



Protecting consumers, promoting
value and safeguarding the future

Centre City Tower
7 Hill Street
Birmingham
B5 4UA

Dawn Instone
Department of Environment, Food and Rural Affairs
Water Supply and Regulation Division Area 2C
Ergon House
Horseferry Road
London
SW1P 2AL

27 August 2008

Dear Dawn

THAMES WATER UTILITIES LIMITED DRAFT WATER RESOURCES MANAGEMENT PLAN (DWRMP) FEEDBACK

Thames Water published its draft Water Resources Management Plan (DWRMP) in May 2008. This letter summarises our preliminary views, while the attached annex provides more information.

We will explore these issues in more detail over the coming months, both with the company and with other stakeholders, including the Environment Agency. We will look closely at the links between Thames Water's DWRMP and its draft business plan for the period 2010-11 to 2014-15, which it submitted to Ofwat in August 2008. We have summarised our preliminary views below. The information that the company has provided in its draft business plan may help to address some of the issues we have identified below. Where this applies, we would expect the company to incorporate such information in its final plan.

- We cannot determine whether Thames Water's proposed plan represents the best value strategy. The company has assumed programmes of compulsory metering, water efficiency and active leakage control in all of its water resource zones without considering the costs or benefits of these activities and despite the fact that there is no supply demand deficit in four of these zones. We expect the company to select an optimal mix of options taking account of all associated costs and benefits, rather than pre-selecting certain options driven by particular targets or criteria.

.../...

- In its London water resource zone, Thames Water has fixed its Victorian mains replacement programme in order to reduce leakage beyond its assessment of the economic level to what it calls the sustainable level of leakage, which takes account of customers' willingness to pay for lower levels of leakage. As we explained in *Setting price limits for 2010-15: Framework and approach*, the economic level of leakage should itself take account of customers' willingness to pay. But companies need to be able to provide robust evidence to support their assessment of customers' willingness to pay, and there is insufficient detail on this in Thames Water's DWRMP to support its proposed level of leakage. The company should provide evidence that its customers are willing to pay to reduce leakage even when leakage reduction is more expensive than other measures to balance supply and demand. The company must make sure that its customers understand that this will make their bills permanently higher than they need to be. If the company cannot provide this evidence, it should revise its leakage targets and associated plans accordingly.
- A significant driver of investment in the DWRMP is a reduction in the deployable output of the London and Swindon & Oxfordshire water resource zones. This has arisen as a result of the conclusion of one aspect of a review of the Lower Thames Operating Agreement (LTOA), which determines how much water the company can abstract from the lower River Thames. However, there are other aspects of the review of the LTOA that may result in an offsetting increase in deployable output. These other issues might not be resolved until after we have set price limits in 2009. On that basis, we think that it would be premature to commit to this investment until all material aspects of the review of the LTOA are satisfactorily resolved.
- Another significant driver of investment in Thames Water's plan is its assumptions on climate change. We think that the company should carry out further work into the impact of climate change to test the preliminary conclusions set out in its plan. The company will need to be able to provide robust supporting evidence if it wishes to stand by its proposed investments throughout the planning period, and especially investment in the medium term which includes development of a reservoir in the upper Thames.

.../...

Dawn Instone
27 August 2008
Page 3

I am copying this letter to Jon Bateman, the reporter for Thames Water, for his information.

Yours sincerely

Paul Hope
Enc

Annex 1

Detailed findings of Ofwat's review of Thames Water's Draft Water Resources Management Plan

1. Water supply

A review of the demand savings assumed in the Lower Thames Operating Agreement (LTOA) has resulted in a reduction to deployable output of 117 MI/d in the Thames water resource zone, and 28 MI/d in the Swindon and Oxford water resource zone under dry year conditions, and a reduction of 10.5 MI/d in the Swindon and Oxford water resource zone under critical period conditions. While the Environment Agency has validated these impacts, it believes that a review of the related Lower Thames Control Diagram might result in an increase in deployable output.

