

OUR RESPONSE TO
OFWAT'S DRAFT
DETERMINATION
ACTIONS
AUGUST 2019

Executive summary

Delivering outcomes for customers

In response to your intervention on our performance commitment to reduce frequent spilling overflows (non-WINEP), we have provided additional information on our use of sustainable urban drainage systems as a solution to frequent spilling overflows. We have responded to the sector wide action regarding the risk of severe restrictions in a drought, including confirmation that our performance commitment level is reflective of our water resources management plan position.

Targeted controls, markets and innovation

In this section, we have detailed our response to the sector wide and company specific actions in relation to the risk of severe flooding in a storm. We are using the latest catchment vulnerability parameters. We are not currently using 2D models but plan to develop these for a number of catchments in partnership with some Lead Local Flood Authorities. We plan to start using FEH13 rainfall from 2020.

Securing cost efficiency

In relation to the use of metaldehyde, we have provided the evidence to confirm DWI agreement with our submitted plans/revised undertakings as requested.

Aligning risk and return

The draft determination expects companies to provide further Board assurance that they will remain financeable on a notional and actual basis. And, that they can maintain the financial resilience of their actual structure, taking account of the reasonably foreseeable range of plausible outcomes in its final determination. The Board is not able to provide these assurances under either scenario, neither under the notional nor the actual capital structure.

As part of our representations we have explained how the draft determination does not give a true picture of the notional company financial ratios because it has not reflected the cuts in capex it has made into its financial model appropriately, nor has it reflected pension deficit payments appropriately. The company has sought assurance that the former will be corrected in the final determination in the event that there remains a difference in view on efficient totex.

Securing confidence and assurance

The draft determination requests further information on our dividend policy and performance related executive pay. Our updated dividend policy was approved by the Board and published in our 2019 annual accounts. The Board's view is that this is fully in line with the position statement contained in "putting the sector back in balance" and the new licence requirements on governance.

On performance related executive pay, our remuneration committee will meet in November 2019 to confirm further details of the proposed performance related pay package that will apply from April 2020. The targets will be agreed at its meeting in March 2020, subject to Board approval, and will have regard to any targets that are agreed as part of a final determination by that point.

Affordability

We provide long-term bill values that were submitted in our IAP response and again as a query response and request that this is used in the final determination assessment.

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1. Delivering outcomes for customers

1.1 Reduce frequent spilling overflows (non-WINEP)

Frequent spilling overflows (FSOs) are discussed in the following documents in our PR19 submission:

- Appendix 4 - Protecting and enhancing the environment - Response to IAP, April 2019
- Document 5.1 - Protecting and enhancing the environment, September 2018

1.1.1 Action WSX.OC.C1

Ofwat Intervention

We are intervening to specify in the definition of this performance commitment that the company should include how it is considering utilising sustainable urban drainage systems as a solution to frequent spilling overflows.

Response

For the non-WINEP FSO improvements, we will apply the same approach as for the WINEP FSO improvements, described in the Storm Overflow Assessment Framework (SOAF).

We look at all potential solutions in our optioneering for improving performance of overflows, including sustainable urban drainage systems (SuDS). SuDS are a way to reduce surface water and infiltration from entering our sewers, which can reduce the peak flows for smaller rainfall events associated with frequent spilling overflows. Reducing flow releases capacity to improve spill performance. SuDS can also provide additional benefits to customers and the environment, including improved water quality, biodiversity, aesthetics and amenity benefits.

Evidence showing that we do consider SuDS solutions for overflow improvements is described in our WINEP funded FSO programme described in Document 5.1, page 124. This describes two of the 13 FSO improvements in our WINEP programme which could potentially have SuDS applied to them, as an alternative to traditional solutions. At these two overflows, the costs of traditional and SuDS solutions were similar, but the additional benefits of SuDS may give it a higher cost benefit ratio. At the other 11 overflows, SuDS were either not feasible or were far less cost effective than traditional solutions.

We also consider SuDS solutions in our supply demand balance programme (see our IAP response Document Appendix 10), flooding programme (Document Appendix 10) and environmental programmes (see Document Appendix 4, section 6.3 Integrated urban drainage).

1.2 Risk of severe restrictions in a drought

1.2.1 Action WSX.OC.C16

Ofwat Action

This is a sector wide action.

