

IAP SUPPORT

An assurance report prepared for Hafren
Dyfrdwy

March 2019



Rob Francis



rob.francis@frontier-economics.com

Chris Cuttle



chris.cuttle@frontier-economics.com

Frontier Economics Ltd is a member of the Frontier Economics network, which consists of two separate companies based in Europe (Frontier Economics Ltd) and Australia (Frontier Economics Pty Ltd). Both companies are independently owned, and legal commitments entered into by one company do not impose any obligations on the other company in the network. All views expressed in this document are the views of Frontier Economics Ltd.

CONTENTS

1	Introduction	4
1.1	Background	4
1.2	The scope and structure of this report	6
2	Review of HDD's customer research and triangulation	7
2.1	Introduction	7
2.2	Ofwat's expectations in this area	7
2.3	Ofwat's IAP feedback	8
2.4	Summary of HDD's research	9
2.5	Our views	10
3	Review of HDD's approach to setting ODIs	13
3.1	Introduction	13
3.2	Ofwat's expectations in this area	13
3.3	Ofwat's IAP feedback	13
3.4	Summary of HDD's approach	15
3.5	Our views	21
4	Review of HDD's acceptability research	25
4.1	Introduction	25
4.2	Ofwat's expectations in this area	25
4.3	Ofwat's IAP feedback	25
4.4	Summary of HDD's updated approach	26
4.5	Our views	26
5	Our overall conclusions	28




1 INTRODUCTION

1.1 Background

As part of PR19, all water companies in England and Wales – including Hafren Dyfrdwy (HDD) – needed to submit their business plans for the period 2020-2025 to Ofwat. Ofwat had set out its guidance for companies in its December 2017 Final Methodology statement.¹ The plans that scored well against Ofwat's guidance would benefit from incentives through the price review process, while companies with plans which were deemed to fall short would face closer scrutiny, be subject to intervention, and could receive lower returns.

In September 2018, all water companies submitted their plans to Ofwat. Ofwat then evaluated them and categorised each company's plan based on how well it performed against its guidance. In January 2019 it published its initial assessment of plans (IAP). A summary is provided below:

Figure 1 Summary of Ofwat's IAP

Fast track 	Severn Trent South West United Utilities	Plans ready to implement. Receive financial benefit, early decisions and early certainty.
Slow track 	Anglian Dŵr Cymru Northumbrian Wessex Yorkshire Bristol Portsmouth South East South Staffs SES	Further work to do on plans.
Significant scrutiny 	Affinity Hafren Dyfrdwy Southern Thames	Substantially rework and resubmit plans. Increased regulatory scrutiny.

Source: Ofwat <https://www.ofwat.gov.uk/regulated-companies/price-review/2019-price-review/initial-assessment-of-plans/>

HDD was placed under 'significant scrutiny'. Ofwat commented:

"We have placed Hafren Dyfrdwy in the significant scrutiny category. This categorisation is made after an in the round consideration of our assessment

¹ <https://www.ofwat.gov.uk/wp-content/uploads/2017/12/Final-methodology-1.pdf>

*of Hafren Dyfrdwy's plan across the nine test areas and the level of intervention required in the plan to protect the interests of customers.*²

Ofwat evaluated all plans against nine different 'test areas'. The table below sets out HDD's scores in each of the areas.

Figure 2 HDD's test scores

Test Area	Our assessment
Engaging customers	C
Addressing affordability and vulnerability	D
Delivering outcomes for customers	D
Securing long-term resilience	D
Targeted controls, markets and innovation	C
Securing cost efficiency	B
Aligning risk and return	D
Accounting for past delivery	D
Securing confidence and assurance	C

A = High quality, ambitious and innovative plan **with** evidence that overall is sufficient and convincing

B = High quality plan, not sufficiently ambitious and innovative to be exceptional **with** evidence that overall is sufficient and convincing

C = **Concerns with the plan:** Plan falls short of high quality **and/or** evidence is insufficient and/or unconvincing in some areas

D = **Substantial concerns with the plan:** Plan falls significantly short of required quality **and/or** little or no evidence, or no convincing evidence

Source: Ofwat <https://www.ofwat.gov.uk/wp-content/uploads/2019/01/PR19-initial-assessment-of-plans-Hafren-Dyfrdwy-company-categorisation-FINAL.pdf>

Ofwat's main concerns with HDD's plan were as follows:

- Outcome delivery: Ofwat considered that HDD's proposed performance commitments (PCs) were not sufficiently stretching. HDD had also proposed outcome delivery incentive (ODI) rates that were low compared to other companies, and Ofwat was concerned that HDD would not be well-incentivised to improve performance.
- Affordability and vulnerability: In Ofwat's view, HDD did not demonstrate that it had customer support for its final bills over the period 2020-25 and that it was unclear what the average bill over the period would be.
- Accounting for past delivery: While HDD proposed significant improvements in its cost efficiency, Ofwat was not convinced that HDD had provided sufficient evidence that it could actually deliver on this.
- Securing long-term resilience: Ofwat considered that HDD had provided limited evidence of resilience in the round.
- Aligning risk and return: Ofwat commented that HDD did not provide evidence that its proposed pay as you go (PAYG) rate and regulatory capital value (RCV) run-off rate were appropriate or aligned with customer preferences.

HDD is now required to revisit and revise its plan and resubmit it to Ofwat by 1 April 2019. Ofwat has set out the following timeline:

² <https://www.ofwat.gov.uk/wp-content/uploads/2019/01/PR19-initial-assessment-of-plans-Hafren-Dyfrdwy-company-categorisation-FINAL.pdf>

Figure 3 Next steps for PR19

Date	Milestone
1 April 2019	Companies submit revisions to business plans (significant scrutiny and slow-track)
18 July 2019	Draft determinations published (slow-track and significant scrutiny)
30 August 2019	Close of draft determinations consultation (slow-track and significant scrutiny)
11 December 2019	Final determinations published
1 April 2020	Price controls for 2020 – 2025 come into effect

Source: Ofwat <https://www.ofwat.gov.uk/wp-content/uploads/2019/01/PR19-initial-assessment-of-plans-Hafren-Dyfrdwy-company-categorisation-FINAL.pdf>

1.2 The scope and structure of this report

We have been commissioned by HDD to provide support ahead of its business plan resubmission. In particular, we were asked to review and assure its approach in the following areas. In this report we have a separate section covering each area.