We asked the company's reporter, Halcrow Management Sciences Limited, to carry out an independent review of the DWRMP. It noted that any review of the LTOA should also consider the ecological impact of abstractions from the Lower Thames. Thames Water states that there is no obvious evidence of detrimental impacts from these water abstractions downstream in the upper reaches of the Thames tideway, and that this may indicate that the Environment Agency could reduce target flows over Teddington Weir. This could mitigate the deployable output loss associated with the change in demand saving assumptions.

The Thames Tideway Tunnel will improve the quality of water below Teddington Weir. This should increase the scope for the Environment Agency to reduce target flows over Teddington Weir because pollutant concentration at reduced flows will be lower and less harmful than previously assumed.

Assessing the ecological impacts of abstractions, linked to the Teddington target flows, will take time. We note that the company's position is that the question of target flows over Teddington Weir needs to be agreed as part of the LTOA re-negotiation. To this end, it commissioned W S Atkins to carry out a scoping study for investigations into the ecological impacts of the Lower Thames abstractions. We support Thames Water's plan to conduct these investigations, which the company expects to conclude after Ofwat's 2009 review of price limits.

In conclusion, there are a number of aspects of the review of the LTOA that will not be resolved until early in AMP5. One element of this review – regarding the impact of revised demand savings – has already reached a conclusion, and generates a significant decrease in deployable output. This is a major driver of investment in the London and Swindon & Oxford water resource zones in the company's DWRMP. But it would be premature to commit to this investment when other elements of the review are likely to generate at least some offsetting increase in deployable output, deferring the need for at least some of the investment. We expect the company to resolve these issues with the Environment Agency as soon as possible.

Thames Water has chosen an outage allowance that equates to a 5% chance that the outage assumed is too low. We believe that Thames Water should consider assuming the outage associated with greater levels of risk, say 10%, in line with the rest of the industry. This would reduce the supply demand imbalance, and potentially defer some of the investment required during the AMP5 period, while exposing Thames Water's customers to levels of risk that are more typical of the industry. If Thames Water is to maintain its apparently risk averse approach, then it must demonstrate that its customers are willing to pay for such high levels of certainty.

Thames Water's bulk export assumptions in the DWRMP are inconsistent with Essex and Suffolk Water's bulk import assumptions. In its DWRMP, Essex and Suffolk Water plans for a raw water transfer of 20 MI/d from Thames Water's London water resource zone from 2026/27, but this is not reflected in Thames Water's plan. The company should ensure consistency in its bulk transfer assumptions in its final plan.

2. Demand

For its final plan, Thames Water should take account of the latest housing forecasts contained in the South East, London and East of England regional spatial strategies. As far as possible, we also expect all companies to take into account the likely effect of the credit crunch on housing development in the short to medium term.

There is an unexplained trend discrepancy in the household garden water use stated in the company's WRP7 tables. In the tables, Thames Water shows that there is a very big increase in garden use by metered customers between 2006-07 and 2034-35. This is in stark contrast to the modest increases in garden use by unmetered customers. For example, in the Swindon & Oxford water resource zone, unmetered garden use rises by 8% between 2006-07 and 2034-35, while metered garden use rises by 208%. The company has not explained this increase or considered ways to stop it, given that it is a driver of investment. We expect the company to address this in its final plan.

The company's reporter notes that Thames Water has updated its model for the rate of increase of per capita consumption (PCC), but that the company had chosen not to include all information from its customer survey in its PCC updates. We support the reporter's recommendation that the company uses the latest data available, with the exception of outdoor use, in the final plan.

PCCs reported in table WRP6 for meter optants and new properties are significantly greater than those reported in the company's 2006 water resource management plan update. The company should explain this in its final plan, and consider ways of mitigating the increase, for example by using innovative tariffs.

We expect the company to demonstrate in its final plan what account it has taken of the effects of rising prices on demand. Whilst traditionally demand for water has been unresponsive to price changes, the rising price of water and increased awareness of its scarcity could challenge this assumption.

3. Climate Change

We think that Thames Water has generally followed the guidance on assessing the impact of climate change and has set out its findings in a transparent way.

Climate change is a significant driver of investment throughout the planning period in the London Water resource zone. It reduces deployable output at a rate of 5 MI/d per annum from 2007-08 onwards and represents more than 50% of target headroom by 2021.

