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Strategic regional water resource solutions: standard gate two final decision for Thames Water to Southern Water Transfer

Ofwat

Contents

1. Introduction

The purpose of this publication is to set out our final decision about whether the Thames Water to Southern Water Transfer (T2ST) [1] solution should continue to receive development funding[2]. The solution owners Thames Water and Southern Water submitted their standard gate two reports on 14 November 2022 for assessment. Further information concerning the background and context of the Thames Water and Southern Water T2ST can be found in the T2ST publication document on the Thames Water website[3].

This publication should be read in conjunction with the final decision letter issued to each solution owner. Both this document and final decision letters have been published on our website.

The assessment process is overseen by RAPID, with input from the partner regulators Ofwat, the Environment Agency and the Drinking Water Inspectorate. The Environment Agency together with Natural England and Natural Resources Wales (for solutions involving Wales), have reviewed the environmental sections of the submissions, and provided feedback to RAPID. The Consumer Council for Water provided input to the assessment on customer engagement.

The solution owners and other interested parties had the opportunity to respond to the draft decision during the representation period, which followed the publication of the decisions on 30 March 2023. We have taken all relevant representations into account in making our final decision.

We would like to thank Thames Water and Southern Water for the level of engagement, collaboration and innovation that they have exhibited during this stage in the gated process.

[1] Referred to in PR19 final determination as “Thames to Southern transfer”
[2] PR19 final determinations: Strategic regional water resource solutions appendix
[3] Strategic water resource solutions | Regulation | About us | Thames Water

2. Solution Summary

2.1 Solution summary

The Thames Water to Southern Water Transfer (T2ST) will convey potable water from Thames Water's Swindon and Oxfordshire water resource zone to Southern Water's Hampshire area, with an earliest commissioning date of 2040. As there is not currently a surplus of supply within the Thames Water Resource Zones, the solution is dependent on the prior development and commissioning of an additional water resource option – the River Severn to River Thames Transfer (STT) and/or the South East Strategic Reservoir Option (SESRO).

Capacities of 50 Ml/d, 80 Ml/d, and 120 Ml/d have been assessed for the preferred options. There are two preferred options at this stage:

- Option B: Transfer from land west of the A34 near Drayton to Hampshire. Route west of Newbury, remaining west of the A34, to Winchester (with spurs to Kingsclere WRZ (5Ml/d) and Andover WRZ (45Ml/d)).
- Option C: Transfer from land west of the A34 near Drayton to Hampshire. Route west of Newbury, crossing east of the A34, to Winchester (with spurs to Kingsclere WRZ (5Ml/d) and Andover WRZ (45Ml/d)).

For the 50Ml/d capacity, all water is supplied to Kingsclere and Andover water resource zones and there is no direct T2ST connection to Winchester.

Figure 1. Thames Water to Southern Water Transfer Solution Schematic

3. Summary of representations

3.1 Representations received

We have received the following representations relevant to the Thames Water to Southern Water Transfer.

Table 1. Summary of representations

Representation from	Summary of representation
Wantage and Grove Campaign Group (WaGCG)	**Solution costs** • WaGCG are concerned about the financial burden of RAPID solutions on future generations. They strongly support the call by Group Against Reservoir Development (GARD) that Regulated Capital Value (RCV) should be included in the intergenerational equity metric. They also assert that the impact on customer bills should be required in the submissions and gated assessment. **Interconnectedness** • WaGCG do not agree that the gated process assesses solutions individually and suggest the connected solutions should be considered together. • They assert that the carbon footprint, financial cost, return on value, cost to the consumer, recreation and amenity value, and environmental impact of any integrated solution is impossible to define from the fragmentation of the strategies. • They find that the current process does not allow for comparison of different options to be compared to justify the selection of options and their sequence of development. **Water resource planning** • The WaGCG are concerned that the data used for population and climate change forecasts is inappropriate and that this has resulted in an inaccurate needs case for the solutions. • They also challenge the need for T2ST, as they argue that other schemes being completed within AMP7/8 could offer the same benefit. **Chalk streams** • They argue that one of the justifications for T2ST, that of offsetting abstraction reductions to protect the environment, is at odds with the Chalk Streams Catchment Based Approach report on the Itchen and Test catchments.
CPRE Oxfordshire	**Water resource planning** • Many of the projects are only justified on the basis of outdated (and inflated) population forecasts, a flawed adjustment for

	climate change and over-estimates of the abstraction reductions required from chalk streams. They find that the climate change scenario is unrealistic. • Should be recognised that there is a strategic need to transfer water from the relatively wetter and less populated north and west of the country to the dry and heavily populated South East. • Reference NIC 2018 report that water transfers should be prioritised. • They also challenge the need for T2ST, as they argue that other schemes being completed within AMP7/8 could offer the same benefit.
South Oxfordshire District Council	**Environment** • The Council is concerned about the pipeline route passing through the North Wessex Downs Area of Outstanding Natural Beauty (AONB). **Water resource planning** • They see no need case for T2ST, as it is dependent upon SESRO or STT, hence they argue T2ST should not progress to gate three.
Oxfordshire County Council (OCC)	**Gate timing** • RAPID's draft decisions offer various gate three dates going forward. Query this amendment to the process which previously envisaged that schemes would be able to be compared with one another at the same time. Comparison is made more complicated with timelines dispersed over six years. **Decision making** • They expect RAPID will need to review its draft decisions to make sure that the final decisions are consistent with the recently published National Policy Statement. **Water resource planning** • OCC are concerned that additional water supply needed in the South East has been seriously overestimated because of incorrect population growth models and poorly evidenced environmental targets. • They assert that water companies should do more to reduce leakage and reduce demand and then the need for building new items of strategic infrastructure will be reduced. • There are other options which could provide water supply which are not included in the RAPID gated process. The regulators' funding should also support the development of a wide range of options including smaller, more innovative and less environmentally damaging solutions. They state that resilient schemes such as water recycling, water transfers,