- The company should provide a full set of intermediate calculations at a zonal level, underlying the risk calculation (for both baseline levels and performance commitment).
- The company should confirm that its performance commitment levels are reflective of its water resources management plan position. This should include the potential that it will have access to drought orders and permits.
- The company should confirm which programmes of work will impact its forecasts.
- The company should confirm which schemes will impact its forecasts

Response

Wessex Water operates within a single water resource zone therefore no intermediate calculations at a zonal level are required.

The performance commitment level is set at zero i.e. effectively no Wessex Water customers at risk of experiencing severe restrictions in a 1 in 200 year drought over 25 years. This is reflective of both our final published WRMP, in which we confirm positive actual headroom remaining over the planning horizon for a dry year planning scenario, and our security of supply index. We do not anticipate the need for any drought orders and permits over the period.

There are no current programmes of work or schemes that will impact our forecasts.

2. Targeted controls, markets and innovation

2.1 Risk of sewer flooding in a storm

2.1.1 Action WSX.OC.C17

Ofwat Intervention

We are intervening to set out that the company should confirm that it is:

- Using the updated parameters in the catchment vulnerability assessment (and setting out any additional criteria it intends to use);
- Reporting the extent to which they use 2D or simpler modelling; and
- Adopting FEH13 rainfall as standard and if not when it expects to do so

Can the company also provide any modelling assumptions, full reporting tables from the model and model coverage.

Response

Catchment vulnerability assessment parameters

We are using the latest catchment vulnerability parameters provided in the Ofwat definition (April 2019). The overall reported number is the sum of properties at risk in catchment vulnerability areas 3 to 5.

We have 'unknown asset data' in all catchments, for example s105a sewer locations. We note this only refers to unknown data for significant assets. However, even small pumping stations could be vulnerable so it could be argued that all catchments could be assigned to vulnerability grade 5, unless we have full asset and performance data.

Our model building prioritisation is based on known risks and vulnerabilities in the sewage treatment works (STW) catchments. We have sewer network models for our high risk and medium risk STW catchments.

For our 2019 vulnerability assessments, we:

- Assumed all modelled catchments (i.e. medium to high risk) have vulnerability grades 3 to 5
- Undertook a detailed manual vulnerability grading for sub-catchments using Option 1a for our 37 unmodelled treatment works catchments
- Assigned vulnerability 1 or 2 to all remaining catchments less than 2,000 pe.

Through our Drainage and Wastewater Management Plan (DWMP) process, we will be reviewing each catchment over the next few years, to give a more detailed breakdown of vulnerability grades.

Use of FEH13 rainfall

We are not currently using FEH13 rainfall. The FEH13 rainfall generator has not been widely used because it is difficult to use at a sewage treatment works catchment scale. This requires repetitive requests for data points, using many differing variables across the catchment, and then using spreadsheets to manually average the overall rainfall that should

be applied to the catchment. We are in negotiation with the provider to allow simpler exporting, similar to the currently used version of FEH (Flood Estimation Handbook).

We are assuming that the rainfall intensity and depth will not be significantly different between the current FEH and FEH13 in the majority of catchments. We aim to use FEH13 from 2020 where we maintain our network computer models. By 2022, we will be able re-simulate all models using FEH13.

We are in discussion with the Met Office regarding UKCP18 climate change implications. The UKCP18 climate projections can provide climate change information at a much higher resolution. This could enable assessment of changes in small-scale weather events (e.g. summer storms) in a future climate.

Modelling assumptions

We are using the Option 1b method for catchments where we have fit for purpose 1D InfoWorks hydraulic computer models. We are using Option 1a for unmodelled catchments that are greater than 2,000 population. We are not currently using 2D models for this metric (we have very few 2D models) but we plan to develop 2D models (in partnership with some Lead Local Flood Authorities) for a number of catchments over the next few years.

Dynamic computer hydraulic models of collection systems (e.g. InfoWorks ICM CS) are the best tools available for sewerage planning. They are complex and cost a significant amount of investment to build, verify and maintain.

Model predictions and the input rainfall intensities/durations is not a precise science and may not be accurate, especially when extrapolating to 1 in 10 years, and especially stretching the model's extrapolation to simulate 1 in 50 year storms. For example, in modelled simulations, all the rainfall runoff from modelled surfaces are assumed to enter the sewer system which is likely in the low return period event that are observed during short term rainfall verification events. However, during intense rainfall, in reality, the road gullies and roof gutters will not have the capacity to convey all the flow, so the sewer would in practice not receive all the flow. The exceedance will form a river in the road or valley and flow overland.

