Farm to customers within the SEWCUS zone, or the supply of partially-treated

water to Tata at Llanwern. In particular, water destined for the Court Farm partial treatment works (for onward supply to Tata at Llanwern) can be separated from water destined for the Court Farm potable treatment works at a number of different points, namely on:

- [REDACTED]
- [REDACTED]
- [REDACTED]
[REDACTED]
- [REDACTED]
[REDACTED]
- [REDACTED]
[REDACTED]

5.59 There is therefore no single route by which water is abstracted and conveyed to the partial treatment works at Court Farm for its onward supply to Tata at Llanwern; there are multiple such routes, all of which may also be used for the transfer of water to the potable treatment works at Court Farm.

5.60 As a result, we consider that it is reasonable to treat the “water resource” assets as common to the supply of water to Dŵr Cymru’s customers supplied by the Court Farm and Sluvad potable treatment works located in the SEWCUS water resource zone.

5.61 However, we consider that the costs in question cannot be regarded as common to the supply of water to customers across Dŵr Cymru’s area of appointment more generally, given our understanding of the discrete nature of the Court Farm Non-Potable System. Accordingly, it would not be reasonable to apply a pure AAC approach to calculating the costs of the “water resources” module in the present case, as this would not necessarily reflect the costs attributable to supplying Tata at Llanwern.

5.62 We therefore consider it appropriate to depart from Dŵr Cymru’s Tariff Price, based on AAC, in favour of a LAC approach for the water resources module, albeit one which reflects the fact that the assets concerned are not wholly discrete to Tata, but also serve potable customers within the SEWCUS water resource zone.

5.63 Our assessment of the relevant “water resource” costs under a LAC approach is set out below.

(c) Costs associated with the “water resources” module

5.64 To determine the costs associated with the water resources module under a LAC approach, we calculate, for the relevant assets: (i) an allowance for depreciation; (ii) a return on capital allowance; and (iii) an estimated operating expenditure.

5.65 We also take a view on the value of the assets concerned (which is essential to the calculation of both a depreciation allowance and a return on capital in respect of those assets), as well as the reasonable figure for the cost of capital (for the purposes of determining a figure for return on capital). We also determine a reasonable capacity utilisation figure, since we are calculating a unit cost for the purposes of arriving at a fixed volumetric charge for the water resources module.

Asset valuation

5.66 Our approach is to take, as a starting point, the gross Modern Equivalent Asset Values (**MEAV**) of the relevant assets. The MEAV methodology values the assets by reference to the cost of replacing them with their modern equivalent assets, taking into account the actual condition and serviceability of these assets. We understand that the gross MEAV figures we have used for the purposes of this determination were calculated by Halcrow for Dŵr Cymru as part of a project to re-evaluate all of Dŵr Cymru's assets. We have adopted these figures for the purposes of calculating a **depreciation allowance**.

5.67 However, the actual asset value used to determine a **return on capital** in this determination is the so called Modified Acquisition Cost (**MAC**). The MAC value reflects the fact that existing water-related assets at the time of privatisation were purchased at a discount. Therefore, a given asset's gross MEAV is adjusted to take into account the price discount at privatisation. Specifically, the gross MEAV value is adjusted by the ratio of the Regulatory Capital Value¹⁸ (RCV) to the gross MEAV value (RCV:gMEAV ratio) for Dwr Cymru, for all water-related assets only. In this case, we have calculated a simple average RCV:gMEAV ratio of [REDACTED] based on data on RCV and gross MEAV values for Dŵr Cymru's water-related assets for the periods between 2005/06 and 2013/14.

Cost of capital figure

5.68 In line with the methodology set out in 5.53 and 5.54 above, because the water resource assets are shared between the supply to Tata and the supply of water to Dŵr Cymru's customers more broadly located in the SEWCUS water resource zone, we consider that the reasonable cost of capital to utilise for this module is the pre-tax company-wide cost of capital of 3.97%.

Capacity utilisation

5.69 Because we are setting a fixed volumetric charge, we need to determine an reasonable capacity utilisation figure to calculate a unit price for this module based on a reasonable expected capacity utilisation for the assets of this module.

5.70 Based on the information provided by the parties, we have determined that a reasonable expected capacity utilisation figure for these assets is [REDACTED]

¹⁸ The RCV refers to the value of a company's regulated business that earns a regulated return on investment, and reflects the price discount at privatisation.

⁹. This average does not take account of whether the abstracted water is for the onward supply of potable or non-potable water, since the assets are common to supply to Tata as well as other customers in the SEWCUS zone.

Capital depreciation allowance

- 5.71 In calculating an allowance for capital depreciation, we need to determine both (i) the value of the assets concerned, and (ii) the “asset lives” (i.e. the period over which we propose to depreciate assets for this particular case).
- 5.72 As set out above in 5.66, in relation to (i), we use gross MEAV figures in calculating a depreciation allowance. In that regard, as part of Dŵr Cymru’s response dated 31 January 2011 to a request for information by Ofwat, Dŵr Cymru provided gross MEAV figures for the relevant water resource assets. We have adopted these gross MEAV figures in this draft determination.
- 5.73 As to the most appropriate asset lives, Ofwat has assumed asset lives based on the average life expectancy for the asset in question²⁰.
- 5.74 Table 2 below sets out: (1) the gross MEAV values as reported by Dŵr Cymru in its response; (2) the asset life assumptions used in our LAC calculations for the water resource module; (3) the resulting total annual allowance for capital depreciation²¹, adjusted into 2014/15 prices; and (4) a unit charge for capital depreciation, again in 2014/15 prices.

¹⁹ We note that currently we only have the 2010 data point to calculate an average volumetric figure. However, we expect this volume not to vary much from year to year given that consumption growth relating to new development will be partially offset by improved efficiency measures such as better leakage management.

²⁰ Our estimate of the expected asset lives of each component of the water resource system has been informed by information provided in company business plans for PR14, and other published reports.

²¹ Strictly speaking, different capital depreciation methods may be adopted depending on the asset in question. For “below-ground” infrastructure assets which have an indefinite lifetime, the measure of capital depreciation typically reflects the medium- to long-term view of the expenditure needed to maintain an asset in perpetuity at the original serviceability level (the so-called “infrastructure renewals charge”). Alternatively, for above-ground assets, a depreciation charge is allowed for capital consumption which enables the company to recover the cost of the asset over its economic life. This is the so-called “current cost depreciation”. In this determination this distinction is immaterial since we have identified all of the distinct parts of the network, both above and below ground, which apply to this case. We then calculate a capital depreciation allowance as a function of the economic life of each asset irrespective of whether it is “below” or “above” ground asset.

Return on capital

5.76 As set out above in 5.67 above, to calculate a return on capital allowance we have used the RCV:gMEAV ratio of [REDACTED] to arrive at an implied MAC value to which the 3.97% pre-tax appointee cost of capital figure is then applied, since the assets associated with this module are common to the supply of Tata and other customers located in the SEWCUS zone²³. This results in a total figure for return on capital of [REDACTED] in 2014/2015 prices, and a unit cost (again in 2014/15 prices) of **0.89p/m³**.

Operating expenditure

5.77 Given that we are adopting an LAC approach, it is reasonable to consider the operating expenditure (**OPEX**) specifically associated with the water resource module, as opposed to a general figure for OPEX derived from Dŵr Cymru's tariff model. Dŵr Cymru has not provided Ofwat with OPEX figures specifically relating to the assets comprising the water resources module. Therefore, Ofwat has estimated an OPEX figure corresponding to the costs incurred in operating and managing the assets in the water resource module, as summarised in table 3 below²⁴:

Table 3: OPEX approximation for the water resource module

Item	Total annual approximated OPEX in 2014/15 prices (£/year)
Abstraction charges	2,686,200.87
Power costs	1,710,243.21
Labour Costs	91,763.77
Local rates	240,298.95
Other OPEX cost	472,850.68
Total water resource OPEX costs	5,201,357.49

²³ See paragraphs 5.33 to 5.54 above on our approach to cost of capital issues.

²⁴ Abstraction charges were estimated using the Environment Agency's Annual subsistence charge calculator for a full water abstraction licence 2013/14 and an assumed authorised abstraction of [REDACTED]. Consideration of power costs was limited to the electricity used to deliver [REDACTED] against the pumping heads in the mains between the [REDACTED]. Labour costs were based on approximately [REDACTED] FTE while Local authority rates were estimated as the company's water service wholesale business rates apportioned by gross MEAV value (Court Farm Non-Potable System / entirety of Dŵr Cymru's water service assets). Other OPEX including hired and contracted services, general and support was assumed to be 10% of the foregoing direct cost items.

5.78 To determine the unit cost associated with OPEX, we have used the reasonable expected capacity utilisation figure for the water resource module of [REDACTED] m³/year, as referred to in 5.70 above. This results in a unit cost of **6.47 p/m³** for the OPEX component of the water resource module. This contrasts with the figure of [REDACTED] p/m³ derived from the AAC-based OPEX estimations in Dŵr Cymru’s 9 March 2011 response to our RFI (converted into 2014/15 prices).

