11 July 2016

Trust in water

# Final 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

www.ofwat.gov.uk

Ofwat

# About this document

This is Ofwat's final 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 (Act).

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 final determination of the relevant terms and conditions of the supply in this case, which follows extensive communications and consultation with the parties.

# Contents

# Executive summary

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

Tata is supplied with partially treated 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 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 its 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 there is no relevant approved tariff of the undertaker in force and the 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 ('**the Act**'). We are required to determine the disputed terms and conditions of an agreement "according to what appears to [Ofwat] 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 [relevant undertaker] recovering the expenses of complying with its obligations under section 55 [of the Act]" 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 sets out our investigation and final determination in relation to the disputed price and non-price terms of the agreement for the 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's Llanwern site 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 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 comparable future cases. We have set out our approach to the cost of capital in detail in **Appendix 5**.

Before reaching this final determination, we issued a draft determination for public consultation in June 2015. The parties to the dispute and other interested stakeholders were invited to make representations to us on the determination we then were minded to make and on the approach that we had adopted in reaching the draft determination. Dŵr Cymru submitted their representations to us on 22 September 2015 and Tata Steel submitted their representations to us on 21 September 2015. In addition, we also received two responses to the public consultation from other interested stakeholders. A summary of the main issues raised in the responses which are not dealt with elsewhere in this decision document is in **Appendix 4**.

We also issued a further, limited, consultation on 29 January 2016, to invite representations on two issues by the parties in response to the draft determination. Dŵr Cymru submitted their representations to us in two parts on 23 February 2016 and 9 March 2016. Tata submitted their responses to the consultation on 2 February, 17 February, 8 March, 18 March and 25 April. A summary of the main issues raised in the responses which are not dealt with elsewhere in this decision document is in **Appendix 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[1], we have concluded that to adopt the price

[1] For the purpose of our published framework entitled, "Our framework for resolving pricing disputes involving bulk supplies", and for the purpose of this determination, a "bulk supply" covers various

taken from Dŵr Cymru's standard large non-potable water user tariff as the price applicable in the agreement for the supply of water to Tata at Llanwern would not appear to be reasonable, because it would be too high having regard to Dŵr Cymru's expenses and capital costs in relation to that supply. Instead, **we have determined that the price for the supply of non-potable water from Dŵr Cymru to Tata should be [redacted] p/m³ at 2004/05 prices.** This price will increase annually in line with RPI. The use of RPI aligns the price indexation of non-potable water bulk supply to the indexation used for other parts of Dŵr Cymru's business.

We have also determined certain non-price terms for the agreement between the parties alongside that price.

In reaching this determination, we are satisfied that we have fulfilled our duties under section 56 of the Act. The process we have applied to ensure that we have fulfilled our duties coincidentally serves to promote the saving of water in a water stressed region.

supplies including a supply of water or sewerage (wastewater) services from one appointed water company to another appointed company or, as in this case, the supply of these services by an appointeid water company to a large non-household customer.

# 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 determination.

1.4 Ofwat has now fully assessed the information received from the parties and other relevant information, including responses to our consultation on a draft determination from other stakeholders. This document sets out Ofwat's final 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 and the specific terms and conditions to be determined (at **Section 4**); and
d. our explanation of our final determination of the disputed terms and conditions (at **Section 5**).

**Appendix 1** sets out our formal determination and shows how the agreement for the supply of water by Dŵr Cymru to Tata takes effect as a result of the determination, with amended terms highlighted in bold for the parties' ease of reference.

In addition, in order to ensure that both parties have access to the information Ofwat has relied upon for the purposes of making this determination, **Appendix 2** contains a list of all key documents, including consultation responses and other 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.

**Appendix 3** 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.

**Appendix 4** sets out our responses to the key issues raised in the representations on the draft determination and in subsequent correspondence with the parties, in so far as those issues are not discussed elsewhere in this decision document.

Finally, **Appendix 5** 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 Where the relevant parties are unable to agree the terms and conditions on which the supply of water for non-domestic purposes pursuant to section 55 of the Act will be effected, section 56(1)(b) of the Act obliges Ofwat, in default of such agreement, to determine any terms or conditions or other matter which falls to be determined for the purpose of such a supply. That determination is to be made "**according to what appears [to Ofwat] to be reasonable**".

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 that 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.**

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 Under various other provisions in the Act, Ofwat has the function of resolving pricing disputes involving bulk supplies of 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 effects on companies' ability to finance their business and on competition and efficiency), are likely to be issues which arise for consideration by Ofwat in the context of more than one particular statutory provision. Ofwat has been concerned to ensure that it acts consistently, when similar issues arise 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 in the circumstances of each case and insofar as is consistent with the applicable statutory test to be applied on each occasion, 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 for some determinations. In the case of section 56 determinations, those duties are not applicable[3]. The

[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

published framework also explains Ofwat's normal starting point in assessing costs for the purpose of 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 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.

2.8 Consistent with section 55(7) of the Act, the terms and conditions now determined by Ofwat have effect as if contained in the agreement between Dŵr Cymru and Tata Steel for the supply of non-potable water at Llanwern. That agreement commenced on 1 April 2004.

the expenses of complying with its obligations and securing a reasonable return on its capital, have similarities with some of 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 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 (**Ml/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 signed between the parties after protracted negotiations (the **1993 agreement**).[6] The 1993 agreement required Dŵr Cymru to supply a maximum volume of 91 Ml/d to Tata, and provided for a tariff

[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.

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 Ml/d (down from 70.4 Ml/d in 2000/01, 44.3 Ml/d in 2001/02, and 28.0 Ml/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 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 relevant terms of the supply under section 56 of the Act.

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

3.9 Following the parties' requests, Ofwat engaged in correspondence with the parties, including making requests for information, to enable Ofwat to arrive at a reasonable determination of the relevant terms and conditions for the supply referred to Ofwat. Further detail on this process is set out in Appendices 2 and 3 to this determination.

[redacted] 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]

# 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 when 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).

# (A) The views of the Parties

## Dŵr Cymru

4.4 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 (also referred to as an Average Accounting Cost, or AAC, approach) is then used to calculate Dŵr Cymru's standard "tariff" prices for the different customer classes which appear in its published charges scheme.

4.5 The "industrial" tariff (also referred to as the Large User Tariff, or LUT) 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).

4.6 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.

4.7 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.

4.8 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".

4.9 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 or undue discrimination in certain circumstances). 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.

4.10 Under Dŵr Cymru's 2014/15 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

4.11 Tata considers that Ofwat's determination of the price of the supply should reflect the "special features" of the supply to the Llanwern site.

4.12 Tata contends that the relevant special features in this case are (in summary):

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

a. The volumes supplied to Tata at Llanwern are exceptionally 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 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.

4.13 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.

[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%); [redacted] main from [redacted] to Court Farm (41%); [redacted] mains from [redacted] to Court Farm and from Court Farm to Waltwood Reservoir (100%); and [redacted] intake works (100%).

# (B) Our draft determination

4.14 We published our draft determination on this case on 24 July 2015. This set out our assessment of the information provided to us by the parties and the outcome of the independent assessment undertaken by Grant Thornton on the appropriate cost of capital. It also set out our provisional finding that the supply to the Llanwern site should not be charged using Dŵr Cymru's standard tariff for large non-potable users given the unique and discrete nature of the supply to the Llanwern site.

4.15 In addition, we also applied the tests contained in our published framework which involved considering whether there were any geographical, efficiency or competition issues that would impact on our assessment of what a reasonable charge should be in this case. Our analysis supported the use of a bottom-up approach to assess the price for the supply and did not identify any material competition or efficiency concerns.

4.16 As part of our draft determination, we reviewed the information provided by Tata on what they believed to have been a capital contribution towards the initial costs of the loans taken out to provide the infrastructure to supply the Llanwern site. We were not convinced that these payments constituted a capital contribution, rather that they were payments for a service previously received and therefore we did not take them into account when assessing Dŵr Cymru's capex costs.

4.17 In relation to the issue of annual indexation, we provisionally determined that the retail price index (RPI) was an appropriate indexation for the price of non-potable water in the agreement being determined in the present case. The use of RPI aligns the price indexation of non-potable water bulk supply to indexation used in other parts of Dŵr Cymru's business, and we did not consider that there were sufficiently compelling reasons to deviate from RPI in this case.

4.18 This resulted in a provisional price being set of 20.33 p/m$^3$ at 2004/05 prices.

4.19 We also provisionally determined a number of non-price terms of the contract that were in dispute, including terms relating to the water quality sampling arrangements, disconnection in case of non-payment and the termination of the contract.

## (C) Responses to our draft determination

4.20 The parties and other interested stakeholders were invited to make representations to us on this draft determination and, in particular, to provide comments on how we had applied our published framework in this dispute and our methodology for determining the provisional price.

4.21 Dŵr Cymru submitted their representations on the draft determination to us on 22 September 2015 and Tata Steel submitted their representations to us on 21 September 2015. In addition, we also received two responses to the public consultation from other interested stakeholders.[10] Many of the points raised in the representations we received are referred to in Chapter 5 below. An overview of the key issues raised by these respondents that are not answered in Chapter 5, and Ofwat's response to them, is set out in **Appendix 4**.

## (D) Our limited subsequent consultation

4.22 Having reviewed the responses to our draft determination, we decided to conduct a further limited consultation on two specific issues where we concluded that additional information from the parties was necessary to inform our final determination. Specifically:

- We proposed a revised approach to setting the earliest point at which Dŵr Cymru could issue notice of its intention to withdraw from the contract. [redacted]

[10] Responses were received from an appointed water company and a new appointee

- [redacted] We asked for the views of the parties on a proposed addition to clause 10.4 [redacted] and
- Whilst seeking views on these proposals we also provided an update on the provisional price, which had been increased since the draft determination had been issued as a result of consideration of information provided and arguments made by the parties in response to the draft determination.

## (E) Responses to our limited subsequent consultation

[redacted] Dŵr Cymru responded to our limited subsequent consultation in two letters dated 23 February 2016 and 09 March 2016. [redacted]

[redacted]

[redacted]

[redacted]

[redacted] Tata provided its response to the limited consultation in four letters dated 02 February 2016, 17 February 2016, 18 March 2016 and 25 April. With regard to the contract termination provision, [redacted]

[redacted]

[redacted]

4.29 Our assessment of the representations made by Tata concerning the proposed increase in price is set out in Appendix 4 of this document.

# 5 Our final determination

5.1 This Chapter sets out the reasoning leading to Ofwat's final determination of the disputed price and non-price terms for the supply of non-potable water by Dŵr Cymru to Tata at Llanwern.

5.2 Under heading (A) below, we explain our final determination of the price of the supply (clause 9 of the draft agreement). Our final 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) ("**The non-price terms**").

5.3 A comment was made in response to our draft determination that the scope of our calculations and our reasons for our selection of data from the different sources available to us was not always clear. We have endeavoured in this Chapter to provide clarity on these points. Our guiding principle has been to use the best information available to us when estimating the cost of supply to Tata at Llanwern.

## (A) The price of the supply

### (i) Our analytical approach

5.4 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) of the Act provides for Ofwat to determine the disputed terms and conditions 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**."

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 previous price determinations. We, and Grant Thornton, considered the cost of capital used in the 2014 Price Review to be the most relevant and robust information. We further considered whether it is reasonable to use that cost of capital given the particular circumstances of the supply. The results of that analysis are set out paragraphs 5.35 to 5.57 below.

5.5 In addition, to inform our judgement of what a reasonable charge is in this case, we have applied the relevant sections of our published framework for resolving pricing disputes involving a bulk supply of water or sewerage services which is described in Chapter 2, insofar as is consistent with the relevant statutory criteria in section 56 of the Act. The outcome of this analysis is set out in sections 5.159 to 5.175 below.

## ii. Applying the analytical approach to the present case

5.6 This section sets out how we have applied our analytical approach to assess the costs of the supply to Tata at Llanwern. Our starting point is not a "blank slate", but an analysis of whether the "business as usual" price is reasonable, in light of whether or not it is based on robust information on the relevant costs, or would cause material adverse effects. Having reached a price for the supply that we regard as reasonable (having had regard to the desirability of the relevant factors set out in section 56(5)(b) of the Act), 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

5.7 To assess the costs attributable to the supply to Tata at Llanwern, we 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**).

5.8 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 1.5 million 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 on [redacted] 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.

5.9 As set out further below at paragraphs 5.83 to 5.90 and paragraphs 5.109 to 5.113, 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.

5.10 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, including, for example, the pipeline from Court Farm to Tata's own service reservoir at Waltwood.

## Our assessment of the cost of supplying Tata at Llanwern

5.11 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 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.

5.12 In a determination under section 56 of the Act we have to make a determination of charging terms that we regard as reasonable, having regard to the desirability of Dŵr Cymru recovering its costs and securing a reasonable return on capital. We therefore have to consider cost recovery and the Tariff is understood to be based on an analysis and apportionment of Dŵr Cymru's costs. How the interim tariff relates to costs is not known and, if the price in the 1993 agreement was based on an analysis of Dŵr Cymru's costs, it is an old analysis. The Tariff therefore represents the best of the available "business as usual" alternatives from the standpoint of the statutory function we have to perform and this was accepted as a reasonable starting point by all parties when responding to the draft determination.

5.13 We therefore continue to consider it appropriate to take the Tariff Price as the effective "business as usual" price being disputed, and the starting point for our analysis in the present case. When checking whether this approach would lead to a reasonable price or cause material adverse effects, we examine the three questions set out in the published framework in relation to the Tariff Price.

## The geographic nature of supply

5.14 In this section we consider whether there are any geographic considerations which would justify departing from 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 which would make that price unreasonable in the context of a section 56 determination.

5.15 In order to determine a reasonable price having regard to the desirability of Dŵr Cymru recovering its expenses and a reasonable return on capital associated with the supply, we need to understand the costs, including the capital costs involved in the provision of the supply.

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**[11]:

"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."

5.16 Accordingly, a key consideration in our assessment of whether to depart from the Tariff Price in the present case is an analysis of what the costs of supply to Tata at Llanwern actually are and of whether, in relation to those costs, the Tariff price appears to be reasonable. A "local accounting cost" (**LAC**) approach is the method best suited to such an analysis.

[11] https://www.ofwat.gov.uk/competition/inset/pap_pos110228navbulksupply.pdf

5.17 An important point in considering the costs of the supply to Tata at Llanwern is the extent to which they can be regarded as being common to Tata and other users, or alternatively as being specific to the supply to Tata at Llanwern.

5.18 For this purpose, 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.

5.19 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.

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

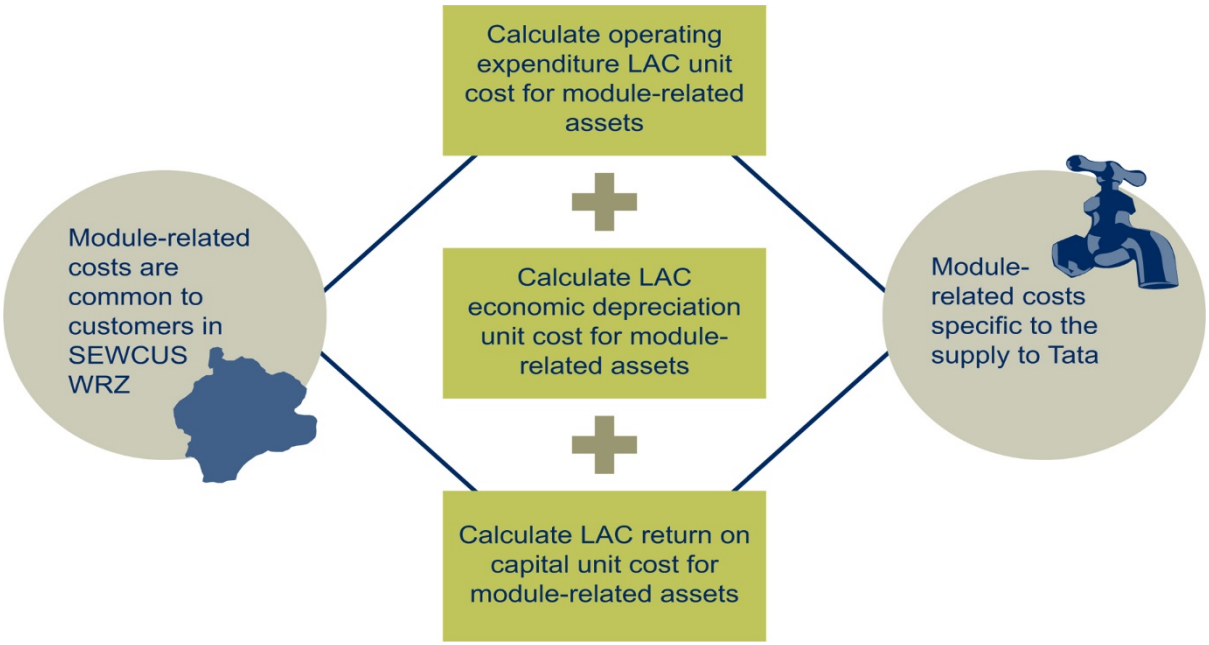



**Figure 1**: **Our approach to determining LAC unit costs**

5.21 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 management and general (M&G) assets.**


5.22 The parties were provided with an opportunity to review and comment on the approach used to review Dŵr Cymru's costs of supply in this case through commenting on the provisional findings set out on our draft determination, which summarised the analysis underpinning those findings. In its representations on the draft determination, Dŵr Cymru challenged this approach as it believes that the price should be set using a 'top-down' AAC approach and a 'bottom-up' LAC approach should only be used to cross check the results of the AAC approach. Their reasoning for this includes that:

- In Ofwat's wider regulatory framework, top-down pricing is favoured over bottom-up pricing and de-averaging: Dŵr Cymru quoted from a number of Ofwat policy statements going back to MD 152 in September 1999 in support of this point;[12]

[12] Letter to managing directors 13 September 1999

- The Competition Appeal Tribunal favours a top-down approach to assessing prices, as set out in their judgement on appeal by Albion Water regarding the price for the supply of non-potable water from Dŵr Cymru to the Shotton Paper Mill;[13]

- Ofwat's approach in the draft determination is inconsistent with its approach in formal approval of Dŵr Cymru's regional average cost-based tariff, following correspondence during the period 2008-10;

- A bottom-up approach may lead to a number of errors of exclusion as costs that Dŵr Cymru incurs as a result of the supply to the Llanwern site are not included in the calculations. As part of its submission, it included a number of examples of costs that it believed were not included in the draft determination; and

- The bottom-up approach in the draft determination did not have any independent checks using another methodology to ensure that the results were reasonable.