We have a Modelling Design Standard (DS520) which sets the standard that our models are built to. This aligns with the principals and expands on the industry Hydraulic Modelling Code of Practice by CIWEM (WaPUG).

Building even more complicated models (e.g. 2-dimensional models) relies on Lidar data (topographical data) to convey runoff and overland flow from the source to the likely exceedance flow path. However, even these are not accurate, unless road kerbs and garden wall etc are manually added into the model.

These 2D models can replicate the interaction and capacity of road gullies. Wessex Water has only modelled to this level of detail in one sub-model of Weston-Super-Mare. Wessex Water has drafted a specification for 2D modelling, but there is not a nationally agreed specification, potentially leading to some inconsistencies.

Full reporting tables from the model

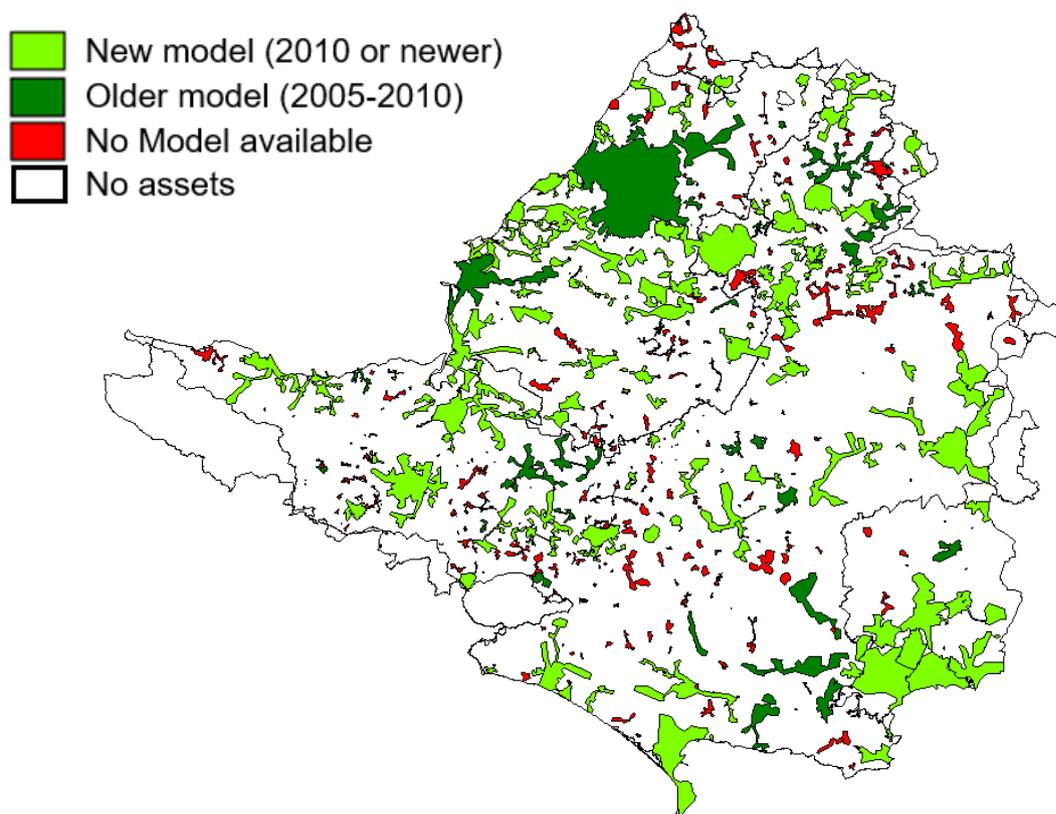
We assume this request means the population at risk table results. These are provided in Tables 2 and 3 below.

Actual model results are very complicated and we do not believe that Ofwat would want this level of detail. Full reporting details from our models would require a hard drive to forward the vast amount of data. Our *summary* geospatial database of the modelling Return Period Analysis results is also over 500 Mb in size. We are not proposing to provide these.

Model coverage

Figure 1 shows our sewer network model coverage. Some older models only contain foul and combined sewers (i.e. may exclude small surface water sewer networks).