The Water resource planning guideline states that:

The analysis described here will not be sufficient to justify significant expenditure. However, for zones where it is identified that the impact of climate change may be a significant driver for investment in the next 10 years, companies should provide sufficient information to allow the scoping of such action to begin. Options in these zones are:

- *to decide to carry out further investigations between 2010 and 2015;*
- *to decide to carry out further investigations after 2015.*

If this climate change analysis indicates that companies should start work on implementing new options before 2015, they will be expected to finish investigations as early as possible. The nature of such investigations will depend on the scale and type of problem but they could include:

- *developing resource zone models where existing models are weak;*
- *carrying out further work to understand source outputs and the risks associated with climate change;*
- *more detailed hydrological modelling using the UKCIP work;*
- *further modelling using results from other global circulation models (GCMs).*

The effort and cost involved in using other GCMs could be significant, and it will be necessary to consider this when scoping further work.

We therefore expect that the company should carry out further work into the impact of climate change to support the preliminary conclusions set out in its DWRMP and to justify its proposed investments throughout the planning period and especially investment in the medium term, which includes development of a reservoir in the upper Thames.

Halcrow Management Sciences Limited supports our conclusion. Its report states that:

the relationship between climate change and its actual impact on deployable output cannot be determined with a very high degree of certainty using existing methods and related regulatory Guidance. This is because existing methods and Guidance documents lack methods of evaluation of climate change impact assessments at a source or water resource zone scale that can be used to evaluate current estimates of climate change impacts on deployable output and water demand for water resource planning purposes.

Given that the EA Guidelines are only appropriate for strategic-level assessments of the potential implications of climate change and that the EA had identified through its Guidance documents that detailed assessments are necessary to support specific and significant investment decisions, we consider that full resolution of the company's questions on the treatment of the impact of climate change cannot be achieved until further work is carried out to evaluate its current approach. We suggest that the Company considers the need for the evaluation of its current approach, when finalising its WRMP proposals in 2009.

4. Target Headroom

4.1 Thames Water has chosen a target headroom allowance that equates to an estimated 5% chance that the target headroom will prove to be too low. We think that the company should consider assuming the target headroom associated with greater levels of risk, say 10%, which would be in line with the rest of the industry. This would reduce the supply demand imbalance, and potentially defer some of the investment required during the AMP5 period, while exposing Thames Water's customers to levels of risk relating to target headroom that are more typical in the industry. Again, if Thames Water is to maintain its apparently risk averse approach, then it must demonstrate that its customers are willing to pay for such high levels of certainty.

4.2 Climate change represents a significant element of target headroom, for example forming more than 50% of the allowance in the London water resource zone in 2020-21. In addition, the company's reporter states that:

'There is a significant increase in the contribution of climate change uncertainty to the magnitude of the dWRMP08 target headroom allowance, when compared with the climate change uncertainty contribution to the WRP06 target headroom allowance.'

We expect the company to carry out further studies into the impact of climate change in order to resolve, as far as possible, the uncertainties captured within its target headroom allowance that drive investment throughout the planning period in the London water resource zone.

- 4.3 The company has not included an allowance for the uncertainty of the output of the Abingdon reservoir within its target headroom calculation. The company should include all appropriate uncertainties in the target headroom allowance in its final plan.
- 4.4 Thames Water has included an allowance for the uncertainty of two time-limited licences in London (Bexley and Deptford) in its target headroom calculation. This is contrary to guidance and the company should remove them from its final plan.

5. Options appraisal

Thames Water's Strategic Direction Statement outlined a strategy to:

- meter 50% of its household customers by 2015, increasing to 80% by 2020;
- reduce leakage to its long term economic level by 2015 aligning with the industry average by 2020; and
- to increase its work on water efficiency.

To reflect this strategy, the company has fixed its metering and water efficiency programmes, together with elements of its active leakage control programme, across all its water resource zones.

As a result of aligning the DWRMP closely with its strategic direction statement, the company has included programmes of metering and water efficiency in water resource zones that have no baseline supply demand deficit. While it is for the company to determine its overall strategic direction, it must be able to demonstrate that it has adopted a best value approach to balancing supply and demand, as part of an overall plan to deliver best value for consumers. If the company wishes to justify these enhanced metering and water efficiency programmes for reasons other than for balancing supply and demand, then it must provide compelling evidence that the benefits outweigh the costs, and that there is broad customer willingness to pay for them. If it cannot provide this evidence, then it should withdraw these programmes from its plan.