5.23 Top down approaches are used to for the purpose of price controls, assessing companies' charges, and in other contexts in which we discharge our regulatory duties and we recognise, as Dŵr Cymru has pointed out, referring us to IN13/08, that inconsistency in approach to charging has implications for all customers. Nevertheless, that does not dictate that a top-down approach must be used in all contexts. Indeed, Dŵr Cymru's response recognises that Ofwat may believe that there may be "specific reasons why it should continue to use the bottom-up method for calculating price in this instance". Having reviewed both top-down and bottom-up approaches, we considered, as we explain in this Chapter and in **Appendix 4**, that, in the context of this case, a bottom-up approach is the most appropriate way to assess the costs Dŵr Cymru incurs in serving Tata for the purposes of a section 56 determination.

5.24 Our understanding of Dŵr Cymru's approach to establishing all its Tariffs, including the LUT, is that it involves the assessment of average supply costs across their region. This requires the application of a number of allocation adjustments to develop the LUT.

[13] CAT Unfair Pricing Judgment, 7th November 2008

5.25 As discussed, there are circumstances where this approach may be completely appropriate; for example, where there are a large number of relatively small users, common charging schemes can provide a practical and proportionate price. There could also be network interactions which give rise to significant joint cost allocation issues.

5.26 In this case, however, there are significant dedicated assets and Llanwern is an exceptionally large user with limited network interactions. This suggests that there may be relevant cost characteristics that differ from those implicitly assumed in the development of the non-potable LUT (or, at least, differ from the majority of those characteristics). It follows that we cannot assume that adopting Dŵr Cymru's LUT would lead us to determine a price that is reasonable for the purposes of section 56 of the Act in relation to the costs of supplying Tata at Llanwern. In addition, even if there were arguments in favour of using Dŵr Cymru's LUT as a reasonable price, there may be other reasonable approaches to pricing in this particular case and section 56(1)(b) of the Act makes it clear that the price should be based on what appears to Ofwat to be reasonable. It therefore is necessary for us to identify, as best we can, Dŵr Cymru's actual costs of meeting its obligations in supplying Tata, which in this particular case are the costs to which we have to have regard to the desirability of Dŵr Cymru recovering for the purposes of section 56(5)(b)(i) of the Act. Given that the interactions with the wider SEWCUS supply network occurring in providing a supply to Llanwern are limited, the relevant joint cost allocations are relatively easy to identify. As a consequence, in our view, it would be unreasonable for us not to review the costs of supplying Llanwern in detail before determining the price for that supply.

5.27 Furthermore, given the exceptionally large nature of the site at Llanwern and that the consumption is significantly greater than almost all other Dŵr Cymru customers, it is not clear whether, if the LUT is appropriate for most large users, it should be taken to be the only reasonable approach in relation to the supply of non-potable water to Tata at Llanwern. Tariffs are typically set for bands on the basis of a declining volumetric price for larger consumption (households pay more per cubic meter than large users). Even if the LUT has been set to reflect the cost to serve of Dŵr Cymru's general population of large users it is not unreasonable to consider if the tariff applying to the very largest users should be lower still to form the basis of the supply to Tata at Llanwern.

5.28 Moreover, the fact that, following correspondence in 2008-10, we did not oppose the use of an AAC methodology by Dŵr Cymru in setting the tariff to apply to large users of partially-treated non-potable water does not, and should not, preclude us from using a different methodology in making a determination several years later, in a different statutory context. It is worth noting that, as explained in Chapter 2, the determination we are required to make in this case must be made within the terms of sections 55 and 56 of the Act, provisions which do not apply to Dŵr Cymru when it establishes its general tariffs, or to us when considering such tariffs. If we were simply to assume that applying Dŵr Cymru's relevant tariff would give rise to a charge that it was reasonable in every case for the purposes of section 56, we would not be applying the criteria stipulated in that section and we would not be adopting a sound basis for making pricing determinations that Dŵr Cymru rightly expects us to apply. We therefore have to review whether the AAC derived tariff would lead to a reasonable charge in this case.

5.29 We do not consider that the CAT favours top-down approaches to price assessment intrinsically. As the quotation selected by Dŵr Cymru demonstrates clearly, the CAT considered that a decision as to what approach to take to cost assessment needed to be taken in the context of each case. Moreover, the CAT clearly welcomed the use of LAC in the context of that case to ascertain whether it was reasonable to use a top down approach. The CAT made this clear in its statement that "if prices are arrived at on an average accounting cost basis, it should nonetheless be possible to verify the costs in question or at least identify the components of costs, at least on an estimated basis".

5.30 Consequently, we examined Dŵr Cymru's top-down approach and then sought to verify Dŵr Cymru's top-down price. We were unable to verify that the top-down approach accurately captured the costs of serving the site at Llanwern through information requests. We therefore proceeded to analyse whether there was a significant disparity between the relevant LUT Tariff price and our assessment of costs. For this analysis we sought to establish a reasonable cost of supply to the Llanwern site, which inevitably involved departing from AAC and using a bottom up, LAC, approach in relation to some costs.

5.31 We agree that bottom-up models can suffer from 'errors of exclusion'. However, top-down approaches can equally suffer from 'errors of inclusion'. For example, the audited cost information on which top-down cost models are developed is not available on an activity basis. Those

general costs must be allocated across all of a company's activities according to rules which aim to capture generic cost drivers. Generic allocation rules might be reasonable in the context of developing generic company-wide charging schemes. However, it is less clear that generic allocation rules are suitable for determining the costs of serving niche and unique customers.

5.32 Dŵr Cymru suggested we had failed to include two classifications of costs. The first was for 'general & support'. Dŵr Cymru noted that across its entire business supporting 3.2 million customers it incurs £20m IT costs and a further £20m in other support. From this Dŵr Cymru concludes that our allowance of 10% of direct costs is "evidently ... inadequate" and proposes that we use 33.3% instead. We do not consider that Dŵr Cymru has provided evidence that our approach allocates insufficient costs for general & support. Critically, Dŵr Cymru has not provided evidence on how general costs are driven by customer scale, nor has Dŵr Cymru demonstrated why its proposal to use 33.3% of direct cost as an estimate is more reasonable than the position taken in the draft determination. When compared to the other water and sewerage companies, this value is around the maximum reported and is significantly different from the value provided by Dŵr Cymru in its 31 January 2011 response to Ofwat's second RFI of 7%. We have therefore decided to reject both of Dŵr Cymru's figures and, in the absence of better information, we have used an average figure based on the most recent information provided to us by water and sewerage companies for water resources opex which is 15.7%. For the water distribution opex, we have used the information provided by Dŵr Cymru in its response to our second RFI as it corresponds more closely both with the accounting separation data received from Dŵr Cymru and average values across water and sewerage companies for the years from 2009-10 to 2011-12 (see **Appendix 4** Part 2 for further discussion).

5.33 Dŵr Cymru also noted that the LAC approach to cost assessment had resulted in the exclusion from the draft determination of costs not directly attributable to serving Tata but which the company still needed to recover from its entire customer base. These included costs associated with water taken for firefighting, the supply of water for other public purposes and maintaining public sewer records. We accept that all customers should bear a fair share of these costs but consider that, as a potable water customer, Tata already does through payment of potable water charges. The existence of a non-potable supply to the Llanwern site does not result in any increase in the quantity of unbilled water in the

SEWCUS zone, nor in the cost to Dŵr Cymru of abstracting, treating and distributing it. Therefore, in the absence of any additional costs, we are not persuaded that Tata should effectively be required to increase its contribution to cover unbilled water costs, including those associated with water taken for firefighting. With regard to other miscellaneous costs such as those associated with maintaining public records our view is that these are largely trivial and in any case fall squarely within the category of administration costs which the allowance termed 'general & support' is defined as including (see **Appendix 4** Part 2 for further detail).

5.34 It also is relevant that we are not seeking to apply an LAC approach to cost assessment without verification. It is being applied to ascertain a reasonable assessment of Dŵr Cymru's costs of supplying Tata at Llanwern through a consultative process in which Dŵr Cymru has an opportunity to identify costs that it thinks we have overlooked. It has taken that opportunity and we have adjusted the proposed price in response. 'Errors of exclusion' that have been identified have now been addressed in this determination.

## Overall cost of capital approach

5.35 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".

5.36 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).

5.37 For the 2014 price review ("**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 by the removal of the retail margin. In this case, we consider the appointee cost of capital, which includes a retail margin, 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 stakeholders during the

PR14 price control review process. We do not separate the wholesale cost of capital and retail return as we did at PR14, because we are not setting separate wholesale and retail prices. Since, in the context of this determination, we are determining the price Dŵr Cymru, as an integrated provider, can charge, it is appropriate to consider the return relevant for a provider of the whole value chain, including retail activity.

5.38 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 users[14]. Grant Thornton used the cost of capital assessment from the PR14 price control as its starting point[15]. It concluded that an activity-specific cost of capital, which is higher than the appointee cost of capital used for price 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 similar cases. Grant Thornton considered that the additional information used to determine the cost of capital for the final determination did warrant revising its view of the relevant cost of capital for supplies to (very) large users and reissued its report[16].

5.39 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 an activity-specific or appointee specific 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?

[14] See Cost of capital for price determination cases: A report for Ofwat. Grant Thornton. August 2014.
[15] Setting price controls for 2015-20 – risk and reward guidance. OFWAT. January 2014.
[16] See Cost of capital for price determination cases: A report for Ofwat. Grant Thornton. August 2014.

5.40 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?

5.41 Price determinations under section 56 of the Act are not linked to price control periods and the prices determined under section 56 are not set for a period which applies to all undertakers, but rather are intended to apply for the length of the supply agreement in the particular case. Consequently, we consider that the most appropriate view of the relevant costs, including the cost of capital, used for the purpose of a determination under section 56 of the Act, should be our best view of the long-term costs of supply.

5.42 This conclusion then raises the question of whether a cost of capital set for the purpose of a price control which currently applies for only five years should be used in the context of a price determination under section 56 of the Act which we consider should endure for the length of the supply agreement.

5.43 Given the price determinations under section 56 of the Act are expected to extend beyond the current price control period, we consider that the cost of capital applied in this and other determinations under section 56 of the Act 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 than taking a view for a shorter period as there is greater uncertainty about future economic conditions in the longer term. Nevertheless, we think that this is a reasonable approach, with a view to ensuring that the price we determine results in a stable, long term agreement between the parties.

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

5.45 We have therefore 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 horizon[17], 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 the range we might reasonably expect for a long term determination.

5.46 **Appendix 5** 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 long-term cost of capital for this determination.

## An activity-specific cost of capital?

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

5.48 Grant Thornton's August 2014 final report indicates that there are sufficient differences in terms of "non-diversifiable" risks[18] 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.

5.49 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

[17] We have considered a 15 year forward-looking view in our subsequent analysis.
[18] 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.

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.

5.50 Accordingly, Grant Thornton has calculated a long-term 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 long-term notional activity-specific cost of capital for the activity of supplying non-potable water to large industrial users only.

5.51 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%.

5.52 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.

5.53 The terms that we determine are reasonable under section 56 of the Act, in general, should be enduring. We recognise that underlying costs such as energy, labour and the cost of capital will vary over time. Nevertheless, without evidence of a significant departure in cost from that used in our assessment of costs (as adjusted through price indexation) we do not think that any reconsideration of the price terms set in this determination would be needed (even if that were possible).

5.54 Accordingly, the measures of costs we have used in determining the price applicable in this case, including, but not limited to, the cost of

capital, are our best estimates of the costs Dŵr Cymru will incur over the period covered by the determination. For the cost of capital we commissioned Grant Thornton to calculate values that would apply in each of three significant bulk-supply price determination cases at the time. Grant Thornton was provided with the relevant details of each case, including the expected tenure of our determinations. It was also provided with our framework for resolving price disputes which makes clear that we make long-term determinations. In addition, we provided Grant Thornton with the details of our cost of capital that was to be applied as part of the price control under review at the time they undertook their independent assessment (PR14). Grant Thornton used that PR14 cost of capital information as a starting point for their analysis, but they did not recommend the use of that PR14 price control cost of capital for the purpose of our determination in this case. They advised that the price control cost of capital needed adjustment to give a reasonable cost of capital in the circumstances of a long term supply to a large scale industrial user of non-potable water.

5.55 We are confident that Grant Thornton have calculated a reasonable long-term cost of capital. The two key components of the cost of capital are the cost of debt and the cost of equity. For the cost of debt, Grant Thornton began with the overall cost of debt used at PR14 and applied an uplift. The overall cost of debt used at PR14 captures both new debt and embedded debt. In Grant Thornton's analysis, three quarters of the cost of debt reflects the cost of debt that companies had in place in 2014, some of which would have been taken out up to 15 years previously. When assessing the cost of new debt Grant Thornton looked at financial market information which assessed the likely cost of debt up to 2025. Consequently the basis of the cost of debt for the purpose of this determination is both backward looking, in that it relies both on past data for the cost of older debt, and forward looking in relation to future debt. It is not unduly influenced by any single economic cycle and, in our view, reflects a reasonable long-term cost of debt for the purpose of the determination we are required to make.

5.56 To calculate the cost of equity Grant Thornton took the relevant components from the cost of capital (including the beta[19] used at PR14), and uplifted the beta to reflect project specific risks of supplying large users compared to the general customer base of water companies. The beta used at PR14 was based on data from 1996 to 2014. The underlying analysis therefore has both backward and forward looking elements, to reasonably reflect the long-run risk equity holders face. The uplift was based on a relatively shorter period because longer-run data (on large-user revenues) were not available, but we do not consider that having additional data would have led to a different outcome. This is because we see no reason to suppose that the systematic relationship between the risk of supplying large users and the risk of supplying the general customer base would change materially over time.

5.57 Since we have already established that our final PR14 price control determination notional appointee cost of capital is a reasonable starting point for our long term cost of capital estimate for this determination (see 5.46 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 5**:

## The views of the parties

5.58 As part of its representations on the draft determination, Dŵr Cymru commissioned two reports from NERA looking at the cost of capital which raised a number of concerns relating to Grant Thornton's assessment of the cost of capital. The main concerns that were raised are:

- NERA considers that it is not appropriate to use information revealed after the contract was signed to set the cost of capital, and propose to use the 2004 price review as the starting point;
- NERA propose to use betas for steel production companies rather than the water company's own beta;

[19] The beta measures the degree of non-diversifiable risk in an investment and is the key component in determining the cost of equity. See Appendix 5.

- NERA contend that using revenue rather than profit is fundamentally flawed, as is the use of GDP as a proxy for stock market returns;
- NERA considers the revenue correction mechanism ("RCM") will lead to Grant Thornton's approach understating the beta for large users, because it caps overall revenue but not revenue from large users; and
- NERA considers that our approach fails to take into account asymmetric risks such as default risk, relocation risk and product of technological change.

5.59 Dŵr Cymru also argued that reliance on Grant Thornton's work has produced a figure for the allowed return on capital that, on the basis of a non-technical "common sense" check, is not just on the low side, but nowhere near what a realistic figure should be.

5.60 Another respondent to our draft determination argued that it is not appropriate, nor in the long term interests of customers, to retrospectively amend the cost of capital that applied during a previous price control period, and that, before seeking to revise the terms of supply, Ofwat should "at the very minimum, consider whether the terms offered were reasonable at the time the contract was entered into, in light of the information available at that time". The same respondent also warned of the unintended consequence of inviting customers to apply for a price determined under section 56 of the Act in order to benefit from subsequent reductions to the cost of capital, or changes in any other price dependent assumption.

5.61 A third respondent to our draft determination commented that the use of an enhanced cost of capital by Ofwat in its draft determination appears to be inconsistent with the findings of the Competition Appeal Tribunal ("CAT"), apparently referring to the judgment given on 6 October 2006 in Case No 1046/2/4/04. The same respondent also argued that using an enhanced cost of capital is also inconsistent with a "level playing field" and would create barriers to entry if adopted as an underlying principle in the setting of wholesale prices for contestable customers.

Using the cost of capital from earlier price controls as a starting point

5.62 NERA supported its argument that we should use the cost of capital from an earlier price control as a starting point by suggesting that it would have been impossible to raise capital at our determined WACC between 2009 and 2011 due to the high cost of capital at the time. A similar argument for applying costs of capital from earlier price control periods was also made by another respondent to the draft determination, who suggested that it would be reasonable to adopt this approach up to 2015 and to apply a cost of capital derived from PR14 from 2015. In the context of a price determination under section 56 of the Act we endeavour to determine a reasonable price that will endure and is independent of price control periods. We are not persuaded that adopting these arguments for a different starting point for a long term cost of capital estimate will lead us to a reasonable price in this case.

5.63 As explained in paragraphs 5.41 to 5.46 above, the cost of capital we propose to use for this determination is a reasonable best estimate for a long term cost of capital for supplying a customer with the water requirements of Tata over the period covered by the determination. Adopting a long term approach to assessing the cost of capital ensures a consistent return to companies' investments, and avoids repeatedly making amendments to, or re-opening, the cost of capital elements of a price determination. We consider it is appropriate to use the best estimate of the long-term cost of capital based on the information available to us at the time of determination for the whole contract period for several reasons.

5.64 Firstly, the argument for using a cost of capital from an earlier price control period appears to assume that our analysis is only forward looking and has no regard to costs of capital that applied prior to 2015. As noted above, this is not the case. In order to form an assessment in 2015 for a cost of capital that is appropriate for a period from several years before 2015 until perhaps 20 years after 2015, we are relying on analysis by Grant Thornton which looks back over a considerable period, for example assuming that some debt was taken out 15 years earlier. Some information that we would have considered in the 2004 price review and the 2009 price review price control periods has been available to us for the purposes of this determination and has been factored into Grant Thornton's recommendation, together with other information.