Final calculated LAC unit cost for the water resource module

5.79 A summary of the elements making up the volumetric charge we have determined for the water resource module is presented in table 4 below:

Table 4: Summary of elements comprising the LAC unit cost for water resource module

Item	LAC unit cost (p/m ³) in 2014/15 prices
Capital depreciation allowance	2.19
Return on capital	0.89
OPEX estimation	6.47
Total LAC unit cost for the water resource module	9.54

5.80 Accordingly, we have adopted a LAC unit cost of **9.54 p/m³** corresponding to **the costs attributable to the water resource module (in 2014/15 prices)**. This compares with an AAC unit cost of [REDACTED] p/m³, calculated by converting the figures derived from Dwr Cymru’s tariff model for this module into 2014/15 prices.



(a) Treatment assets

5.81 Treatment covers those elements of the “Court Farm Non-Potable System” relating to the partial treatment of raw water at the Court Farm partial treatment works. Our understanding is that Tata’s Llanwern site accounts for all of the

partially-treated non-potable water supplied from the Court Farm partial treatment works.

- 5.82 We understand further that at the Court Farm treatment works site, the partial water treatment works is partly separated from the potable treatment works. While some of the Court Farm assets are unique to either the potable or the partial treatment works, others are shared between the two.
- 5.83 Dŵr Cymru has stated that the configuration of the treatment works at Court Farm would enable the different systems to be used interchangeably in exceptional circumstances. For example, if it were necessary to shut down the partial treatment works for maintenance, settled water from the potable treatment works could be diverted for non-potable supply to Tata.

(b) Reasonable approach to cost assessment

- 5.84 We understand that the Court Farm site houses a potable treatment works where water is treated for the purposes of supplying potable water to Cardiff, Newport and other areas in the SEWCUS zone. While some assets at the Court Farm site are discrete to the partial treatment works (and therefore discrete to the supply to Tata at Llanwern, which is the only recipient of partially-treated water from the Court Farm partial treatment works), other assets are shared between the partial and potable treatment works, as summarised in table 5:

5.89 In contrast to the water resource module, however, we have not been provided by Dŵr Cymru with gross MEAV figures for the treatment assets. Following an analysis of Dŵr Cymru's 2012/13 asset inventory, Ofwat has produced its own gross MEAV estimates for each of the treatment asset groups. presented in table 6 below:

Table 6: Gross MEAV breakdown for the treatment assets in 2012/13 prices

Total gross MEAV for assets specific to partial treatment works in 2012/13 prices (£m) ²⁶	Total gross MEAV for assets common to the partial and potable treatment works (£m) ²⁷
■	■

Cost of capital approach

5.90 As set out above, certain treatment assets are common to the supply of Tata as well as to customers within the SEWCUS water resource zone more broadly. Therefore, in line with the approach we have taken to the water resources module, we have used the PR14 pre-tax appointee cost of capital figure of 3.97% to appraise the treatment assets²⁸.

5.91 However, those assets that are discrete to the supply to Tata should be appraised using Grant Thornton's cost of capital figure which has been specifically developed to capture the specific "non-diversifiable" risks of supplying large users. Accordingly, we use Grant Thornton's pre-tax activity-specific cost of capital figure of 4.62% for such assets.

Capacity utilisation

5.92 Again, we distinguish between: (i) the treatment assets which are common to Tata and other users supplied via the potable treatment works; and (ii) those assets which are wholly discrete to Tata.

5.93 For assets in category (i), based on the information provided by the parties, we have calculated an expected capacity utilisation figure of ■ m³/year. This reflects the average annual combined throughput of the partial and non-potable treatment streams over the 2006-10 period. Again, this average does not take account of whether the water volumes relate to the onward supply of potable or

²⁶ Dŵr Cymru's 31 January 2011 response to our request for information,

²⁷ In Dŵr Cymru's 31 January 2011 response to our request for information, the value of the sludge management plant is set at ■ £m (in 2012/13 prices). For the rest of the assets in this category, we have made a reasonable judgement informed by the physical size of the assets (from satellite imagery), throughput and the complexity of the treatment process unit. Overall, this exercise resulted in a collective ■ £m valuation of the remaining assets. These are reported in table 6 below.

²⁸ See paragraphs 5.33 to 5.54 above on our approach to cost of capital issues.

non-potable water, given that the assets are common to supply to Tata as well as other customers served by the Court Farm potable treatment works.

- 5.94 For the purpose of appraising treatment assets which are discrete to the supply to Llanwern, we have provisionally calculated an expected capacity utilisation figure based on the average of the specific volumes of partially treated water delivered to Tata at Llanwern. We consider this approach to be internally consistent given that: (1) Dŵr Cymru is reasonably compensated through its application for the greater demand volatility involved in supplying a large user such as Tata; and (2) the parties may negotiate between themselves should a long term structural change in Tata's demand volumes take place and, in the event that they do not reach an agreement, may be able to request a further determination from Ofwat.
- 5.95 In its 31 January 2011 response to our request for information, Dŵr Cymru provided daily average consumption values for the years from 2004/05 to 2009/10²⁹ resulting in annual average expected capacity utilisation figure of [REDACTED] m³/year. We have adopted this figure for the purposes of this provisional determination.

Capital depreciation allowance

- 5.96 In this section, we again distinguish between (i) those treatment assets which are common to the supply to Tata and customers supplied via the potable treatment works at Court Farm, and (ii) those treatment assets which are entirely discrete to the supply to Tata. This is because (as set out above), the capacity utilisation figure we have adopted is different.
- 5.97 Table 7 below shows the inputs into our capital depreciation calculations for the treatment module for those assets that are common to Tata and other users supplied by the Court Farm potable treatment works. The capital depreciation allowance in respect of these assets is calculated using the reasonable expected capacity utilisation figure of [REDACTED] m³/year for the common assets (as set out in 5.93 above):

²⁹ We note that currently we do not have data for the year covering 2010/11 to present.

Table 7: Capital depreciation allowance in relation to assets common to Tata and users supplied via Court Farm potable treatment works

Common Assets	Ofwat estimate of gross MEAV (£m) in 2012/13 prices	Asset Life ³⁰ (years)	Total annual capital depreciation allowance in 2014/15 prices (£/year)	Capital depreciation allowance per unit in 2014/15 prices (p/m ³)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Treatment related capital depreciation unit costs			[REDACTED]	[REDACTED]

5.98 Table 8 below shows the same information on capital depreciation, but for the treatment assets that are **discrete** to the supply of partially treated water to Tata. In relation to these assets, the volumetric charge is based on an annual average consumption figure of [REDACTED] m³/year.

³⁰ We have made a judgement on the expected asset lives of the assets common to Tata and users supplied via Court Farm potable treatment works. These judgements have been informed by information on asset lives provided in company business plans and other published reports.

Table 8: Capital depreciation allowance in relation to assets specific to the supply to Tata

Specific assets	Ofwat estimate of gross MEAV in 2012/13 prices	Asset Life (years ³¹)	Total annual capital depreciation allowance in 2014/15 prices Allowance (£/year)	Capital depreciation allowance per unit in 2014/15 prices (p/m ³)
[Redacted]				
[Redacted]				
[Redacted]				
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]			
[Redacted]	[Redacted]			
[Redacted]				

5.99 Combining the two capital depreciation figures from Tables 7 and 8 results in a total capital depreciation allowance unit cost of **2.52 p/m³** for the treatment assets in this module.

Return on capital

5.100 In terms of the return on capital allowance, table 9 below provides a summary of our calculation, again distinguishing between assets which are common to Tata and customers supplied via the Court Farm potable treatment works, and those which are discrete to the supply to Tata:

³¹ We have derived a single asset life for the group of assets specific to the supply to Tata. This has been estimated from the assumed asset lives for the specific component assets and weighting them according to the proportion of the total MEAV each component has been assumed to represent. Judgements on the asset lives of specific components have been informed by information provided in company business plans and other published reports.

Table 9: Return on capital allowance for treatment module

	RCV:gMEAV	Cost of Capital	Capacity utilisation (m³/year)	Total return on capital Allowance (£/year) in 2014/15 prices	Volumetric Charge (p/m³) in 2014/15 prices
Common to Tata and other customers supplied via potable treatment works	██████	██████	██████	██████	██████
Discrete to Tata	██████	██████	██████	██████	██████
Total treatment return on capital unit cost				██████	██████

5.101 As set out above, the unit cost attributable to a return on capital is **0.85 p/m³** in 2014/15 prices.

Operating expenditure

5.102 As with the water resource module, Dŵr Cymru was unable to provide specific, LAC-based OPEX figures for the treatment module. Therefore, Ofwat has estimated the operating expenditure incurred in operating and managing the Court Farm partial treatment works attributable to the supply to Tata³². These calculations are based on Ofwat's internal data, and result in a volumetric charge of **5.83 p/m³** in 2014/15 prices, calculated on the basis of Tata's actual 2009/10 consumption value. This compares with an AAC-based figure of ██████ p/m³, provided in Dŵr Cymru's 9 March 2011 response to our RFI, converted into 2014/15 prices.

5.103 Ofwat's OPEX estimate includes estimated expenditure relating to: (1) the use of chemicals to partially treat water; (2) power costs; (3) labour costs; (4) local rates; and (5) other OPEX items such as hired and contracted services.