In the two water resource zones with supply demand deficits, London and Swindon & Oxford, the company has also fixed its metering and water efficiency programmes. The company should fully articulate why it considers its investment plan to be the optimum planning solution within the final WRMP and should include detail of how willingness to pay analysis has informed this decision. If the company considers that there is customer support for metering and water efficiency, it should provide robust willingness to pay survey evidence to support this, and incorporate it into its economic analysis to determine the appropriate level of activity. The company should also ensure that its customers understand the permanent effect that investment in such measures will have on their bills.

In the London water resource zone, Thames Water has fixed its Victorian mains replacement programme in order to reduce leakage beyond its assessment of the economic level to what it calls the sustainable level of leakage, which takes account

of customers' willingness to pay for lower levels of leakage. As we explained in *Setting price limits for 2010-15: Framework and approach*, the economic level of leakage should itself take account of customers' willingness to pay. But companies need to be able to provide robust evidence to support their assessment of customers' willingness to pay, and there is insufficient detail on this in Thames Water's DWRMP to support its proposed level of leakage. The company should provide evidence that its customers are willing to pay to reduce leakage even when leakage reduction is more expensive than other measures to balance supply and demand. The company must make sure that its customers understand that this will make their bills permanently higher than they need to be. If the company cannot provide this evidence, it should revise its leakage targets accordingly.

We note that the company has rejected a number of programmes of investment based on their carbon costs relative to the carbon costs of other programmes, even though the total cost (including capital, operating, environmental, social and carbon costs) of the rejected programme was lower than the preferred programmes. This leads to an inefficient solution. The company has not justified why it has given greater weight to carbon costs than to other costs, although it has stated that 'the final planning solution is a balance between cost and impact'.

In its final plan, we expect the company to adopt the most cost beneficial set of interventions. If it does not, the company should set out clearly the basis on which it believes that an alternative less cost beneficial plan is justified.

The company's reporter has noted that there is a variance in the accuracy of some schemes' operating and capital costs of +/- 50 to 100%, whilst for others the variance is -10 to +30%. We expect the company to reduce the excessive cost variance of some schemes for its final plan.

The DWRMP includes the Abingdon Reservoir scheme from 2020. However, the company has not provided sufficient detail on the costs of other schemes, such as the Severn Thames transfer scheme, to enable direct comparison. The DWRMP shows that the Severn Thames transfer scheme is less cost effective than the Abingdon Reservoir scheme. But the company's reporter notes that the company's knowledge of the Severn Thames transfer scheme is far less than that of the reservoir scheme. We accept that Thames Water will have a fuller understanding of the costs of the Abingdon Reservoir scheme, and we are not proposing significant expenditure on investigative work into other options. But we are not persuaded that the company has reviewed other options as fully as it could have done.

Where companies' investment plans are driven by factors that are subject to a high degree of uncertainty – including the effects of climate change and future trends in PCC – it is prudent to consider options that offer a more flexible response to changes in the supply/demand balance. Committing to large scale schemes with sunk costs might result in significant over-capacity, at

customers' expense. Thames Water should take into account the value of flexibility when comparing options to balance supply and demand. It is not clear whether the company has done this in its draft plan.

The company's reporter has also noted that the Abingdon reservoir option has not taken account of any potential changes to the LTOA. Thames Water had assumed that this will not have a large impact on the deployable output for the scheme. While any changes are unlikely to affect the abstractions from the river it is likely that the probable changes to the minimum flows required at Teddington through the ongoing LTOA review will affect the releases that the company needs to make to meet demands in the London water resource zone. Thames Water should consider the impact of these changes on the development of this scheme.

We expect Thames Water to take account of the Water Resources in the South East Group's work to determine an optimal regional solution. We recognise that this work was not sufficiently developed in time to be included in the DWRMP, but we expect the company to take account of it in its final plan.

Ofwat
August 2008