

# Representations: Strategic regional water resource solutions

## Document Reference: J007

This document is United Utilities representation on the strategic water resources elements of the slow track draft determinations.

In this document we focus on areas of specific concern to United Utilities.

**United Utilities Water Limited**



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## Executive summary

United Utilities provided Ofwat with a draft version of this document on 8th August 2019. The only material change to the draft document in this version is that this response is aligned to the All Company Working Group Response on the query about the gateway process. Following recent meetings and communications we are aware that gate timings and deliverables are still a work in progress and we are committed to working with Ofwat to ensure we have the required clarity and a satisfactory outcome on this matter by the final determination.

Ofwat has made a number of changes in the slow-track draft determinations compared to the IAP and the companies' responses. In aggregate these changes comprise an unacceptable barrier to our participation in the water transfer scheme. United Utilities has been working for several years to promote water trading and progress the Severn Thames transfer scheme specifically. This has been discretionary effort as new water resources are not required to meet the needs of customers in the North West. Our efforts were reflected in the IAP assessment and our overall IAP rating was "fast track". Other parties have not always acted in a way to promote or even to consider such approaches in an unbiased way. That the scheme is currently recognised a potential strategic resource option is largely due to United Utilities efforts. Rather than rewarding such efforts, the draft determination proposals form a strong disincentive to participate in such proposals.

Our concerns are:

- An unreasonable cost challenge of 41% for United Utilities.
- A cost sharing mechanism with a competitor, raising competition concerns
- An overly punitive cost sharing regime, which does not apply for other aspects of totex
- A reconciliation mechanism which challenges cash flows by an unreasonable acceleration of value out of the RCV to reduce revenue and contributes to volatility in customer bills

The need to align the gateway process to existing regulatory timescales and the need for clarity on the deliverables required at each gate. In aggregate this package of proposals makes it impossible for United Utilities to even recover its costs of participation, makes it likely that the company would face penalties and carries a high risk that uncertainties regarding the scheme will not be resolved to allow informed selection of the best schemes for customers. There should be a positive incentive for a potential exporter of water to participate in the development of options, and at the very least the company needs to have confidence that it can recover its costs of participating in the scheme.

We address these concerns in turn below.

## 1. Insufficient cost allowances for work needed within U UW region

U UW’s water service was assessed as relatively efficient compared to other companies and incurred the lowest level of shallow-dive and deep-dive efficiency challenge<sup>1</sup>. Given this, it is surprising that Ofwat’s approach at the draft determination presents a 41% efficiency challenge compared to the company estimate of efficient cost. This punitive reduction in allowed costs challenges deliverability of the scheme. Ofwat’s method to assess costs in the slow track draft determinations does not take account of the full scope of works required within United Utilities area which involves the transfer of water as well as source development. We therefore provide additional evidence on the scope of work and propose alternative methods for calculating the cost allowance to account for this scope.

The scope of United Utilities options includes development of new water resources to offset the loss arising from dedicating yield from Vyrnwy reservoir to Thames Water. However it also includes significant changes within United Utilities supply system to ensure that supplies are maintained to customers in Cheshire who are currently supplied directly from Vyrnwy: investment in the Vyrnwy aqueduct comprises over half the total requirement. This investment to transfer water within United Utilities area has not been reflected in Ofwat’s cost assessment.

The treated water section of the Vyrnwy Aqueduct, which is 80 km long, consists of three 39” or 42” pipelines plus several balancing tanks along its route from Oswestry to Prescot (Figure 1 and Figure 2). These mains were laid between 1890 and 1950. Lines 1 and 2 are cast iron mains (with a polyethylene liner between Oswestry and Malpas) and Line 3 is a bitumen-lined steel main.

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<sup>1</sup> The company specific efficiency challenge feeder model published with the slow-track draft determinations shows that excluding enhancements, our water business plan was 13.3% more efficient than the historical upper quartile. Our shallow-dive efficiency challenge was 0% and our deep dive efficiency challenge was up to 5%.

Figure 1 Schematic of the Vyrnwy and Dee treated water aqueducts.



Figure 2. Photograph demonstrating the scale of the Vyrnwy Aqueduct. This shows two lines of the potable section during recent diversion works in Cheshire.



Customers along the Vyrnwy Aqueduct are supplied with water via several Bulk Supply Points (BSPs). Total customer peak weekly demand from the bulk supply points is 85 MI/d. In addition 21MI/d flow is needed to maintain positive pressure in the 3 lines of aqueduct between Norton Tower and Prescot. Optioneering by United Utilities for the Water Resources Management Plan has identified option B2 as the cost effective way of maintaining supplies to customers normally fed from the Vyrnwy aqueduct when exporting up to 180 MI/d from Vyrnwy.