Final calculation LAC unit cost for the treatment module

5.104 A summary of the elements comprising the volumetric charge we have determined for the treatment module is presented in table 10 below:

³² As the detailed information needed to enable a bottom-up estimation of OPEX associated with the water treatment assets was unavailable to us, our estimate was based on the OPEX costs of a treatment works operated by a different company but providing a similar supply of non-potable water pro-rated by annual volume supplied.

Table 10: Summary of elements comprising the LAC unit cost for the treatment module

Item	Volumetric charge (p/m ³) in 2014/15 prices
Capital depreciation allowance	2.52
Return on capital	0.85
OPEX	5.85
Total LAC unit cost for the treatment module	9.20

5.105 Accordingly, we adopt a LAC unit cost of 9.20 p/m³ for the costs attributable to the treatment module (in 2014/15 prices). This compares with an AAC price of [REDACTED] p/m³ in 2014/15 prices, calculated by converting the figures derived from Dwr Cymru’s tariff model for this module into 2014/15 prices.



(a) Distribution assets

5.106 The distribution assets relevant to the supply to Tata at Llanwern are:

- a. [REDACTED] Tata’s service reservoir at Waltwood, near its Llanwern site; and
- b. [REDACTED], through which partially-treated water is conveyed from the Court Farm partial treatment works to Tata’s Waltwood reservoir.

(b) Reasonable approach to cost assessment

5.107 We understand that the distribution pumps and the distribution main are **solely** used to supply Tata with partially-treated non-potable water for use at its Llanwern

site. Therefore, there is no sense in which the costs of this module are common to other customers.

5.108 Accordingly, we consider that the geographic nature of this element of the supply makes it reasonable to depart from an AAC approach, and instead to calculate the specific local costs of this module using a LAC approach. Using an AAC approach in this case would fail to reflect the fact that these costs are **wholly** attributable to the supply of non-potable water to Tata.

(c) Our assessment of a reasonable price for the “distribution” module

5.109 Again, we need to form a view on reasonable figures for (i) capital depreciation allowance, (ii) return on capital and (iii) operating expenditure. As above, this requires preliminary consideration of asset valuation, cost of capital and capacity utilisation.

Asset valuation

5.110 We adopt the same approach to asset valuation methodology as in relation to the water resources and treatment modules, using the MEAV figures calculated by Halcrow for Dŵr Cymru as part of a project to re-evaluate all of Dŵr Cymru’s assets.

Cost of capital approach

5.111 Since the assets associated with this module are wholly discrete to the supply to Tata, we consider that they should be appraised using Grant Thornton’s pre-tax activity-specific capital figure. We therefore use a figure of 4.62% to appraise the distribution assets which are specific to the supply of partially treated water to Tata.

Capacity utilisation

5.112 Since the assets associated with this module are wholly discrete to the supply to Tata at Llanwern, we use the same approach as for the discrete assets under the treatment module. We use a capacity utilisation figure based on Tata’s daily average consumption values for the periods between 2004/05 to 2009/10, resulting in annual average expected capacity utilisation figure of [REDACTED] m³/year.

Capital depreciation allowance

5.113 Table 11 below sets out our calculation of capital depreciation for the distribution assets specific to the supply of partially treated water to Tata at Llanwern:

Table 11: Capital depreciation allowance in relation to distribution assets

Specific assets	Gross MEAV (£m) in 2007/08 prices	Asset Life ³³	Total capital depreciation allowance in 2014/15 prices (£/year)	Capital depreciation allowance per unit (p/m ³) in 2014/15 prices
██████████ ██████████	████	████	██████████	████
██████████ ██████████	████	████	██████████	████
Total capital depreciation unit cost			██████████	████

5.114 Accordingly, the total annual capital depreciation allowance in relation to the distribution assets, in 2014/15 prices, is ██████████. The unit cost (again in 2014/15 prices), calculated by applying our capacity utilisation figure to the total capital depreciation allowance figure, is **3.95 p/m³**.

Return on capital

5.115 In terms of calculating a return on capital allowance, in line with the methodology set out above we have applied a RCV:gMEAV of ██████████ to calculate an MAC value to which the 4.62% pre-tax activity-specific cost of capital is then applied. This results in a return on capital allowance of ██████████ in 2014/15 prices. Based on the expected capacity utilisation figure referred to above, this results in a per unit figure for return on capital of **1.43 p/m³**, in 2014/15 prices.

Operating expenditure

5.116 As with the previous modules, Dŵr Cymru was unable to provide LAC-based OPEX figures for the distribution module. Therefore, Ofwat has estimated the OPEX

³³We have made a judgement on the expected assets life of each component of the water distribution system. This has been informed by information on asset lives provided in company's business plans and other published reports.

incurred in operating and managing the distribution assets used to supply Tata at Llanwern³⁴, as set out in table 12 below:

Table 12: OPEX approximation for the distribution module

ITEM	Total annual OPEX in 2014/15 prices (£/year)
Power costs	██████████
Labour Costs	██████████
Local rates	██████████
Other OPEX cost	██████████
Total Distribution OPEX costs	██████████

5.117 Accordingly, the total OPEX cost in relation to the distribution assets is ██████████. The unit cost (again in 2014/15 prices) is therefore **2.32 p/m³**. This compares with a figure of ██████ p/m³, in 2014/15 prices, which is derived from the AAC-based OPEX figure contained in Dŵr Cymru’s 31 January 2011 response to Ofwat’s RFI.

Final calculation LAC unit cost for the distribution module

5.118 A summary of the elements comprising the volumetric charge we have determined for the distribution module is presented in table 13 below:

³⁴ Consideration of power costs was limited to the electricity used to deliver 10Ml/d against the pumping heads in the main between Court Farm WTW and Waltwood reservoir. Labour costs were based on approximately █████ FTE while Local authority rates were estimated as the company’s water service wholesale business rates apportioned by GMEA value (Court Farm Non-Potable System water distribution assets / entirety of Dŵr Cymru’s water service assets). Other OPEX, including hired and contracted services, and general and support costs, was assumed to comprise 10% of the foregoing direct cost items.

Table 13: Summary of elements comprising the LAC unit cost for the distribution module

Item	LAC unit cost (p/m ³) in 2014/15 prices
Capital depreciation allowance	3.95
Return on capital	1.43
OPEX	2.32
Total LAC unit cost for the distribution module	7.70

5.119 Accordingly, we adopt a LAC unit cost of 7.70 p/m³, corresponding to the costs attributable to the distribution module (in 2014/15 prices). This compares with an AAC cost of [REDACTED] p/m³, calculated by converting the figures derived from Dwr Cymru’s tariff model for this module into 2014/15 prices.



(a) Nature of “Retail costs and M&G assets”

5.120 Other costs that are relevant to the supply to Tata are:

- i. Retail costs which comprise certain “customer-facing” activities relating, for example, to customer or scientific services; and
- ii. Costs in relation to water management and general assets (M&G) that include: offices, depots, vehicles, telemetry systems, outstations and computers.

(b) Customer specific or common costs

5.121 Dŵr Cymru has clarified, in response to our requests for information, that the retail services it provides to Tata in respect of the Llanwern site are essentially the same as those provided to any large users, stating that:

‘...there is nothing about Corus Llanwern that makes it different from other large customers as regards the customer-facing activities that we carry out.’³⁵

5.122 At present, we have seen no evidence to suggest that the retail services provided by Dŵr Cymru to Tata in relation to this supply are materially different to the retail services provided by Dŵr Cymru to other large customers across its area of appointment. Accordingly, and subject to the adjustments set out below, we have concluded that it is reasonable to adopt an AAC approach in relation to retail costs, and have used the relevant figures from Dŵr Cymru’s tariff model as the starting point for our assessment.

5.123 Further, we understand that the costs relating to water management and general assets (M&G) cannot be allocated to a specific service area. Therefore, we consider that costs relating to these assets can be regarded as common to all Dŵr Cymru’s customers across its area of appointment, and that it is reasonable to adopt an AAC approach in relation to these assets too. We therefore again use Dŵr Cymru’s tariff model as the starting point for our cost assessment.

(c) Our assessment of a reasonable price for the “Retail costs and M&G assets” module

5.124 As noted above, we regard the figures from Dŵr Cymru’s tariff model as a good starting point for our assessment of the costs pertaining to this module. These figures are reproduced in table 14 below:

³⁵ Dŵr Cymru’s response to Ofwat’s request for information dated 11 June 2010.