- **Section 2:** Review of HDD's **customer research** and **triangulation**.
- **Section 3:** Review of HDD's approach to **revising ODIs**.
- **Section 4:** Review of HDD's **acceptability research**.

In **Section 5** we provide our overall **conclusions**.

In carrying out this work, we have followed an iterative process. We first reviewed HDD's approach and provided feedback based on our understanding of Ofwat's guidance. HDD then made amendments based on our feedback, and we then produced this report to assure its final approach.

2 REVIEW OF HDD'S CUSTOMER RESEARCH AND TRIANGULATION

2.1 Introduction

In this section we set out our review of HDD's customer research and triangulation. It is structured as follows:

- First, we summarise our understanding of Ofwat's guidance in this area – as set out in its Final Methodology statement;
- Second, we summarise the feedback that Ofwat gave HDD as part of the IAP;
- Third, we describe HDD's approach in this area; and
- Fourth, we provide our views on its approach.

We cover these points in turn.

2.2 Ofwat's expectations in this area

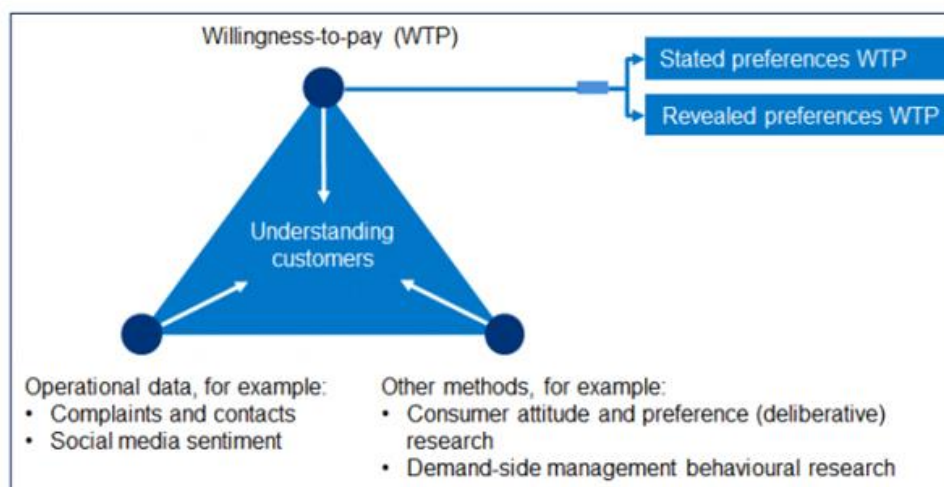
In its Final Methodology, Ofwat highlighted the importance of customer engagement in PR19, stating that companies need to deliver outcomes that are consistent with their customers' preferences, and be able to evidence that they understand these preferences.³ Ofwat set out seven principles on customer engagement which at a high level outlined that:

- Customer engagement should inform the outcomes water companies deliver and the prices these outcomes are set at;
- Engagement should be an ongoing process and companies need to be able to evidence their customer research; and
- Engagement should be customer specific and customers should be able to challenge companies throughout the research.

In its customer engagement policy statement, Ofwat outlined that companies should use stated preference willingness to pay approaches, as well as complimentary tools that can validate and test the findings from this research. Alternative tools could include behavioural experiments, natural experiments, revealed preference approaches, and data collected in day-to-day contact with customers.

Ofwat presented the triangulation approach in Figure 4 below, to demonstrate how companies should combine this variety of customer research methods to calculate one customer valuation figure.

³ Ofwat (2017), *Delivering Water 2020: Our final methodology for the 2019 price review*, p.24

Figure 4 Ofwat's triangulation approach

Source: Ofwat (2016), *Customer engagement policy statement and expectations for PR19*, p. 15

Combining different approaches to arrive at a single valuation figure can be done through:

- Mechanistic rules such as a straight or weighted average of the different values;
- Systematic judgement informed by a pre-defined system; and
- Dynamic cost benefit analysis which tests the impact of the different values on investment decisions.

Ofwat also noted that customer research should be representative of different customer segments including those who are vulnerable or hard-to-reach and that companies should use comparative information to help customers better understand what different services levels and performance commitments actually mean.

2.3 Ofwat's IAP feedback

Under Ofwat's test area on engaging customers, HDD was one out of seven companies to receive a grade C.

Figure 5 Results of engaging customers assessment

Question	Water and sewerage companies											Water only companies					
	Anglian Water	Dŵr Cymru	Haefren Dyfrdwy	Northumbrian Water	Severn Trent Water	South West Water	Southern Water	Thames Water	United Utilities	Wessex Water	Yorkshire Water	Affinity Water	Bristol Water	Portsmouth Water	South East Water	South Staffs Water	SES Water
EC test area	A	B	C	B	B	B	C	C	B	B	B	C	B	C	C	B	C

Source: Ofwat <https://www.ofwat.gov.uk/wp-content/uploads/2019/01/PR19-initial-assessment-of-plans-Summary-of-test-area-assessment.pdf>

Ofwat commented that HDD's business plan falls short of high quality, but there is sufficient evidence to demonstrate that the company has engaged with their customers on a range of issues, such as resilience, acceptability and willingness to pay research. HDD provided evidence showing bill profiles have been adjusted following customer engagement.

However, Ofwat believes there is insufficient evidence on:

- Extensive engagement with future bill-payers;
- Customer valuation research being robustly designed and implemented;
- A robust approach to triangulation; and
- A systematic and on-going approach to customers as opposed to using 'Pipe Up', which captures 'in the moment' responses of customers interacting with a company.

2.4 Summary of HDD's research

The core piece of research that HDD used to generate customer valuations to inform the setting of PCs and ODIs was a programme of stated preference WTP undertaken by Systra⁴.

The main features of this research are as follows.