5.65 Secondly, the arguments that it is not appropriate to use information revealed after the contract was signed ask us to disregard recent up-to-date information on cost of capital and to make a determination in 2016 on the basis that data we have available and trends we have observed since 2004 or 2009 are of no application. Whilst we understand why a company would want us to ignore data that is adverse to its interests, we struggle to see this as a rational approach for a regulator to adopt in determining now what is reasonable. As a general rule, the greater the evidential basis for an estimate, and the more up-to-date is that evidential basis, the better an estimate will be. So very clear reasons are needed for ignoring relevant, up to date, information and they are not apparent to us in this case.

5.66 Thirdly, and in support of the second point above, it does not appear to us that that using cost of capital information only from earlier price controls would, in some way, give a better estimate for the cost of capital to be applied in this determination than an estimate based on more up to date information. We think that the evidence actually is against this. As the National Audit Office (**NAO**) has noted, regulators in general, including Ofwat, have tended to overstate the cost of debt when setting price controls.[20] In the context of the water sector this is in part due to the availability of information on which to set the cost of debt. Privatisation occurred in 1989, prior to which companies had not acquired private debt. At the 2004 price review there was only around 15 years' of data on which to base an estimate of the actual cost of debt that water companies would face. Equally, there would have only been 15 years of stock market information from which to estimate the beta which is a key determinant of the cost of equity. At PR14 we had more than 24 years of data on which to set the cost of capital and the additional evidential base in part provided the confidence to reduce, amongst other things, the industry wide beta from 0.4 to 0.3. This does not mean that the long-term cost of capital that companies actually face has changed over this period, but rather our confidence in being able to set the most appropriate cost of capital, while enabling companies to finance their functions, has increased due to the longer period of data on which to set a cost of capital.

[20] https://www.nao.org.uk/report/the-economic-regulation-of-the-water-sector/

5.67 Fourthly, the suggestion that costs of capital from earlier price control periods should be applied in the period up to 2015 seems to go against another argument raised in responses to the draft determination, which is that, in the interest of regulatory certainty, we should be applying a single cost of capital suitable for the duration of the contract to which our determination will apply. Since the cost of capital is a long-term measure it would be incongruous to apply the long-run cost of capital to future prices and a different cost of capital to previous prices. We recognise that costs vary and that water companies may have faced a different cost of capital in the past. A long-term cost of capital compensates investors for fluctuations in returns from long-term expectations. If we now compensate investors for higher capital costs in the past, this would suggest that we would also have to make adjustments to prices in the future as capital (and other) costs vary. Put differently, the long-term cost of capital estimated by Grant Thornton compensates Dŵr Cymru for the ups and downs of the whole 2004-2039 period for which the price is determined; if we applied a different (higher) cost of capital for past periods Dŵr Cymru would be over compensated for the 'ups'.

5.68 We have been mindful of the possibility of providing an incentive for further section 56 applications (where they are permissible) but it does not seem to us that this can be a valid reason for departing from what we consider is a reasonable approach to setting the price in this, or any other, case. Moreover, we think that, as the way in which we determine a cost of capital for the purpose of section 56 determinations like this becomes more widely understood, potential applicants will recognise that the effect of a change in the cost of capital used in the context of a price control at a point in time will be considerably smoothed out by the long term nature of our approach in the context of price determinations, as described above.

5.69 With regard to consistency with the CAT's 2006 decision, the CAT considered whether there was a justification to allow a higher cost of capital to be applied to all capital in order to cover the risk of "stranded assets" in a "top down" analysis of costs. In the different context, ten years later, of a bottom-up analysis of costs that we have had to undertake of Dŵr Cymru's costs of providing water to Tata at Llanwern, we consider that it is reasonable to assess whether different assets used for different purposes are subject to different risks which ought to be reflected by different rates of return, including a project specific cost of capital for assets used only to supply Tata at Llanwern. We do not consider that the CAT's deliberations on whether a single cost of capital

should be uplifted for unrecovered costs are informative in determining whether separate assets should attract different costs of capital that reflect the differences in risk in investing in those assets.

5.70 Our decision to apply Grant Thornton's analysis and use a cost of capital, which reflects the project specific risks for certain of the assets used to supply Tata at Llanwern increases the price that Dŵr Cymru can charge. Since the cost of capital reflects the project specific risk, we consider that it is entirely consistent with a level-playing-field and we disagree with the argument that this aspect of our determination creates a barrier to entry if adopted as an underlying principle in the creation of wholesale prices for contestable customers. Conversely, if we applied only the lower cost of capital to all assets, this may create a barrier to alternative providers of infrastructure to supply Tata.

The value of beta

5.71 Referring to the reports it commissioned from NERA, Dŵr Cymru said in its response to the draft determination that Grant Thornton made "various errors" in adjusting the asset beta that forms part of our calculations. As is explained below, we have reviewed Grant Thornton's work and, whilst it makes judgments that differ from those made by NERA, we do not agree that it is subject to error. NERA proposed using betas for steel production companies as an alternative.

5.72 With regard to the use of betas for steel production companies, we are clear that the tariffs water companies charge should not reflect the overall riskiness of investing in their customers, but the risk in supplying those customers. The risk a company faces in supplying a portfolio of large users would not be the same risk of investing in those customers because, amongst other things, investors bear the risk of variable returns as well as the risk of default. The returns of companies using water as an input may vary for many reasons unrelated to their water consumption and therefore their betas are likely to overstate the risk water companies face in supplying water to those customers.

Using revenue rather than profit

5.73 Grant Thornton recognised that an adjustment using revenue was not strictly technically correct and that in principle profit should be used. However, as we noted in the draft determination, the theoretically correct approach would require reliable data on the profits water companies earn from different customer segments. This data is simply not available and therefore revenue is the best proxy we have. Moreover, as noted in

the draft determination we would expect that revenues are a reasonable proxy for profits insofar as avoidable costs are a low proportion of the total costs in supplying Tata.

5.74 Although NERA contend that the use of GDP rather than market returns (such as FTSE100 returns) is not best practice, it does not provide convincing evidence that using GDP would result in Grant Thornton's estimate being materially biased or inappropriate. Therefore we do not consider it necessary to deviate from our approach to this issue used in the draft determination.

The RCM

5.75 It is not clear why NERA consider that it is not appropriate to use the actual revenues companies received. While the RCM does act to level out companies' overall revenues, this is in part what affects the company's overall beta. Therefore it seems appropriate to use the actual revenues. NERA seems to be proposing that we ought to disregard the RCM when considering water companies regulated beta, but the RCM is in part what makes the overall beta lower as it smooths out returns for investors. Put simply, if we used NERA's approach we would compensate Dŵr Cymru for a risk that customers actually carry.

Asymmetric risk

5.76 We consider that Grant Thornton's approach in using the actual revenues all water companies receive would capture the risks NERA considers are not factored into our approach (default risk, relocation risk and product of technological change). To the extent that these risks are material we would expect them to be captured in Grant Thornton's analysis because the analysis used information from all water company customers, therefore if these risks are material then there would have been customers that have defaulted, there would have been customers that relocated and there would be customers that reduced their overall demand as a result of more efficient processes.

**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% |

5.77 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

5.78 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. The consumption of even as large a customer as Tata comprises only 1% to 2% of consumption in Dŵr Cymru's overall area. 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.

5.79 Based on this analysis, we have appraised 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 capital[21]. Further, assets that are

[21] 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 Grant Thornton's activity-specific cost of capital.

discrete to Tata are to be appraised using a pre-tax activity-specific cost of capital of 4.62%.

5.80 We have considered the application of the "non-technical" "common sense check" suggested by Dŵr Cymru but found it unhelpful for two reasons. Firstly, it relies on the decline in consumption which occurred at Tata's Llanwern site in the period from 1997/98 to 2003/04 and, for the reasons set out in paragraphs 5.6241 to 5.6746, we have decided to set a long term price on the basis of what we know now and not to restrict ourselves by reference to only what was known at the start of the supply period. Secondly, we do not consider that the proposed approach is either simple or 'common sense'. The proposed approach oversimplifies the information an investor would consider in evaluating an investment. The rate of return demanded by an investor at the time would depend on the prospect of future returns which could not be inferred solely from the single graphic provided. Dŵr Cymru has sought to suggest that the decline in water consumption by Tata is evidence of a downside risk of demand declining further in the future. However, a decline in water consumption could be evidence of spare capacity at the plant and consequently of there being greater upside to future demand increasing. A 'common sense' investor would likely take into account a wide range of evidence available at the time that indicated the prospects for the site more generally. Collating such information would be a considerable task. Indeed, as Dŵr Cymru notes, neither it, nor its advisors NERA, have been able to determine using the proposed approach what the relevant cost of capital would be.

5.81 We also have considered recent developments in the steel industry, in particular Tata's announcement on 30 March 2016 of a review of its European portfolio, including the planned divestment of Tata Steel UK, in whole or in parts. This is a matter on which neither side has made submissions to us. Clearly there is considerable uncertainty with regard to the future of the Llanwern site and its need for non-potable water, but this does not appear to us to be a sufficient reason to alter our conclusion or to delay taking a decision. Indeed, it seems to us to be in the interests of all parties that uncertainty over the price of the supply of water to the Tata site at Llanwern is resolved by the making of our determination.

## Application of the 'geographic nature of supply' test to the four modules

5.82 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

5.83 In this context, "**water resources**" means those assets used to abstract raw water and to transport it to the treatment works at Court Farm.[22] The assets in question are:

[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.

[22] 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).

## (b) Reasonable approach to cost assessment

5.84 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:

a. [redacted] raw water can then be conveyed to the treatment works at Court Farm, either **directly** or **indirectly** via the Court Farm reservoir;

b. [redacted] can be pumped to the treatment works at Court Farm, again either **directly** or **indirectly** via the Court Farm reservoir. In addition, raw water abstracted at [redacted] can be transported via a raw water main to the [redacted] reservoir, from where, again, it can be conveyed either directly or indirectly to the Court Farm treatment works;

c. Raw water abstracted at [redacted] can be pumped to the treatment works at Court Farm, again either **directly** or **indirectly** via the Court Farm reservoir.

5.85 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:

a. The pipeline from [redacted] before the water enters the Court Farm reservoir;

b. The pipeline from [redacted] before the water enters the Court Farm reservoir;

c. The pipeline from the [redacted] reservoir before the water enters the Court Farm reservoir;

d. The pipe from the Court Farm reservoir to the Court Farm partial treatment works; or

e. The link main from the [redacted] potable treatment works before the water enters the Court Farm partial treatment works.

5.86 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.

5.87 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.

5.88 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.

5.89 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.

5.90 Our assessment of the relevant "water resource" costs under a LAC approach is set out below.

## (c) Costs associated with the "water resources" module

5.91 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.

5.92 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[23], since we are calculating a unit cost for the purposes of arriving at a fixed volumetric charge for the water resources module.

## Asset valuation

5.93 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**.

5.94 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 Value[24] (RCV) to the gross MEAV value (RCV:gMEAV ratio) for Dŵr 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.

[23] We use the term 'capacity utilisation' to mean throughput delivered by the assets under consideration, typically expressed in $m^3$/year. In the context of the water distribution assets supplying the Llanwern site, where there is only one customer (Tata), it is effectively synonymous with 'consumption'.

[24] 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.

5.95 In its representation on the draft determination, Dŵr Cymru disputed our approach to deriving the MAC in this determination and set out an alternative approach that it believes provides a value that better represents the costs associated with the supply to the Llanwern site. We set out this argument in more detail in **Appendix 4** as well as our reasons for retaining the approach we set out in the draft determination.

## Cost of capital figure

5.96 In line with the methodology set out in 5.79 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

5.97 Because we are setting a fixed volumetric charge, we need to determine a 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.

5.98 Based on the information provided by the parties, we have determined that a reasonable expected capacity utilisation figure for these assets is [redacted] $m^3$/year, which equates to 100% of the average supply of [redacted] Ml/d provided jointly by the [redacted] rivers in 2010[25]. 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

[25] 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.

5.99 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).

5.100 As set out above in 5.93, 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.

5.101 As to the most appropriate asset lives, Ofwat has assumed asset lives based on the average life expectancy for the asset in question[26].

5.102 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 depreciation[27], adjusted into 2014/15 prices; and (4) a unit charge for capital depreciation, again in 2014/15 prices.

[26] 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.
[27] 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 a "below" or "above" ground asset.

**Table 2: Capital depreciation allowance in relation to assets from the water resource module28**

| Asset | Gross MEAV in 2007/08 prices (£m) | Asset Life (Years) | Total annual capital depreciation allowance in 2014/15 prices (£/year) | Capital depreciation allowance per unit in 2014/15 prices (p/m³) |
|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| **Total water resources capital depreciation unit costs** | | | [redacted] | [redacted] |

5.103 Accordingly, the total annual capital depreciation allowance in relation to the relevant water resource assets, in 2014/15 prices, is

[28] In this determination we have used financial year RPI as our primary method to account for inflation based on data from the Office of National Statistics.

[redacted]. The unit cost (again in 2014/15 prices) is [redacted] **p/m³**. The denominator used in the calculation of this unit cost is the expected capacity utilisation uplifted by a factor of 10.05% to take account of system losses and meter under-registration.

## Return on capital

5.104 As set out above in 5.94 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 zone[29]. 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 [redacted].

## Operating expenditure

5.105 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 below[30]:

**Table 3: OPEX approximation for the water resource module**

[29]See paragraphs 5.35 to 5.57 above on our approach to cost of capital issues.

[30] 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] river abstraction points and [redacted] and Court Farm reservoirs. Labour costs were based on 3 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). Hired & contracted services was assumed to be approximately 3.0% of the foregoing direct cost items. Other OPEX including hired and contracted services, general and support was assumed to be approximately 15.7% of the functional expenditure items.

| Item | Total annual OPEX in 2014/15 prices (£/year) |
|---|---|
| Abstraction charges | [redacted] |
| Power costs | [redacted] |
| Labour costs | [redacted] |
| Hired & contracted services | [redacted] |
| Local authority rates | [redacted] |
| General & support | [redacted] |
| **Total water resource OPEX costs** | [redacted] |

5.106 To determine the unit cost associated with OPEX, we have used the reasonable expected capacity utilisation figure for the water resource module of [redacted] $m^3$/year, as referred to in 5.98 above. This produces a unit cost of [redacted] p/$m^3$ which needs to be uplifted by a factor of 10.05% to account for system losses and meter under-registration and thereby ensure that Dŵr Cymru can recover its costs. This results in a unit cost of [redacted] **p/$m^3$** for the OPEX component of the water resource module. This contrasts with the figure of [redacted] p/$m^3$ derived from the AAC-based OPEX estimations in Dŵr Cymru's 09 March 2011 response to our RFI (converted into 2014/15 prices).

## Final calculated LAC unit cost for the water resource module

5.107 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 | [redacted] |
| Return on capital | [redacted] |
| OPEX estimation | [redacted] |
| **Total LAC unit cost for the water resource module** | [redacted] |

5.108 Accordingly, **we have adopted a LAC unit cost of [redacted] 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/m$^3$, calculated by converting the figures derived from Dŵr Cymru's tariff model for this module into 2014/15 prices.


## (a) Treatment assets

5.109 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.

5.110 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.

5.111 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, water from the potable treatment works stream could be diverted for non-potable supply to Tata.

## (b) Reasonable approach to cost assessment

5.112 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:

**Table 5: Specific/common treatment assets[31]**

| Specific to partial | Common to partial and | Specific to potable |
|---|---|---|

[31] Source: Dŵr Cymru's response to our 1st information request on 10 June 2010.

| treatment works | potable treatment works | treatment works |
|---|---|---|
| [redacted] | [redacted] | [redacted] |

5.113 As already noted, the treatment assets are discrete to the Court Farm Non-Potable System, i.e. they are only used to supply customers within the SEWCUS zone, and not customers across Dŵr Cymru's area of appointment more generally. Accordingly, using Dŵr Cymru's proposed figure for treatment costs, which is based on Dŵr Cymru's company-wide AAC costs, would not necessarily reflect the specific treatment costs of supplying Tata at Llanwern.

5.114 Accordingly, we consider an LAC approach is reasonable. However, in order to capture the costs associated with the treatment module, we need to reflect the facts that certain of the associated assets are specific to the Court Farm partial treatment works (and therefore that the costs relating to those assets are solely attributable to the supply to Tata at Llanwern), and that other treatment assets are common to the partial and potable treatment works (and therefore that the relevant costs are common to Tata and to other customers in the SEWCUS zone).

## (c)Costs associated with the "treatment" module

5.115 Again, we need to calculate, for the relevant assets, figures for a capital depreciation allowance, return on capital, and OPEX. We also need to consider (as in the context of the water resources module) asset valuation, cost of capital and capacity utilisation.

## Asset valuation

5.116 As above, we use gross MEAV figures for the purposes of calculating a depreciation allowance, and use MAC figures for the purposes of calculating a return on capital.

5.117 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)[32] | Total gross MEAV for assets common to the partial and potable treatment works (£m)[33] |
|---|---|
| [redacted] | [redacted] |

## Cost of capital approach

5.118 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 assets[34].

5.119 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

[32] Dŵr Cymru's 31 January 2011 response to our request for information,
[33] In Dŵr Cymru's 31 January 2011 response to our request for information, the value of the sludge management plant is set at £[redacted] (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. Overall, this exercise resulted in a collective £[redacted] valuation of the remaining assets.
[34] See paragraphs 5.35 to 5.57 above on our approach to cost of capital issues.

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

5.120 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.

5.121 For assets in category (i), based on the information provided by the parties, we have calculated an expected consumption figure of [redacted] $m^3$/year. This reflects the average annual combined throughput of the partial and non-potable treatment streams over the 2006-10 period[35]. Again, this average does not take account of whether the water volumes relate to the onward supply of potable or 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.

5.122 For the purpose of appraising treatment assets which are discrete to the supply to Llanwern, we have calculated an expected consumption figure based on the average of the specific volumes of partially treated water delivered to Tata at Llanwern. We consider this approach to be reasonable given that Dŵr Cymru is reasonably compensated through its application for the demand volatility involved in supplying a large user such as Tata.