	and desalination should be prioritised so that other options such as the SESRO are not needed. • They would like to see funding, for example, of nature-based catchment management schemes where projects are developed to retain water, manage flood risk and create new nature reserves, alongside a much greater focus on aquifer recharging. • OCC state that the top priority needs to be building resilience to unpredictable and rapidly evolving climate impacts. This would result in a fundamentally different prioritisation based on resilience to future water shortages and speed of delivery. Given the urgency of climate change, the need for new items of strategic infrastructure that will take a long time to build is over-estimated relative to the need for smaller schemes that can be brought forward quickly and provide resilient sources of water. They favour the use of existing or refurbished infrastructure, such as the canal transfers, or infrastructure which is underground, such as pipelines. • The Council note the increasing impact climate change Is having on weather systems, and note concern with the solution delivery times that the RAPID programme is working to. • The Council believe that the water sector should be aiming for resilience against the worst case scenarios that could arise from climate change, for example aiming for extreme multi-year drought by the early 2030s. **Carbon costs** • The Council believe RAPID should continue to seek evidence that the companies are embracing innovative designs and opportunities to generate or be powered by renewable energy and/or sequester carbon. • The Council believe that a comparable carbon assessment should be undertaken for each solution and that solutions should set out net zero carbon commitments. • Believe that RAPID should be clear in their decisions that gate submissions will require solution partners to set out the carbon costs of their proposals in relation to the government's commitments to reduce carbon emissions, and that the carbon footprint of solutions could be compared when choosing between options. **Chalk streams** • They argue that the need case for T2ST is based upon 'extreme assumptions' about ceasing abstractions in chalk streams.
Wantage Town Council	**Stakeholder engagement** • Wantage Town Council assert that the process of selecting and engaging consultees should ensure that all relevant stakeholders are included in the decision-making process. It may be that many other parishes may not be aware of these

	projects and the need to respond. It is believed that Wantage Town Council residents will be affected by the associated costs reflected in their bills, as well as potential construction traffic and the impact on the local nearby environment. **Solution costs** • Wantage Town Council are concerned that the submission documents are not transparent about the impact of solution development on customer bills. **Water resource planning** • Wantage Town Council suggest that the gated process should take into account the true potential costs to customers in future billing, using the most up-to-date figures and forecasts. It is felt that these figures should be made easily accessible to stakeholders, such as customers, to facilitate engagement and understanding. The Council suggests that the regulator explicitly mandates such accessibility in its decision-making process. **Best value planning** • The Council express concerns about the project delivery, as the current format does not guarantee the attainment of the "best" outcome in terms of both the environment and cost to customers. Additionally, the assessment process seems to exclude non-capital project solutions that may mitigate the need for these projects, such as addressing leaks, giving the impression of a predisposition towards approval. **Environment impact** • The Council assert that there is a lack of discussion within RAPID regarding addressing essential needs, such as ensuring the implementation of infrastructure to protect the environment and prevent the release of raw sewage into waterways. **Document consistency** • Wantage Town Council highlight there is inconsistent wording in Figure 3 across SESRO, STT and T2ST decision documents.
Vale of White Horse District Council	**Gate timing** • Understood that schemes would drop out at gate two. • Vale of White Horse District Council assert that there is a lack of clarity around the timing of the remaining gates and question the reasoning behind the staggering of gates across the solutions. **Environment** • They are concerned that the pipeline will pass through their district, and through the North Wessex Downs AONB. **Decision making** • They argue that there is not a clear case for this scheme due to its dependence on SESRO or STT.

Historic England	**Historic environment** • They state that there has been little engagement with themselves, and therefore cannot properly comment on specifics of the scheme. Historic England would like to see this rectified soon.
Thames Water and Southern Water	**Partnership arrangements** • They note that RAPID's draft decision proposes Thames Water's continued involvement beyond AMP7 but with a minority interest, funding 10% of the scheme, with the majority stake at 90%, funded by Southern Water. By holding a minority interest, Thames Water would need to participate in project governance, and incur the management overhead associated with oversight and reporting, which both companies consider would not be efficient use of funding. Both Thames Water and Southern Water believe a more efficient funding approach is for Southern Water to provide a single point of delivery accountability given it is Southern Water's customers who benefit from, and ultimately fund, the investment. • As such, should RAPID wish Thames Water to remain involved in T2ST to support scheme development, a 50:50 funding split has been discussed with both companies and is an alternative approach providing equal influence over decisions and management of risk. • We note RAPIDs draft decision statement that partner arrangements cannot change at AMP cycles. Cost forecasts have already been agreed for the current AMP and are due to be finalised for AMP8 in the PR24 submissions in the near future. Both companies welcome any opportunity to discuss this point with RAPID **Gate allowance** • Thames Water and Southern Water have provided a cost breakdown of both the gate three Checkpoint 1 at £1.90m (provided as part of the gate two submission) and a new breakdown to the gate three submission (forecasted as November 2027) of £17.85m. • They accept that this is significantly above the gate three allowance totalling £6.20m (inclusive of underspend from previous gates) and seek an increase to the gate three allowance in the final decision. This estimate of £17.85m will be matured and updated at RAPID Checkpoint 1, where a schedule-based estimate will be presented to RAPID for further discussion. Should the estimate increase, they will be seeking a revision to the gate three allowance provided in the gate two final decision at the Checkpoint 1. • Ask RAPID to confirm in the final decision that funding for AMP8 will be separately determined through the PR24 process and that it will reflect any changes to project

	schedules arising from the Water Resource Management Plan (WRMP) process. **Gate timing** • The companies note RAPID's agreement on the proposed dates for gate three and gate four. In relation to the proposal for a mid-gate checkpoint, they state that they will discuss this with RAPID at regular checkpoint meetings and formalise any requests in writing. **Actions and recommendations** • There are no concerns with the actions and recommendations in the draft decision, the companies state that have an action plan to address them and will work to resolve each item for gate three.
Group Against Reservoir Development (GARD)	**Solution costs** • GARD say that although there is now a fair amount of cost detail available in the gate two reports for the strategic options, there are no option cost comparisons to justify the selection of options and their sequence of development. These comparisons might be expected to be prominently available in regional plans and the WRMPs, but there are none to be seen. This is a major failing in transparency which needs to be addressed in gate three. **Water resource planning** • GARD's believe the Thames to Southern transfer is not needed because it provides minimum benefit.