- There were two surveys that comprised the WTP research programme, a survey of domestic customers and a survey of non-domestic customers. Both were based on representative samples and used SP and other trade-off techniques.
- The fieldwork was conducted between October 2017 and January 2018. Since this took place before the licence separation and rebranding, customers in Wrexham had a survey which referred to Dee Valley and customers in Powys had one referring to Severn Trent.
- The domestic survey was an interviewer-administered in-home CAPI (Computer Assisted Personal Interview) survey. The target sample was 500 domestic customers, 250 respondents in each of Powys and Wrexham. In the end 505 surveys were undertaken.
- For the non-domestic survey it was administered by telephone with show materials sent to the respondent during the interview via email. Systra used a commercially-available database of businesses in the two supply areas and deployed a team of trained CATI (Computer Assisted Telephone Interview) staff to contact businesses randomly from the database. The sample size was 150.
- The improvements were presented as packages with respondents choosing between different options for package improvements. Each service improvement was introduced to respondents via a short animated slideshow. The aim being to describe the current and possible improved service levels in an engaging and participatory way.

⁴ Systra, Customer WTP values for service improvements, 22 March 2018.

- The results were analysed using a Rank Order Logit Model (ROLM) to derive the weight of preference for each attribute within a package. This was applied to the associated package value to derive a monetary value for each attribute.

Subsequent to the IAP HDD has undertaken additional steps in relation to triangulation of customer research evidence.

- An additional piece of customer research, the Choices research, to provide additional evidence on customer valuation for ODIs.
- A comparison of values with other companies. (This is described in more detail in Section 3).

2.5 Our views

We have reviewed this customer research programme against Ofwat's expectations and general best practice for customer valuation research. Our findings are as follows.

- The research undertaken by Systra represents a good quality stated preference WTP survey, reflecting best practice in many areas.
- The design of the survey reflected the concerns around SP WTP studies identified from the PR14 experience. This includes careful consideration of how the information is presented to the respondent and a greater awareness of issues of framing and cognitive load. The survey also includes techniques such as Max Diff which are developments since PR14.
- More specifically the survey a number of elements that are consistent with best practice in this type of customer research. This includes:
 - Piloting and cognitive testing. The design of the questions involved cognitive testing of different contexts. This included data on comparative performance of other companies, which addressed one of Ofwat's expectations in this area. Cognitive interviews were undertaken to explore the underlying rationale for responses and to ensure that the attribute descriptions were properly understood.
 - Interview environment. The interviews were conducted in the respondent's home. This creates the best environment for the respondent to engage with the material. The trained interviewers were available to assist respondents, particularly during the trade-off exercises.
 - The survey aimed to use clear explanations, with animated videos and supporting graphics, to convey the complex information in the most engaging way.
 - The survey used established statistical techniques to translate the responses into service valuations.
- The results were interpreted with care. Where possible results were analysed by cohorts to understand the sensitivity and distribution of the results. The analysis also compared the results to values from the PR14 WTP survey. This provides an elements of cross-check and triangulation from within the SP WTP approach.

- Compared to the customer research undertaken by other companies the sample size for this survey was relatively small. In addition, the survey was the main source of quantitative evidence on WTP whereas some companies undertook more than one quantitative exercise. The sample size partly reflects the interview method (CAPI), which is more resource intensive but also more robust for this purpose. It also reflects the size of the company. More generally, the small size of HDD means that it is reasonable for the company to undertake a proportionate approach to the research and implicitly trade-off quantity against quality of evidence. The focus on a single good quality WTP survey does not appear unreasonable in this context though HDD has since augmented this evidence with the Choices research described below.
- In the design of the service packages the survey did not include options with any deterioration in service. As a general point this could raise a concern about limiting the options available to respondents. In this case we note that the additional question responses in the survey showed that there was very strong support for no deterioration. Therefore this concern does not appear to be a material issue in this case.

Overall, the WTP survey represents a good quality example of SP research that incorporates best practice techniques and addresses many of the concerns about SP surveys identified at PR14.

The 'Choices research' that HDD has undertaken since the publication of the IAP has been designed to address the challenge to use different research techniques and, where feasible, develop customer valuations from more than one piece of research.

We understand that the Choices research has focussed on those ODI rates that the IAP identified as requiring further work. It has been designed to quantify customer views on the following areas:

- the level of support for the principle of ODIs;
- the timing of performance payments, in terms of in-period or end-of-period;
- the appropriate design of performance payments for different groups of ODIs (e.g. reputational, underperformance-only, and so on);
- the reasonable upper limit for aggregate ODI underperformance and outperformance payments; and
- individual ODI rates – for each service area.

Customers were shown a starting value, that they could choose to vary within a set range. For each ODI, both the starting value and range were based on the acceptable ranges that Ofwat had identified in the IAP. HDD chose to use the Ofwat's values, on the basis that this tested whether customers supported valuations more consistent with those of other companies.

HDD triangulated the results by giving equal weight to the Choices research and the original WTP results.

In our view, the Choices research represents a sensible option for providing an additional quantitative valuation in these areas, to enable a triangulation of the customer valuation for setting the ODI rates. The decision to frame the questions

around the comparative evidence appears reasonable as it avoids attaching undue weight to the original research and therefore provides a more independent alternative source of evidence.

3 REVIEW OF HDD'S APPROACH TO SETTING ODIs

3.1 Introduction

In this section we set out our review of HDD's revised approach to setting ODIs. It is structured as follows:

- First, we summarise our understanding of Ofwat's expectations in this area, as set out in its Final Methodology statement;
- Second, we summarise the feedback that Ofwat gave HDD as part of the IAP;
- Third, we describe HDD's revised approach in this area; and
- Fourth, we provide our views on HDD's approach.

We cover these points in turn.

3.2 Ofwat's expectations in this area

The purpose of ODIs is to ensure companies are incentivised to improve service quality. As set out in its Final Methodology statement, Ofwat gave the following guidance to companies on ODIs:

- ODI type: As a default, ODIs should be financial rather than reputational only;
- Caps, collars and deadbands: As a default, there should be no caps, collars or deadbands applied to ODIs. However, Ofwat has allowed for companies to propose a deadband in the particular case of the Compliance Risk Index (CRI);
- Timing: As a default, financial incentives should be in-period, rather than be being evaluated and applied at the end of the AMP;
- Revenue or RCV: As a default, financial incentives should be in the form of an adjustment to revenue rather than a RCV adjustment; and
- Formulas: As a default, Ofwat has been clear that companies should use the following formulas to set incentive rates⁵:

$$\text{Underperformance rate} = \text{incremental benefit} - (\text{incremental cost} * p)$$

$$\text{Outperformance rate} = \text{incremental benefit} * (1-p)$$

However, Ofwat allowed for companies to deviate from the default if they have sufficient evidence and customer support for doing so.