Table 14: Dŵr Cymru average retail costs and M&G assets capital costs for large users of non-potable water

Item	AAC cost p/m ³ (2008/09 prices)
Customer contact, meter reading, billing, payment processing, credit management and rates	█
Scientific services	█
Cost of regulation	█
Doubtful debts	█
Water M&G CCD	█
Water M&G return on capital	█
Total retail costs and M&G assets capital costs	█

5.125 We have made the following adjustments to these costs:

- a) **The costs of regulation:** We understand this to be a contribution to the costs relating to Ofwat's price controls. We exclude this item because we do not consider that Tata should bear the cost of regulating other segments of the market if we are to set a cost-reflective price.
- b) **Return on retail assets:** We have changed the return on capital figure previously applied by Dŵr Cymru in their 2008/09 pricing model to reflect a pre-tax appointee cost of capital figure of 3.97% (in line with our methodology for common costs).
- c) **Doubtful debts:** The figure provided by Dŵr Cymru allocates doubtful debt costs generated across all users and therefore is not reflective of the costs incurred as a result of supplying Tata. From the parties' responses to our RFIs, we have not seen any evidence to suggest that Tata is a particularly risky customer. Overall, since Grant Thornton's activity-specific cost of capital figure compensates Dŵr Cymru for increased revenue variation where appropriate, we consider that this is sufficient to compensate Dŵr Cymru for the risk of incurring doubtful debt costs in relation to the supply to Tata. In light of these considerations, we exclude the doubtful debt element in our AAC calculations for the costs of this module.

5.126 Table 15 below shows our final calculations resulting from applying these adjustments:

Table 15: Adjusted AAC retail and M&G assets module costs in 2014/15 prices

Category	ITEMS	AAC cost (p/m³) in 2014/15 prices
Retail OPEX	Customer contact, meter reading, billing, payment processing, credit management, Scientific services and rates	█
M&G water assets	Water M&G CCD	█
	Water M&G return on capital	█
Total retail costs and M&G assets capital costs		1.30

5.127 Therefore, **we adopt a unit cost of 1.30 p/m³ in 2014/15 prices for the retail and “M&G” assets module.** This compares with a unit cost of █ p/m³ which would result from translating the relevant figures from Dwr Cymru's tariff model into 2014/15 prices.

5.128 However, we note that PR14 introduced material changes for the 2015-20 price control period that affect how it might be reasonable to compensate for retail costs in relation to future prices. These and other consistency issues are considered in the Competition concerns section immediately below.

Summary from applying our geographical test

5.129 Our geographical test as set out in our analytical approach indicates that a price of **27.75 p/m³ in 2014/15 prices** best reflects the local costs of supplying Tata at Llanwern. A summary is presented in table 16 below:

Table 16: Summary of the price resulting from applying the geographical price

	Price resulting from applying the geographical test (expressed in 2014/15 prices)
Water resources	9.54 p/m ³ LAC cost
Treatment	9.20 p/m ³ LAC cost
Distribution	7.70 p/m ³ LAC cost
M&G assets	1.05 p/m ³ AAC cost
Retail OPEX	0.25 p/m ³ AAC cost
Provisional final price	27.75 p/m³

6 Competition concerns

- 6.1 In the previous section, we analysed the costs that Dŵr Cymru would reasonably incur by looking at the geographic nature of the supply of partially treated water to Tata. In this section, we check whether we have any reasonable competition concerns that arise because Dŵr Cymru would not recover its costs and therefore, imply that a different price from that being disputed, the Tariff Price, might be required.
- 6.2 The price we derived in the previous section is for an end-to-end service. Because that price is based on our assessment of Dŵr Cymru's reasonable costs, we would expect that there is scope for competition to develop to offer an alternative supply to Tata.
- 6.3 However, competition may also occur for different elements of the value chain. In Wales, the only potential competitive element of the value chain is the retailing to customers who use more than 50ML a year. Therefore we need to consider whether a retailer that acquired wholesale inputs from Dŵr Cymru could provide services to Tata.
- 6.4 The price we arrived at from our geographical analysis for the services that Dŵr Cymru already provides to Tata compensates Dŵr Cymru for its own retail operating costs. We have also applied an end-to-end cost of capital across our previous geographical section analysis. This cost of capital implicitly incorporates a retail margin element which reasonably compensates Dŵr Cymru for retail capital costs. Consequently, we consider that Dŵr Cymru is fully compensated for all retail costs and therefore we expect that there is scope for retail competition to develop.
- 6.5 Overall, we do not anticipate any competition concerns that would reasonably justify departing from the price we have determined in the previous geographical analysis section.

Our conclusion on the price terms for the supply of partially treated water to Tata

6.9 Having applied our analytical framework to the present case, we proposed to determine two prices:

- a) A price to be used as the basis to determine future prices from 2015/16 onwards; and
- b) A price to be used as the basis to determine prices for services received covering the period between 2004/05 and 2014/15 (both years included).

6.10 A summary of our proposed provisional prices is presented in table 18 below:

Table 18: Price determination summary

Module	Provisional price used as the basis to determine prices for services received covering the period between 2004/05 and 2014/15 (expressed in 2014/15 prices)	Provisional price used as the basis to determine future prices from 2015/16 onwards (expressed in 2014/15 prices)
Water resources	9.54 p/m ³ LAC cost	9.54 p/m ³ LAC cost
Treatment	9.20 p/m ³ LAC cost	9.20 p/m ³ LAC cost
Distribution	7.70 p/m ³ LAC cost	7.70 p/m ³ LAC cost
M&G assets	1.05 p/m ³ AAC cost	1.05 p/m ³ AAC cost
Retail	0.25 p/m ³ AAC cost	0.25 p/m ³ AAC cost
Provisional final price	27.75 p/m³	27.75 p/m³

6.11 Applying financial year RPI indexation, the provisional retrospective prices for services received covering the period between 2004/05 and 2014/15 are presented in table 19 below:

Table 19: Summary of provisional prices for services received

Year	Provisional prices for services received covering the period between 2004/05 and 2014/15
2004/05	20.33 p/m ³
2005/06	20.87 p/m ³
2006/07	21.65 p/m ³
2007/08	22.54 p/m ³
2008/09	23.21 p/m ³
2009/10	23.32 p/m ³
2010/11	24.48 p/m ³
2011/12	25.65 p/m ³
2012/13	26.44 p/m ³
2013/14	27.21 p/m ³
2014/15	27.75 p/m ³

- 6.12 We provisionally propose a starting price of 27.75 p/m³ effective from 1 April 2015 and covering the 2015/16 financial year. From then on, to determine the effective price at 1 April of each subsequent financial year, the 2015/16 price will be inflated in line with the average RPI inflation figure from 1 April 2015 up to 31 March of the year for which the price is being determined. However, this means that the price for each subsequent financial year will not be known until after the financial year has begun because the RPI figures for March will not be published until the middle of April. Given that the parties are proposing a monthly billing process, we welcome parties' views on whether this approach is appropriate and how best to implement it.
- 6.13 Bearing in mind our statutory obligations, this price appears to us to be reasonable. In particular, given that it reflects, where relevant, the specific costs associated with supplying Tata at Llanwern (including a return on capital component), we consider that it allows Dŵr Cymru to recover the expenses incurred in complying with its obligation under section 55 of the Act to supply Tata

at Llanwern, while still allowing Dŵr Cymru to achieve a reasonable return on its capital.

Provision for revisiting the price of the supply

- 6.14 The Water Act 2014 contains provisions that will, when they are brought into force, allow for Ofwat to issue rules about certain types of charges that water and sewerage undertakers make. It also provides for the Secretary of State and the Welsh Ministers to issue guidance on charges to which Ofwat must have regard when making rules.
- 6.15 Although such rules will not directly apply to the determination of charges under section 56 of the Act, some of the infrastructure used to supply partially treated water to Tata at Llanwern is, as set out above at paragraphs 5.57 to 5.63 and paragraphs 5.81 to 5.83, also used to supply potable water to customers within the SEWCUS water resource zone more generally. Such rules will apply to charges made to those other customers. Our approach to assessing relevant costs and determining reasonable charges may be different in the future following the finalisation of ministerial guidance and charging rules. Any inconsistency of approach between current and future determinations could potentially result in harm being caused to customers. We also do not want to make long-term determinations that are inconsistent with any future approach under new charging rules.
- 6.16 The published framework therefore sets out our intention, where it appears to us to be reasonable, to make provision for the ability for us to revisit our price determinations in the future as necessary. Depending on the nature of the determination, we said that this could be achieved by either:
- limiting the duration of the agreement; or
 - including a ‘trigger’ mechanism in the agreement that would allow the parties to renegotiate the price, or refer it to Ofwat in the absence of agreement, if, for example, Ofwat’s policy materially changed following the date of the determination.
- 6.17 In this case we do not consider that it is reasonable to limit the duration of the agreement by setting a fixed term.
- 6.18 We therefore consider, for the reasons set out above, that it is reasonable to include a ‘re-opener’ provision in the ‘charges’ clause of the agreement to allow the parties to renegotiate the determined price if there is a material change in Ofwat’s charging policy after the date of our determination or, in the absence of agreement, for either or both to refer it to Ofwat for redetermination. A material change for these purposes would be designated in writing as such by Ofwat. This is reflected (along with the price that we have determined for the supply and the relevant provisions on indexation) in Clause 9 of the agreement between the parties at Appendix 1 of this draft determination

Non-price terms

6.19 In order to understand the nature of the dispute and the respective positions of the parties in relation to the non-price terms, we have carefully considered the terms and conditions and supporting representations which they have each put forward.

6.20 We have also, where appropriate, considered similar terms and conditions included within bulk supply agreements – which we consider to be the closest benchmark – in order to identify standard industry practice.