Figure 1 Computer hydraulic model coverage of the sewer network



We have used our existing model stock to predict the current population at risk using the methodology.

Over the next few years, we will upgrade models to include a more complete representation of the public surface water assets. Levels of verification of surface water sewers varied. Where we have known problems, they will be verified against a short term flow survey, but generally they will not be verified for flow.

We will also begin to develop integrated catchments models by introducing Lidar data to convert the 1D models into 2D models for 3 catchments, as proposed in our business plan (IAP response Appendix 7).

Option 1b (modelled results)

Where we have a fit for purpose model, we have applied the Option 1b methodology. This applies a buffer circle radius, provided in Table 1, around manholes predicted to flood during a 1 in 50 year storm (maximum volume from various duration event) and count the number of addresses within the buffer zone. These properties are deemed at risk.

Table 1 Flooding buffer zones

Predicted Flood volume, V (m ³)	Buffer radius (m)
0 or negative	n/a
0 < V < 25	15
25.0 < V < 100	30
V > 100.0	50

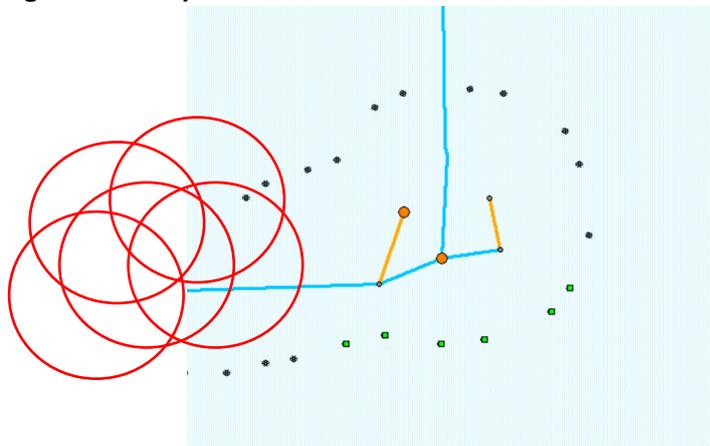
Figure 2 and Figure 3 illustrate an example of the model predictions and the address points highlighted to be at risk (green) and those not at risk (grey).

Figure 2 Properties highlighted to be at risk, near predicted flooded manholes



Properties at risk are the green squares, clustered around manholes predicted to flood.

Figure 3 Example buffer zones shown around flooded manholes



Where several address points have exactly the same coordinates, it is likely that these are flats. Some of these address points have been excluded, as they are not at risk of flooding.

For two catchments, (Wareham and Weston-Super-Mare) we have older quality models. They are considered fit for purpose for identifying flooding from public sewers but contain more simplification than newer models, so contain less modelled manholes than our current design standard. For these two catchments we have also calculated the population at risk using Option 1a and used the average result from Option 1a and Option 1b.

Option 1a (manual /expert judgement)

For 2018-19 we applied Option 1a for a total of 37 unmodelled catchments. The process we used was:

- Print a plan of the STW catchment with all known flooding related information
- Manually draw sub-catchments around the flooding areas with approximate minimum size of 2000 pe as per methodology.
- Summarise results in a spreadsheet

Calculation results

The population at risk assessed using Option 1b (high and medium vulnerability) only catchments is currently 9.45%.

The population at risk assessed using Option 1a only (high and medium vulnerability) catchments is currently 60.23%.

The overall population at risk (high and medium), using Option 1a and Option 1b is **14.93%**. This is our current reportable number. It excludes catchments less than 2000 pe, unless there is a known modelled problem.

We have applied a low confidence grade because we assume that if we had models for all catchments, then overall the number would be closer to 9%.

Table 2 Metric coverage

Total pe served	Total pe in excluded catchments	Percentage of total pe in excluded catchments	Total pe Option 1a	Percentage of total pe Option 1a	Total pe Option 1b	Percentage of total pe Option 1b
2,747,835	55,147	2%	329,367	12%	2,418,468	88%

Table 3 Summary reporting table

Vulnerability risk grade	Percentage of total population served
L (1 or 2)	85.068
M (3 or 4)	14.932
H (5)	

Our target profile starts at 14.93% in 2019 reducing to 8.37% by March 2025. The 8.37% is a stretching target. We expect the reduction to be delivered through better information as we improve our computer modelling stock and remove the need to apply Option 1a.