3.3 Ofwat's IAP feedback

Ofwat's assessment of each company's package of ODIs was conducted as part of the 'Delivering outcomes for customers' test area. (This test area also included Ofwat's review of each company's package of PCs. However, the scope of this

⁵ In the formulas, 'p' is the cost sharing rate in the totex sharing mechanism. .

particular project was to focus on the components related to ODIs only). In particular, Ofwat assessed the plans against the following questions:

- OC2: How appropriate and well-evidenced is the company's package of outcome delivery incentives?
- OC3: How appropriate is the company's focus on service performance in its risk/return package?

Ultimately, HDD received D grades for both of these questions.

Figure 6 HDD received D grades for these questions

Question	Water and sewerage companies											Water only companies					
	Anglian Water	Dŵr Cymru	Hafren Dyfrdwy	Northumbrian Water	Severn Trent Water	South West Water	Southern Water	Thames Water	United Utilities	Wessex Water	Yorkshire Water	Affinity Water	Bristol Water	Portsmouth Water	South East Water	South Staffs Water	SES Water
OC test area	B	C	D	C	C	B	C	C	C	C	C	C	C	C	B	C	C
OC1	B	C	D	B	C	B	C	C	C	B	B	C	B	C	B	B	B
OC2	B	D	D	C	C	B	C	C	C	D	B	D	C	C	B	C	C
OC3	B	C	D	C	C	B	B	C	C	C	C	C	C	C	C	C	C

Source: Ofwat <https://www.ofwat.gov.uk/wp-content/uploads/2019/01/PR19-initial-assessment-of-plans-Summary-of-test-area-assessment.pdf>

Ofwat gave the following reasons as to why it believed HDD's business plan fell significantly short of being high quality:

- Insufficient evidence was provided on the justification of HDD's ODI rates.
- Insufficient evidence that the type of financial ODI was fully discussed with and made transparent to customers.
- HDD's proposed ODI rates were consistently lower than its industry peers for both common and bespoke measures, with insufficient evidence demonstrating that the ODI rates will incentivise the company against under delivery.
- Insufficient evidence was provided for the caps, collars and deadbands proposed by HDD. For example, lack of evidence to justify the cap and collar for water supply interruptions and internal sewer flooding.
- Insufficient explanation as to how the ODI package aligns to the interests of management and customers.
- HDD's proposed RoRE range was lower than Ofwat's indicative range and was the smallest in the industry.
- Insufficient evidence was provided to demonstrate the ODI rate calculations were set out clearly across HDD's ODI package.

In the event where outperformance payments were above expectation, Ofwat raised the following concerns:

- HDD did not outline any policies to protect customers from these outperformance payments.
- HDD did not provide notable protection in terms of caps on individual PCs.
- HDD did not provide details on its approach to bill smoothing.

3.4 Summary of HDD's approach

As part of its resubmission, HDD has prepared a document 'Our revised package of outcome delivery incentives', which we have reviewed. The document describes the journey that HDD has followed from receiving Ofwat's IAP feedback and reflecting on how best to incorporate it, to resubmitting its revised plan. A summary of its approach is described below:

Figure 7 HDD's revised ODI framework summary

Figure 1.1 (a) – framework summary



Source: HDD 'Our revised package of outcome delivery incentives'

In the rest of this subsection we provide a high level overview of each step in the process.

3.4.1 Step 1: Establish basis for ODIs further work

In this step, HDD has summarised the feedback it received from Ofwat on its package of ODIs as part of the IAP, including action points for individual measures.

3.4.2 Step 2: ODI financial structure

In this step, HDD describes its revised approach for determining for each measure:

- the appropriate ODI type;
- whether financial ODIs should be in-period or end of AMP; and
- whether financial ODIs should have caps, collars and/or deadbands.

We describe these points in turn below.

The appropriate ODI type

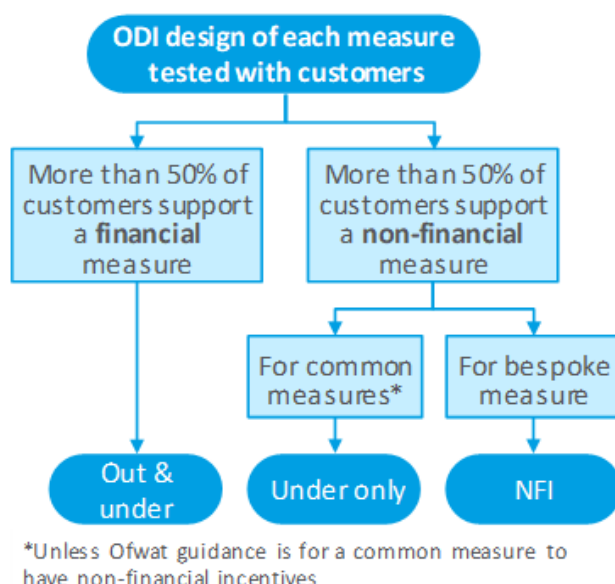
This relates to whether the ODI should be financial or reputational only, and where ODIs are financial whether they should be underperformance only, outperformance only or both under- and outperformance.

To support his work, HDD has drawn upon the following:

- new 'Choices' research where customers were asked their views on the ODI type – we note that this work was carried out as a direct response to Ofwat's IAP feedback (this is described in more detail in the previous section);
- focus groups where customers spoke about the issues in more detail – similarly, we note that this work was carried out in direct response to the IAP feedback; and
- a PCs & ODIs project where customers were asked for their views on various inputs related to PCs & ODIs.

HDD then 'triangulated' across the three pieces of research to come to a final view on the appropriate type. HDD carried out the following decision tree logic below:

Figure 8 HDD's ODI type decision tree logic



Source: HDD 'Our revised package of outcome delivery incentives'

By following this approach, HDD has determined the ODI type for each measure.

In period versus end of AMP

HDD has taken into account that Ofwat expects as a default that all financial ODIs should be in period. HDD has therefore determined that all of its financial ODIs will now be in period, with the exception of one measure: Length of river water quality. This measure is related to the EA's WINEP which is a large programme of work that is still not fully defined and subject to change.