6.21 We deal with each of the disputed non-price terms in turn below.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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APPENDIX 1

Determined Terms and Conditions

The following agreement reflects the terms and conditions agreed between the parties as set out in their correspondence to Ofwat. In respect of those terms and conditions which are disputed between the parties and which were referred to Ofwat for determination under section 56 of the Water Industry Act 1991, the terms and conditions are those contained in this draft determination. **These determined terms and conditions are highlighted in bold for the parties' ease of reference.**

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Appendix 2: List of documents and correspondence considered in making this determination

Ofwat guidance

[Bulk supply pricing – a statement of our policy principles \(February 2011\)](#)

IN 13/08 [Ensuring consistency in our approach to resolving pricing disputes \(August 2013\)](#)

Negotiating bulk supplies – a framework (August 2013)

IN 14/04 Ensuring consistency in our approach to resolving pricing disputes involving bulk supplies (January 2014)

Our framework for resolving pricing disputes involving bulk supplies (January 2014)⁴²

Ref.	Date	Type	From	To	Description
1.	7 Oct 2008	Letter	Dŵr Cymru	Ofwat	Reference of disputed terms for the supply of non-potable water to Corus at Llanwern under section 56 of the 1991 Water Industry Act
2.	22 Oct 2008	Letter	Ofwat	Dŵr Cymru	Reference of disputed terms for the supply of non-potable water to Corus at Llanwern under section 56 of the 1991 Water Industry Act
3.	27 Oct 2008	Letter	Dŵr Cymru	Ofwat	Reference of disputed terms for the supply of non-potable water to Corus at Llanwern under section 56 of the 1991

⁴² Ofwat web site statement at http://www.ofwat.gov.uk/regulating/casework/investigation/pap_pos_bulksupplydispute

					Water Industry Act
4.	4 March 2009	Letter	Dŵr Cymru	Ofwat	Reference of disputed terms for the supply of non-potable water to Corus at Llanwern under section 56 of the 1991 Water Industry Act
5.	21 July 2009	Letter	Ofwat	Dŵr Cymru	Determination of terms of supply of non-potable water to Corus at Llanwern Section 56 of Water Industry Act 1991
6.	29 July 2009	Letter	Dŵr Cymru	Ofwat	Determination of terms for supply of non-potable water to Corus at Llanwern
7.	13 Aug 2009	Letter	Dŵr Cymru	Ofwat	Response to Section 56 Information Request - Non-Confidential Version
8.	13 Aug 2009	Letter	Dŵr Cymru	Ofwat	Response to Section 56 Information Request - Confidential Version
9.	19 Aug 2009	Letter	Dŵr Cymru	Ofwat	Response to Section 56 Information Request - Further Response
10.	25 Sep 2009	Letter	Ofwat	Dŵr Cymru & Corus	Determination of terms for supply of non-potable water to Corus at Llanwern [Notification of change of case team]
11.	16 Oct 2009	Email	Ofwat	Dŵr Cymru & Corus	Determination of terms for supply of non-potable water to Corus at Llanwern
12.	13 Nov 2009	Letter	Ofwat	Dŵr Cymru & Corus	Determination of terms for supply of non-potable water to Corus at Llanwern
13.	01 April 2010	Letter Email	Ofwat	Dŵr Cymru Corus	Determination of terms for supply of non-potable water to Corus at Llanwern
14.	16 April 2010	Letter	Dŵr Cymru	Ofwat	Reference of disputed terms for the supply of non-potable water to Corus at Llanwern under section 56 of the 1991 Water Industry Act

15.	23 April 2010	Letter	Ofwat	Dŵr Cymru	Request for information
16.	27 May 2010	Letter	Dŵr Cymru	Ofwat	Section 56 Determination - Request for information
17.	11 June 2010	Letter	Dŵr Cymru	Ofwat	Request for information - Confidential
18.	16 Sep 2010	Letter	Dŵr Cymru	Ofwat	Section 56 Determination
19.	21 Dec 2010	Letter	Ofwat	Dŵr Cymru	Section 56 determination of the terms and conditions of the supply of non-potable water from Dŵr Cymru Cyfngedig to Corus Llanwern
20.	06 Jan 2011	Letter	Dŵr Cymru	Ofwat	Section 56 Determination
21.	20 Jan 2011	Email	Ofwat	Dŵr Cymru	Section 56 Determination - formal information request under condition M
22.	21 Jan 2011	Email	Dŵr Cymru	Ofwat	Section 56 Determination
23.	25 Jan 2011	Letter	Ofwat	Dŵr Cymru	Section 56 Determination
24.	26 Jan 2011	Meeting	Ofwat	Dŵr Cymru	Determination of the terms and conditions of the supply of non-potable water from Dŵr Cymru Cyfngedig to Tata Steel UK Ltd under section 56 of the Water Industry Act 1991 - Clarification meeting
25.	27 Jan 2011	Email	Dŵr Cymru	Ofwat	Section 56 Determination
26.	31 Jan 2011	Email	Ofwat	Dŵr Cymru	Information request submission
27.	31 Jan 2011	Letter	Dŵr Cymru	Ofwat	Request for Information - Confidential

28.	1 Feb 2011	Email	Ofwat	Dŵr Cymru	Re: Request for Information - Confidential
29.	1 March 2011	Letter	Ofwat	Dŵr Cymru	Section 56 determination of the terms and conditions of the supply of non-potable water from Dŵr Cymru Cyfngedig to Corus Llanwern
30.	9 March 2011	Letter	Dŵr Cymru	Ofwat	Request for Information - Confidential
31.	4 April 2011	Letter	Dŵr Cymru	Ofwat	Section 56 Determination - scope
32.	14 April 2011	Letter	Ofwat	Dŵr Cymru	Determination of the terms and conditions of the supply of non-potable water from Dŵr Cymru Cyfngedig to Tata Steel UK Ltd under section 56 of the Water Industry Act 1991
33.	26 April 2011	Letter	Dŵr Cymru	Ofwat	Section 56 Determination - scope
34.	5 May 2011	Email	Ofwat	Dŵr Cymru	Dŵr Cymru's letter of 26 April
35.	10 May 2011	Letter	Dŵr Cymru	Ofwat	Section 56 Determination - scope
36.	21 June 2011	Email	Ofwat	Dŵr Cymru	Section 56 Determination
37.	22 June 2011	Email	Dŵr Cymru	Ofwat	Re: Section 56 Determination
38.	18 July 2011	Email	Ofwat	Dŵr Cymru	Section 56 Determination
39.	18 July 2011	Letter Email	Dŵr Cymru	Ofwat	Section 56 Determination
40.	1 Feb 2012	Email	Dŵr Cymru	Ofwat	Section 56 Determination

41.	2 Feb 2012	Email	Ofwat	Dŵr Cymru	Re: Section 56 Determination
42.	1 March 2012	Letter	Ofwat	Dŵr Cymru	Section 56 Determination of the Terms and Conditions of the Supply of Non-Potable Water from Dŵr Cymru to Tata Steel at Llanwern

Appendix 3: Chronology of requests for information

We issued three requests for information to Dŵr Cymru on 23/04/10, 21/12/10 and 01/03/11 and two requests for information to Tata on 23/04/10 and 21/12/10. The following is a summary of the main points covered in the RFIs and the responses to them.

The 23/04/10 Request for Information

In the RFI to both Dŵr Cymru and Tata we asked the following questions:

1. For the clauses in the 2008 draft supply agreement that were in dispute, we asked both parties their views on how the terms should be amended and the reasons for the amendments.
2. We asked for daily quantity of water demanded by the Llanwern site and the quantity and quality of the water supplied since 1 April 2004.
3. We asked for a detailed breakdown of the infrastructure used to serve the Site and details of and changes to how the service has been provided since 1993.
4. We asked the parties to set out their views of the appropriate charges that should have been paid since 1 April 2004. And the charges that have actually been paid.
5. Finally we asked for the costs of supplying the Site, broken down into Water supply costs, distribution and treatment costs, retail costs, capital expenditure and capital maintenance, costs associated with infrastructure owned by Tata and any other relevant costs.

Responses to the 23/04/10 Request For Information

1. Both parties set out in detail their views on the disputed clauses. Areas of contention include
2. Both parties provided monthly supply data to the Site. Dŵr Cymru also confirmed that demand at the Site was met on each day since 1 April 2004. Dŵr Cymru confirmed that Tata had not complained about the quality of the water supplied and provided data in the number of tests for suspended solids that were passes, the minimum and maximum pH levels for each quarter and the average levels of chlorine.
3. The parties confirmed the structure of the Court Farm Non-Potable System system that serves the Site. Dŵr Cymru confirmed that the Llanwern site accounts of all of the non-potable usage from the Court Farm site and that this represents [REDACTED] of the capital costs for the site.

4. Dŵr Cymru stated that the Site should be charged using the standard large industrial non-potable tariff. This approach is used for all other large users and it would be unfair to charge Tata using a different method. Dŵr Cymru provided details of both their standard large industrial non-potable tariff and the amount that would have been payable for the Site since 1 April 2004 under that tariff. Additionally, Dŵr Cymru was concerned that if they charge the Site using a different methodology from other large users, they could be a breach of their licence. Finally, Dŵr Cymru provided the amounts paid by Tata in each year since 2004.