3. Securing cost efficiency

3.1 Metaldehyde

3.1.1 Action WSX.CE.A2

Ofwat Action

Company to provide evidence to confirm DWI agreement with its submitted plans/revised undertakings and that no metaldehyde specific treatment or product substitution costs are included in the requested allowance.

Response

On 1 April 2019 we responded to IAP Action reference WSX.CE.A2 confirming that there was no impact on our investment plan due to the metaldehyde ban, and therefore we have not made any adjustments to our business plan.

Regarding the latest action:

- 1) **DWI agreement.** We do not have any new plans or undertakings with the DWI related to metaldehyde. As described in *Supporting document 5.3 - Providing excellent drinking water quality* and in *Appendix 6 - Providing excellent drinking water quality: response to IAP* we propose to continue our catchment management work to mitigate the risk of pesticides (including metaldehyde) in the raw water to our treatment works. Nevertheless, we have written to the DWI asking them to confirm their agreement with our approach; we await their reply.
- 2) **Cost of specific treatment or product substitution costs.** We have not included any costs in our plan for specific treatment to remove metaldehyde.
- 3) **Product substitution.** Regarding product substitution we subsidise farmers in our Durleigh, Ashford and Sutton Bingham catchments to use alternative products that do not include metaldehyde (such as SluXX). We pay 80% of the cost of the alternative product. Records of the quantities of product and costs show that the quantities used each year are quite variable. The average cost annual cost of produced over nine years of records in £4,055 per year. Thus, the cost to Wessex Water over a five year period is £16,220. We did not adjust our proposed costs for such a small amount.

In any case there are recent developments that could increase the risk rather than reduce it. On 30 July it was announced that a judicial review had overturned the ban on metaldehyde, and that metaldehyde was back on the market (see link below). We understand that Defra will review the decision. Therefore, pending clarity of the ban of metaldehyde it is essential that the activities required to protect drinking water from pesticide contamination, including metaldehyde, continue. For these reasons we have not made any changes to our plans regarding metaldehyde.

<https://deframedia.blog.gov.uk/2019/08/01/plastic-bags-sales-down-by-90-following-government-5p-charge-decision-on-metaldehyde-and-rpa-payments/>

4. Aligning risk and return

4.1 Board assurance on financeability

The draft determination expects companies to provide further Board assurance that they will remain financeable on a notional and actual basis. And, that they can maintain the financial resilience of their actual structure, taking account of the reasonably foreseeable range of plausible outcomes in its final determination, including evidence of further downward pressure on the cost of capital in very recent market data as Ofwat discusses in the 'Cost of capital technical appendix'.

The Board is not able to provide these assurances under either scenario for either the notional or our actual capital structure.

A key factor in any assurance would be an understanding of the financial ratios. As part of our representations (see summary representations, section 1) we have explained how Ofwat's draft determination does not give a true picture of the notional company financial ratios because it has not reflected the cuts in capex it has made into its financial model appropriately, nor has it reflected pension deficit payments appropriately. The company has sought assurance that the former will be corrected in the final determination in the event that there remains a difference in view on efficient totex but while Ofwat has indicated it is open to representations no such assurance has been received. Representations

The Board is fully aware of the company's licence duties and obligations, both those that exist now and those proposed. As a responsible Board it is considering all the options it has available to it to secure financial resilience and is making all appropriate preparations, including the making of the representations set-out in this response, which if accepted will allow the Board to make such an assurance.

Amending the balance of economic assumptions in a final determination could improve financial resilience while also allowing sufficient returns. We provide examples with evidence throughout our representation submission.

Two changes though simply to the timings of cashflow would help restore financial resilience and therefore benefit all stakeholders:

- Firstly, to return to calculating our PAYG rates on the "natural" rate derived from the assessment of costs, as referred to above.
- Secondly, to reinstate the cashflow mechanism from Ofwat's methodology that lessens the short-term financial impact of a difference in views on costs.

We show as an example how these two items would improve interest covers compared to the draft determination in section 1 of our summary representations document.

In process terms, to facilitate long-term financial resilience, our Board should:

- have clear sight of Ofwat's policies and expectations so that cost differences between the company and Ofwat should be expected to reduce over time as additional evidence and representations are made
- be able to expect that the revenue building blocks are calculated correctly

- be able to expect that cash flow mitigations signalled clearly in Ofwat's methodology would be applied.