3.2 Our response

We have taken the representations into account in our final decisions and set out below our response to the key points and issues raised. For the representations or parts of representations which indicate support, provide information or give an update without raising key points and issues, we do not provide a response below but are grateful for the comments provided and confirm that we have also taken these into account.

3.2.1 Solution costs

Water resources infrastructure options are considered and selected as part of regional plans and water resource management plans not the gated process. The gated process provides cost information for other purposes.

We are mindful of the financial burden that the solutions will place on current and future generations, however future customers will benefit from the additional water resource. At

this stage of the solution's development, Ofwat does not consider it appropriate to ask solution owners to measure the impact on customer bills. Cost estimates are still relatively immature, and any measurement of an impact on customer bills is likely to be misleading at this time. Furthermore, the solution is likely to be delivered by an external delivery partner, hence it will not increase the Regulated Capital Value of water companies.

3.2.2 Interconnectedness

RAPID took a decision at gate one to continue to develop solutions separately rather than collectively. It is recognised that, as water resources planning and the gated process advances, solutions may provide resilience benefits to their own regions, to other solutions, or to other regions beyond those served by the individual solution.

Lot of the solutions have interdependencies with other solutions, so T2ST's dependence on SESRO/STT doesn't negate the overall need for it. Some solutions are not about creating the source themselves, but about moving additional resource to where it is needed. Whilst assessing these solutions individually through the gated process, RAPID does also review them as a system they may collectively create. As the solutions progress through gate three and alignment to the final water resource management plans occurs, RAPID will continue to look at solutions in an integrated way, as well as at the individual solutions.

3.2.3 Water resource planning

The water resources planning process assesses the need for these solutions and the socioeconomic assumptions such as those around growth underpinning the modelling for these processes.

Company WRMPs and Regional Plans develop their demand forecasts in line with Water Resource Planning Guidelines, which sets out requirements for using Local Plan and Office for National Statistics population growth projections. Ofwat's long term delivery strategies guidance also defines using two population forecasts in low and high population scenarios. We have assessed where companies have adhered to these methods in order to set out the needs case for the RAPID solutions.

Reducing leakage and being more efficient in using water both have a significant role to play but will not be sufficient alone to ensure security of water supplies in the future.

Water resources infrastructure options are considered and selected as part of regional plans and water resource management plans. These plans consider both demand side measures and supply side measures as part of a twin track approach to water resources and determine the need for new water resource infrastructure. Neither Ofwat nor RAPID has a decision-making role in regional plans or water resource management plans.

The anticipated effects from industry measures to reduce leakage and reduce demand are taken into account in water resource planning as part of the assessment of whether new water resource infrastructure is required. The national framework – published by the Environment Agency in 2020 – set out expectations that the industry reduces demand to around 110 litres per person per day and reduces leakage by 50% both by 2050. The conclusion of the water resource management planning process is that, even with these reductions, new water resource infrastructure will be needed to improve drought resilience, reduce the impact of abstraction on the environment, supply a growing population and adapt to climate impacts.

The draft Water Resource Management Plans (WRMPs) 2024 set out a much broader range of supply and demand options which maintain resilience in the companies supply-demand balance over the entire planning horizon (at least 25 years), including in the short term such as over the 2025-2030 period, and longer term, such as the inclusion of the RAPID strategic solutions. The forecast supply-demand balance in the WRMPs includes allowances for climate change across the entire planning horizon, including short term and long term, in line with the water resources planning guideline supplementary guidance on climate change. The plans also incorporate adaptive planning, which test several plausible extremes for climate change, to ensure the plans can adapt to different scenarios if they come to fruition, including longer duration extreme multi-year events.

The RAPID programme is one of several approaches the sector is working with to ensure short-term and long-term resilience in the sector.

Ofwat have allocated up to £469 million for companies to investigate and develop integrated strategic regional water resource solutions during 2020-25. This enables companies to develop solutions on behalf of customers that are 'construction ready' for the 2025-2030 period, and that protect and enhance the environment and benefit wider society. This intervention further demonstrates our commitment to supporting long-term resilience and innovation.

There are solutions in the RAPID programme that use existing or refurbished infrastructure, such as Grand Union Canal and North West Transfer. There are also several solutions that are considering the use of pipelines to transfer water such as Anglian to Affinity Water.

In terms of non-capital options, Ofwat are encouraging nature-based solutions through PR24 as referred to in PR24 final methodology Appendix 9 Setting Expenditure Allowances.[4]

[4] PR24 final methodology Appendix 9 Setting Expenditure Allowances

3.2.4 Chalk streams

There have been extensive studies to understand the impact of abstraction on the Test and Itchen Sites of Special Scientific Interest chalk rivers. As well as reducing current abstraction licences, there is a need for long term sustainable solutions in order for the water company to reduce reliance on the use of drought permits and drought orders which pose a risk to these sensitive rivers and to also achieve their long term environmental destination for protecting these globally important chalk streams. The size of the sustainability reductions needed in the south east and the supply options to meet those reductions have been identified and modelled by Water Resources South East (WRSE).

3.2.5 Best value planning

We agree that additional benefits to the local community and the environment are an important aspect of the RAPID solutions. The assessment of recreational benefits was considered sufficient for gate two. Solution partners will continue to investigate opportunities to realise the wider benefits that could be developed as part of the solution.

Gate three submissions should include a summary of the best value considerations relevant to the preferred option for each solution included in all the individual company WRMPs and regional plans where the solution appears. This should include the consideration of financial cost and how it will achieve an outcome that increases the overall benefit to customers, the wider environment and overall society. Benefits to consider could include any amenity or recreation value, regional economic impact, multisector benefits, and other societal benefits.

3.2.6 Environment

The solution is currently at the concept design stage. The solution, including the final route and construction method, will be refined as it moves through the gated process and the solution completes pre-planning activities.