5.123 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 2009/10. In its 18 September 2015 representation on the draft determination, Tata supplemented this by providing daily average consumption figures for 2010/11 to 2014/15. The combined 11 year dataset results in an annual average capacity utilisation figure of [redacted] $m^3$/year. We have adopted this figure for the purposes of this determination.

[35] We note that currently we do not have data for the years covering 2010/11 to the present.

## Capital depreciation allowance

5.124 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 for each set of assets are different.

5.125 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] $m^3$/year for the common assets (as set out in 5.121 above):

**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[36] (years) | Total annual capital depreciation allowance in 2014/15 prices(£/year) | Capital depreciation allowance per unit in 2014/15 prices (p/m³) |
|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| **Treatment related capital depreciation unit costs** | | | [redacted] | [redacted] |

5.126 In its representations on the draft determination, Dŵr Cymru challenged the asset life used in the draft determination for the Court Farm partial treatment works. It referred to a report produced in 2009 by an independent consultancy that used assumptions on asset lives in assessing the net value of many of Dŵr Cymru's assets. This report gave an estimated value of 32 years for the expected life of water treatment works. The report does not set out the reasoning behind this value; however we have reviewed our assessment of this asset life in light of this report. On reflection we consider that our initial assessment of 55.5 years for the expected life of this asset gave insufficient weight to the shorter-lived components at Court Farm and was too long. On the other hand we are not persuaded that the apportionment of value between short, medium and long-lived assets assumed by Dŵr Cymru is

[36] 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.

realistic given the differences between Court Farm water treatment works and a "standard" water treatment works, namely the less sophisticated treatment afforded to the non-potable supply and the corresponding reduced level of instrumentation control and automation. Also, as noted in **Appendix 4**, our analysis of the asset lives data provided by companies for the 2009 price review shows that the expected lives of water service assets reported by Dŵr Cymru were typically somewhat shorter than the industry average. Taking these factors into account, we have amended our calculations which now assume a revised value of 44 years.

5.127 Table 8 below shows the same information on capital depreciation as in table 7, 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] $m^3$/year.

**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 (years37) | Total annual capital depreciation allowance in 2014/15 prices Allowance (£/year) | Capital depreciation allowance per unit in 2014/15 prices (p/m³) |
|---|---|---|---|---|
| [redacted] | | | | |
| [redacted] | | | | |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | | | | |
| [redacted] | | | | |
| [redacted] | | | | |
| [redacted] | | | | |

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

## Return on capital

[37] 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, weighted 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.

5.129 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:

**Table 9: Return on capital allowance for treatment module**

| | RCV:gMEAV | Cost of Capital | Capacity utilisation / Consumption ($m^3$/year) | Total return on capital Allowance (£/year) in 2014/15 prices | Volumetric Charge (p/$m^3$) in 2014/15 prices |
|---|---|---|---|---|---|
| Common to Tata and other customers supplied via potable treatment works | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| Discrete to Tata | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| **Total treatment return on capital unit cost** | | | | [redacted] | [redacted] |

5.130 As set out above, the unit cost attributable to a return on capital for the treatment module is [redacted] **p/$m^3$** in 2014/15 prices.

## Operating expenditure

5.131 Although, in its 31 January 2011 response to our second request for information, Dŵr Cymru provided a cost centre analysis of operating expenditure at Court Farm WTW in 2008/09, the allocation of costs between the non-potable and potable treatment streams was described as "subjective". A split of the power costs between treatment and

distribution assets also appeared to be arbitrary. Therefore, Ofwat has estimated the operating expenditure incurred in operating and managing the Court Farm partial treatment works attributable to the supply to Tata[38]. These calculations are based on Ofwat's internal data, and result in a volumetric charge of [redacted] **p/m³** in 2014/15 prices, calculated on the basis of Tata's actual 2009/10 consumption value[39]. This compares with an AAC-based figure of [redacted] p/m³, provided in Dŵr Cymru's 9 March 2011 response to our RFI, converted into 2014/15 prices.

5.132 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 and hired and contracted services; and (6) general & support activities.

## Final calculation LAC unit cost for the treatment module

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

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

| Item | Volumetric charge (p/m³) in 2014/15 prices |
|---|---|

[38] 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.

[39] Ideally, this calculation would have taken account of actual consumption across the whole 11 year period. However, information needed for the calculation, specifically the amount of 3rd party services opex that was attributable to non-potable supply, was only available for 2008/09 and 2009/10. The data were similar and we used that from the more recent year i.e. 2009/10.

| | |
|---|---|
| Capital depreciation allowance | [redacted] |
| Return on capital | [redacted] |
| OPEX | [redacted] |
| **Total LAC unit cost for the treatment module** | [redacted] |

5.134 Accordingly, **we adopt a LAC unit cost of [redacted] 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 Dŵr Cymru's tariff model for this module into 2014/15 prices.


## (a) Distribution assets

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

a. [redacted] at the Court Farm treatment works which pump the partially treated water to Tata's service reservoir at Waltwood, near its Llanwern site; and

b. a distribution main of [redacted] mm diameter and [redacted] km in length, 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

5.136 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.

5.137 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

5.138 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

5.139 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

5.140 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

5.141 Since the assets associated with this module are wholly discrete to the supply to Tata at Llanwern, we used the same approach as for the discrete assets under the treatment module. For the draft determination we used a capacity utilisation figure based on Tata's daily average consumption values for the period from 2004/05 to 2009/10[40], resulting in annual average expected capacity utilisation figure of [redacted] $m^3$/year. In its representation on the draft determination Tata provided its average daily consumption figures for the following five years (2010/11 to 2014/15). Our final determination has used the extended dataset which has had the effect of reducing the annual average capacity utilisation figure to [redacted] $m^3$/year.

## Capital depreciation allowance

5.142 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 | Asset Life[41] | Total capital depreciation allowance in 2014/15 | Capital depreciation allowance per unit |
|---|---|---|---|---|

[40] As Tata is the only customer using the distribution assets, the capacity utilisation for these assets is the same as Tata's consumption at the Llanwern site.
[41] We 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.

| | prices | | prices (£/year) | (p/m³) in 2014/15 prices |
|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| **Total capital depreciation unit cost** | | | [redacted] | [redacted] |

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

## Return on capital

5.144 In terms of calculating a return on capital allowance, in line with the methodology set out above, we have applied a RCV:gMEAV of [redacted] 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 [redacted] 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 [redacted] **p/m³,** in 2014/15 prices.

## Operating expenditure

5.145 As with the previous water resources module, Dŵr Cymru was unable to provide LAC-based OPEX figures for the distribution module. Therefore, Ofwat has estimated the OPEX incurred in operating and managing the distribution assets used to supply Tata at Llanwern[42], as set out in table 12 below:

[42] Consideration of power costs was limited to the electricity used to deliver [redacted] Ml/d against the pumping head in the main between Court Farm WTW and Waltwood reservoir. This represents the

**Table 12: OPEX approximation for the distribution module**

| ITEM | Total annual OPEX in 2014/15 prices (£/year) |
|---|---|
| Power costs | [redacted] |
| Labour costs | [redacted] |
| Hired & contracted services | [redacted] |
| Local authority rates | [redacted] |
| General & support | [redacted] |
| **Total Distribution OPEX costs** | [redacted] |

5.146 Accordingly, the total OPEX cost in relation to the distribution assets is £[redacted]. The unit cost (again in 2014/15 prices) is therefore [redacted] **p/m³**. Note that in this case, unlike in the water resources module, the denominator used to derive the unit cost is the daily average consumption billed and that therefore there is no requirement to apply an upward adjustment factor to account for system losses or meter under-registration. This compares with a figure of [redacted] 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

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

daily average utilisation figure uplifted by 6.31% to take account of losses in the distribution system and meter under-registration. Labour costs were based on approximately [redacted] FTE (Band 3 operator) 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). Hired & contracted services was assumed to be approximately 23.0% of the foregoing direct cost items. General & support was assumed to be approximately 27% of the functional expenditure items. The increase in the power costs between the draft and final determinations was driven by the revised assumptions about the volume of water pumped from Court Farm WTW to Tata's Waltwood Reservoir based on the additional consumption data provided by Tata and assumptions on distribution system losses and meter under-registration.

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

| Item | LAC unit cost (p/m³) in 2014/15 prices |
|---|---|
| Capital depreciation allowance | [redacted] |
| Return on capital | [redacted] |
| OPEX | [redacted] |
| **Total LAC unit cost for the distribution module** | [redacted] |

5.148 Accordingly, **we adopt a LAC unit cost of [redacted] 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 Dŵr Cymru's tariff model for this module into 2014/15 prices.


## (a) Nature of "Retail opex costs and M&G assets"

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

i. Retail opex 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

5.150 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 user, 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."[43]

5.151 When making this determination, we have seen no evidence to suggest that the opex cost of retail services provided by Dŵr Cymru to Tata in relation to this supply is materially different to that of 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 opex cost, and have used the relevant figures from Dŵr Cymru's tariff model as the starting point for our assessment.

5.152 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.

5.153 We note that the retail opex cost we consider here forms part of Dŵr Cymru's costs for retail services. The other two components of Dŵr Cymru's net retail margin are an allowance of [redacted]% embedded in the WACC, and the element of M&G costs that can be allocated to retail services, although we have not allocated M&G costs between retail and wholesale services for the purpose of this price determination.

[43] Dŵr Cymru's response to Ofwat's request for information dated 11 June 2010.

### (c) Our assessment of a reasonable price for the "Retail opex costs and M&G assets" module

5.154 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:

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

| Item | AAC cost p/m³ (2008/09 prices) |
|---|---|
| Customer contact, meter reading, billing, payment processing, credit management and rates | [redacted] |
| Scientific services | [redacted] |
| Cost of regulation | [redacted] |
| Doubtful debts | [redacted] |
| Water M&G CCD | [redacted] |
| Water M&G return on capital | [redacted] |
| **Total retail costs and M&G assets capital costs** | [redacted] |

5.155 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. 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. In addition to this, the figure provided by Dŵr Cymru includes the costs of doubtful debt from both

household and non-household customers. However, the vast majority of doubtful debt comes from household customers as they cannot be disconnected if they fail to pay their water bill, unlike non-household customers. . We are therefore not convinced that we should take into account the recovery of doubtful debt costs that are primarily generated by household customers when making a determination under Section 56 of the Act of a reasonable price for providing a supply to the Llanwern site.

5.156 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 | [redacted] |
| M&G water assets | Water M&G CCD | [redacted] |
| | Water M&G return on capital | [redacted] |
| **Total retail opex costs and M&G assets capital costs** | | [redacted] |

5.157 Therefore, **we adopt a unit cost of [redacted] p/m³ in 2014/15 prices for the retail and "M&G" assets module**. This compares with a unit cost of [redacted] p/m³ which would result from translating the relevant figures from Dŵr Cymru's tariff model into 2014/15 prices.

5.158 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

5.159 Our geographical test as set out in our analytical approach indicates that a price of [redacted] **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[44]**

| Module | Price resulting from applying the geographical test (expressed in 2014/15 prices) |
|---|---|
| Water resources | [redacted] p/m³ LAC cost |
| Treatment | [redacted] p/m³ LAC cost |
| Distribution | [redacted] p/m³ LAC cost |
| M&G assets | [redacted] p/m³ AAC cost |
| Retail OPEX | [redacted] p/m³ AAC cost |
| **Final price** | [redacted] **p/m³** |

[44] The values in this table do not add together to make the final price due to rounding.

## Competition concerns

5.160 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 consider whether setting a price as proposed above could give rise to any competition concerns, including preventing entry by more efficient providers, and therefore imply that a different price might be required.

5.161 In our draft determination we explained briefly that we did not anticipate any competition concerns that would reasonably justify departing from the price resulting from our geographical analysis.

5.162 Dŵr Cymru made five criticisms of our application of our competition test as set out in our draft determination:

- Our assessment of retail costs was incomplete;
- No analysis had been carried out to assess whether deriving retail capital costs from Dŵr Cymru 's top-down cost allocation would provide an adequate margin for a potential entrant;
- Failure to cross-check the result with the non-household retail margins set in the PR14 price review;
- Mistakenly stating that "in Wales, the only potential competitive element of the value chain is the retailing to customers who use more than 50 Ml a year" and not considering whether the approach taken in the draft determination to the derivation of "MAC" could act to prevent entry; and
- ignoring the question of potential competitive by-pass of Dŵr Cymru's delivery infrastructure.

5.163 Another respondent also criticised our application of our competition test, focusing in particular on the retail margin apparently allowed in the draft determination and suggesting that it could give rise to a margin squeeze by a dominant party.

## Retail costs

5.164 The price we derived in the previous section is for an end-to-end service. That price is based on a reasonable analysis, by module, of all the costs involved in supplying water to Tata at Llanwern, including Resources, Treatment, Distribution and Retail. The Retail element is based on Dŵr Cymru's AAC costs, and includes a reasonable return for this module of costs. As is explained further in **Appendix 4** Part 5, we applied a "whole appointee" cost of capital which incorporates an implied return for wholesale and retail elements.

5.165 We explain, in paragraph 5.155 above, why we think it is appropriate to exclude some costs that Dŵr Cymru would prefer to see included. Overall, therefore, we are satisfied that our assessment of costs, including retail costs, is complete.

## Retail Margin

5.166 As explained at paragraphs 5.149 to 5.159 above, the price we arrived at from our geographical analysis of the services that Dŵr Cymru already provides to Tata compensates Dŵr Cymru for its retail operating costs. We have applied an end-to-end cost of capital, as explained in our previous geographical analysis section, and in Appendix 4, section 5. This cost of capital implicitly incorporates a retail margin element which reasonably compensates Dŵr Cymru for retail capital costs which might otherwise be allowed for through a retail margin. Consequently, we consider that Dŵr Cymru is fully compensated for all retail costs, including a reasonable margin and that there is nothing to prevent Dŵr Cymru setting a wholesale price that would enable an equally efficient competitor to provide some, or all, of the elements of the value chain in serving Tata. It follows that we are not aware of any material obstacle to the development of retail competition in this particular case based on our approach to the calculation of the price.

5.167 The cost of capital we use compensates Dŵr Cymru for all the risks it incurs in serving non-potable customers. At PR14 we had to separate the compensation for wholesale and retail because we set separate controls. For PR14, after determining the relevant margin for retail control, we removed the retail return from the appointee cost of capital to derive a wholesale cost of capital. Had we not done so companies would have been compensated twice for retail risks. The corollary in the

context of this determination is that if we were to assess the relevant retail margin for this class of customer it too would have to be removed from the cost of capital and therefore would have no impact on the determined price.

## Competition in Wales and the effect of MAC on competition

5.168 We recognise that we need to consider competition issues in the context of pricing arrangements both pre- and post-2014 Water Act coming into effect. We explain in Part 4 of **Appendix 4** the practical difficulties of applying Dŵr Cymru's suggested approach to the treatment of infrastructure and non-infrastructure assets, and why we consider our approach is reasonable. For the purposes of this section we note also that we think it likely that, if competition to supply Tata emerges, it will be at the retail level, with the competitor seeking to buy the supply from Dŵr Cymru and providing it through the infrastructure that is currently serving the Llanwern site. In these circumstances, whilst the possibility of margin squeeze arises, in our view it does not arise in this case because of the approach we have adopted to MAC.

5.169 Furthermore, section 56 requires that we have regard to the desirability of Dŵr Cymru recovering the costs that it incurs in serving Tata. Since Dŵr Cymru acquired the existing assets at privatisation below the current modern equivalent asset value (MEAV) of those assets we do not consider that it can reasonably be argued that Dŵr Cymru has incurred the full capital costs of the infrastructure. It therefore is reasonable to assess the costs of supplying Llanwern on a MAC basis. If we were to inflate the price to Tata to reflect the full MEAV of infrastructure used to supply Tata, that might increase the hypothetical possibility of competition in the provision of infrastructure but, as explained below, we are not expecting this sort of competition to materialise.

## Competitive by-pass of Dŵr Cymru's delivery infrastructure

5.170 Dŵr Cymru noted that "this line of inquiry (competitive by-pass) played a prominent role in the draft section 56 determination of the supply from United Utilities Water ("UU") to Iggesund Paper (Workington) Ltd ("IP(W)L") in the autumn of 2014". Indeed, the possibility of by-pass was a major part of the rationale for the final determination in that case

published on 2 December 2015. The circumstances of that determination and this determination are markedly different. In the UU and IP(W)L case, IP(W)L had identified a relatively straightforward alternative supply infrastructure, part of which already existed and in relation to which abstraction licences were available. We are not aware, and we have received no submission to the effect, that there is a comparable robust possibility of by-pass in this case. It is for that reason that we do not consider that there is a concern linked to competitive by-pass of Dŵr Cymru's delivery infrastructure that would justify changing our approach to assessing the price of water supplied to Tata in this case.

5.171 As our assessment of the price of water supplied to Tata includes all of Dŵr Cymru's costs including a reasonable return, we believe this represents a price against which a competitor could reasonably compete. In the case of a competitor seeking to compete with Dŵr Cymru only in the retail element of the service to Tata, they would need to seek a wholesale price from Dŵr Cymru and there would be the possibility of an insufficient margin having an adverse impact on competition if, for example, Dŵr Cymru chose to charge a wholesale price which was too high. Although wholesale prices are subject to an overall revenue control across all of Dŵr Cymru's wholesale water services, Dŵr Cymru has pricing flexibility within the constraints of the control and we do not know what price it might seek to offer to any such competitor at some point in the future. A margin squeeze could arise regardless of the level we set an end price under section 56 of the Act, and section 56 does not provide a power to deal with margin squeeze, as a margin squeeze test involves examining the difference between wholesale and retail prices (including a wholesale price offered by the company to the competitor). In the event of a complaint of margin squeeze we would need to assess whether we then should apply the other powers available to us to address it in response to that complaint. Nevertheless, as we have set out above, we consider that the price we have determined compensates Dŵr Cymru fully for all costs across the value chain and therefore provides it with sufficient scope to set a wholesale price that allows a sufficient gross margin for an equally efficient retail provider. Overall, therefore, after reviewing our analysis in the light of issues raised in response to our draft determination, we have concluded that the competition concerns that have been raised do not justify departing from the price we have determined in the previous geographical analysis section.