Caps, collars and deadbands

Ofwat has challenged companies to include protections in the event of significant outperformance. As described in more detail in Step 6, HDD proposes to share 50% of any significant outperformance (defined as outperformance greater than 3 percentage points above RoRE) with customers. It has also decided to complement this approach by adding caps to all financial ODIs set at P90

performance levels. HDD argues that this will limit bill volatility by adding a maximum cap for outperformance and it ensures that HDD will not unduly focus on significantly outperforming on individual measures.

At the same time, with outperformances capped, HDD has also added collars at P10 performance levels which protect it against significant underperformance. It has argued that this is appropriate for the following reasons:

- Compounding the problem: A particularly bad event could result in a very poor performance which would then only be compounded if HDD made significant losses on top which would limit its ability to respond well in future.
- Balance: ODIs should protect customers and shareholders. It notes that the plan is already skewed towards the downside as evidenced by the RoRE range (discussed in more detail below) of [+0.5%,-2.0%] which highlights that collars will only protect shareholders in the event of significant underperformance rather than moderate underperformance.

(HDD has not applied caps or collars to satisfactory sludge disposal because it has performed at a level of 100% since the start of AMP5 and therefore believes that it does not require any protections).

HDD has decided to apply deadbands for three measures:

- Compliance risk index (CRI): Ofwat has already determined that companies are allowed to introduce a deadband for CRI. HDD is proposing to set the deadband at a level of 4.0 points, which is wider (i.e. gives HDD more protection) than the level of 1.5 points proposed by Ofwat in the IAP. HDD has calculated the deadband as 0.5 standard deviations above the average level of performance of all companies in 2017/18. HDD argues that the deadband is justified for reputational reasons. It considers that companies being seen to receive underperformance payments for drinking water quality may damage trust in the company and discourage customers from using its water. It also notes that the DWI had also previously proposed that the measure should be reputational only.
- Treatment works compliance (TWC): As part of its IAP feedback, Ofwat advised that HDD could include an underperformance deadband set at 99%. HDD notes that due to rounding, a 99% compliance rate is not actually possible for HDD. One single failure in a year would amount to a rate of 97.9%. Therefore, HDD has added the deadband at 97.9%.
- Supply interruptions: HDD describes that it has unique features in its network which limits its ability to respond to interruptions (e.g. it has a relatively high of share of asbestos cement and PVC mains which are more likely to cause interruptions). It has submitted a separate technical appendix to support this view.

3.4.3 Step 3: Well-reasoned, consistent and objective valuations

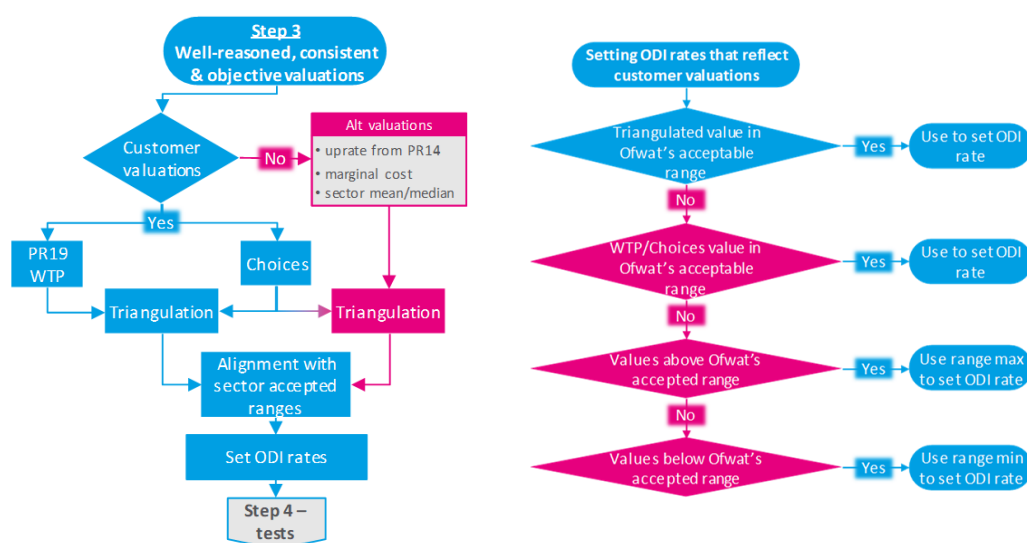
In this step, HDD describes how it has:

- carried out additional 'Choices' research to produce more estimates of customer valuations;

- carried out triangulation to weigh up the results of this new research and those from its existing research;
- set ODI rates in instances where it does not have customer valuations; and
- compared its rates to those from the rest of the industry, based on Ofwat's IAP ODI rate comparison set out in Technical appendix 1: Delivering outcomes for customers.

HDD has provided the following decision tree logic:

Figure 9 HDD's approach to setting ODI rates



Source: HDD 'Our revised package of outcome delivery incentives'

The comparison with the rest of the industry is an important step in the process. HDD recognises Ofwat's challenge that HDD must:

*"...explain why their proposed ODI rates differ from a range around the industry average and to demonstrate that this variation is consistent with customers' underlying preferences and priorities for service improvements."*⁶

One of Ofwat's main concerns with HDD's original plan was that HDD's rates were generally much lower than the rest of the industry. To address this point, HDD has compared its new rates (post-triangulation) with those in the rest of the industry as set out in Ofwat's comparison in the IAP.

It has argued that when comparing rates, it is important to use an appropriate normalisation method which ensures that the results are not distorted by company size: HDD is a very small company. It believes that the most appropriate normalisation is to compare rates on a 'per incident (or unit increment) per household' basis. It notes that this is in line with the actual customer experience: customers are unlikely to think about a number of incidents per 1,000 km of mains or the number of incidents per 10,000 connections, but rather on a per incident per

⁶ Ofwat's IAP feedback for HDD: <https://www.ofwat.gov.uk/wp-content/uploads/2019/01/Hafren-Dyfrdwy-Delivering-outcomes-for-customers-detailed-actions.pdf>

household basis. And this is also in line with Ofwat's approach for some measures, including CRI and external sewer flooding.