Ofwat has a duty under s85 Countryside and Rights of Way Act 2000 to "have regard to the purpose of conserving and enhancing the natural beauty of North Wessex Downs and/or other area[s] of outstanding natural beauty" when making decisions. Our gate three guidance requires solution owners to address the possible effects on AONBs for relevant schemes in their submissions for gate three.

The solution owners will continue to develop their environmental and other assessments of the solutions that will encompass further, more detailed consideration of construction impacts including traffic impacts, noise and vibration and air and light pollution throughout the gated process and will need to complete this work before submitting their Development Consent Order (DCO) application.

3.2.7 Environment impact

RAPID's remit is to provide oversight of the gated process established to support, review and challenge the development and delivery of the strategic water resource solutions funded as part of the 2019 price review. Part of the reason why these solutions are being developed is to protect and improve and enhance the environment. The amount of water available for water supply has reduced to meet environmental objectives, hence the need for new solutions. Each solution will need to comply with environmental legislation, undertake detailed environmental investigations and demonstrate how they will make a positive contribution to the environment and society. The regulators that look after the environment are fully involved at every stage of this programme and water companies also have duties in relation to environmental protection.

3.2.8 Gate timing

The solutions are due to start construction at different times, therefore after gate two the solutions need follow different timetables. Beyond gate two, gate alignment across the whole programme becomes less important. It is more important the gates align with pre- planning application activities. Beyond gate three the timings also become more dependent on external factors such as the DCO or planning application process. The need for flexibility and bespoke solution gate timings will be reflected in future decisions.

3.2.9 Stakeholder engagement

We agree that stakeholder engagement is important. Solutions will need to follow gate three engagement guidance which include:

- Pre-planning statutory consultation as described in The Planning Inspectorate Advice note 11: working with public bodies in the infrastructure planning process and Annexes A-H[5]
- Plans showing ongoing and continued engagement, that have been shared with public and statutory bodies, including any required enhanced advisory services.
- customer engagement, particularly on changes of source where relevant.
- Engagement with all stakeholders affected by the solution's development.

3.2.10 Historic environment

During further progress through the gated process, solution owners will continue to develop their environmental assessments, including consideration of the historic environment. A DCO application or an application for local planning permission for the solution will need to be

[5] Advice notes | National Infrastructure Planning (planninginspectorate.gov.uk)

supported by an Environmental Impact Assessment in which the effects of the solution on the historic environment will be assessed and proposals for mitigating any adverse effects will be included. The acceptability of the effects and mitigation will be a matter for the authorities determining those applications and will not be a decision reached by the gated process.

We agree that progress of this solution would benefit from engagement with Historic England. We have added a recommendation to the final decision document.

3.2.11 Decision making

The National Policy Statement for Water Resources Infrastructure will be used as the primary basis for examination by the Examining Authority of development consent order applications for water resources nationally significant infrastructure projects. It will also be used by the Secretary of State in making decisions on those applications and may be a material consideration in making decisions on water resources infrastructure development that falls within the local authority planning regimes. As such, the solution owners will need to address the National Policy Statement for Water Resources Infrastructure in the applications that they make at a later stage for development consent orders or planning consents. However, it is not a relevant consideration for Ofwat's earlier decisions at gate two on the continuation of funding for progressing the solutions to gate three.

The funding supports the acceleration of regional solutions that we expect to play a significant role in long-term resilience and will feature in future company business plans and water resources management plans. These regional and inter-regional solutions are complemented by the delivery of other solutions identified in companies' business plans within supply-demand balance enhancement programmes which include smaller supply options, improved connectivity of networks, water efficiency programmes and leakage management.

3.2.12 Partnership arrangements

We agree that continuing with a 50:50 Thames Water/Southern Water partner split up to the end of AMP7 represents an acceptable arrangement to manage solution decisions and risk management. We recognise Thames Water and Southern Water's proposal in the gate two submission move to Southern Water paying 100% of the development from AMP8. RAPID do not agree to this change in partnership in this final decision. However, if Thames Water and Southern Water provide evidence of the governance and cost reconciliation arrangement going forward and RAPID find these acceptable, this partnership arrangement can be agreed through future correspondence. We have changed section 7 in the final decision document to reflect this.

3.2.13 Document consistency

Stakeholders identified inconsistent wording in figure 3 across SESRO, STT and T2ST decision documents. The categories used in figure 3 are good, satisfactory and poor, where "good" indicates "meets expectations", "satisfactory" indicates "falls short of meeting expectations in some areas" and "poor" equals "falls short of meeting expectations in many areas". Any inconsistency in the wording used does not change any aspect of our decision at gate two and we have decided to maintain the wording in the figure.

3.2.14 Carbon costs

Solution development to gate three should continue to build from the gate two submissions. In particular, in gate three guidance we are asking solutions to continue to follow the Water Resources Planning Guidelines for WRMP24 section 8.3.2 (published in April 2022) which states expectations for accounting for and reducing greenhouse gas emissions. In Wales, expectations are set out in section 3 of the guiding principles (published April 2016) for WRMPs. We are asking companies to reduce and mitigate embodied carbon as much as possible using standard approaches and appropriate frameworks. On 6 January 2022, Ofwat published its net zero principles position paper[6]. Solutions should be designed in line with these principles. In particular companies are encouraged to ensure solutions:

- are reflective of national government targets on net zero
- prioritise the reduction of GHG emissions before the use of offsets, doing so in line with the IEMA GHG Management Hierarchy[7] and;
- clearly address both operation and embedded emissions

3.2.15 Gate allowance

Our draft decision asked that the solution owners to provide a detailed forecast of expenditure as part of their representation. The solution owners provided a revised forecast of both the gate three Checkpoint 1 at £1.9m and a new breakdown to the rest of the gate three submission of £17.85m. They noted that the gate three estimate will be matured and updated at RAPID Checkpoint 1. Decision on funding is set out in section 4.2.

[6] Net-zero-principles-position-paper

[7] The GHG Management Hierarchy, as detailed by the Institute of Environmental Management and Assessment (2020 version), is a framework organisations can use to guide the scoping and strategic planning of their energy and carbon management activities.