Under Option B2, several existing bulk supply points will be switched to receive supplies from the Dee Aqueduct instead of the Vyrnwy Aqueduct. In addition Dee Aqueduct water will be diverted into Norton Water Tower on the Vyrnwy Aqueduct using existing aqueduct connections:

- 58.5MI/d will be pumped up Vyrnwy line 3 for additional treatment at Oswestry WTW.
- 21 MI/d of Dee Aqueduct water will be used to maintain flow along the Vyrnwy aqueduct between Norton Tower and Prescot.

After treatment at Oswestry WTW, the 58.5 MI/d will be fed into lines 1 and 2 to maintain customer supplies in areas that are not able to be rezoned under this option.

Pumping 58.5 MI/d from Norton Tower to Oswestry WTW through Line 3 of the Vyrnwy Aqueduct will require significant works, including a series of booster stations. Line 3 will be required to be re-laid (or replaced) at areas where the new pumping pressures exceed the existing operating pressures of the Vyrnwy Treated Water Aqueduct. A total of 26 km of

pipeline on Line 3 will be replaced. A new pumping station will be required at Norton Tower and three additional booster stations along the Vyrnwy Aqueduct. Provision of additional pipe sections to bypass the balancing tanks along Vyrnwy Line 3. We will also need to provide structural resilience to joints along raw water Line 3 (21.5 km long) using AMEX-10 seals (or slip lining which costs approximately the same).

Reversing the flow through Line 3 may cause water discolouration, therefore all the water pumped to Oswestry WTW will be delivered to its inlet works and treated again. This will also avoid the need for full shut-down/start-up at the start and end of each period of export, improving turn-around time and aiding resilience for both importing and exporting companies<sup>2</sup>. Therefore the scope of works for B2 also includes temporary dosing and modifications to Oswestry WTW.

The detailed scope of option B2 was used to produce a bottom-up estimate to the total costs for this element of the Severn Thames transfer (in the same way that United Utilities estimated the other components of the scheme). Estimating methods used were consistent with the rest of United Utilities PR19 business plan water infrastructure investment, which was assessed as being efficient in the draft determination. The total cost of this element was £152m out of a £263m total for United Utilities components of the STT<sup>3</sup>.

In addition to the transfer element, B2, there is the development of options to provide additional water. The new supplies will provide water to offset that which would normally come from the River Dee and Vyrnwy – balancing across our supply system. These options, comprising 14 sources and 2 demand management options, were listed in our Water Resources Management Plan and in Table 1 of document I015a. They provide a total of 112 MI/d and were selected as the optimum way to maintain resilience in our supply system<sup>4</sup>.

In document I015b<sup>5</sup> we presented evidence for the cost AMP7 costs needed to progress the full scope for United Utilities components of the STT. This evidence was similar in detail to that for the joint scope of the STT, which was accepted by Ofwat in the slow-track draft determinations. The total requested was £21.9m. Ofwat’s allowance in the slow track draft determinations of £13.0m is inadequate for United Utilities to progress the work.

The £21.9m in the original document I015b<sup>5</sup> comprises:

- £14.7m for the in-region “transfer” of water through option B2 which enables the release of up to 180 MI/d from Vyrnwy
- £7.2m for the development of 112 MI/d of water resources within United Utilities area.

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<sup>2</sup> Stochastic modelling for the Water Resources Management Plans showed that the export is expected to operate less than 15% of the time on average.

<sup>3</sup> See Table 1 of document I015b, submitted 28 March 2019

<sup>4</sup> They recover the performance of the system with the lowest possible level of investment that the company was able to find to avoid deterioration against the performance metrics. See revised draft resources management plan, United Utilities, August 2018, Section 7.

<sup>5</sup> Submitted on 28 March 2019 in response to IAP action U UW.CE.A3

There was a higher proportion in the development phase for B2 compared to the water resources, reflecting the greater complexity of this work, the system wide effects of the transfer which needs technical assessment and the greater geographical impact of the works.

Overall the scheme remains viable because it combines relatively simple low cost water resources with the more complex and therefore more costly in-region transfer.