However, HDD has noted that for other measures, Ofwat has used different normalisation methods which significantly distort the results for smaller companies, such as HDD, by not fully controlling for company size. For example, Ofwat has compared ODI rates for internal sewer flooding across companies on 'per household per incident per 10,000 connections' basis. HDD has provided a worked example illustrating how this normalisation compares to using a 'per incident per household' normalisation instead. If HDD were to apply the mean ODI rate in the sample using Ofwat's normalisation, this would imply a rate which is 20 times greater per incident than if it were to use the mean ODI rate in the sample when normalised on a 'per incident per household' basis instead. HDD has argued that it is more appropriate to use the latter approach because it is more in line with how customers actually experience the issue. It has decided to normalise the ODI rates using the 'per incident per household' approach consistently across all measures.

In instances where it lies below the normalised lower bound, as defined by Ofwat, (e.g. lower quartile in some instances), it has applied the normalised lower bound rate instead, and in instances where it lies above the normalised upper bound, it has applied the normalised upper bound rate instead.

3.4.4 Step 4: Testing our package – a fair balance of risk & reward

In this section, HDD discusses the following areas:

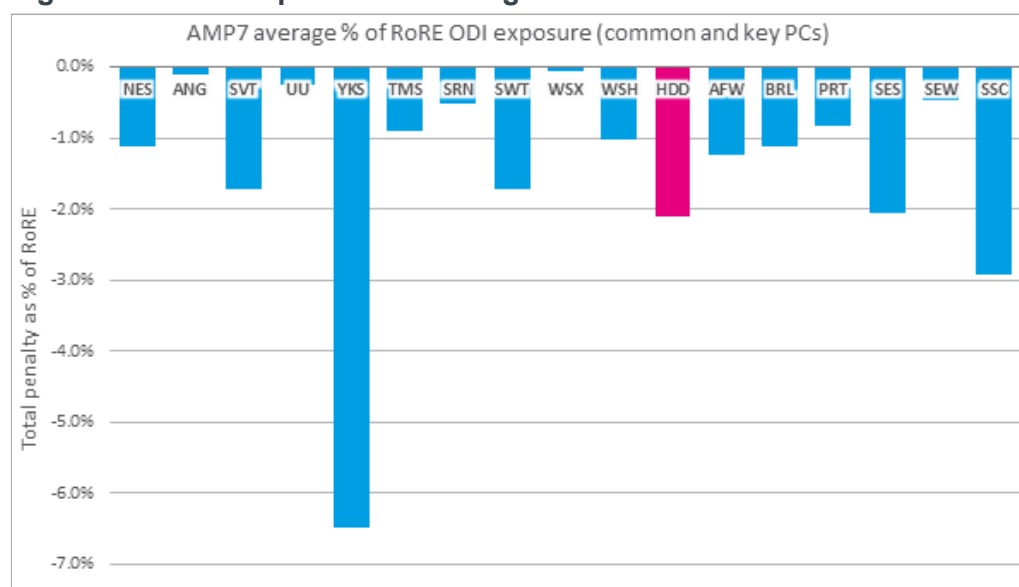
- The balance in ODI rates across its package – e.g. how the ODI rate for unplanned outage compares to that for drinking water compliance. This step recognises that ODIs for individual measures may have been produced in isolation and that they need to be coherent and consistent across the package. HDD notes that some measures are more important and more emotive to customers such that it is not unreasonable to expect the package to be skewed towards a small number of important measures.
- The RoRE range impact of its revised plan. It describes how the new plan results in a RoRE upside of +0.5% under the P90 scenario, and a RoRE downside of -2.0% under the P10 scenario. This is wider – especially on the downside – compared to the RoRE range in the original business plan, which was +0.4% to -0.4%.
- The role of asset health measures. Ofwat expects companies to be well-incentivised to improve performance on asset health measures. However, HDD recognises that because asset health measures may not have a direct customer-facing impact, the customer valuations for such measures may be relatively low such that the RoRE impact of the asset health measures may be low. HDD describes how it has reviewed the range of asset health ODI rates from across the industry to ensure its rates lie within Ofwat's acceptable range.
- A sense check of marginal cost versus marginal benefit estimates: HDD has carried out analysis comparing estimates of the marginal cost and the marginal benefit of a unit of improvement for a number of common measures. In all

instances, the results show that the marginal cost is greater than the marginal benefit. HDD argues that this adds additional protections to customers (in addition to those described in Step 6) because given its current cost estimates HDD will not seek to significantly outperform on some measures – i.e. the outperformance payment (half the marginal benefit) will not cover the incremental cost of the outperformance (half the marginal cost – factoring in the totex sharing ratio).

3.4.5 Step 5: Confirming the stretch of our package

In this section, HDD argues that its revised plan is stretching. To evidence this, it has estimated what the financial impact of its ODI package would be if it did not improve its performance for any measures and only maintained its 2017/18 level of performance in all years. (Or in instances where the measure is new, and historical data is not available, it has assumed that it would perform at its forecast P10 level of performance). It estimates that if this were to be the case, it would see a RoRE impact of -2.1%. It has illustrated that this is the third largest downside out of all companies in the industry.

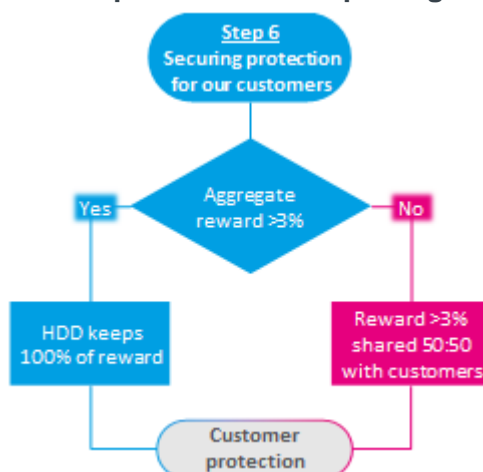
Figure 10 HDD's plan is stretching



Source: HDD 'Our revised package of outcome delivery incentives'

3.4.6 Step 6: Securing protection for our customers

Ofwat challenged companies to add protections to the package of ODIs to ensure that customers would not face a large increase in bills in the event of significant outperformance and for bills to not be unduly volatile. HDD has added the protection set out in Figure 11.

Figure 11 HDD has added protections to its package of ODIs

Source: HDD 'Our revised package of outcome delivery incentives'

In the event of significant outperformance – i.e. where HDD earns outperformance payments greater than 3 percentage points above RoRE – it will share 50% of this outperformance with customers. HDD notes that this approach is in line with best practice based on Ofwat's IAP responses for all companies. In addition, as described above, it has also added caps and collars to individual measures at the levels of P10 and P90 performance to ensure that there is an overall limit to bill volatility and also that HDD does not unduly focus on significantly outperforming on a very small number of measures.