4. Solution assessment summary

Table 2. Final decision summary

Recommendation item	Thames Water to Southern Water Transfer
Solution owners	Thames Water and Southern Water
Should further funding be allowed for the solution to progress to gate three?	Yes
Is there evidence all expenditure is efficient and should be allowed?	Yes
Delivery incentive penalty?	No
Is there any change to partner arrangements?	Yes, set out in section 7.
Are there priority actions for urgent completion?	No
Are all priority actions and actions from previous gates addressed?	Either complete, partially complete or incomplete as set out in section 5.2.
Suitable timing for gate three has been proposed	Yes, November 2027 is suitable for gate three.

4.1 Solution progression to standard gate three

The evidence suggests that the solution is a potentially valuable way of supplying water to customers. Based on our assessment of a wide range of areas that could concern the progression of the solution, we have concluded that the solution should progress through the gated process to gate three. Figure 2 below summarises the area of any progression concerns, including indication of the significance. The reasons for this assessment conclusion are set out in table 3 below.

Decisions on funding as a result of this progression decision, are set out in section 4.2.

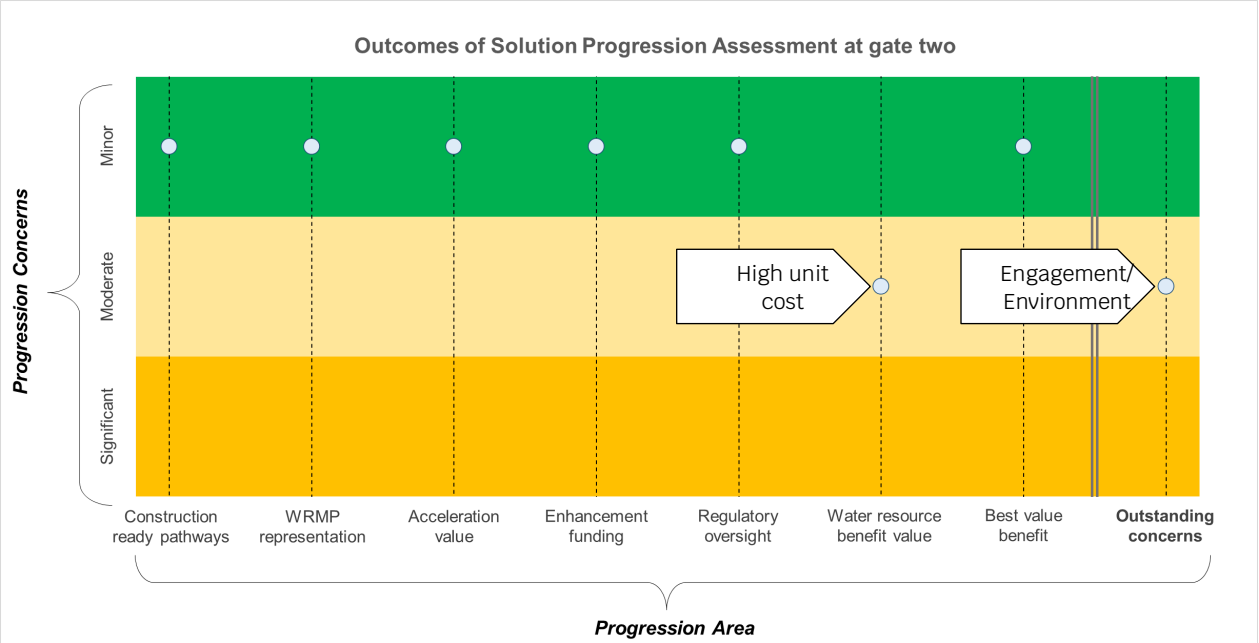

Figure 2. Assessment of solution's progression concerns

Table 3. Final decision progression criteria

Progression criteria	Thames Water to Southern Water Transfer
Solution owners	Thames Water and Southern Water
Is the solution in a preferred or alternative pathway in relevant regional plan or WRMP (where applicable) to be construction ready by 2030?	Yes, the solution is chosen in Thames Water's and Southern Water's draft Water Resource Management Plans (WRMPs) 2024, as a solution on their preferred pathways, which are the relevant plans for the standard track. The solution is also in the Water Resource South East (WRSE) draft regional plan. The solution will not be construction ready by 2030. It is not selected in the regional plan until 2040, so the solution will be construction ready by 2032.
	No further action is required on this progression criteria.
Do regulators have any significant concerns with the solution's inclusion or non-inclusion in a WRMP or regional plan or with any aspects that may impact its selection, to a level that they have (or intend to) represent on it when consulted?	No, the regulators do not have concerns on how the solution is represented, or the information about it, in Thames Water's and Southern Water's draft WRMP24, or the WRSE draft regional plan.
	No further action is required on this progression criteria.
Is there value in accelerating the solution's development to meet a company's or region's forecast supply deficit?	Yes. A solution is required to address Southern Water's forecast deficit.
	No further action is required on this progression criteria.
Does the solution need continued enhancement funding for investigations and development to progress?	Yes. Continued funding is required to develop a solution to be delivered in time for the planned construction ready date.
	No further action is required on this progression criteria.

Does the solution need the continued regulatory support and oversight provided by the Ofwat gated process and RAPID?	Yes. The solution will continue to benefit from the regulatory support and oversight provided by being included in the RAPID programme.
	No further action is required on this progression criteria.
Does the solution provide a similar or better cost / water resource benefit ratio compared to other solutions?	No. This solution does not provide a similar or better cost / water resource benefit ratio compared to other solutions.
	See section 4.4.2.
Does the solution have the potential to provide similar or better value (environmental, social and economic value – aligned with the Water Resources Planning Guideline) compared to other solutions?	Yes, this solution has the potential to provide similar or better value (environmental, social and economic value – aligned with the Water Resources Planning Guideline) compared to other solutions.
	No further action is required on this progression criteria.
Does a regulator or regulators have outstanding concerns that have not been addressed through the strategic planning processes taking into account proposed mitigation?	Yes. Outstanding concerns remain around the need to undertake comprehensive stakeholder/customer engagement and address environmental risks by gate three.
	This progression concern is addressed in actions 1 and 6 in Appendix A of this document.