## Efficiencies

5.172 In this section we consider whether there are any efficiency concerns which would reasonably justify departing from basing the price on Dŵr Cymru's costs – in this case, assessed to a considerable extent, using an LAC methodology, as set out above in the section dealing with the geographic nature of supply test. In our draft determination we briefly explained that we had not identified any efficiency concerns that would persuade us to determine a different price.

5.173 In its response to our consultation, Dŵr Cymru contrasted our approach in this case to our approach in the UU and IP(W)L draft determination in which we gave detailed consideration to the potential for efficiency concerns, which included assessing the costs of self-supply. Dŵr Cymru also raised the possibility that the determined price is below the forward-looking cost of supply in the SEWCUS region, which would have implications for economic efficiency over the long run.

5.174 We explain in paragraph 5.170 above why the possibility of self-supply was a very important feature of our decision in the UU and IP(W)L case but does not arise as a comparable issue in this case.

5.175 Economic efficiency would be a concern if the determined price, which is partly LAC based, is excessive relative to Dŵr Cymru's forward looking cost of supply. If that occurred, a less efficient supplier (i.e. whose forward looking costs are higher than Dŵr Cymru) might be able to profitably replace Dŵr Cymru as the water supplier to Tata. This also might occur if Tata had a viable option to supply water to itself, and the forward looking cost of this self-supply option was higher than Dŵr Cymru's, but the total cost of self-supply option was lower than Dŵr Cymru's LAC costs. In this scenario, it may be inefficient for Tata to develop the hypothetical self-supply option because it would raise the total cost. We are not aware of an alternative supply option available to Tata. Nevertheless, we note that insofar as the LAC reflects the cost an alternative provider would be able to replicate, setting the price on the basis of the AAC would open the potential for inefficient entry. Any hypothetical entrant able to replicate Dŵr Cymru's LAC would be able to undercut Dŵr Cymru and enter, stranding the assets currently used by Dŵr Cymru to serve Tata.

5.176 However, to our best knowledge, there is no viable self-supply option or third party end-to-end supplier available at the time of this

determination. Nor have we received any indication that these options are realistic possibilities in the foreseeable future. Accordingly we can see no efficiency justification for departing from the price determined in the application of our geographic test.

## Tata's capital contributions

5.177 Tata contend that they have made significant capital contributions to the assets specific to their supply, and that this should be reflected in the price we are determining[45]. While we are not convinced that Tata has demonstrated that it made capital contributions, rather than simply paying for services provided, we note that determining a unit cost based on OPEX only (or that only included a limited capital element) could be counter-productive over the mid-to long-term.

5.178 In the present case, asset lives have been longer than expected and, even if related investment costs have been totally recovered, excluding a capital cost element may significantly reduce Dŵr Cymru's incentives to manage these assets efficiently. For example, it may reduce the incentives placed on Dŵr Cymru to take actions to prolong asset lives and increases incentives to inefficiently replace existing assets. Therefore, irrespective of whether Tata made any such contributions, it appears to us to be reasonable to calculate a unit cost that includes a capital cost element in relation to the assets that are specific to the supply to Tata.

5.179 In its representation on the draft determination, Tata challenged this position. It provided additional evidence that it believes shows that the payments it made were capital contributions towards the initial asset costs. This evidence took the form of heads of agreement dated 11 February 1960, a letter dated 14 June 1967 and a letter and agreement dated 31 July 1969, all between Tata's predecessor and Dŵr Cymru's predecessor concerning the details of these payments. Tata submitted that it is routine for capital contributions to be deducted from the asset

[45] 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%); [redacted] main from [redacted] to Court Farm (41%); [redacted] mains from [redacted] to Court Farm and from Court Farm to Waltwood Reservoir (100%); and [redacted] intake works (100%).

value on which a regulated water company may earn a return and therefore a similar adjustment should be made in the present case.

5.180 The 11 February 1960 Heads of Agreement was for a period of 30 years. Dŵr Cymru's predecessor was to incur capital and other costs to undertake works and supply up 20 million gallons per day of water. The charges payable by Tata's predecessor were to be "the subject of a detailed agreement" but would include capital charges payable by Dŵr Cymru's predecessor as well as (among other things) charges for the purchase of water. There is no indication that Tata's predecessor was the owner of the capital works undertaken pursuant to the heads of agreement or carried any risk in relation to them.

5.181 The 14 June 1967 letter sets out the capital expenditure incurred on the Court Farm Treatment works, on two mains and on the [redacted] intake works. It discusses apportionment of additional rates resulting from these works and, on this issue, refers to what appears to be the 1960 Heads of Agreement. Again there is no indication that Tata's predecessor had any ownership interest in the assets in question or carried any risk in relation to them.

5.182 The 31 July 1969 letter and agreement set out in detail the principles to be adopted in the determination of the price to be paid for the supply to the Llanwern site in accordance with the 11 February 1960 Heads of Agreement. The price is to include capital charges, including for renewals and replacements, and a charge for the purchase of water, which remained unspecified. Where charges are apportioned between Tata's and Dŵr Cymru's predecessors, the apportionment appears consistent with the 14 June 1967 letter. Again, there is no suggestion of Tata's predecessor owning the capital assets used to supply Llanwern or carrying any risk in relation to them.

5.183 After considering these documents, we are unable to conclude that they provide any basis for Tata now paying a reduced price to reflect past capital contributions. The 11 February 1960 Heads of Agreement expired in 1990, subject to the exercise of a right of renewal on terms to be agreed, and the 31 July 1969 letter and agreement would have ceased to apply at the same time. Water supply charges have to include an element of capital cost, which can be bundled in a volumetric charge or paid separately. In the 1960 agreement they were set out separately and the volumetric price for purchasing water would not have included a capital element. But this does not mean that Tata is in a different

position to other customers of Dŵr Cymru who pay towards Dŵr Cymru's capital costs through a tariff which bundles them with water resource costs. Nor is it routine for capital contributions to be deducted from the asset value on which a regulated water company may earn a return. A "one off" discount from capital values was applied at privatisation, to reflect the fact that shareholders at privatisation did not put up the full value of the assets they were obtaining. That is allowed for in the return on capital and no further deduction appears justified in this case.

5.184 To deny the owner of the assets in question a charge to reflect depreciation and a rate of return on its assets fails to provide a reward for the capital and other risks associated with the supply of water and an incentive to maintain the assets. In our view Dŵr Cymru is entitled to such a reward and should be incentivised to maintain the assets. We note, in relation to this issue, that the subsequent agreement to supply the Llanwern site, dated 20 December 1993, sets a price which has a volumetric supply price and a reservation charge and makes no reference to prices being reduced in any way to reflect past capital contributions. To introduce such a deduction now therefore appears inconsistent with the later contract.

5.185 In passing, we note that the original approach adopted by Dŵr Cymru's predecessor to setting the price for the supply to Llanwern, as evidenced by the correspondence Tata has provided, was a "bottom-up" approach. We see this fact as supportive of our view that the application of such an approach to the assessment of some costs in the setting of the price in this determination is reasonable.

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

5.186 Having applied our analytical framework to the present case, we find that a reasonable estimate of the costs incurred by Dŵr Cymru in supplying non-potable water to Tata at Llanwern amounts to [redacted] **p/m³** at 2014/15 prices. We note that this cost estimate includes depreciation, and a reasonable return on capital involved in providing the supply, including working capital, and an implicit retail margin. In other words it is a profit inclusive cost and therefore serves as a reasonable price.

5.187 In contrast, Dŵr Cymru's LUT charge for partially treated non-potable water is 43.33p/m$^3$, plus a standing charge of £39,840 per year in

2014/15. The volumetric charge alone is [redacted]% higher than our assessment of a reasonable charge. Our analysis appears to us to be reasonable and now accommodates allowances for the charges which Dŵr Cymru submitted sufficiently compelling evidence to demonstrate were missing from, or were underestimated in, our draft determination. We therefore can see no basis for preferring the LUT charge over the charge resulting from our analysis as a charge which appears to us to be reasonable in the particular circumstances of this case. The higher LUT charge would have material adverse effects for Tata's operations at Llanwern.

5.188 Our determination in this case is set out in **Appendix 1** and, for the reasons set out above, the price which appears to us to be a reasonable price to determine is [redacted] **p/m³** at 2014/15 prices. A summary of how this price is made up is presented in table 18 below:

**Table 18: Price determination summary**

| Module | Element of price attributable to module (expressed in 2014/15 prices) |
|---|---|
| Water resources | [redacted] p/m³ LAC cost |
| Treatment | [redacted] p/m³ LAC cost |
| Distribution | [redacted] p/m³ LAC cost |
| M&G assets | [redacted] p/m³ AAC cost |
| Retail | [redacted] p/m³ AAC cost |
| **Final price** | [redacted] **p/m³** |

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

**Table 19: Summary of prices for water supplied in earlier years**

| Year | Prices for services received covering the period between |
|---|---|

| | **2004/05 and 2014/15 (expressed in 2014/15 prices)** |
|---|---|
| 2004/05 | [redacted] p/m$^3$ |
| 2005/06 | [redacted] p/m$^3$ |
| 2006/07 | [redacted] p/m$^3$ |
| 2007/08 | [redacted] p/m$^3$ |
| 2008/09 | [redacted] p/m$^3$ |
| 2009/10 | [redacted] p/m$^3$ |
| 2010/11 | [redacted] p/m$^3$ |
| 2011/12 | [redacted] p/m$^3$ |
| 2012/13 | [redacted] p/m$^3$ |
| 2013/14 | [redacted] p/m$^3$ |
| 2014/15 | [redacted] p/m$^3$ |

5.190 The starting price of [redacted] p/m$^3$ will have effect from 1 April 2014 and will cover the 2014/15 financial year. From then on, to determine the effective price at 1 April of each subsequent financial year, the 2014/15 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.

5.191 In accordance with 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 also allowing Dŵr Cymru to secure a reasonable return on its capital.

## Changes to the price set between the draft and final determinations

5.192 The increase in the price we have now determined as compared with the price proposed in our draft determination is [redacted]% (from 27.74 to [redacted] p/m$^3$ at 2014/15 prices) and requires explanation. Several factors

are at play, in particular new information from Dŵr Cymru and from Tata and some changes in our approach in the light of responses to the consultation on the draft determination. Because of interaction between these factors, identification of the precise effect of each of them is not straightforward, but we nonetheless describe them and set out our estimates of their effects in this section.

5.193 The largest driver of the increase in price compared with the draft determination was the provision by Tata of updated water consumption data for their Llanwern site. At the time of the draft determination, we had information on Tata's annual consumption from Dŵr Cymru, for the period from 1 April 2004 to 31 March 2010. This gave an average annual consumption of [redacted] $m^3$/year. As part of the consultation on our draft determination, we asked the parties to provide up to date consumption information, and Tata provided data for the period from 1 April 2010 to 31 March 2015 which gave us an eleven year data set. In the years 2010-2015, Tata's annual consumption was significantly lower than it was at the start of the data set. As a result, the average annual consumption figure we have used in the final determination has dropped to [redacted] $m^3$/year, a fall of 16%.

5.194 In order to calculate Dŵr Cymru's costs on a volumetric basis (pence per cubic metre) for the cost modules which we analysed using an LAC approach, we divided our estimates of annual costs by appropriate denominators, which were figures either for annual consumption or for annual capacity. Annual consumption was the denominator for all the costs in the Water Distribution module and for the majority of the costs in the Water Treatment module. Applying a reduced denominator to total annual costs inevitably raises the resulting unit price, although it does not result in an increase in the total bill. Overall, we estimate that the reduction in average annual consumption resulting from using updated consumption data accounts for an increase of [redacted] p/$m^3$ at 2014/15 prices or 44% of the [redacted] p/$m^3$ increase between the draft and final determinations.

5.195 Other factors, in decreasing order of magnitude were as follows:

- **Correction of an error in costing the water distribution module** – in costing the water distribution module, we used an allowance of 10% to cover 'other opex' including the costs of general and support activities and hired and contracted services. In reviewing our analysis in response to Dŵr Cymru's response to the draft

determination, we realised that the 10% figure was inappropriate because it was derived from estimated costs for the water resources network rather than the water distribution network. Dŵr Cymru suggested that an uplift of 33.3% of direct costs for general and support would be more appropriate but failed to provide any evidential basis for that figure. We have used, instead, information for the water distribution module provided by Dŵr Cymru in their 31 January 2011 response to our second RFI and applied uplifts of 23% of other direct cost items for hired and contracted services and 27% of all direct cost items for general and support. These adjustments increase costs by approximately [redacted] p/m$^3$ at 2014/15 prices, or around 3% out of the [redacted] % increase.

- **Meter under-registration** – we have accepted the argument, made by Dŵr Cymru in its representations on the draft determination, that we should have made an adjustment for meter under-registration. The omission of this adjustment has the effect of understating the amount of water that has to be abstracted, conveyed and treated to supply Llanwern and the resulting costs of supply. We have used data from Dŵr Cymru's representations on the draft determination for this adjustment having compared it with information from historical annual returns and satisfied ourselves of its reasonableness. This adjustment increases costs by approximately [redacted] p/m$^3$ at 2014/15 prices, or around [redacted] % out of the [redacted] % increase.

- **Changes to the asset life of the Court Farm treatment works** – in response to submissions by Dŵr Cymru we have accepted that our initial assessment of 55.5 years for the expected life of this asset gave insufficient weight to the shorter-lived components at Court Farm and was too long. Accordingly, we have reviewed some of our assumptions in the light of industry average data and adopted a revised asset life figure of 44 years (against Dŵr Cymru's submission for 32 years). This adjustment increases costs by approximately [redacted] p/m$^3$ at 2014/15 prices, or around [redacted] % out of the [redacted] % increase.

- **Taking into account system losses (including leakage)** – for similar reasons to including an allowance for meter under-registration, we have concluded, in considering Dŵr Cymru's response to the draft determination, that we also should include an adjustment for system losses, which also result in more water having to be

abstracted, conveyed and treated, all at a cost to Dŵr Cymru, than actually is delivered to Tata. The adjustment uplifts used, of 4.69% for water resources opex and 1.13% for water distribution opex, were calculated from information provided by Dŵr Cymru in its latest Water Resources Management Plan. This adjustment increases costs by approximately [redacted] p/m$^3$ at 2014/15 prices, or around [redacted]% out of the [redacted]% increase.

- **Use of water and sewerage company average percentage uplift for general and support costs for water resources opex.** Dŵr Cymru challenged our allowance of 10% for costs such as IT and other support related to the water resources module of costs, but provided no evidence to support its claim for an allowance of 33.3%. In the absence of better information, we have used an average figure based on the most recent information provided to us by water and sewerage companies for water resources opex which is 15.7%. This adjustment increases costs by approximately [redacted] p/m$^3$ at 2014/15 prices, or around [redacted]% out of the [redacted]% increase.

- **Updated figures on direct labour costs** – we have used new information provided by Dŵr Cymru in its representations on the draft determination. This adjustment increases costs by [redacted] p/m$^3$ at 2014, or around [redacted]% out of the [redacted]% increase.

5.196 These changes are summarised in Table 20 below:

**Table 20: Changes to the price per m$^3$ between the draft and final determinations**

| Reason for Change | Increase since the draft determination | Percentage of the draft determination | Percentage of the price increase since the draft |
|---|---|---|---|

| | prices (p/m³) | price (%) | determination |
|---|---|---|---|
| Updated water consumption values | [redacted] | [redacted] | [redacted] |
| Correction of error (water distribution) | [redacted] | [redacted] | [redacted] |
| Meter under-registration | [redacted] | [redacted] | [redacted] |
| Changes to the asset life of the Court Farm treatment works | [redacted] | [redacted] | [redacted] |
| Taking into account system losses (including leakage) | [redacted] | [redacted] | [redacted] |
| Use of water and sewerage company average percentage uplift for G&S (water resources opex) | [redacted] | [redacted] | [redacted] |
| Updated figures on direct labour costs | [redacted] | [redacted] | [redacted] |
| **Total** | [redacted] | [redacted] | [redacted] |

## Provision for revisiting the price of the supply

5.197 The Water Act 2014 contains provisions that will, when they are brought into force, allow 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.

5.198 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 5.83 to 5.90 and paragraphs 5.109 to 5.113, 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 or unfairness being caused to customers, for example through the cross-subsidies that can be implicit in price controls. We therefore want to avoid making long-term determinations that could give rise to such harm or unfairness following the introduction of new guidance and charging rules.

5.199 We also noted that our published framework for resolving pricing disputes involving bulk supplies therefore sets out our policy of seeking to ensure that we can revisit our price determinations in the future if 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 “re-opener” provision 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.

5.200 In this case we do not consider that it is reasonable to limit the duration of the agreement by setting a fixed term, because to do so would not be as efficient as including a re-reopener provision, given the facts of the case (for example, that the re-opener provision would only be used in particular circumstances, giving a more focused approach).

5.201 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.

## (B) The non-price terms

5.202 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.

5.203 We have also, where appropriate, considered similar terms and conditions included in supply agreements with other commercial users in order to identify standard industry practice.

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

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

| [redacted] | | [redacted] |
|---|---|---|
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] |

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[49] [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

# Appendix 1: Formal Determination of Terms and Conditions

For the reasons set out in this document, Ofwat hereby determines that, in relation to the terms and conditions that fall to it to determine for non-potable water supplied by Dŵr Cymru to Tata at Llanwern since 1 April 2004, the following terms and conditions appear to Ofwat to be reasonable, namely the terms and conditions applicable if, in the form of draft agreement supplied by Dŵr Cymru on 7 October 2008, there were included (in substitution for the terms and conditions in that form of agreement, in addition to those terms, or confirming those terms, as the case may be) the terms and conditions set out in bold type (not being paragraph headings) in the amended copy of that form of agreement below:

# Agreement between Dŵr Cymru Cyfyngedig and Tata Steel UK Limited

**THIS AGREEMENT** is made the [_____] day of [_____]

**BETWEEN:**

1. **Dŵr Cymru Cyfyngedig** (Company Registered Number 02366777) whose registered office is at Pentwyn Road, Nelson, Treharris, Mid Glamorgan, CF46 6LY ('DCC'), and
2. **Tata Steel UK Limited** (Company Registered Number 2280000) whose registered office is at 30 Millbank, London, SW1P 4WY ('Tata')

(together 'the Parties')

**WHEREAS:**

A. DCC is appointed under section 6 of the Water Industry Act 1991 ('the Act') to be the water undertaker and sewerage undertaker for its area defined in the Instrument of Appointment issued by the Secretary of State for Wales on 31st August 1989.