Corus stated that there are a number of unique factors that should be taken into account when looking at the pricing model including the size of the demand and that Tata's predecessor made a significant contribution to the capital costs of the infrastructure serving the site.

5. Dŵr Cymru provided a breakdown of their costs for supplying the Site for the year 2006/07 and 2008/09.

For water resources, Dŵr Cymru also provided details of the capacity of the treatment works that supply the Site and provided information on the potential for reductions in their abstraction licences to impact the supply of water to the Site in the future.

Dŵr Cymru was unable to provide the details of Their breakdown of distribution and treatment costs was provided using an AAC approach as Dŵr Cymru does not routinely calculate costs using the AAC+ approach that we had asked for. However they were able to provide a comparison between the AAC and AAC+ methodologies for the distribution and treatment costs in 2006/07.

Dŵr Cymru was not able to provide an accurate breakdown of the retail costs due to the ambiguity around what counts as retail costs.

Dŵr Cymru challenged the assertion that Tata had paid capital contributions in support of the provision of services to the Site. Dŵr Cymru assert that Tata paid charges calculated on a "bottom-up" approach to cover, amongst other things, loan charges on the original costs of some of the assets created to serve the Site.

The 21/12/10 Request for Information from Tata

In the 21/23/10 request for information from Tata, we asked for:

1. Information on the water quality standards required by Tata. This included:
 - a. Details of periods of time where the water quality supplied to Tata was unacceptable,
 - b. The reasons why it was unacceptable,
 - c. The impact the unacceptable service had on the business, and

- d. The action Tata took to resolve the situation.
2. Detailed information on the contributions made by both Tata and Dŵr Cymru towards the assets that serve the site.

Response to the 21/12/10 Request for Information from Tata

1. Tata confirmed that the service from Dŵr Cymru has been acceptable and that it did not have specific examples of unacceptable service.
2. Tata confirmed the contributions they provide to the Court Farm Treatment Works, the [REDACTED] Main from [REDACTED] to Court Farm, the [REDACTED] Main from [REDACTED] o Waltwood Reservoir and the [REDACTED] intake works. They also confirmed the total costs of these assets and therefore their percentage contribution to the assets.

The 21/12/10 Request for Information from Dŵr Cymru

In the 21/12/10 request for information from Dŵr Cymru, we asked for:

1. Dŵr Cymru to provide the daily volumes of water supplied to Corus or, if they do not collect this data, the volume records that they do record.
2. Dŵr Cymru to confirm whether our schematic of the Court Farm Non-Potable System was correct, and for additional information on any relevant assets not included in the schematic. We also asked for information on the abstraction volumes for the abstraction points within the Court Farm Non-Potable System.
3. Dŵr Cymru to confirm the assets contained within the Court Farm Non-Potable System and their associated costs, as well as assets outside of the Court Farm Non-Potable System that contributes to the supply to the Site.
4. Further details on supply interruptions.
5. An explanation of how Dŵr Cymru derived the regional average cost of the water resource function.
6. The retail costs associated with serving the Site. As part of this RFI, we clarified which activities Dŵr Cymru should consider to be retail activities.
7. Details of the expenditure on each asset involved in the supply to the Site. This included details of any contributions made by Tata. We also asked for Dŵr Cymru to make a prediction of the likely future capital expenditure on the Court Farm Non-Potable System.

Response to the 21/12/10 Request for Information from Dŵr Cymru

1. Dŵr Cymru confirmed that they do not record the daily volumes of water supplied to the Site. Dŵr Cymru confirmed that they have not had difficulties in meeting the maximum daily demand of 18 MI/d and that recent demand has been closer to 10 MI/d. Dŵr Cymru also supplied an update on the volumes supplied to Tata in 2010.
2. Dŵr Cymru confirmed that our schematic of the Court Farm Non-Potable System is essentially correct, but added some potential improvements. Dŵr Cymru also provided the volumes abstracted from each abstraction point serving the Court Farm Non-Potable System, although they note that it is not possible to accurately determine how the water from each abstraction point is divided between the potable and partially treated streams.
3. Dŵr Cymru confirmed the details of the assets associated with the potable and partially treated works, including providing details of the sludge management.
4. Dŵr Cymru confirmed that there had not been any supply interruptions to the site. Dŵr Cymru also confirmed that they did not have accurate knowledge on how long the Waltwood Reservoir could supply the Site if supply to the reservoir was interrupted.
5. Dŵr Cymru confirmed that their water resources costs were derived using the Regulatory Accounting Guidelines 4, including all costs within the “Water resources and treatment” that is not associated with water treatment. Dŵr Cymru also provided additional information on the Gross modern equivalent asset values (MEAV) of the Court Farm Non-Potable System as well as information on infrastructure renewals costs and depreciation.
6. Dŵr Cymru confirmed that they did not record the direct retail costs for supplying the Site, but provided details of the retail services that were provided to the Site and the average associated costs of each of these services per mega litre for all large non-potable customers.
7. Dŵr Cymru replied stating that Tata has not made any capital contributions, but has made contributions to loan charges based on an apportionment of the cost of certain parts of the infrastructure. Dŵr Cymru also confirmed that they were unable to estimate future capital maintenance costs for specific assets.

The 01/03/11 Request for Information from Dŵr Cymru

On 01/03/11 we sent a request for information to Dŵr Cymru. We did not send a request for information to Tata on this date. We asked Dŵr Cymru for:

1. Further information on the configuration of assets used to supply the Site and the extent to which each of these possible configurations are actually used.
2. Estimates of the operating costs associated with the assets used to serve the Site including an explanation of any assumptions made.
3. A clearer explanation of the operating expenditure for treatment and distribution and an explanation of how these numbers were calculated.

Response to the 01/03/13 Request for Information from Dŵr Cymru

1. Dŵr Cymru explained that it was not possible to set out the amount of water supplied by a particular configuration of assets due to the complexity of the system.
2. Dŵr Cymru responded that they could not provide precise operating costs for each asset individually without commissioning a study to determine them. However Dŵr Cymru provided suggestions for estimates of these costs and the method used for determining these estimates.
3. Dŵr Cymru confirmed that the treatment and distribution costs were calculated in accordance with the 2008/09 cost allocation work which was developed in consultation with Ofwat.

Appendix 4: The cost of capital for price determination cases

The cost of capital is a key element in developing the relevant price in the context of this case. In general, the provision of water services is relatively capital intensive and Dŵr Cymru has considerable assets in place to serve Tata.

For the PR14 price control we set a water and wastewater wholesale cost of capital (which is excluding the retail part of water companies' returns) that was based on an appointee cost of capital adjusted for the removal of the retail margin. We consider the appointee Weighted Average Cost of Capital (**WACC**) to be a reasonable starting point as the basis of a cost of capital to apply in a price determination case because it:

- 1) Represents our best forward looking view of the cost of capital applicable to appointed companies such as Tata; and
- 2) Is based on a robust methodology that has been subject to significant scrutiny from industry's stakeholders during the PR14 price control review process.

We asked Grant Thornton to assess the appropriate cost of capital to apply in this and similar cases involving supplies to large users. It used the cost of capital assessment in our January 2014 "Risk and Reward Guidance" as its starting point. It concluded that a project specific cost of capital, which is higher than the company-wide cost of capital used for price controls, should be applied in this and other cases.

At final determinations for PR14 in December 2014 we revised our view of the relevant cost of capital for the purpose of the price control. Because of this change, we asked Grant Thornton to consider whether it should revise its view of the cost of capital for this and other cases. Grant Thornton considered that the additional information used to determine the cost of capital for final determination did warrant revising its view of the relevant cost of capital for supplies to (very) large users.

We have reviewed Grant Thornton's advice and evaluated whether to apply the cost of capital it has proposed, or to use some other measure. In performing our evaluation we have sort to address two questions:

- 1) Does the proposed cost of capital represent a long term view of a reasonable rate of return?
- 2) Should a project specific or company-wide cost of capital apply?

We deal with each of these in turn below and then set out how we apply Grant Thornton's cost of capital in this case.

A long term WACC approach for price determination cases

Price determinations are not linked to price control periods and the prices are not set for any particular period, but rather are intended to be applied over the length of the agreement. Consequently we consider that the view of all costs, including the cost of capital, used for the purpose of a determination should be our best view of long-term costs.

This raises the question of whether a cost of capital set for the purpose of a price control which applies for only five years should be used in the context of a price determination which we consider should endure.

Consequently, given that price determinations made by us pursuant to the Act are expected to extend beyond price control periods, we consider that the cost of capital applied in these and other determinations should reflect a reasonable long term view of an efficient rate of return. However, we recognize that taking a long term view is inherently less precise as there is greater uncertainty about future economic conditions in the longer term. Nevertheless, we think that this is a reasonable approach to ensure that the price we determine results, in a stable long term agreement between the parties.

Given that Grant Thornton's preferred approach is to start its analysis based on the PR14 notional company-wide cost of capital, a reasonable first step for this determination would be to consider whether this figure is also a reasonable efficient long term estimate for an appointed company.