4.2 Solution funding to standard gate three

We are not changing the funding of this solution. This solution's total allowance and gate allowances remain the same as the final determination. The details of this funding decision are set out in Table 4 below, and details on forward programme in section 8.1.

Table 4. Thames Water to Southern Water Transfer funding allowances (2017/18 Prices)

	Gate one	Gate two	Gate three	Gate four	Total
Thames Water to Southern Water Transfer gated allowance	£1.50m	£2.25m	£5.25m	£6.00m	£15.00m
Comment	10% of development allowance calculated as 6% of total solution costs	15% of development allowance calculated as 6% of total solution costs	35% of development allowance calculated as 6% of total solution costs	40% of development allowance calculated as 6% of total solution costs	Total development allowance calculated as 6% of total solution costs

We recognise that the solution is likely to overspend its allowance at gate three due to increases in costs that are outside of its direct control. costs. We can confirm that the forecast gate three spend of £1.9 million to the March 2024 checkpoint appears reasonable.

However, we have not received sufficient evidence to justify Thames Water to Southern Water Transfer's overall gate three forecast. We will need more evidence of the remainder of gate three to determine the overall allowance. Please provide a bottom-up analysis of forecast development spend by 4 August 2023, as set out in priority action 1 in Appendix A. We will confirm the gate three allowances once we have reviewed the further evidence.

This funding is in accordance with the conditions and requirements as outlined in the PR19 final determinations: Strategic regional water resources solution appendix.

We confirm that any funding for AMP 8 will be decided through the PR24 process.

4.3 Evidence of efficient expenditure

The PR19 final determination specified that any expenditure on activities outside the gate activities for the identified solutions (or solutions that transfer in) will be considered as inefficient and be returned to customers. We will consider whether gate activity is efficient by considering the relevance, timeliness, completeness, and quality of the submission which should be supported by benchmarking and assurance.

Thames Water to Southern Water Transfer has carried forward £0.87m underspend from gate one, increasing the allowance available to them at gate two to £3.12m.

Our assessment of the efficient costs as spent on standard gate two activities results in an allowance for this solution of £1.78m (of £1.78m claimed). The Thames Water to Southern Water Transfer has therefore underspent its combined gates one and two allowance by £1.34m and may take this underspend forward to gate three, increasing the allowance available to them at gate three to £6.59m.

From gate two, we will move to look at the cumulative gate spend against the cumulative total allowance, across all gates consistent with the activities being undertaken. For example, any gate four allowance that is brought forward towards gate three should be for the purpose of early gate four activities. Overspends and underspends are then to be managed through cost sharing between the water company and customers. As the Thames Water to Southern Water Transfer is progressing to gate three, this will apply here.

4.4 Quality of solution development and investigation

The aim of the assessment was to determine whether gate two activities have been progressed to the completion and the quality expected, for the continued development of the solution.

Figure 3 shows our assessment of the work completed on the solution, which was presented in the gate two submission. Our assessment was made against the criteria of robustness, consistency, and uncertainty to grade each area of the submission as good, satisfactory, or poor in accordance with the standard gate two guidance, (updated version published on 12 April 2022). We also assessed the Board assurance provided.

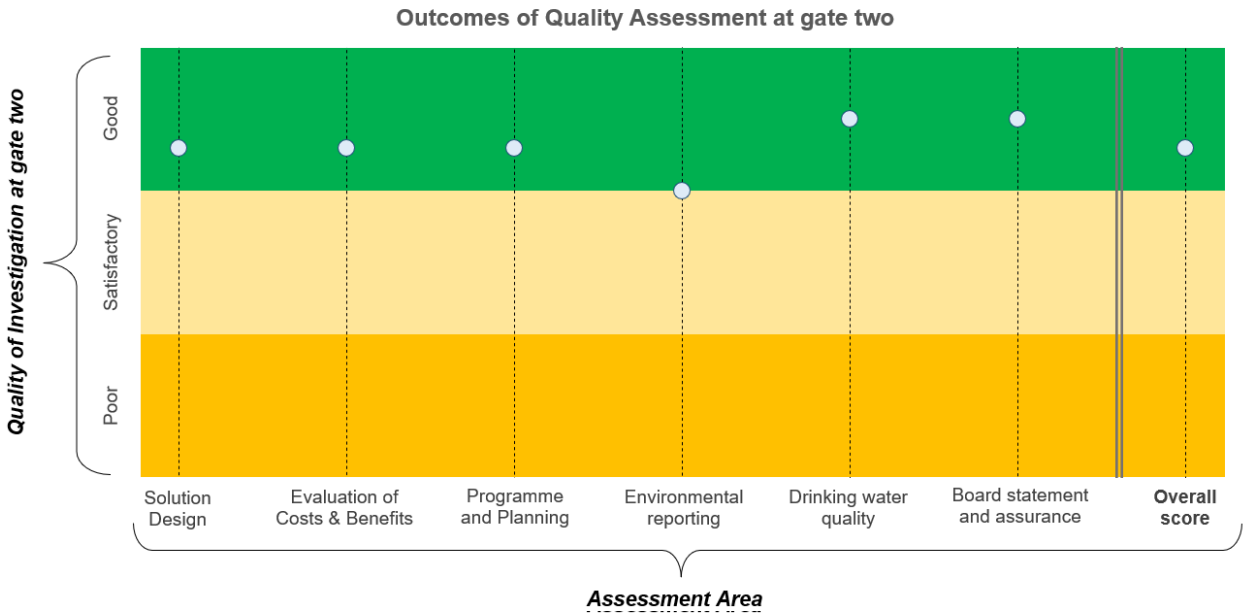

Figure 3. Assessment of quality of investigation

Our overall assessment for the solution submission is that it is a good submission that meets the expectations of gate two.

In addition to the overall assessment score, there is some variance in expectations being met across the submission, with solution design and environmental reporting falling short of expectations and not being as developed as would be expected at gate two.