B. Tata is a producer of iron and steel and occupies the Llanwern Works, Newport, Gwent ('the Works') which falls within DCC's area of appointment.

C. Tata requires a supply of Non-potable water to its Waltwood Reservoir, at Waltwood, Newport, Gwent, O.S. Map Reference ST388886 ('the Premises') and DCC has agreed to make such a supply available on the terms set out below.

**IT IS AGREED AND, WHERE APPROPRIATE, DETERMINED THAT THE TERMS AND CONDITIONS OF SUPPLY** are as follows:

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

| | |
|---|---|
| [redacted] | [redacted] |

| | |
|---|---|
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

# 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)[51]

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

| Ref. | Date | Type | From | To | Description |
|---|---|---|---|---|---|
| **Letters to and from Dŵr Cymru** | | | | | |
| 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 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<br>[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<br>Email | Ofwat | Dŵr Cymru<br>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 | Letter | Dŵr Cymru | Ofwat | Request for Information - Confidential |

| | | | | | |
|---|---|---|---|---|---|
| | 2011 | | | | |
| 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 | Email | Ofwat | Dŵr Cymru | Section 56 Determination |

| | | | | | |
|---|---|---|---|---|---|
| | 2011 | | | | |
| 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<br>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 |
| 43. | 18 June 2015 | Email | Dŵr Cymru | Ofwat | Report on the cost of capital |
| 44. | 22 Sept 2015 | Email | Dŵr Cymru | Ofwat | Representation on the draft determination |
| 45. | 20 Oct 2015 | Email | Dŵr Cymru | Ofwat | Engineering report |
| 46 | 29 Jan 2016 | Letter | Ofwat | Dŵr Cymru and Tata | Further consultation on termination and payment provisions |

| | | | | | |
|---|---|---|---|---|---|
| 47 | 23 Feb 2016 | Letter | Dŵr Cymru | Ofwat | Response to termination provisions proposed by Ofwat on 29 Jan 2016 |
| 48 | 9 March 2016 | Letter | Dŵr Cymru | Ofwat | Response to payment provisions proposed by Ofwat on 29 Jan 2016 |
| | | | | | |
| **Letters to and from Tata and Tata's predecessor, Corus** | | | | | |
| 49. | 14 Oct 2008 | Letter | Corus | Ofwat | Dŵr Cymru Cyfyngedig – v – Corus UK Ltd & Water Services Regulation Authority |
| 50. | 22 Oct 2008 | Letter | Ofwat | Corus | Dŵr Cymru Cyfyngedig – v – Corus UK Ltd & Water Services Regulation Authority |
| 51. | 14 Nov 2008 | Letter | Corus | Ofwat | Dŵr Cymru Cyfyngedig – v – Corus UK Ltd & Water Services Regulation Authority |
| 52. | 28 Nov 2008 | Letter | Corus | Ofwat | Dŵr Cymru Cyfyngedig – v – Corus UK Ltd & Water Services Regulation Authority |
| 53. | 12 May 2009 | Letter | Ofwat | Corus | Determination of terms for supply of non-potable water to Corus at Llanwern |
| 54. | 16 June 2009 | Letter | Corus | Ofwat | Dŵr Cymru Cyfyngedig – v – Corus UK Ltd & Water Services Regulation Authority |
| 55. | 13 July | Letter | Ofwat | Corus | Determination of terms for supply of non- |

| | | | | | |
|---|---|---|---|---|---|
| | 2009 | | | | potable water to Corus at Llanwern |
| 56. | 21 July 2009 | Letter | Corus | Ofwat | Determination of terms for supply of non-potable water to Corus at Llanwern |
| 57. | 21 July 2009 | Letter | Ofwat | Corus | Determination of terms for supply of non-potable water to Corus at Llanwern |
| 58. | 27 July 2009 | Letter | Corus | Ofwat | Determination of terms for supply of non-potable water to Corus at Llanwern |
| 59. | 30 July 2009 | Letter | Corus | Ofwat | Determination of terms for supply of non-potable water to Corus at Llanwern |
| 60. | 24 Aug 2009 | Letter | Corus | Ofwat | Determination of terms for supply of non-potable water to Corus at Llanwern |
| 61. | 25 Sep 2009 | Letter | Ofwat | Dŵr Cymru & Corus | Determination of terms for supply of non-potable water to Corus at Llanwern<br>[Notification of change of case team] |
| 62. | 16 Oct 2009 | Email | Ofwat | Dŵr Cymru & Corus | Determination of terms for supply of non-potable water to Corus at Llanwern |
| 63. | 13 Nov 2009 | Letter | Ofwat | Dŵr Cymru & Corus | Determination of terms for supply of non-potable water to Corus at Llanwern |
| 64. | 1 April 2010 | Letter | Ofwat | Dŵr Cymru & Corus | Determination of the terms of supply of non-potable water to Corus at Llanwern under section 56 Water Industry Act 1991 |
| 65. | 16 April 2010 | Letter | Corus | Ofwat | Determination of terms for supply of non-potable water to Corus at Llanwern |

| | | | | | |
|---|---|---|---|---|---|
| 66. | 23 April 2010 | Letter | Ofwat | Corus | Request for information |
| 67. | 11 June 2010 | Letter | Corus | Ofwat | Request for information addressed to Corus UK Ltd dated 23 April 2010 |
| 68. | 21 Dec 2010 | Letter | Ofwat | Corus | Section 56 determination of the terms and conditions of the supply of non-potable water from Dŵr Cymru Cyfngedig to Corus Llanwern |
| 69. | 21 Jan 2011 | Letter | Tata | Ofwat | Section 56 Determination<br>[Change of company name - previously Corus] |
| 70. | 25 Jan 2011 | Letter | Ofwat | Tata | Section 56 Determination |
| 71. | 31 Jan 2011 | Letter | Tata | Ofwat | Information request dated 21 December 2010 (“Request”) |
| 72. | 1 Feb 2011 | Email | Ofwat | Tata | FW: Letter from Tata Steel UK |
| 73. | 14 April 2011 | Letter | Ofwat | Tata | 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 |
| 74. | 9 May 2011 | Letter | Tata | Ofwat | 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 |
| 75. | 18 July 2011 | Email | Ofwat | Tata | Section 56 Determination |
| 76. | 18 July 2011 | Email | Tata | Ofwat | Re: Section 56 Determination |
| 77. | 1 March 2012 | Letter | Ofwat | Tata | Section 56 Determination of the Terms and Conditions of the Supply of Non-Potable Water from Dŵr Cymru to Tata Steel at Llanwern |
| 78. | 25 April 2012 | Email | Ofwat | Tata | Dŵr Cymru/Tata s56 determination |
| 79 | 4 May 2012 | Email | Tata | Ofwat | Re: Dŵr Cymru/Tata s56 determination |
| 80 | 9 May 2012 | Email | Tata | Ofwat | FW: Dŵr Cymru/Tata s56 determination |
| 81 | 18 Sept 2015 | Email | Tata | Ofwat | Representation on the draft determination |
| 82. | 29 Jan 2016 | Letter | Ofwat | Tata and Dŵr Cymru | Further consultation on termination and payment provisions (see 46 above) |
| 83. | 2 Feb 2016 | Letter | Tata | Ofwat | Initial response to Ofwat's 29 Jan 2016 letter requesting further information |
| 84. | 12 Feb 2016 | Letter | Ofwat | Tata | Explanation of proposed change to price from draft determination |

| | | | | | |
|---|---|---|---|---|---|
| 85. | 17 Feb 2016 | Letter | Tata | Ofwat | Request for further explanation of apparent rejection of arguments raised by Tata |
| 86. | 22 Feb 2016 | Letter | Ofwat | Tata | Explanation of Ofwat's response of arguments raised by Tata |
| 87. | 18 Mar 2016 | Letter | Tata | Ofwat | Representation on limited consultation |
| 88. | 04 Apr 2016 | Letter | Ofwat | Tata | Response to Tata's representation on the limited consultation |
| 89. | 25 April 2016 | Letter | Tata | Ofwat | Further representations on the draft determination |
| **Letters to and from other parties** | | | | | |
| 90 | 19 Aug 2015 | Email | A New Appointee | Ofwat | Representation on the draft determination |
| 91 | 21 Aug 2015 | Email | A Water and Sewerage Company | Ofwat | Representation on the draft determination |

# 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 that serves the Site. Dŵr Cymru confirmed that the Llawern 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.

5. 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.

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

7. 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.

8. 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.

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

10. 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] to 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 Ml/d and that recent demand has been closer to 10 Ml/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 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 conformed 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 01/03/11we 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 is 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: Ofwat's response to comments on our draft determination and limited consultation

### Introduction

In addition to the responses to our draft determination and limited consultation from Dŵr Cymru and Tata, we also received comments from an incumbent water company and a new appointee.

In the body of this document we have set out our main reasons for the final determination we have made in this case; these reasons deal with many of the substantive points raised in the responses to our draft determination. Those responses also raised a number of issues that were relevant to the determination we were required to make, but which were less critical to it. This Appendix sets out our views on those issues and also provides a more expansive response to some of the more important points that were relevant to our determination; it is not intended to provide a fully comprehensive answer to every point of detail raised in the responses to the draft determination and, in the interest of brevity, answers which may be relevant to more than one issue are not necessarily repeated in relation to other issues. We have grouped the comments received on our draft determination under a number of different headings and set out our responses under the same headings.

## 1. Consistency of approach used with our section 56 duties

### I. Dŵr Cymru's comments

Dŵr Cymru has provided comments on Ofwat's use of the published framework in both their representation on the draft determination in this case and on the draft determination in the Iggesund v United Utilities case.[52] Our response to the concerns raised in the Iggesund v United Utilities case is set out in our final determination on that case.[53]

In its response to the draft determination in this case, Dŵr Cymru highlighted that in a letter from Ofwat to the parties dated 21 July 2009, we told both parties that we would adopt an AAC approach as the basis for setting the price for this determination. Dŵr Cymru therefore asked why we had changed our approach to setting the price for this case.

Dŵr Cymru also stated that:

[52] http://www.ofwat.gov.uk/redirect/?url=/pricereview/pr14/res_stk1210retailnwt.pdf
[53] http://www.ofwat.gov.uk/regulated-companies/investigations/closed-cases/complaint-by-iggesund-paperboard-workington-limited-against-united-utilities-about-the-price-of-non-potable-water/

> "The application of the "geographic test" is discussed in paragraph 5.29. It finds that since "Tata is supplied via a discrete system of assets, which is used to supply Tata and other customers within the SEWCUS zone, but not to supply customers in other water resource zones" an LAC approach is appropriate. In other words, notwithstanding that the SEWCUS zone is by far the largest served by DCC, Ofwat considers that a system-specific pricing approach is appropriate, in preference to a regional average approach.
>
> The logical consequence of this is that, save where a water undertaker only has one water resource zone, the application of the published framework will *always* produce a de-averaged price, and the "business as usual" price will invariably be rejected."

Dŵr Cymru also raised concerns that Ofwat decided not to depart from the 'business as usual' price in the case of Independent Water Networks Limited v Anglian Water ("**Priors Hall**"), due to Anglian Water declining to provide local cost information. It is concerned that this sends signals to undertakers that Ofwat will retain business-as-usual prices if they decline to provide information to Ofwat.

Dŵr Cymru also raised concerns that the published framework will result in inconsistencies between the prices determined by Ofwat under section 56 of the Act and those paid by other customers because geographic, competition and efficiency concerns are not taken into account in the prices paid by other customers.

Dŵr Cymru concluded its comments on the use of a LAC approach by stating that:

> "we do not consider that the approach in the DD adequately meets the standards to which determinations ought to be made"

### II. Other comments

In addition to the representations received from Dŵr Cymru, one other respondent also commented on the approach used in this case. This respondent did not consider that Ofwat had justified the application of its bulk supply pricing framework, consistent with section 40 of the Act, to determining the price for a non-household supply under section 56. It also stated that it was not clear whether Ofwat had determined that the application of Dŵr Cymru's standard charges would be unduly discriminatory prior to calculating a customer specific price. This, it argued, should be an essential first step in Ofwat's assessment framework for setting the price of a non-household retail supply under section 56.

### III. Our response

Chapter 2 sets out our relevant statutory duties under section 56 of the Act. In that chapter we also describe how, in making bulk supply price determinations under their different statutory criteria, we seek to be consistent, insofar as is appropriate in respect of the

differing statutory tests, in dealing with common issues that arise. We have developed the published framework for the purpose of being as consistent as possible on issues common to the exercise of different powers. We recognise that the different statutory powers and duties mean that it may not be possible or appropriate to use the framework in the same way in each case, but that does not preclude us from assessing whether the framework could be used to inform individual determinations made under different powers and statutory criteria.

In Chapter 4 we explain that in our final determination the published framework has been used to inform our assessment of the most appropriate measure of expenses to which we should have regard to the desirability of Dŵr Cymru recovering, for the purpose of section 56(5)(b)(i) of the Act. This, in turn, has been used to inform our judgement of what a "reasonable" price should be for Dŵr Cymru's supply of water to the Llanwern site.

In our letter to the parties dated 21 July 2009, we stated that setting a price using a top-down approach "…is how other customers are charged by Dŵr Cymru and we do not think that it is appropriate to adopt a different approach for one or more particular customers unless there is a good reason for treating them differently. For the reasons set out below, we do not currently see that there is sufficient grounds to treat the Corus Llanwern site differently."

Our letter set out correctly our view at the time it was written but it clearly was a "current" view which could be subject to change as the case developed. Since the issuing of this letter, we issued three requests for information from the parties that provided a significant amount of additional information on this case. When this information was analysed and taken into account, we concluded that a LAC approach was appropriate for assessing several components of costs, and our draft determination explained this change of view. We have reflected on that view since receiving responses to the draft determination and have concluded that it remains appropriate in this case, for the reasons set out in Chapter 5.

We do not agree that the approach taken will invariably lead to the default or "business as usual" price being rejected. As explained in paragraphs 5.15 and 5.16 our approach takes into consideration the circumstances of the case. In this particular case, the supply to the Llanwern site involves a significant number of assets that were specifically built to provide a supply to this site, resulting in a system of supply that is materially different from the typical supply to a customer of Dŵr Cymru. For example, the distribution system to the Llanwern site was built only to supply that site and has different characteristics compared to the distribution system used to supply the average customer. In addition to this, we note that in the Priors Hall case, Ofwat did find that the standard tariff was appropriate under this framework.

We agree that prices determined under section 56 of the Act may result in the setting of prices that are different from those for the average customer. When we are asked to make a determination under section 56 of the Act, we have to work within its terms which state that the relevant terms and conditions shall be determined by Ofwat "according to what appears to [Ofwat] to be reasonable" and the charges set:

> "(b) in so far as they do fall to be determined, shall be so determined having regard to the desirability of the undertaker's— .
>
> > (i) recovering the expenses of complying with its obligations under section 55 above; and .
> >
> > (ii) securing a reasonable return on its capital."

As a result, we are required to have regard to the desirability of (in this case) Dŵr Cymru recovering its expenses in providing the supply and the securing a reasonable return on its capital.

In the case of Priors Hall, the site is served using assets that are also used to supply other customers more broadly across Anglian Water's network. The site was estimated to take, on completion, less than a fifth of the amount consumed at Llanwern and it takes potable water. As a result, there was less reason to consider a local accounting approach. Where local accounting information was not available in this case, we have used a variety of sources to produce reasonable estimates of costs. The lack of availability of local cost information was therefore not a barrier to us adopting a bottom-up cost accounting approach in this case.

We do not consider that the application of the geographic test will impede water companies' abilities to generally set regionally averaged prices. The Cave review recognised the importance of regional average pricing and noted that differentiating input costs within a company's area of appointment need not undermine such pricing practices. Moreover, special agreements are a small proportion of total water company revenues and therefore change to associated tariffs is unlikely to have a material impact on the ability of companies to have geographically averaged prices for the remainder of the customer base.

As to the standards to which determinations under section 56 of the Act ought to be made, our view is that these standards include consistency with statutory requirements, following due process, robust factual and economic analysis and, to the extent permitted by statute, and, governed by the factual circumstances of each case, consistency in, and in our approach to, the exercise of our functions. We believe that our determination in this case fully meets those standards.

With regard to the argument that we should determine that application of Dŵr Cymru's standard charges would be unduly discriminatory, prior to calculating a customer specific price, we note the legal framework of section 56 of the Act does not contain any express wording to that effect. Equally, undertakers' obligations in Licence Condition E of their licences, to ensure that they show no undue preference or undue discretion, expressly do not relate to the terms and conditions of determinations Ofwat makes under section 56 of the Act. Moreover, our framework does start with an analysis of whether the "business as usual" price is reasonable, in light of whether or not it is based on robust information on the relevant costs or would cause material adverse effects. This is a wider assessment than simply

reviewing whether or not the use of standard charges would be unduly discriminatory. Finally, as we have explained in paragraph 5.187 above, in this case, Dŵr Cymru's large user tariff is significantly higher than the charge that we have calculated is reasonable for the circumstances of the supply of non-potable water to Tata at Llanwern. It is for that reason that we think it appropriate to depart from the tariff price. The last paragraph at the end of Part II in the next section also is relevant to this issue.

## 2. Errors of exclusion

### I. Dŵr Cymru's comments

Dŵr Cymru raised a number of challenges to the values used in the draft determination, mainly focussing on perceived errors of exclusion. These are costs that it believes it has incurred as a result of providing the supply to Llanwern but which were either not included, or for which insufficient provision was made, in the assessment of costs presented in the draft determination. These include:

- Costs associated with information technology (IT) assets;
- Other support functions, including office facilities, procurement, insurance and legal support;
- Costs associated with unbilled service obligations such as water taken for firefighting, the supply of water for other public purposes and costs associated with maintaining public records and making them available free of charge; and
- Costs relating to doubtful debts that arise from customers who do not pay their bills. Dŵr Cymru state that they need to recover these costs through the bills of other customers. As a result, they believe it correct to include a contribution towards bad debt in our assessment of their costs.