We have assessed whether, based on the evidence currently available, the PR14 company-wide cost of capital⁴³ (3.74% vanilla WACC) is also a reasonable estimate of the long term cost of capital appointed companies will face over a 15 year horizon, rather than simply reflecting the costs companies over the 2015-2020 price control period. For that we have analysed separately the individual building block components of the final PR14 cost of capital and assessed whether they fall within a reasonable expected long term range.

Cost of equity

The cost of equity represents the required rate of return to investor equity holders in an appointed company. The key methodology used to estimate the cost of equity in the final PR14 price control determinations is the Capital Asset Pricing Model (**CAPM**). This model provides an estimate of the efficient additional risk premium required by investors in equity of an efficient appointed company in relation to the rate of return required if such an investment

⁴³See [Final price determination notice: policy chapter A7 – risk and reward](#).

where done on risk-free assets (for example Government bonds). The additional risk premium only compensates equity holders for the greater “non-diversifiable” risk⁴⁴ from investing in the equity of an appointed company relative to risk-free assets.

Based on this framework, the key components of the cost of equity are the:

- a) **Risk free rate**: This is a generic economy-wide parameter and reflects the required return to an investment with no risk of a financial loss. This return is generally benchmarked against the interest on Government bonds which have very low risk of default.
- b) **Total market return (TMR)**: This is a generic economy-wide parameter and reflects the average return required by the equity market to compensate for the average “non-diversifiable” risk it bears.
- c) **Asset beta**: This is a company-specific parameter. In this case, it measures how the “non-diversifiable” risks from investing in equity of an efficient appointed notional company compares to the average “non-diversifiable” risk borne by the equity market as a whole, as measured by the Equity Market Risk Premium (“**EMRP**”) parameter. This value is then normalized to account for the impact of the assumed financial leverage for the notional company. The un-normalized parameter is generally referred as ‘equity beta’.

Table 21 below sets out the point estimates of the key components of the cost of equity, a short description of the methodology used in our final PR14 price control determinations to derive these estimates, and our assessment of whether the resulting figure is also a reasonable long term estimate:

Table 21: December 2014 Final Determination point estimates and applied methodology for the cost of equity components⁴⁵

⁴⁴Returns on capital invested in an asset, for example equity shares, are affected by “diversifiable” and “non-diversifiable” risk. “Diversifiable” risk can be eliminated by holding a portfolio of assets so that the “upside” risks on some assets compensate for the “downside risks” on other assets. “Non-diversifiable” risk generally results from changes in general macroeconomic conditions that affect the returns on all assets in the same direction. Hence, “non-diversifiable” risk cannot be diversified away, and therefore, investors require a risk premium to compensate them for their exposure to risk which they cannot manage by diversification.

⁴⁵ For further details on the final PR14 methodology, please refer to the relevant document.

Cost of equity component	Point estimate ⁴⁶	Dec 2014 Final Determination Methodology	Reasonable long term estimate
Real risk free rate	1.25%	<ul style="list-style-type: none"> Adjust current yields on index-linked Government gilts for increases in forward looking expectations. Cross-check with ten-year historical averages of index-linked gilt yields. 	<p>Yes</p> <p>Our current internal analysis of the Bank of England's projections over the next 15 years on the yields of 10 year Government gilts shows that a range of 1.4% to 0.6%⁴⁷ (in real terms⁴⁸) is a reasonable range given recent market expectations. Therefore, the final PR14 point estimate falls within this reasonable range.</p>
Total market return	6.75%	<ul style="list-style-type: none"> Estimate derived using both long term historical measures of equity returns and forward looking approaches; and Other academic evidence. 	<p>Yes</p> <p>The methodology attempts to capture a long term view of the equity market risk premium.</p>
Asset beta	0.30	<ul style="list-style-type: none"> Adjust historical asset beta averages (calculated over more than 10 years' worth of data) for current evidence in other utility sectors and revealed strength of water companies financial performance during the recent economic recession. 	<p>Yes</p> <p>The final PR14 asset beta point estimate lies within reasonable historical ranges observed for the industry</p>

⁴⁶ Dec 2014 Final determination.

⁴⁷Based on our analysis of the Bank of England's forward 10 year gilt yield projections at 31st October 2014 we estimate a long term cost of 10 year Government gilts of 3.4%. This is just the average cost of projected yields of 10 year Government gilts over a 15 year period. The same analysis but considering the Bank of England's projections at 31st December 2013 provides a long term cost of 10 year Government gilts of 4.2%. If we use a 2.8% long term RPI estimate, this provides a range of 1.4% to 0.6% in real terms.

⁴⁸ To adjust for inflation we use a long term RPI estimate of 2.8%. See [Final price determination notice: policy chapter A7 – risk and reward](#).

Cost of equity component	Point estimate ⁴⁶	Dec 2014 Final Determination Methodology	Reasonable long term estimate
Gearing ⁴⁹		<ul style="list-style-type: none"> The notional company capital structure assumes 62.5% gearing level which is just above the current industry average 61.1%. The notional value is used to calculate an equity beta from an asset beta. 	<p>Yes</p> <p>We expect financial structures to be reasonable stable under the considered longer term horizon.</p>

Overall, our assessment shows that the final PR14 cost of equity point estimate components can also be regarded as reasonable long term estimates.

Cost of debt

The final PR14 cost of debt represents debt provider's required return to finance a notional appointed company. Table 22 below sets out the key components of the final PR14 cost of debt point estimates which are reflective of the cost of debt relevant to the PR14 price control period only:

⁴⁹ Gearing is a key element of the WACC as it determines the relative weights to be given to the cost of equity and the cost of debt in the WACC. However, it is also a crucial element to determine the cost of equity itself so we assess it in this section.

Table 22: December 2014 Final Determination point estimates for the cost of debt components

Cost of debt component	Point estimates (Dec 2014 Final determination)
Embedded debt proportion	75%
New debt proportion	25%
Cost of embedded debt	2.65%
Cost of new debt	2.00%
Weighted average	2.49%
Issuance costs	0.10%
Overall cost of debt	2.59%

We have undertaken our own internal analysis to understand whether the 2.59% cost of debt point estimate is also a reasonable long term one.

Firstly, we have considered reducing the proportion of embedded to new debt to reflect the fact that over the longer term, the proportion of new debt relative to total debt will be larger as greater proportion of debt will be refinanced over a longer period. In particular, we consider that a 50:50 split is representative of new debt requirements over a 15 year period.

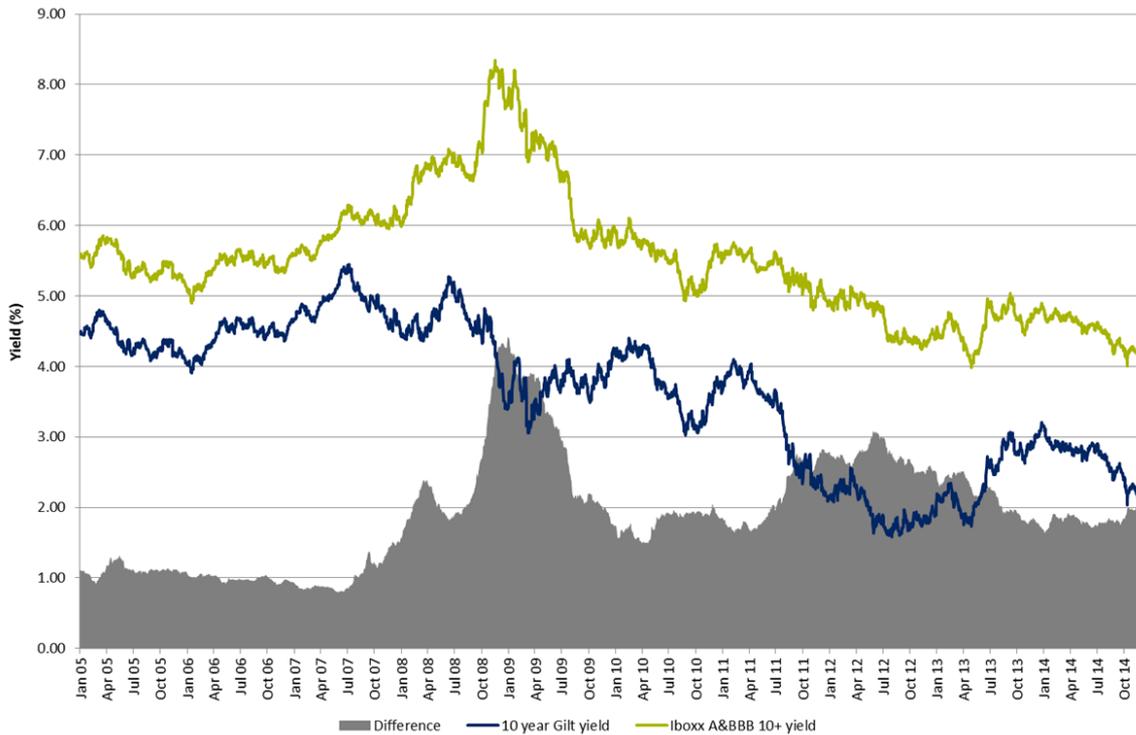
Secondly, we have also looked at producing a longer-term view for the cost of new debt. The starting point is to work out a long-term risk free rate level based on future expectations on the cost of Government borrowing and add a risk premium that would capture a long-term expected spread between the cost of Government bonds and corporate bonds. We have assessed the expected risk premiums by looking at historical spreads between the yields on 10 year Government bonds and benchmarked corporate bond indices.