We suggest that Ofwat should amend its cost allowance to reflect this scope in one of three ways:

1. Accept the company costs for the “transfer” element and use the benchmark 6% of £1.2m/MI for the water resources element. This would be consistent with the approach used in the slow track draft determinations for the joint aspects of the Severn Thames transfer. This would give an allowance of  $14.7 + (1.2 \times 112 \times 6\%) = £22.7m$
2. Use the £1.2m/MI and 6% but recognise that the scope includes water resources development of 112 MI/d plus a transfer to release 180 MI/d. This would give an allowance of  $1.2 \times (180 + 112) \times 6\% = £21.0m^6$
3. Accept the company’s development cost estimate of £21.9m in full. This would be equivalent to the approach in the slow track draft determinations for Fawley Desalination, Itchen Effluent Re-use and the joint components of the Severn Thames Transfer. It would be appropriate because the scheme is a company specific combination of sources and significant pipeline and pumping development. There is no direct comparator for the total cost, or the proportion of expenditure required in the development phase.

**Our preferred approach is for Ofwat to accept the company’s development cost estimate of £21.9m in full.** Supporting evidence for the adoption of this approach comes from the other two approaches above producing broadly comparable estimates.

**In summary, United Utilities proposes that Ofwat:**

- **Accept the company’s development cost estimate of £21.9m in full. Supporting evidence for the adoption of this approach comes from the other two approaches above producing broadly comparable estimates.**

## 2. Commercial confidentiality and competition

The slow track draft determinations do not seem to have fully considered the commercial processes needed for an effective and competitive market in water resources. The National Infrastructure Commission recommended that Ofwat should launch a competitive process by the end of 2019, complementing the Price Review, so that at least 1,300 MI/day is provided

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<sup>6</sup> Another alternative would be to use a unit rate of £2.7m/MI/d, which is the average rate of transfer schemes in the draft determinations, for the transfer element. This would give a total of £37.5m, which would be proportionate to Ofwat’s allowance for Fawley Desalination but more than is needed for the Severn Thames transfer.



through (i) a national water network and (ii) additional supply infrastructure by the 2030s<sup>7</sup>. We support the development of competitive markets and feel there are elements in the draft determinations that may serve to inhibit rather than to stimulate competition.

1. Ofwat has published most, but not all, overall solution costs. This creates information asymmetry which puts those companies (including United Utilities) whose costs are now public at a commercial disadvantage
2. Ofwat has proposed that United Utilities and Severn Trent’s development of sources should be integrated and their development costs shared

These concerns relate to the form of bidding market for water resources, but extend to include the Bid Assessment Framework and potentially the future bilateral market. Bidding markets typically use either “sealed bids” or an open process. In a sealed bid process each bidder independently submits a single bid without seeing others’ bids. This tends to incentivise bidders to put forwards their best option/price. In an open process all bids are visible to all market participants and bidders may adjust or withdraw their bids through a series of “rounds”. Literature tends to favour sealed bids<sup>8</sup> – one concern is that open bidding can incentivise collusion rather than competition, although there may be other reasons to favour one model over another.

Up until now we have been working under the assumption, for the STT, of sealed bids. United Utilities has provided prices for water resources options to Thames Water in confidence. It has not shared underlying cost information with Thames Water and has also not shared cost or price information with Severn Trent Water which has competing options to provide water into the River Severn. This is the reason the companies submitted “individual company” annexes to the joint submission – so the information was made available for the regulator but remained confidential from the other companies.

It’s vital that all market participants are aware of the market rules and are treated fairly. The market cannot function effectively if some companies’ costs or prices are made public and others are kept private.

**We therefore suggest that Ofwat:**

- **Clarifies the market process in the Final Determination. It should set out, for example, if updated costs estimates for the schemes will be published and, if so, when. It should also set out expectations on the use and publication of price information versus cost information.**
- **Publishes overall solution costs for all of the strategic water resources options as soon as possible to redress the current imbalance.**

<sup>7</sup> Preparing for a drier future, National Infrastructure Commission, 2018.

<sup>8</sup> See for example Paul Klemperer, Bidding Markets, Competition Commission, 2005.

The distinction between price and cost is also an important one to be clear on. While the underlying costs of the water resources schemes will be the dominant factor in the price, price will also be affected by the allocation of the day to day running costs of the company to the bulk supply and also by the return on capital or operating margin. There is a need for regulatory guidance to ensure there are clear expectations for how these are to be considered in the selection of preferred options. United Utilities would welcome the opportunity to work with Ofwat to define this future operating model.