3.4.7 Annex A

HDD has then provided details on its revised approach for each individual measure.

3.5 Our views

We believe that HDD's revised plan with respect to setting ODIs is a notable improvement upon its original plan and addresses a number of challenges raised by Ofwat.

- ODI type: HDD has followed a clear and objective process whereby for each measure it can point to customer research on whether or not customers support the use of financial ODIs. We note that the choices research and the focus groups were carried out post-IAP, which highlights HDD's desire to genuinely act upon and incorporate Ofwat's feedback to collect more research.
- In period ODIs: HDD has responded positively to Ofwat's feedback by making all financial ODIs in period (which was not the case before), with the exception of one ODI related to the WINEP. However, given that the WINEP has not yet been fully scoped and defined we consider this exception to not be unreasonable – and is in line with the approach taken by other companies.

- Caps and collars: HDD has decided to add caps and collars to all financial ODIs, with the levels set at P90 and P10 performance levels respectively⁷. It believes that this helps address Ofwat's feedback that there needs to be protections added in the event of significant outperformance – i.e. now it cannot unduly focus on significantly outperforming on a small number of measures. It also believes that this will set an overall limit on bill volatility. We note that the inclusion of collars may raise a concern about the strength of incentives to avoid the risk of serious underperformance. To offset this concern we note that the scale of ODI underperformance rates have been increased (see below). We also note the combination of reputational impacts and the range of additional steps that Ofwat can take in the event of serious underperformance will alleviate this concern. Overall, we consider this to be a not unreasonable attempt to address Ofwat's feedback on adding customer protections.
- Deadbands: HDD has added deadbands for three measures:
 - CRI: HDD has added a deadband which is wider (i.e. gives HDD more protection) than that proposed by Ofwat. It argues that this is reasonable for reputational reasons – i.e. it is concerned that customers may lose trust in the company and its water if HDD is seen to receive penalties for its water quality. It also notes that the DWI also supported the view that CRI should be reputational only. While the deadband is wider than that proposed by Ofwat, we consider HDD's rationale to not be unreasonable, especially if the DWI also supported the measure being reputational only.
 - Treatment works compliance: Ofwat proposed that HDD should set the underperformance deadband at 99%. However, HDD has noted that a rate of 99% is not actually possible for HDD because one single failure would imply a rate of 97.9%. HDD has therefore set the deadband at 97.9% instead. We consider this to be a reasonable and pragmatic response to a rounding / scaling issue which arises due to HDD being a small company.
 - Supply interruptions: HDD has produced a technical note arguing that it faces significant challenges in the region. For example, it has a relatively high share of asbestos cement and PVC mains which are more likely to result in interruptions. We note that reviewing the technical arguments was outside the scope of this particular project. However, we note that HDD has submitted some evidence to justify its position, which is reasonable.
- Customer research and triangulation: In response to Ofwat's feedback, HDD has carried out new customer research, and this has enabled it to carry out triangulation using its different sources of customer valuations. We consider this to be a notable improvement upon to its previous business plan – especially given the short turnaround time from the IAP to resubmission. (Please see section 2 for more details).
- Benchmarking rates against the rest of the industry:

⁷ HDD has not applied caps or collars to satisfactory sludge disposal because it has performed at a level of 100% since the start of AMP5 and therefore believes that it does not require any protections. We believe that this is appropriate.

- HDD has recognised that its original ODI rates were generally low compared to the rest of the industry.
- HDD has renormalised some of Ofwat's ODIs rates to better control for company size. It has normalised rates using a 'per incident per household' approach for all measures. We consider this approach to be appropriate. First, it results in an outcome whereby HDD's ODI rates do increase, which addresses one of Ofwat's key challenges that HDD's rates were too low, and it does so in a way which can still be linked to industry benchmarks, using an appropriate normalisation which expresses results on a meaningful basis. Also, we note that Ofwat has already used this approach for some other measures – including external sewer flooding – which suggests that it views this approach as being reasonable and fit for purpose for measures which are similar in nature.
- In instances where its updated ODI rates are still lower than Ofwat's lower bound, it has used Ofwat's larger lower bound estimate instead. We consider this to be a pragmatic approach because it has the effect of increasing HDD's RoRE range (in line with Ofwat's feedback) whilst still ensuring that its rates are in line with the rest of the industry.
- RoRE range:
 - A key change in HDD's revised plan is that the RoRE range has increased with a considerable increase to the downside risk:
 - RoRE range before: +0.4% to -0.4%
 - RoRE range after: +0.5% to -2.0%
 - This is an important change and goes some way to addressing one of Ofwat's main feedback points that HDD's RoRE range was too narrow.
- Asset health: HDD has ensured that asset health measures have a significant RoRE impact too by ensuring that its ODI rates are at least in line with the rest of the sector. We consider this to be a reasonable. And HDD has compared how the package of ODI rates are coherent across measures – e.g. the ODI rate for internal sewer flooding is the largest amongst the wastewater measures, which is reasonable considering that it is an emotive measure and a customer priority.
- Level of stretch: HDD has demonstrated that its plan is stretching because if it does not improve it will incur significant underperformance payments. If it only maintains performance at 2017/18 levels throughout AMP7, this will have a RoRE impact of -2.1%. Applying this same test to all companies, HDD estimates that this is the third largest impact out of all companies. We therefore consider the overall package to be stretching.
- Protections: HDD has now added protections for customers against significant outperformance. It has added a sharing ratio which is in line with best practice based on IAP feedback. We consider this to be a reasonable attempt to protect customers, and to be a notable improvement upon its original business plan. HDD has also carried out analysis to show that for key common measures, the marginal cost of a unit of outperformance exceeds the marginal benefit, and that for this reason it will not seek to significantly outperform. This is because

the outperformance payments (half the marginal benefit) will not cover the incremental cost of the outperformance (half the marginal cost – factoring in the totex sharing ratio). We consider this to be additional evidence that HDD has considered the level of protection that its plan gives to customers.