For the reasons already identified, the PR19 process has not met these expectations and we wrote to Ofwat on 1 August to make this clear.

Further to this we set out in section 1 of our representations summary document and separately provide a report from Frontier Economics that confirms that Ofwat's illustrative view of the cost of capital is not a credible outcome of the final determination.

4.2 S&P FFO/Debt

The determination expects the company to provide evidence to support the to support the Board's assurance that the company is financeable in relation to its actual company structure and should set out the steps to be undertaken to address the weak FFO/Debt ratio relative to the target credit rating of BBB+ for S&P, taking account of our draft determination.

The company business plan targets BAA1 at Moody's and BBB+ at Fitch ratings and does not make a target statement about S&P.

Nevertheless, the Board is fully aware of the company's licence duties and obligations, both those that exist now and those proposed. As a responsible Board it is considering all the options it has available to it to secure financial resilience and is making all appropriate preparations, including the making of the representations set-out in this response.

4.3 The link between the RORE analysis and the risk management procedures

Our Annual Review document sets out in detail our risks management process and governance.

At a functional level the Risk and Investment team maintains the company risk register, monitors performance and future risks to that performance and approves mitigation measures, including where necessary additional investment. The corporate risk register includes specifically the financial impact of risks pre and post mitigation.

The Risk and Investment team also takes a leading role in the development of future PC targets and the quantification of investment plans to deliver them through the development of the company business plan.

Analysis of financial resilience, including financial viability, is undertaken using the outputs from the company risk register and incorporates additional wider macro-economic factors such as inflation, cost of debt, productivity and input prices.

The company RORE analysis for PR19 is integrated into and consistent with the financial viability analysis and therefore takes full account of current and foreseeable risks and their mitigation.

Whereas the risk-register and financial resilience analysis focus on downside risks and their mitigation the RORE analysis incorporates potential upsides and opportunities.

5. Securing confidence and assurance

5.1 Dividend policy and executive pay

The draft determination has made some additional requests for further information on dividend policy and performance related executive pay. Our updated dividend policy was approved by the Board and was published in our 2019 annual accounts in July. The Board's view is that this is fully in line with the position statement contained in "putting the sector back in balance" and the new licence requirements on governance.

On performance related executive pay, our remuneration committee will meet in November to confirm further details of the proposed performance related pay package that will apply from April 2020. The targets themselves will be agreed at its meeting in March 2020 and annually thereafter, subject to Board approval, and will have regard to any targets that are agreed as part of a final determination by that point and to performance of relevant comparator companies.

We recognise your request for more detail in each of these areas and the Board is open to this being an area of ongoing dialogue.

The above statement has also been made in our covering letter to Rachel Fletcher.

We can confirm that the company will continue to report executive pay in its annual review documents, which include the annual performance report, about further updates to the development of the executive pay policy that will apply in 2020-25.

6. Affordability

6.1 Long-term bills

On page 59 of the draft determination, our average bill for 2025-30 is reported as £471 and a concern is raised about this being the largest bill increase of any company, with a request that think carefully about customer protection in the long-term.

We note that in our response to the IAP, we explained that our long-term bills expected in our business plan were set using our own internal model because...

“it was some time through the PR19 process before we could be confident that the published model was robust.

The approach we had taken for our forecasts post 2025 in our plan is therefore in line with customers' general preferences around bill profiles that we have undertaken as part of PR19 and in previous price reviews.

We have updated the Ofwat financial model and our smoothed bill profile shares the same characteristics as that in our own model”.

As a result, the value we would like Ofwat to use for the period 2025-30 is £456 (in 18/19 prices), which is consistent with the value from our internal model.

The level of uncertainty in our assumptions post 2025 means that there is a wide range of credible outcomes for bills between 2025 and 2030.

While we must be, and are, mindful of the long-term potential for bill changes, it does remain the case that this is a five-year price control. We have clearly set out our plans in the context of long-run bills, however we are not seeking customer support now for additional investments required post 2025 given the level of uncertainty that this entails and as explained there are no major investments planned that will have impacts across price controls. We believe that this also limits the benefit customers would achieve from further engagement now.

We engaged on this issue at an early stage with the Wessex Water Partnership (WWP) which acts as our Customer Challenge Group. The WWP agreed with us that more research in this area was not in customers' interests given the other items of research that the company planned to undertake over the same period.