Dŵr Cymru argued that the 10% assumption for "Other opex" included in the draft determination (see paragraphs 5.77, 5.116) was inadequate to cover an appropriate contribution to these costs. It pointed to £20 million of IT costs and a further £20 million in other support costs that the company incurred each year across its entire business. Instead it proposed that an allowance of "at least one third of direct costs should be made to cover overheads and common costs".

In addition, Dŵr Cymru identified what it believed to be an error in the calculation of the unit opex cost for the water resources module. By using water abstracted rather than water billed as the denominator in the calculation of the unit cost, Ofwat was ignoring the impact of various losses from the system, operational use, unbilled water and meter under-registration. In aggregate, Dŵr Cymru stated that these omissions lead to the unit cost being understated by about 36% and that therefore an upward adjustment of 57% needed to be applied to the calculated value to ensure full cost recovery.

Dŵr Cymru carried out a top-down assessment of its opex costs; it believes that the total opex costs for the water resources, treatment and distribution modules should total [redacted] p/m$^3$ (in 2014/15 prices) compared to the draft determination which found this value to be 14.62 p/m$^3$. Dŵr Cymru argued that the resulting price would be unduly preferential to Tata because it would exclude any contribution to the higher, region wide, costs incurred in serving customers on smaller networks and, more generally, to an unravelling of cross-subsidy to customers served by small-scale systems.

Another respondent to our draft determination queried what indirect costs had been taken into account in the draft determination price assessment.

### II. Our response

Many of the perceived errors of exclusion identified by Dŵr Cymru (as detailed above) are drivers of costs that are covered by an all-encompassing percentage addition to direct cost items called 'General & support'. This is defined in the June Return Reporting Requirements[54] as follows:

> "General and support activities include all centrally provided services, except for any items specifically recorded [against direct cost items], scientific services or other business activities. The following services should be included where not already recorded [against direct cost items]:
>
> - Human resources / personnel services;
> - IT and data processing;
> - Legal services;
> - Management services;
> - Financial services;
> - Audit services;
> - Planning liaison;
> - Research and development;
> - Administrative services;

[54] http://webarchive.nationalarchives.gov.uk/20111129153934/http://www.ofwat.gov.uk/regulating/junereturn/reportingreq/

- Property management services;
- Operational and technical support;
- Vehicles and plant;
- Electrical and mechanical maintenance;
- Land and property maintenance;
- Materials storage.

Where an associated company provides such services, the relevant charge should be included."

The 10% allowance made in the draft determination to cover these costs (as well as hired & contracted services) was derived from information provided by Dŵr Cymru in its response dated 9 March 2011 to Ofwat's 3rd RFI. In the table on page 5 of this response, Dŵr Cymru provided a breakdown of estimated average operating expenditure for the network of water resources assets that supplied Court Farm in 2008/09. This breakdown showed the estimated unit cost of hired & contracted services to be [redacted] p/m$^3$ (or about 3% of other direct cost items). It also showed the estimated unit cost of general & support activities to be [redacted] p/m$^3$ (or about [redacted]% of all direct cost items). Dŵr Cymru's assertion in its representation on the draft determination that an appropriate uplift for general & support would be 33.3% clearly represents a material change to the percentage implied by its own previous unit cost estimates. In its response to our limited consultation, Dŵr Cymru reiterated the argument made in its representation on the draft determination on this point, but did not provide any additional information.

To inform a judgement on which, if either, of the two percentage additions is appropriate, we have examined cost allocation data we had previously requested from all water and sewerage companies over a three year period (2009/10 to 2011/12) for the purposes of accounting separation. This data was submitted in Table 21a of the last two June Returns received from companies (JR10 and JR11) and in the companies' Regulatory Accounts for the following financial year (2011/12). The data displays wide variance both between companies and over time, though there is some evidence of normalisation in the most recent year. However, while both the draft determination assumption and the latest value proposed by Dŵr Cymru fall within the range of values reported across water and sewerage companies, they are close to the opposite ends of the annual ranges, particularly in 2011/12. The value of 33.3% suggested by Dŵr Cymru as a "rule of thumb" is substantially higher than the values of 17.0%, 23.4% and 7.6% it reported for water resources over the three year period. It is also consistently higher than the corresponding (unweighted) average values across the water and sewerage companies of 16.6%, 20.4% and 15.7%. Conversely, the draft determination assumption of about 7% is consistently lower than all these company and wider industry level percentages.

Though all these values are based on company-wide analyses we consider that they are likely to be sufficiently reflective of a large water resource zone such as SEWCUS, for the purposes of this calculation. Accordingly, and in the absence of better information, we consider that the average of the values most recently reported for water resources by water and sewerage companies (15.7%) represents a fair and reasonable uplift on Dŵr Cymru's direct opex costs for this module (i.e. water resources) and have assumed this adjustment in the final determination.

Dŵr Cymru also challenged the uplift applied for general & support activities in the water distribution module. Again Dŵr Cymru suggested that an uplift of 33.3% of direct costs would be more appropriate but it failed to provide any evidential basis for that figure.

Having reviewed our analysis in the draft determination, we consider that the use of the 10% figure was inappropriate because it was derived from estimated costs for the water resources network rather than the water distribution network which was an error. Therefore, for the final determination we have used corresponding information for the water distribution module provided by Dŵr Cymru in their 31 January 2011 response to Ofwat's 2nd RFI. Table 12 showed the estimated unit cost of hired & contracted services to be [redacted] p/m$^3$ (or about 23% of other direct cost items) and the estimated unit cost of general & support activities to be [redacted] p/m$^3$ (or about 27% of all direct cost items). In our final determination we have applied these separate percentage adjustments to replace the overall 10% figure used in the draft determination. As a sense check we compared the 27% uplift for general & support with corresponding figures implied by the accounting separation data received from companies for the years from 2009-10 to 2011-12 and referred to above. The values derived from the Dŵr Cymru annual returns over this period were 43%, 30% and 31% while the corresponding average figures reported across water and sewerage companies were 28%, 31% and 28%. This provides confidence that the 27% uplift being used for water distribution opex in the final determination is fair and reasonable. The effect of correcting this error is an increase in the price of [redacted] p/m$^3$.

Dŵr Cymru argue that Ofwat used the wrong denominator in calculating a unit price for the water resources module and suggest that the resulting unit price should be uplifted by a correction factor of around 50%.

By using water abstracted as the denominator, the draft determination implicitly assumed that there are no losses of water from the system before water arrives at Waltwood Reservoir. Though we assumed leakage from pipework serving Tata to be small and discounted it, there are other components of losses that are more significant and which we accept should be taken into consideration. These include operational use of water in the distribution system and at Court Farm water treatment works. However, our view is that the correction factor of around 50% proposed by Dŵr Cymru materially overstates the impact of the omission. This is because it is based on the baseline supply and demand figures for the SEWCUS zone as a whole and these are not representative of the elements of the network which supply Tata.

The vast majority of distribution losses will occur on the extensive network delivering potable water supplies rather than on the single 8.4km long main delivering non-potable water to Waltwood Reservoir. Similarly, the vast majority of the supply pipe leakage will be from the potable water network. Even the majority of the operational use of water in the distribution system or at Court Farm water treatment works may be reasonably assumed to be made in connection with maintaining potable water quality and ensuring compliance with the drinking water regulations.

We do not agree that any uplift should be applied to the unit opex cost for the non-potable supply to account for 'unbilled water' (which includes water taken for firefighting purposes and Fire and Rescue Service training). This is because as a potable water customer, Tata already bears a share of these costs. The existence of a non-potable water supply to the Llanwern site does not cause any increase in the amount of unbilled water the costs of which would need to be recovered by Dŵr Cymru. Without there being any additional costs to recover we do not see why Tata's contribution to covering the cost of unbilled water in the SEWCUS zone should effectively be increased. It also is relevant that, unlike most other customers, Tata would pay for any water used for firefighting on its premises as the water is highly likely to be taken from a metered supply for which it is billed by Dŵr Cymru.

We accept that the unit cost should take account of the actual quantity of water delivered to Tata rather than the quantity registered by the meter for which Tata is billed by Dŵr Cymru. Dŵr Cymru suggested that the unit cost should be uplifted to take account of a 4.87% meter under-registration. We have reviewed past June Return data and consider that this figure provides a reasonable basis for the uplift for a non-household consumer such as Tata. When coupled with a factor to account for system losses our final determination includes application of an uplift of 10.05% to the unit price for the water resources module. This compares with an overall factor of 57% proposed by Dŵr Cymru.

While Dŵr Cymru has not challenged the unit cost for the water distribution module in the same way, we consider that the value calculated for the draft determination should be adjusted for similar reasons. As with the water resources module we consider that the unit cost should be uplifted to take account of a 4.87% meter under-registration. However, for the distribution module system, losses and operational use relating to the water resources infrastructure and the water treatment assets at Court Farm WTW are not relevant and do not need to be taken into account. As a result we have calculated an appropriate overall upward adjustment factor (i.e. including for meter under-registration) to be 6.31%. We have applied this in our final determination.

For the sake of completeness we would add that certain other perceived errors of exclusion are not covered by general & support activities but do not merit any adjustment to the final determination. For example, costs associated with unbilled service obligations such as the supply of water for other public purposes remain excluded from our final determination for reasons which are set out above.

Section 56 of the Act requires us to set a price which appears to us to be reasonable, having regard to the desirability of the undertaker recovering its expenses incurred (in this case) by Dŵr Cymru when supplying the Llanwern site and the undertaker securing a reasonable return on its capital. In the draft determination we noted that the value Dŵr Cymru allocated to doubtful debt was derived from all users and was not reflective of the costs incurred in supplying Tata specifically, or large non-domestic users more generally. Water companies are able to stop supplying water to non-domestic customers in response to non-payment, whereas they cannot do so for domestic customers. For this, and other reasons, the cost of doubtful debt associated with large non-potable users is likely to be considerably less than Dŵr Cymru's average cost of doubtful debt. Dŵr Cymru's regulatory accounts separate out bad debt costs between household and non-household customers, with non-household customers accounting for less than 10% of total bad debt costs while contributing more than 20% of revenues. This implies that the AAC cost for doubtful debt would be, at most, around [redacted] p/m$^3$, compared to Dŵr Cymru's proposal of [redacted] p/m$^3$. However, we expect the costs of bad debt associated with large non-household customers to be significantly less than that associated with general non-household customers because we understand the cost relates mainly to smaller non-household customers. Consequently, absent information that would enable us to quantify the doubtful debt costs associated with large non-household customers, it does not appear reasonable to include the full costs of household and non-household bad debt in the costs associated with the supply to the Llanwern site.

Moreover, 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 the retail module.

We are conscious of the possibility that prices determined in the exercise of our functions under section 56 of the Act may seem inconsistent with an average approach to pricing which enables the costs of providing water in zones that are expensive to supply to be spread across the customer base. But it has always been the case that there are variations in charges as between customers, notably by reference to the volume supplied, giving very large users some of the benefit of the economies of scale associated with supplying them. Average pricing therefore always has recognised that large users are in a different position from, for example, household customers. The process of this determination has revealed previously unknown information about, among other things, the extent to which Dŵr Cymru's established tariffs reflect costs: it appears in this case that Dŵr Cymru's large user tariff does not fairly reflect the cost of serving this exceptionally large customer. It follows from this that an adjustment is required to the tariff price for this customer. It does not follow that average pricing generally is being unravelled.

## 3. Challenges to the values used in the draft determination.

### I. Dŵr Cymru's comments

In its response to the draft determination, Dŵr Cymru raised concerns that some of the above-ground asset lives used by Ofwat in the draft determination differed from those assessed by an independent consultant in 2009 and used in Dŵr Cymru's submission at the 2009 price review. Dŵr Cymru highlighted four assets for which it considered there was a significant difference between the asset lives assumed in the draft determination and those calculated by the independent consultant. In addition to this, Dŵr Cymru contended that, as Ofwat's assumptions were either the same or higher than those of its consultant, this represented a systematic over-estimation of the expected lives of above-ground assets. On this basis Dŵr Cymru argued there could also be a case for reducing Ofwat's assumptions on the expected lives of underground assets by 15%. In addition, while Dŵr Cymru considered the levels of manpower assumed in the draft determination to be reasonable, it contested the unit cost of manpower assumed and provided new information on the salary cost of Band 3 and Band 4 operators as well as the scale of an uplift to cover such incidental costs as van hire, mobile phones and protective clothing. Furthermore, Dŵr Cymru stated that "in order to arrive at a total manpower cost it is necessary to add in the cost of management, supervision, and support" and proposed that the direct costs be increased by 50% to allow for this. Although these point were made in the context of the water resources module they are also relevant to the calculation of the unit opex cost for the distribution module.

With regard to the water treatment module Dŵr Cymru pointed to a printout of the Court Farm cost centre analysis which was appended to its 31 January 2011 response to Ofwat's 2nd RFI. Use of the estimated component costs in this document produced a total cost which was 34% higher than the corresponding element in Ofwat's calculations. Dŵr Cymru stated "This would add 0.9p per $m^3$ to Ofwat's unit costs of treatment opex (2014/15 prices)" even before making a corresponding increase in the amount we had included for the general & support on-cost.

### II. Our response

We have reviewed the information provided by Dŵr Cymru. Of the four assets specifically identified by the company, we accept that there is a case to revise the asset life assumption made at the draft determination in the case of Court Farm partial treatment works. We have re-assessed this asset life and concluded that a 44 year asset life is appropriate (as our previous estimation of a 55.5 year asset life used in the draft determination (see Table 8) did not give sufficient weighting to the shorter-lived components at the site). As we do not have specific data on the asset mix for a non-potable water treatment works, we needed to make assumptions on the asset mix for this type of installation. These assumptions were informed by asset mix data we have for potable water treatment works and other types of water service assets and by the consideration that the treatment works used to derive the generic

split proposed by Welsh Water were highly unlikely to be representative of the assets in question at Court Farm. Our view is that the lesser treatment afforded to the non-potable supply points to less sophisticated treatment units and a lower proportion of mechanical and electrical assets than would be the case in a potable waste treatment works.

For the other asset lives challenged by Dŵr Cymru, we note that our assumptions are consistent with values found for infrastructure assets in technical literature and compare closely with the industry average derived from values reported by other companies at the 2009 price review. We also note that in our analysis of the industry asset lives data provided for the 2009 price review, the expected lives of water service assets reported by Dŵr Cymru were typically shorter than the industry average. We therefore do not accept that our assumptions represent over-estimations and, other than in the case of Court Farm WTW partial treatment works, reject Dŵr Cymru's argument that they should be revised downwards either for above-ground or underground assets.

With regard to manpower costs, we have taken the new information on unit rates and related overheads into account in our final determination. This has resulted in increases of 41% and 39% in the allowances made in the final determination for employment costs in the water resources and water distribution modules respectively. We have made no additional allowance for management, supervision and support as these costs are covered by the uplift on direct opex costs for general & support activities.

With regard to Dŵr Cymru's challenge to treatment opex, we would make the following points.

Dŵr Cymru claims that the unit cost should be 34% higher than Ofwat's draft determination based on an analysis of expenditures at Court Farm WTW. However, there are various issues that militate against Ofwat adopting the presented allocation of costs:

(i) the figures set out in the information provided are the result of an analysis of the works' expenditures between the potable and non-potable streams which Dŵr Cymru concedes is "subjective". No evidence is presented to support the notional breakdown between the two streams.

(ii) From the description of cost components it is difficult to accept that they are all direct costs and we would deem a number of them to properly fall under the 'general & support' category. The allowance Ofwat has made for general & support activities in the water treatment module (which equates to 54% of identified components of direct expenditure) is substantially greater than the 33.3% allowance Dŵr Cymru describes as being a reasonable "rule-of thumb".

iii) Dŵr Cymru has allocated [redacted]% of the treatment power costs to the non-potable stream at Court Farm WTW. Considering that in 2008/09 the [redacted] Ml/d sent through the non-potable

stream equated to just [redacted]% of the flow arriving at the works and that less treatment is afforded to the Tata supply this allocation appears excessive.

For these reasons, we are not persuaded by Dŵr Cymru's arguments in support of an upward adjustment to the water treatment opex unit cost in the draft determination.

### III. Tata's views

In its representation on the draft determination, Tata challenged two of the unit costs that were used in the draft determination on the basis that they are higher than industry averages. These values are:

- Power costs for water resources for which Tata believes the industry average is 1.62p/m$^3$ compared to 2.13p/m$^3$ used in the draft determination; and
- Depreciation of retail assets for which Tata believes the industry average is 0.61p/m$^3$ compared to 1.03p/m$^3$ used in the draft determination.

Tata also asked us to set out in more detail our assessment of the appropriate asset mix for the Court Farm treatment works. We have addressed this point in section 3 part 2 of this appendix above.

### IV. Our response

Power costs for water resources are heavily dependent upon the method used for abstracting the raw water (for example boreholes or river sources) and the topography of the area as this determines the height that the water needs to be pumped before it can enter the treatment facility. It is therefore reasonable that the water resource power costs for a specific customer can vary significantly from the industry average. In this determination we took into account the pumping head required to raise water from the [redacted] abstraction points to the [redacted] and Court Farm reservoirs as well as the friction head required to convey the abstracted water through [redacted] km of pipework comprising the water resources infrastructure. We would note that the breakdown of average operating expenditure for the network of water resources assets that supplies Court Farm in 2008/09 (provided in the table on page 6 of Dŵr Cymru's letter dated 9 March 2011) shows the company's own estimate of the power cost to be [redacted] p/m$^3$ (in 2008/09 prices) or [redacted] p/m$^3$ in 2014/15 prices i.e. some 46% higher than the value assumed in the draft determination. Accordingly, we are therefore satisfied that our assessment of the power costs for water resources in this case is not too high.