4 REVIEW OF HDD'S ACCEPTABILITY RESEARCH

4.1 Introduction

In this section we set out our review of HDD's acceptability research. This section is structured as follows:

- First, we summarise our understanding of Ofwat's expectations in this area – as set out in its Final Methodology statement;
- Second, we summarise the feedback that Ofwat gave HDD as part of its IAP;
- Third, we describe HDD's revised approach in this area; and
- Fourth, we provide our views on HDD's work.

We cover these points in turn

4.2 Ofwat's expectations in this area

Ofwat outlined three areas for assessing affordability in its Final Methodology⁸. This included overall affordability, affordability in the long term and affordability for those struggling to pay. One of the principles Ofwat expected companies to address in this area was whether bills are acceptable to customers. Companies were required to test customer views on a range of bill profiles, including how bills will look in the long-term, out to 2030. Companies were required to evidence how they had engaged with customers on this.

With regards to engagement, Ofwat also expected companies to educate customers on different outcomes and services so that customers were able to give an accurate view of their preferences and acceptability towards different ODIs.⁹ Companies needed to evidence this and show the overall customer acceptability.

4.3 Ofwat's IAP feedback

Acceptability research falls under the engaging customers test area. As mentioned previously, HDD received a grade C in this area. The company made effort to engage with a wide range of customers and sufficient evidence has been provided on some elements of HDD's approach. However, Ofwat raised concerns over HDD not repeating its acceptability research in both of its discrete geographic regions of operation and around the presentation of bill profiles.

⁸ Ofwat, 2017, *Delivering Water 2020: Our final methodology for the 2019 price review*, p.36

⁹ Ofwat, 2016, *Ofwat's customer engagement policy statement and expectations for PR19*, p.18.

4.4 Summary of HDD's updated approach

Acceptability research

HDD undertook the initial acceptability research in August 2018¹⁰. The research stepped through questions relating to acceptability and affordability, testing the responses with different levels of information about the business plan and the service improvements (i.e. moving from less to more informed).

In the course of finalising the Business Plan we understand that there were late changes to the average bill profile. As a result, HDD only had time to retest acceptability in Powys but not in Wrexham. HDD completed the retest in Wrexham in January 2019.

Social tariff research

For the social tariff research HDD commissioned a research report from DJS Research¹¹. The research study explored attitudes to social tariffs. Customers were asked whether they supported a social tariff scheme and the acceptability of different levels of cross-subsidy. The sample was split across Wrexham and Powys and in Powys between single service and dual service customers.

HDD also undertook a qualitative study of social tariff and debt management issues¹². This provided insights on attitudes to social tariffs and bad debt and the design of the existing support schemes.

4.5 Our views

We have reviewed the social tariff research and its application. For the acceptability research we were not asked to review the research design in detail but to consider the approach to combining the different strands of the research.

- HDD applied the different acceptability studies by calculating a company-wide position based on the weighted average results from the Wrexham study and the earlier Powys results. This is a reasonable approach to applying the results.
- The social tariff research undertaken by DJS Research reflects established market research practice and the specific guidance for social tariff research from the Welsh Government. The sample size was over 400, which is sufficient to generate representative results.
- The survey, together with the earlier Qa Research study, provides a comprehensive assessment of attitudes to social tariffs and generates a great deal of useful context and customer insight for HDD.
- The approach to assessing the acceptability of different levels of cross-subsidy is a fairly standard one. The challenge for all studies of this type is how to present the respondent with the factual information (e.g. number of customers

¹⁰ DJS research, *PR19 customer acceptability research*, August 2018

¹¹ DJS Research, *Social tariff cross-subsidy research*, June 2018.

¹² Qa Research, *Social tariff and debt management research*, February 2018

helped) while minimising the potential risk of framing the responses. The HDD provided a lot of relevant factual context and this was clearly presented.

- In our view any risk around framing of responses is mitigated by the way in which HDD interpreted the results. By focusing on cross-subsidy levels that had a high degree of acceptability, 83% for Wrexham and 82% for Powys, HDD have greatly reduced any risk arising from a proportion of respondents that may have been influenced by the specific way in which the cross-subsidy figures were presented.
- Overall, the social tariff research is comprehensive and reasonable and the interpretation of the results has been done with care.

5 OUR OVERALL CONCLUSIONS

As part of Ofwat's IAP, HDD was placed under significant scrutiny.

In Ofwat's view, one of the main areas where HDD fell short related to outcome delivery. Ofwat considered that HDD's proposed package of PCs & ODIs was not sufficiently stretching. HDD had also proposed outcome delivery incentive (ODI) rates that were low compared to other companies, and Ofwat was concerned that HDD would not be well-incentivised to improve performance.

HDD has since taken on board Ofwat's comments and produced an updated business plan. We have been commissioned by HDD to review its updated approach with respect to setting ODIs.

We note that HDD has made a genuine attempt to take on board Ofwat's feedback.

- HDD has carried out new customer research, and this has enabled it to carry out triangulation using its different sources of customer valuations. We consider this to be a notable improvement upon to its previous business plan.
- It has followed a clear and transparent process for revising its package of ODIs. This includes:
 - Supporting its proposed ODI type for each measure;
 - Making all ODIs in-period (with the exception of one measure related to the WINEP which we consider to be reasonable given the uncertainty around the WINEP);
 - Ensuring that its ODI rates for common measures are at least in line with the lower bound set out in Ofwat's ODI rate benchmarking. HDD has renormalised some of Ofwat's ODIs rates to better control for company size: it now compares rates on a 'per incident per household' approach for all measures. We consider this approach to be appropriate:
 - It is consistent with Ofwat's approach for some common measures;
 - It is more in line with how customers actually experience the issues; and
 - HDD has provided a worked example for internal sewer flooding which illustrates how Ofwat's normalisation results in rates which are significantly larger on a per household basis than the results under the 'per incident per household' approach.
 - Increasing its RoRE range from [+0.4%,-0.4%] to [+0.5%,-2.0%];
 - Adding an outperformance sharing mechanism and caps to individual measures to protect customers from significant outperformance.
 - Demonstrating the level of stretch of its new plan: if it does not improve upon 2017/18 performance levels it will incur significant outperformance payments equal to around 2.1% of RoRE.

As a result, we consider HDD's revised approach to be a notable improvement upon its original business plan submission and incorporates various changes that Ofwat wished to see included.