We think that it is inappropriate for United Utilities and Severn Trent to fully integrate their development of sources as it may have the impact of inhibiting competition. The two companies have each identified their own options to provide water for the Severn Thames transfer. They have also worked together to identify potential joint options. Furthermore they have committed to work together, and with Thames Water, to manage all the work on the Severn Thames transfer (development of sources and the interconnection) as an integrated programme of work. This proposed way of working is designed to deliver an effective outcome for customers. It recognises that work needs to align so that the buyer of water has a full range of options from which to identify the best value but also recognises that there is competition between these options. Further integration of source development will not benefit customers as we explain below.

United Utilities options primarily relate to the re-use or reconfiguration of existing assets. Therefore we proposed in our IAP response that United Utilities will need to be individually responsible for:

- Evidencing the feasibility of its support options in terms of reliability, environmental impacts, cost efficiency; and
- Design, planning, consenting and procurement for the support options.

United Utilities options are an integral part of its strategic zone supply system and therefore the potential for consequential effects across this supply system need to be considered carefully. Working on these options in a fully integrated way with Severn Trent will not add value for customers:

- Only United Utilities can be responsible for ensuring its transfer options can meet its obligations in relation to drinking water quality, security of supply and environmental consents.
- Severn Trent employees have less information and understanding of United Utilities options than United Utilities employees so it is difficult to see how they could add value
- Sharing detailed information about the options, including costing could risk contravening the Competition Act (1998). Being instructed by a regulator to share information is not necessarily a defence under competition law, as shown in the Deutsche Telecom case of 2003.

Rather than full integrated working, the cost sharing proposed in the slow track Draft Determinations could be implemented without integration of the teams delivering the work. For example Severn Trent could (under contract) pay a contribution to United Utilities development costs. This would then transfer risks to Severn Trent and its customers which would be outside its control – there is no clear rationale for Severn Trent or its customers to

carry risks relating to development of new water sources in United Utilities area for the benefit of South East England. Implementation and management of such a contract would bring additional overhead costs with no customer benefit.

Such cost sharing would also distort the financial treatment of costs. In the absence of this arrangement, all scheme development costs for United Utilities water resources would be capitalised by United Utilities as it creates an asset which United Utilities owns. This asset creation would be matched by RCV and customers' bills would reflect the return on investment. If Severn Trent paid for a proportion of this cost, it would not create a Severn Trent asset and therefore be treated as opex in Severn Trent accounts. If this opex is matched in the PAYG then this would result in a higher bill impact for Severn Trent customers than it would for United Utilities customers (as capex.) If the opex is not matched in PAYG then the mismatch between the allowed revenues and the fast money would result in cash flow issues. There are also potential tax issues, e.g. capital allowances, which would need reviewing. In summary the cost sharing introduces regulatory complexity and has a disproportionate impact on customers.

Severn Trent is also a clear competitor of United Utilities – the two companies compete for efficient access to capital. Access to capital is strongly linked to the company's RCV. Ofwat's proposal puts United Utilities assets into Severn Trent's RCV and vice versa. These are not shared contributions to a common asset, they are fully independent. Ofwat's proposal therefore causes a distortion in the well-established regulatory framework which underpins the financing of necessary investment in water infrastructure.

All of these statements equally apply vice versa with United Utilities contributing to Severn Trent source development.

#### We therefore request that Ofwat:

- **removes the cost sharing for United Utilities sources, Severn Trent sources and Minworth.**

United Utilities sources should be allocated 100% to United Utilities. Severn Trent sources and Minworth should be allocated 100% to Severn Trent. We remain committed to work together with Severn Trent and Thames Water, to manage all the work on the Severn Thames transfer (development of sources and the interconnection) as an integrated programme of work as detailed in our IAP response<sup>9</sup>. Moreover, the potential for penalties to be applied at the gate reviews provides sufficient incentive for the collaborative working to succeed.

### 3. Punitive cost sharing regime

Ofwat's slow track draft determination proposes that the normal totex sharing mechanism will not apply for strategic water resources. Ofwat's assessment of cost is the maximum

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<sup>9</sup> See section 4 of document I015a submitted on 28 March 2019.

recoverable cost. We refer Ofwat to the joint response on this (Section 5 of document Strategic Regional Water Resource Solutions, Joint Company Statement), however we wish to emphasise the punitive nature of this acting in combination with the insufficient cost allowance.

The company's estimate of the cost needed to deliver the United Utilities component of the scheme is £21.9m versus Ofwat's draft determination allowance of £13.0m. With no totex sharing and no adjustment to cost allowances, it means that United Utilities shareholders would be penalised by £8.9m should the company opt to continue its participation in the scheme. This seems like a perverse outcome for a company which was assessed as efficient and has actively chosen to progress work on water trading to date for the national interest.