Our assessment of the depreciation of retail assets is based on Dŵr Cymru's costs to provide retail services. We would only consider moving away from this approach if we had significant concerns about the validity of this data. We note that the depreciation of retail assets in terms of a price per cubic metre of water supplied may differ significantly between

companies depending on the average consumption levels of their customers. A company with a larger number of smaller customers will tend to have a higher value than a company with fewer, but larger customers. As a result, it is not unreasonable for there to be significant differences between a particular company and the industry average when the depreciation of retail assets is calculated in this form.

## 4. The modified acquisition cost

### I. Dŵr Cymru's comments

In its response to the draft determination, Dŵr Cymru raised concerns about the approach we took to derive the MAC values we had used. Dŵr Cymru accepted that there was a need to take into account that the implied enterprise value of Dŵr Cymru at privatisation was less than the gross replacement cost of its assets, however they challenged Ofwat's approach to deriving it. Our approach in the draft determination was to derive a capital value as a simple pro rata scaling of gMEAV to RCV. Dŵr Cymru believes that consideration has to be given to:

- the differential accounting treatment of infrastructure and non-infrastructure assets, and in particular the fact that the former are not depreciated for regulatory accounting purposes;
- the fact that, as a result, RCV is rolled forward net of depreciation on non-infrastructure assets, but no such adjustment is made in respect of infrastructure assets;
- the fact that a significant proportion of "enhancement" infrastructure expenditure relates to assets associated with new development and growth, which are included in gMEAV but do not increase the RCV because they are funded by third party contributions;
- the fact that the enhancement programmes in water supply that have driven the growth of the RCV since privatisation have tended to be concentrated on non-infrastructure rather than infrastructure assets (most notably the upgrades to water treatment works); and
- It is also worth noting that there is a significant difference between the share of non-infrastructure assets in the gMEAV figures used in the draft determination, which we calculate to be [redacted]%, and the corresponding figure for our whole water supply asset stock, which was [redacted]% at the 2009 price review. An approach that fails to distinguish between infrastructure and non-infrastructure assets will lead to a biased result.

Dŵr Cymru believes that for these issues to be taken into consideration requires an approach in which the RCV at privatisation is split into infrastructure and non-infrastructure

elements which then are rolled forward separately. Although Dŵr Cymru has not provided its calculation based on this approach, it suggests that such an approach would lead to a MAC figure for the assets that serve the Llanwern site that is around [redacted]% higher than the MAC figures used in the draft determination.

Dŵr Cymru additionally suggests that an adjustment should be made for "stranded assets".

### II. Our Response

We acknowledge that infrastructure and non-infrastructure assets are treated differently for the purpose of recording the RCV. Treating the two differently in estimating a MAC might lead to a more accurate MAC that applies to the assets used to serve Tata. A critical need in Dŵr Cymru's proposed approach is a robust means of allocating the RCV to infrastructure and non-infrastructure at privatisation. Yet there is no indisputable method for separating out the RCV as Dŵr Cymru suggests.

Treating infrastructure and non-infrastructure differently in deriving MAC, as Dŵr Cymru suggests, might lead to a higher MAC than we applied in the draft determination. Yet there are alternative methods which would lead to a lower MAC. On balance, we consider our approach in the draft determination is reasonable. We also note that this approach is consistent with that taken in other determinations where it has not been challenged.

Dŵr Cymru has identified no assets that are at risk of "stranding" and provided no indication of the sort of adjustment that it regards as appropriate and we therefore have not made any adjustment for this point which is, in any event, in our view covered by the return on capital we have adopted.

## 5. The cost of capital

Our approach to the cost of capital in this case is explained in Chapter 5 at paragraphs 5.35 to 5.57. Dŵr Cymru made representations on this approach as it was explained in the draft determination, and commissioned two reports from NERA in support of its arguments for higher costs of capital to be applied in determining charges for the supply to Tata at Llanwern.

Our views on cost of capital for the purpose of this final determination and our response to Dŵr Cymru's representations also is set out in Chapter 5, at paragraphs 5.58 to 5.81.

Tata also raised concerns about the approach to the cost of capital advocated by the NERA reports in its letter of 18 March 2016. However as we broadly agree with Tata's points and we have decided not to use the approach set out in these reports, we have not set out Tata's arguments in detail.

# 6. Retail costs

## 1. The views of the parties

In their representation on the draft determination, both Dŵr Cymru and another respondent raised concerns about our assessments of the costs associated with the Retail and M&G assets module. Dŵr Cymru raised a number of questions about the exclusion of costs for doubtful debt, to which we respond in Appendix 4 section 2. Dŵr Cymru also argued that our approach to return on capital was "tantamount to a retrospective downward adjustment of Ofwat's own 2004 price determination", an issue which is addressed in the discussion of cost of capital in paragraphs 5.62 to 5.70.

The other respondent took the figure of [redacted] p/m3 in what is now Table 15 of this determination, calculated that it represented a "retail margin" of 0.9% and argued that this was too small and could represent a margin squeeze by preventing other companies from competing with Dŵr Cymru to provide retail services to Tata at the Llanwern site.

## 2. Our response

## As noted above, generally we have responded to Dŵr Cymru's points elsewhere in this document.

With regard to "retail margin" there appears to be a misunderstanding of the manner in which retail costs are included in, and recoverable through, the price we have determined, and that the explanation in the draft determination was not sufficiently full.

The allowance of [redacted] p/m$^3$ is by no means the only way in which the determined price provides for the costs associated with the retail element of providing water to Tata to be recovered.

Prior to the 2014 price review water companies were compensated for retail costs through a WACC based allowed return for a "whole appointee" provider. This included a return on the working capital and other assets associated with the retail part of the supply chain. This approach was changed at the 2014 price review to a WACC based return for the wholesale controls and a retail margin for the retail controls. This delineation was required because a single cost of capital would have allowed too much return for the wholesale business and insufficient return for the retail business. As this determination relates to a single price, rather than separate wholesale and retail prices, we have used a rate of return commensurate with the fair return for a "whole appointee" integrated supplier. This overall return incorporates an implicit return for the wholesale and retail elements, because, in relation to Tata, Dŵr Cymru is performing both wholesale and retail functions.

For PR14, the applied rates of return assumed retail margins of 1% for household customers and 2.5% for customers eligible for competition. The whole appointee cost of capital incorporates equivalent allowances. We have not sought to determine precisely what our determination represents as a "retail margin" for Dŵr Cymru , but it is more than the 0.9% estimated by the respondent, whose calculation included only OPEX. We are satisfied that the price we now are determining is reasonable in terms of the regard it has to Dŵr Cymru's retail costs.

## 7. The structure of the charge

### 1. The views of the parties

In its representations on both the draft determination and the limited consultation, Dŵr Cymru requested us to structure the determined price in two parts, a fixed charge (or a reservation or capacity charge) and a volumetric component. Dŵr Cymru submitted that a two part price would be more consistent with their charging scheme than having only a volumetric charge as proposed in the draft determination and would be better aligned with their costs structure associated with the supply to the Llanwern site. In Dŵr Cymru's view a two-part tariff also would offer better efficiency properties, provide a better allocation of risk between the parties, be consistent with the previous agreement and deal with several of the problems associated with the non-price terms proposed in our draft determination .

### 2. Our response

There are theoretical attractions to a two part charge: it could provide Tata with an incentive to reduce the reserved capacity if they no longer required it, and to mitigate the risk to Dŵr Cymru of Tata reducing their usage significantly and Dŵr Cymru no longer being able to fully cover the associated supply costs. However, there are significant practical and economic difficulties in assessing how to structure a two part price in this case.

The main practical difficulty is that, for a customer with as large a consumption as Tata at Llanwern, neither the fixed charge in Dŵr Cymru's LUT, nor the fixed charge that currently is paid by Tata, provides a realistic indication of how a two part charge should be structured in this case. Also, the fixed component in Dŵr Cymru's LUT appears insignificant in relation to the total charge for water consumed by Tata at Llanwern. Associated with this difficulty is that Dŵr Cymru, whilst asking for a two part tariff, has volunteered no information as to the balance between the fixed and volumetric parts of the charge that it thinks are appropriate.

The first economic difficulty mirrors the main practical difficulty: neither Dŵr Cymru's relevant LUT fixed charge, amounting to £39,840 per customer per year, nor the fixed charge in the 1993 agreement of 3.5p per cubic metre of reserved capacity per year, both of which might potentially have been candidates for the starting point on which to base the fixed element of

a two part tariff, bears a clear relationship to any of the costs we have considered. Secondly the additional analysis required to determine an appropriate split between the fixed and variable components, were Ofwat to decide that this was the most appropriate approach in the context of this case, would extend what is already a very drawn out process.

The choices now available to us are: to opt for the single volumetric charge derived from our analysis of Dŵr Cymru's costs, or for a two part tariff with the fixed element taken either from Dŵr Cymru's LUT or from a forward projection of the current fixed charge, or to undertake further analysis to establish a more rational basis for structuring a two part tariff. It is relevant to the selection of the best choice that we have no reason to expect that any one of the available alternatives in practice would make a significant difference to the overall amount payable for non-potable water provided to Tata at Llanwern when compared to the others.

We can see no benefit in delaying further a process that has already become very protracted and we are reluctant to determine a fixed charge for which there is no clear need. Therefore we have decided to retain the structure of a single volumetric price proposed in our draft determination.

## 8. The use of actual consumption data

### 1. Tata's view

In its letter of 18 March 2016, Tata challenged Ofwat's proposed approach of using actual volume data in the calculation of the tariff in the final determination. Tata argued that in other regulatory contexts, Ofwat has used estimated future consumption and set a tariff that would allow the undertaker to recover the level of costs that Ofwat considers to be consistent with an efficient operation. As a result, Tata proposes using 5-year estimates of consumption for the periods 2005/06 to 20019/10 and 2010/11 to 2015/16 based on the consumption in the year preceding each of these periods and actual consumption for 2004/05, instead of an average based on actual consumption. Tata argues that the approach we proposed to take in the final determination assumes that Tata will take on all of the risks in relation to changes in consumption volume.

### 2. Our response

In this case, we are setting a price that will be applied from 1 April 2004. We have the actual consumption data for the first 11 years of this contract. As this data is available, we see no reason not to use the actual data in our calculations in favour of historic estimates which are known to be inaccurate. This does not result in Tata assuming all of the risks in relation to changes in consumption volume: Tata will benefit if the future consumption trend is downward, and Dŵr Cymru will benefit if that trend is upward.

## 9. Other issues

We have also addressed a number of other comments raised by the parties as part of their responses to the draft determination in the main body of this final determination document. These are:

- Dŵr Cymru's concerns around the use of an LAC methodology for assessing its costs. This is discussed in section 5.22 to 5.34 of the main document;
- Concerns raised by Tata around what it believes to have been capital contributions towards the initial costs of setting up the infrastructure to serve the Llanwern site. This is discussed in paragraphs 5.177 to 5.185 above;
- Concerns raised by Dŵr Cymru about the clause that Ofwat introduced into the contract that prevents Dŵr Cymru from terminating the contract until 1 April 2039. This is discussed in paragraphs 5.258 to 5.274 above; and
- One of the undertaker respondents argued that we should determine that the use of Dŵr Cymru's Tariff was discriminatory before departing from it. We agree that a decision departing from a Tariff price needs to be justified, but not that discrimination is the only justification for such a departure. In this case our analysis of Dŵr Cymru's costs has led us to conclude that application of the Tariff would lead to a price that is unreasonably high having regard to the costs of supplying the Llanwern site and which, as a consequence, would be harmful to Tata. This is discussed in paragraph 5.187 above.

# Appendix 5: 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 sought to address two questions:

1) Does the proposed cost of capital represent a long term view of a reasonable rate of return? and

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.

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 capital[55] (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.

[55]See Final price determination notice: policy chapter A7 – risk and reward.

## 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 were done on risk-free assets (for example Government bonds). The additional risk premium only compensates equity holders for the greater "non-diversifiable" risk[56] 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

[56]Returns 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.

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 components[57]**

| Cost of equity component | Point estimate[58] | Dec 2014 Final Determination Methodology | Reasonable long term estimate |
|---|---|---|---|
| **Real risk free rate** | 1.25% | Adjust current yields on index-linked Government gilts for increases in forward looking expectations.<br>Cross-check with ten-year historical averages of index-linked gilt yields. | **Yes**<br>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%59 (in real terms60) is a reasonable range given recent market expectations. Therefore, the final PR14 point estimate falls within this reasonable range. |
| **Total market return** | 6.75% | Estimate derived using both long term historical measures of equity returns and forward looking approaches; and<br>Other academic | **Yes**<br>The methodology attempts to capture a long term view of the equity market risk premium. |

[57] For further details on the final PR14 methodology, please refer to the relevant document.
[58] Dec 2014 Final determination.
[59]Based 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.
[60] 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[58] | Dec 2014 Final Determination Methodology | Reasonable long term estimate |
|---|---|---|---|
| | | evidence. | |
| **Asset beta** | 0.30 | 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. | **Yes**<br>The final PR14 asset beta point estimate lies within reasonable historical ranges observed for the industry |
| **Gearing[61]** | | 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. | **Yes**<br>We expect financial structures to be reasonable stable under the considered longer term horizon. |

**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

[61] 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.

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:

**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.

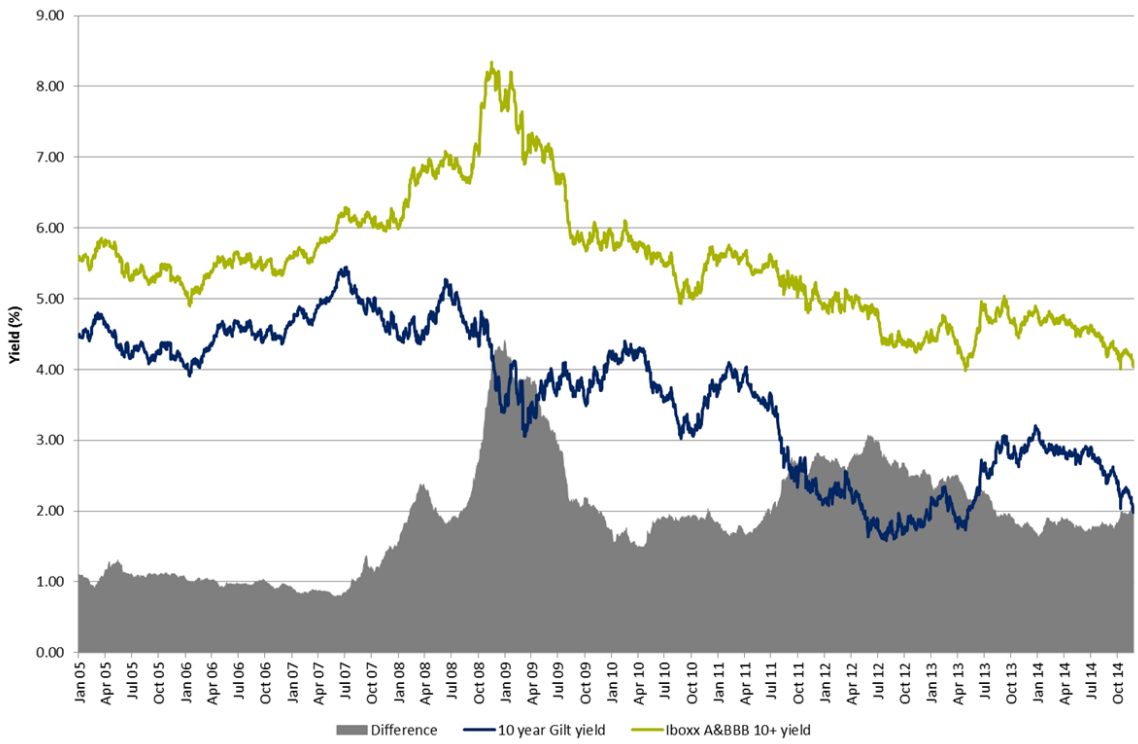
Firstly, we have considered reducing the proportion of embedded to new debt to reflect the fact that over the longer term, the proportion of new debt relative to total debt will be larger as greater proportion of debt will be refinanced over a longer period. In particular, we consider that a 50:50 split 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 indices[62] - 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**




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 were 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.

[62]Specifically we looked at iBoxx A/BBB corporate bond indices.

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[63] | 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% |

[63] Dec 2014 final determination.

| | | | |
|---|---|---|---|
| | | Spread:<br>1.50% | Spread:<br>1.85% |
| | | Inflation:<br>2.80% | Inflation:<br>2.80% |
| | | Cost new debt:<br>2.10% | Cost new debt:<br>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.**

## 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 users[64].

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"[65] 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%.

---

[64] Cost of capital for price determination cases: A report for Ofwat. Grant Thornton. August 2014.
[65] 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.

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 stablishes a notional company-wide cost of capital of 3.74% which is slightly lower than the 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[66] | Ofwat's update of Grant Thornton's August 2014 estimation[67] | Comment |
|---|---|---|---|
| Real risk-free rate | 1.25% | 1.25% | **NO CHANGE**<br><br>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**<br><br>Change to reflect our preferred starting point to perform an uplift based on PR14 Final Determination overall cost of debt. |
| Additional debt risk premium | 0.22% | 0.22% | **NO CHANGE**<br><br>We apply Grant Thornton's uplift to account for the impact on the overall cost of debt of the greater "non-diversifiable" risk of |

[66] Based on January 2014 PR14 "Risk and Reward Guidance".
[67] Based on December 2014 PR14 Final Determinations.

| Activity-specific cost of capital parameters | Grant Thornton's August 2014 estimation[66] | Ofwat's update of Grant Thornton's August 2014 estimation[67] | Comment |
|---|---|---|---|
| | | | supplying large users. |
| Overall cost of debt (pre-tax) | 2.97% | **2.80%** | **CHANGE**<br><br>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. |
| Gearing | 57.5% | 57.5% | **NO CHANGE**<br><br>We apply Grant Thornton's gearing figure to account for the impact of the greater "non-diversifiable" risk of supplying large users. |
| WACC (Vanilla) | 4.41% | **4.32%** | **CHANGE**<br><br>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 |
| Effective tax rate | 12.80% | **10.00%** | **CHANGE**<br><br>Updated to reflect the average effective tax rate across regulated companies. |
| Real WACC (pre-tax) | 4.81% | **4.62%** | **CHANGE**<br><br>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. |

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