Based on our analysis of the Bank of England's forward 10 year gilt yield projections at the 31st of October 2014, we estimate a long term cost of 10 year Government gilts of 3.4%. This is just the average cost of projected yields of 10 year Government gilts over three consecutive price control periods. We use this figure as the starting point to calculate a long-term cost of new debt.

The graph below sets out the historical spread between the cost of 10 year Government gilts and the cost of corporate bonds - measured with corporate bond indices⁵⁰ - and will be the basis for informing a long-term view of the risk premium required to buy corporate bonds:

Figure 2: Historic spreads between the cost of 10 year corporate bonds and the cost of 10 year gilts

⁵⁰Specifically we looked at iBoxx A/BBB corporate bond indices.



Source: Ofwat's calculations.

The historical spreads need to be interpreted with caution to inform a long term view. Pre-crisis spreads levels seem abnormally low (1%). As commented by members of the Monetary Policy Committee, this seems to relate to a period where lenders were significantly underestimating the risks in the corporate bond market. Therefore, we would not expect long term spreads to go back to observed pre-crisis levels.

Other historical data seems to be affected by periods of abnormal monetary policy with a strong emphasis on quantitative easing (for example between October 2011 and July 2012) resulting in spreads in excess of 2.5%. Over the longer term, as the economy returns to normal conditions and current monetary policy unwinds, we would expect spreads to fall below 2.5% and potentially even further than 2% as the most recent historic data shows. With this analysis in mind, we think that a reasonable range for a long term spread lies between:

- i. **Lower bound 1.50%:** Based on historical evidence and the above analysis we think that spreads below 1.50% would be abnormally low for a long term view, and
- ii. **Higher upper bound 1.85%:** We think that the most recent data historic spreads are indicating a recovery of the economy to more normal conditions. Therefore, over the longer term, we expect that a reasonable long term spread might lie below the most recent historic spreads. Therefore, we set the upper bound to the average spread of the last 12 month period for which we have data for.

Table 23 below summarizes our long-term overall cost of debt and compares it to the final PR14 point estimates:

Table 23: Overall cost of debt comparison between Dec 2014 Final Determination point estimates and reasonable long-term view range

Overall cost of debt	Point estimates ⁵¹	Lower bound long term spread	Higher bound long term spread
Embedded debt proportion	75%	50%	50%
New debt proportion	25%	50%	50%
Cost of embedded debt	2.65%	2.65%	2.65%
Cost of new debt	2.00%	Long term gilts: 3.40%	Long term gilts: 3.40%
		Spread: 1.50%	Spread: 1.85%
		Inflation: 2.80%	Inflation: 2.80%
		Cost new debt: 2.10%	Cost new debt: 2.45%
Weighted average	2.49%	2.38%	2.55%
Issuance costs	0.10%	0.10%	0.10%
Overall cost of debt	2.59%	2.48%	2.65%

The midpoint of our long term view range for the overall cost of debt is approximately 2.57% which is broadly comparable to PR14's final determination point estimate.

Overall, our analysis shows that even though the PR14 notional company-wide cost of capital produced for our final PR14 price control determinations is specific to the price control period, it still falls within a reasonable long term view range. As result, **we do not propose to deviate from the final PR14 cost of capital figure as the starting point of our analysis to derive a suitable forward looking cost of capital for this price determination.**

⁵¹ Dec 2014 Final determination.

A project-specific WACC

As part of our work on price determinations, we commissioned Grant Thornton in early 2014 to produce an independent report examining whether it would be appropriate to apply a different cost of capital to a notional company-wide cost of capital in the cases involving supplies to large users⁵².

Grant Thornton's August 2014 final report indicates that there are sufficient differences in terms of "non-diversifiable" risks between: (i) a notional company that only supplies non-potable water to large users; and (ii) a notional company that supplied potable and non-potable water to all types of customers, to justify departing from a notional company-wide cost of capital in the present case.

In its report, Grant Thornton notes that demand from large users is generally more variable in response to fluctuations in general economic conditions when compared to the demand from customers more broadly. In an industry characterised by the presence of substantial fixed costs, greater volatility of demand reduces suppliers' certainty in relation to cost recovery. Grant Thornton considers that this fact materially increases the cost of capital of a notional company which only supplies large users when compared to the cost of capital for a notional company supplying potable and non-potable water to all types of customers.

Accordingly, Grant Thornton calculate a forward looking notional "activity-specific" cost of capital for the activity of supplying non-potable water to large industrial users only. In terms of methodology, the starting point of their assessment is our January 2014 "Risk and Reward Guidance"⁵³ notional company-wide cost of capital (3.85% vanilla WACC) developed at that time for the PR14 price control. At the time, Grant Thornton considered this figure to be the best estimate for the cost of capital for the industry and use it as the basis to calculate a forward looking notional "activity-specific" cost of capital for the activity of supplying non-potable water to large industrial users only.

Specifically, Grant Thornton uplift Ofwat's January 2014 company cost of capital figure to reflect the impact of the greater non-diversifiable risks associated with supplying non-potable water to large industrial users only. This results in an activity-specific (pre-tax) cost of capital of 4.81%.

However, our assessment of the underlying company-wide cost of capital for a notional efficient company has changed since we published our January 2014 "Risk and Reward Guidance". As noted above, our December 2014 final PR14 price control determinations establishes a notional company-wide cost of capital of 3.74% which is slightly lower than the

⁵² Cost of capital for price determination cases: A report for Ofwat. Grant Thornton. August 2014.

⁵³ See, [Setting price controls for 2015-20: \(1\) risk and reward guidance. OFWAT, January 2014. And \(2\) Final price determination notice: policy chapter A7 – risk and reward.](#)

3.84% calculated for our January 2014 guidance and used as the starting point of Grant Thornton’s calculations.

Given that we have already established that our December 2014 final PR14 price control determination notional company-wide cost of capital is also a reasonable long term view, we have updated Grant Thornton’s calculations to ensure that the “activity-specific” uplifts are applied to our most preferred cost of capital starting point.

Updating Grant Thornton’s activity-specific WACC

Table 24 below reproduces Grant Thornton’s published central estimates for the notional “activity-specific” cost of capital, together with the updated figure as a result of changing the starting point of their analysis to our preferred starting point of analysis:

Table 24: Updating Grant Thornton’s activity-specific cost of capital

Activity-specific cost of capital parameters	Grant Thornton’s August 2014 estimation ⁵⁴	Ofwat’s update of Grant Thornton’s August 2014 estimation ⁵⁵	Comment
Real risk-free rate	1.25%	1.25%	NO CHANGE The starting point to uplift to account for the greater “non-diversifiable” risk of supplying large users is the same across January and December 2014 cost of capital determinations for PR14.
Equity market risk premium	5.50%	5.50%	
Equity beta	0.93	0.93	
Cost of equity (post-tax)	6.37%	6.37%	
Overall cost of debt including fees	2.75%	2.59%	CHANGE Change to reflect our preferred starting point to perform an uplift based on PR14 Final Determination overall cost of debt.

⁵⁴ Based on January 2014 PR14 “Risk and Reward Guidance”.

⁵⁵ Based on December 2014 PR14 Final Determinations.

Activity-specific cost of capital parameters	Grant Thornton's August 2014 estimation ⁵⁴	Ofwat's update of Grant Thornton's August 2014 estimation ⁵⁵	Comment
Additional debt risk premium	0.22%	0.22%	<p align="center">NO CHANGE</p> <p>We apply Grant Thornton's uplift to account for the impact on the overall cost of debt of the greater "non-diversifiable" risk of supplying large users.</p>
Overall cost of debt (pre-tax)	2.97%	2.80%	<p align="center">CHANGE</p> <p>We apply Grant Thornton's uplift to account for the impact on the overall cost of debt of the greater "non-diversifiable" risk of supplying large users.</p>
Gearing	57.5%	57.5%	<p align="center">NO CHANGE</p> <p>We apply Grant Thornton's gearing figure to account for the impact of the greater "non-diversifiable" risk of supplying large users.</p>
WACC (Vanilla)	4.41%	4.32%	<p align="center">CHANGE</p> <p>We apply Grant Thornton's uplifts to account for the impact on the overall cost of capital of the greater "non-diversifiable" risk of supplying large users</p>
Effective tax	12.80%	10.00%	<p align="center">CHANGE</p>

Activity-specific cost of capital parameters	Grant Thornton's August 2014 estimation ⁵⁴	Ofwat's update of Grant Thornton's August 2014 estimation ⁵⁵	Comment
rate			Updated to reflect the average effective tax rate across regulated companies.
Real WACC (pre-tax)	4.81%	4.62%	<p style="text-align: center;">CHANGE</p> <p>We apply Grant Thornton's uplifts to account for the impact on the overall cost of capital of the greater "non-diversifiable" risk of supplying large users.</p>

As a result of the above, in this determination we apply a 4.62% pre-tax "activity-specific" cost of capital where appropriate.