We explain our assessment of each individual area, including any shortfalls in expectations, in the sections below. We have not applied any delivery incentive penalties as a result of this assessment of quality, as further detailed in section 5.

4.4.1 Solution Design

Our assessment of the Solution Design considered the quality of the evidence provided on the initial solution and sub-options; the anticipated operational utilisation of solutions; the interaction of the solution with other proposed water resource solutions and stakeholder and customer engagement. The assessment also considered whether information was provided on the context of the solutions place within company, regional and national plans.

We consider Southern Water and Thames Water to have provided partially sufficient evidence of progress in developing the solution design for gate two. They have fallen short in providing enough evidence in the areas of utilisation and stakeholder and customer engagement, for which actions and recommendations are included.

4.4.2 Solution costs

Our assessment of the unit costs of delivering the Thames to Southern Transfer is that they are relatively expensive at this stage with respect to other comparable solutions. Cost changes from gate one to gate two have been sufficiently explained and are as a result of detailed development of the solution or changing market conditions. For instance, storage volumes and sweetening flows have reduced from gate one. The assessment also considers the use of the solution as a drought resilience asset, and therefore cost per capacity is often a more appropriate metric than cost per projected utilisation. We will continue to scrutinise cost estimate changes from gate two to gate three.

4.4.3 Evaluation of Costs and Benefits

Our assessment of the Evaluation of Costs and Benefits considered the quality of the information provided on initial solution costs; the social, environmental and economic cost and benefits, water resource benefits and wider resilience benefits. The assessment also considered whether evidence was provided on how the solution delivers a best value outcome for customers and the environment.

We consider that Southern Water and Thames Water have provided partially sufficient evidence of evaluating the costs and benefits of the solution to an appropriate standard for gate two. They have fallen short in providing enough evidence in the best value assessments, particularly the natural capital and biodiversity net gain assessments, for which actions and recommendations are included.

4.4.4 Programme and Planning

Our assessment of the Programme and Planning considered whether Thames Water and Southern Water presented a programme with key milestones and whether its delivery is on track. The assessment also considered the quality of the information provided on risks and issues to solution progression, the procurement and planning route strategy and subsequent gate activities with outcomes, penalty assessment criteria and incentives.

We consider the evidence provided by Southern Water and Thames Water regarding the programme and planning, risks and issues and the procurement and planning route strategy for the Thames Water to Southern Water Transfer to be of sufficient detail and quality for gate

two. While the programme and planning score has been marked down as requirements that solution owners were funded to meet have not been met, we have made a decision that there is no longer a need for value for money assessments for RAPID solutions and therefore no associated gate two action is required.

4.4.5 Environment

Our assessment of Environment considered the initial option-level environmental assessment; the identification of environmental risks and an outline of potential mitigation measures; the detailed programme of work used to address environmental assessment requirements and the initial outline of how the solution will take into account the carbon commitments.

We consider Southern Water and Thames Water to have provided sufficient evidence of progress in the environmental assessment, potential mitigations and future work programmes for gate two. However, the carbon assessment fell short of expectations in many areas and should be revisited when the solution is more developed.

4.4.6 Drinking water quality

Our assessment of Drinking Water Quality considered drinking water quality and risk assessments; evidence that the solution has been presented to the drinking water quality team and a plan for future work to develop Drinking Water Safety Plans.

We consider Southern Water and Thames Water to have provided sufficient evidence of progress in the drinking water quality and risk assessment and future work around Drinking Water Safety Plans for gate two.

4.4.7 Board Statement and assurance

The evidence provided relating to assurance is sufficient for this stage of the gated process.

We consider that the Boards of Southern Water and Thames Water have provided a comprehensive assurance statement and have clearly explained the evidence, information and external / internal assurance that they have relied on in giving the statement.

5. Actions and recommendations

Where the submission has not been assessed as 'meeting expectations' in the quality assessment, or progression concerns have been raised, we have provided feedback on where we will seek remediation of the issues. We have also identified specific steps that solution owners should take in preparing for standard gate three.

We have categorised these remediation issues and steps into priority actions, actions and recommendations.

Priority actions are those that should have been completed at gate two and must now be addressed on a short timescale in order to make sure the solutions stay on track. They require urgent remediation in full.

Actions are those that should be addressed in full in the standard gate three submission. The response to these actions will influence the assessment of the gate three submission.

Recommendations are issues where additional information or clarification could improve the quality of future submissions.

We have also assessed progress on actions and recommendations from gate one.

5.1 Actions and recommendations from gate two assessment

One priority action have been identified for the Thames Water to Southern Water Transfer.

Twelve actions and recommendations have been identified for T2ST, which should be fully addressed at the gate three submission or at an alternative or earlier date where this has been set in Appendix A. Progress against actions will be tracked as part of regular checkpoints the solution holds with us whilst undertaking gate three activities.

The full list of priority actions, actions and recommendation for the Thames Water to Southern Water Transfer can be found in Appendix A.

5.2 Actions and recommendations from gate one assessment

We have assessed whether T2ST has met actions that were set out as a result of our gate one assessment.

No priority actions were identified for the Thames Water to Southern Water Transfer.

Eight actions and recommendations were identified for the Thames Water to Southern Water Transfer, which were expected to be fully addressed at the gate two submission.

We have decided that the actions have partially been addressed in the gate two submission. Further detail of our conclusion against each individual action is shown in Appendix B.

Partially complete and incomplete actions have been linked to gate two actions and recommendations to ensure that these are fully resolved by gate three.

Further detail of our conclusion against each individual action is shown in Appendix B.

6. Delivery Incentive Penalty

We have not applied delivery incentive penalties to this solution, as a result of the assessment carried out on the gate two submission.

7. Proposed changes to partner arrangements

Thames Water and Southern Water will continue to have a 50:50 split in development cost up to the end of AMP7. .

We recognise Thames Water and Southern Water's proposal in the gate two submission to move to Southern Water paying 100% of the development from AMP8. RAPID do not agree to this change in partnership in this final decision. However, if Thames Water and Southern Water provide evidence of the governance and cost reconciliation arrangement going forward and RAPID find these acceptable, this partnership arrangement can be agreed through future correspondence.