**We therefore request that Ofwat:**

- reinstates totex sharing for expenditure on strategic water resource schemes.

## 4. Challenging reconciliation mechanism

In addition to the absence of cost sharing, Ofwat's slow track draft determination proposes a reconciliation mechanism which recovers any unspent allowances from revenue rather than RCV. The mechanism also prohibits any increase to allowances in the event of scope change. We refer Ofwat to the joint response on this (Section 5 of document Strategic Regional Water Resource Solutions, Joint Company Statement), however we wish to emphasise the challenging nature of this acting in combination with other aspects of the determination for United Utilities.

Should the company opt to continue its participation in the scheme there is potential for the joint aspects of the Severn Thames transfer to underspend its allowance<sup>10</sup>. In this situation the company's return on equity would be reduced in AMP7 due to overspend on the company specific element, and it would also be reduced in AMP8 due to the recovery of underspend on the joint element. In AMP8 the full allowance for the joint work would remain in the RCV and a revenue deduction would pass the underspend to customers, which would act to suppress the return on regulated equity. This acts as a further disincentive to participate in the scheme, or if we opted to participate a disincentive to deliver the joint scope efficiently. It would be absurd for customers to be compensated through revenue something that they will only be paying for as a return on RCV. The only reasonable approach is for the reconciliation adjustment to RCV.

An alternative but likely scenario is that risks arise which necessitate an increase in scope. One such example was highlighted in our joint submission on the Severn Thames transfer (document I015a.i submitted 1 May 2019). There is a potential scope increase relating to risks of releases from Vyrnwy reservoir affecting the River Vyrnwy downstream of Vyrnwy dam to the River Severn confluence. A mitigation option for this risk is a pipeline (180 MI/d, 22.3km, 1200mm diameter) from the Vyrnwy Aqueduct upstream of Oswestry to the River Severn. The £7m design and development costs for this bypass pipeline was excluded from our cost

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<sup>10</sup> Since Ofwat's allowance is close to the company estimate; of course it could also overspend.

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estimates of the joint scope. The fact that any such costs could not be recovered from customers acts as a further disincentive to participate in the scheme, or if we opted to participate, acts as a disincentive to identify risks and plan for their mitigation.

These two examples show that United Utilities is disadvantaged whether it delivers efficiently and underspends or needs to overspend due to risks arising compared to the base case of non-participation in the scheme.

### We therefore request that Ofwat:

- accepts the recommendations made by the eight companies to change the reconciliation mechanism so that:
  - Reconciliation adjustments are made to RCV to match the expenditure allowance
  - Efficient expenditure on agreed scope changes can be recovered

## 5. Gate timescales and definition of deliverables

There is a need to align the gateway process to existing regulatory timescales and a need for clarity on the deliverables required at each gate. Further work and clarity is required from Ofwat's slow track draft determination on aligning gate timings to existing regulatory processes and timescales and the definition of activities required to meet each of the 5 gates, particularly at gates 1 and 2. It is important that each scheme is developed in a consistent manner to allow schemes to be compared with each other. However, there also needs to be sufficient flexibility in the process to allow projects to develop as quickly and efficiently as possible along their project lifecycle. United Utilities is concerned that a four month decision process creates significant periods of uncertainty. We refer Ofwat to the joint response to the gateway process (Section 3 and 4 of document Strategic Regional Water Resource Solutions, Joint Company Statement).

### We therefore request that Ofwat:

- accepts the recommendations made by the eight companies regarding the gate timetable and definitions of deliverables.

## 6. Conclusion

We have acted in good faith to promote the trading of water through the Severn Thames transfer with potential exports from United Utilities. However, the aggregate effect of proposals in the slow track Draft Determinations comprise an unacceptable barrier to our participation in the water transfer scheme. We urge Ofwat to make substantial changes to these proposals in each of the areas highlighted above:

- Recognise the full scope of United Utilities works by accepting the company's development cost estimate of £21.9m.
- Publish overall solution costs for all of the strategic water resources options as soon as possible to redress the current imbalance in information available.
- Clarify the market process, setting out for example, whether updated costs estimates for the schemes will be published and, if so, when.
- Set out expectations on the use and publication of price information versus cost information.
- Remove the cost sharing between United Utilities and Severn Trent for United Utilities sources, Severn Trent sources and Minworth.
- Reinstate totex sharing for strategic water resources schemes.
- Accept the eight companies' recommendations on the reconciliation mechanism.
- Accept the eight companies' recommendations on the gateways and deliverables