8. Gate three activities and timing

The solution will continue to be funded to gate three as part of the standard gate track.

For its gate three submission, we expect Thames Water and Southern Water to complete the activities listed in PR19 final determinations: strategic regional water resources solutions appendix, as expanded on in Section 7 of the solution's gate two submission. Activities are expected to be completed in line with delivery incentives and expectations set out in RAPID's gate three guidance. We also expect the actions listed in appendix A to be addressed.

8.1 Gate three timing

Thames Water and Southern Water have proposed a date for gate three of November 2027, with proposed checkpoints in March 2024 and September 2025. This is proposed alongside a forward programme of gate four in January 2029, proposed planning application submitted in 2029, solution construction ready in 2032, and solution operational in 2040.

We agree that the T2ST gate three should be November 2027. This aligns gate three with solutions on a similar programme, and enables RAPID to efficiently assess progress of activities, ahead of the solutions proposed planning application.

Regarding Thames Water and Southern Water's proposal for a mid-gate checkpoint, between gates two and three, in March 2024. RAPID has decided that solution owners should bring this discussion to a regular checkpoint meeting at an opportune time and formalise any requests relating to scheme progression with associated reasoning through a letter to RAPID.

We agree with the forward programme for gate four.

The forward programme proposed by the solution is in line with the principles of RAPID's standard programme. Funding arrangements are set out in section 4.2 of this document.

Appendix A: Gate two actions and recommendations

Priority Actions – to be addressed by the dates specified		
Number	**Area**	**Detail**
1	Evidence of efficient spend	Please provide a bottom-up analysis of forecast development spend for gate three by 4 August 2023 to RAPID
Actions – to be addressed in standard gate three submission (except where an earlier date is given below)		
Number	**Area**	**Detail**
1	Solution Design	Develop a full T2ST-specific stakeholder engagement strategy
2	Solution Design	Confirm to RAPID that the solution aligns with Thames Water's and Southern Water's WRMPs and relevant Regional Plans at the next available regular checkpoint meeting after the publication of the WRMPs and Regional Plans
3	Solution Design	Fully identify and assess the impacts of pipeline routes and construction on the environment, particularly on designated sites and river crossings.
4	Costs & Benefits	Revisit the natural capital and biodiversity net gain assessments using feedback from consultants to shape the scope and implement a mitigation strategy to meet the biodiversity net gain threshold.
5	Costs & Benefits	Identify the least cost and best value options at a solution level.
6	Environment	Work with the Environment Agency to de-risk areas of environmental concern, including pipeline crossings of designated sites, rivers and flood plains, and groundwater interactions.
7	Environment	Refine the carbon assessment once a preferred option is selected and more information is available on construction methods and pipeline materials. This includes addressing areas of improvement from the gate two submission, such as: • Can T2ST embrace innovative designs & renewable energy (RE) opportunities or opportunities to sequester carbon? • Further work on selection of materials and whether the lowest carbon options have been considered • Look to help shape the availability of low carbon materials in the supply chains • Provide details of monitoring and reporting of project emissions during and post project completion planned • Provide clear evidence of consideration of how whole life carbon has been reduced within the design

Recommendations		
Number	**Area**	**Detail**
1	Solution Design	Southern Water to complete further detailed water resource modelling using a Pywr water resource model of the Hampshire supply area. This work should further inform the required utilisation including monthly operation.
2	Solution Design	Provide information on the interaction with other solutions, specifically SESRO, STT as potential sources, and ongoing Southern solutions.
3	Solution Design	Consider completing solution-specific customer engagement on the level of support for T2ST.
4	Costs & Benefits	Use the capacity in the regional plan and WRMP to account for conjunctive use benefit with SESRO, STT and Southern solutions, plus any other in-combination deployable output impact with other solutions, in WRSE modelling.
5	Solution design	We recommend that the solution owner continues to engage with Historic England on the work required to consider the historic environment. We recommend that the programme of planned investigations and assessments is reviewed regularly with Historic England.

Appendix B: Gate one actions and recommendations

Actions – addressed in standard gate two submission			
Number	**Area**	**Detail**	**RAPID assessment outcome**
1	Solution Design	Complete regional modelling to determine the preferred SRO capacity.	Complete
2	Solution Design	Fully identify and assess the impacts of pipeline routes and construction on the environment, particularly on designated sites and river crossings.	Incomplete – Action carried forward links to gate two action 3
3	Solution Design	Consider requirements for maintenance flows from the River Thames.	Complete
4	Solution Design	Update Table 3 (Inter-related schemes affecting need and timing of T2ST) to reflect the current understanding of the Havant Thicket delivery timing, and the requirement and timing of other strategic resolution solutions and other solutions when they are on differing timescales. Include the new Havant Thicket+ strategic resource solution in this table and update it at gate two to reflect the decision at Southern Water's accelerated gate two.	Partially complete – Link to gate two recommendations 1, 3 and 5.
5	Solution Design	Ensure regional modelling considers the full range of spur connections and transfers to Portsmouth and Wessex Water. Potential supplies to Thames Water's Kennet Water Resource Zone and to South East Water should also be included in the scope of work.	Complete
6	Solution Design	Provide a detailed assessment of interdependencies and in-combination impacts with other strategic resource solutions and other solutions required for gate two following the outputs of regional modelling.	Partially complete – Link to gate two recommendation 5.
7	Evaluation of Costs & Benefits	Undertake regional modelling to quantify the water resource benefits of the solution. As outlined in the response to query TST008, this is expected to be a two-stage process, with an initial phase in late 2021 to model the solution, followed by an update where the updated solution is submitted into a second round of regional modelling in early 2022. The deployable output should be set out in terms of meeting the deficit.	Complete

8	Evaluation of Costs & Benefits	Further investigate how the solution could improve regional resilience to other water companies such as Portsmouth, Bournemouth, and Wessex Water. Include benefits other than from resilience in water supply and economic benefits, such as environmental, flood, and multi-sector benefits.	Complete

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We regulate the water sector in England and Wales.

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