

December 2019

PR19 final determinations

**Strategic regional water resource
solutions appendix**

PR19 final determinations: Strategic regional water resource solutions

Contents

1.	Summary of final determination.....	3
2.	Background.....	4
3.	Our final determination decision.....	6
4.	Stakeholders' representations, our assessment and reasons.....	20
	Annex 1: Summary of changes for fast track companies.....	38
	Annex 2: Gate activities and outputs.....	39
	Annex 3: Delivery incentives.....	43

1. Summary of final determination

We identified that limited cross-company, strategic water resource solutions are proposed in the latest water resources management plans and company business plans, yet these will be vital over the next five to 15 years to meet future demands.

For the final determinations we allocate up to £469 million for companies to investigate and develop integrated strategic regional water resource solutions during 2020-25. This will enable 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.

Based on company submissions, we identify 17 solutions for the initial stage of this process with development funding divided between nine companies, who we expect to work together (and with third parties) to deliver this work. There are 11 source-type solutions, which include reservoirs and effluent reuse, and six transfer-type solutions, utilising river, canal and pipeline transfer routes.

Delivery of these solutions will be subject to a formal gated process. There are four gateways in 2020-25 where regulators will review progress and determine how and if solutions should proceed further through the process. We define standard gate timings for the solutions with gate one submission being 5 July 2021. The standard gate timings align with other processes such as the water resources management plans. Southern Water's need for large scale water resources occurs earlier than for other companies, as a result we define accelerated gate timings for solutions that can benefit its customers, with gate one on 28 September 2020.

This funding is subject to an end of period reconciliation mechanism which will adjust the RCV/revenue associated with this development programme based on decisions made at each gate. Gates have a maximum cost allowance for the defined activities and expected outputs. All underspend is returned to customers with no sharing of overspend with customers for solutions that do not progress beyond gate two. For solutions progressing beyond gate two, cumulative cost sharing at 50% will apply. When a solution does not progress through this programme the future gate allocations will be returned in full to customers, except when substitute solutions join the process. We apply delivery incentives to ensure that outputs are delivered on time, are sufficiently progressed and are of a suitable quality for decision making.

The Regulatory Alliance for Progressing Infrastructure Development (RAPID) will support and oversee this process. The allocation of expenditure and its governance process will ensure that companies and regulators work together to deliver efficient solutions on behalf of customers to meet future drought resilience challenges.

2. Background

Ensuring water resource supplies are resilient against droughts is becoming more challenging with pressures from climate change, population growth, societal expectations and increasing environmental aspirations. In response to this challenge we identify the potential for companies to jointly deliver strategic water resources to secure long-term resilience on behalf of customers while protecting the environment and benefiting wider society.

We have provided clear messaging for companies to consider long-term strategic solutions throughout the water resources management planning process, including in our contributions to the joint guidance, our pre-consultation expectations in 2016, and our responses to the draft plan consultations. Our consultation responses in spring 2018 highlighted our concerns about regional solutions and treatment of third parties, building on our expectations in 'Delivering Water 2020: Our final methodology for the 2019 price review' for addressing drought resilience and protecting the environment. We outlined that: 'Customers expect reliable water and wastewater services supplied by infrastructure that can avoid, cope with and recover from, disruption. The water companies that deliver these services need to make the best long-term decisions about operations, maintenance and investment. Including to assess a wide range of options for securing water supply resilience including investment in new infrastructure, water transfers and measures to significantly improve water efficiency and reduce consumption.'

Therefore, we intervened during the initial assessment of business plans to allocate up to £358 million for six companies to jointly investigate and develop seven integrated strategic water resource solutions to support the demands of the south-east. In the draft determinations we built on this and allocated £450 million to eight companies to investigate and develop 15 solutions during 2020-25. We linked developing these solutions to gated project deliverables, such as consistent option design and costing, with funding associated with gate activities. The gateways were supplemented with customer protection to ensure that funding would be returned for non-delivery and if solutions are no longer suitable to progress. As a result of this funding we expected commitment from the industry to co-operate effectively and efficiently, to develop solutions on behalf of customers that are 'construction ready' for the 2025-2030 period.

Any funding allowance we make provides companies with the ability and certainty to further investigate, develop projects and engage with third parties through a flexible process that accelerates developing a selection of robust and deliverable solutions that are in the regional and national interest. Progressing more solutions in parallel, rather than just one for a specific scenario, enables flexibility to meet the resilience

challenges of the future. The additional water provided by these regional solutions could be over 1500 Ml/d which exceeds the needs identified in the 2018 report 'Preparing for a drier future' by the National Infrastructure Commission. 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.

We have established the Regulatory Alliance for Progressing Infrastructure Development (RAPID) an alliance of three water industry regulators: Ofwat, the Environment Agency and Drinking Water Inspectorate - to support and oversee the development of these regional solutions. This will help ensure consistent decisions are made across regulators, allowing the broader public interest to be taken into account, instead of a narrow focus on local or regional activities which can limit solutions for the common good. RAPID will address significant 'barriers and gaps' in the regulatory process to ensure solutions are developed in a consistent, timely and co-ordinated way, in addition to ensuring that customers and the environment are protected.

3. Our final determination decision

We make a total allowance of up to £469 million available to investigate and develop 17 solutions jointly between nine companies. This allowance is subject to a gated process and customer protections. We include an end of period reconciliation with revenue and regulated capital value (RCV) adjustments and some cost sharing for underspend or overspend at the later gates.

Our decisions take into account the representations made on all our draft determinations, responses from companies to our queries and additional information provided following further engagement with companies and other stakeholders as part of the final determination process. In the interest of brevity, where no representations have been made on our draft determination proposals, we do not repeat our reasoning in all cases. Please see the [PR19 draft determinations](#) for further details.

3.1 Changes from draft determination

In this document all comparisons are made to the slow track draft determinations, including the three fast track companies. Annex 1 contains a comparison of the funding and solutions for the fast track companies.

Based on the representations received we make the following key changes since the slow track draft determinations:

- We increase the number of solutions from 15 to 17 in order to improve the flexibility and transparency for progressing through this process.
- We increase the total development allowance for this programme by £19 million to £469 million. This includes cost changes at a company level for the following:
 - Anglian Water (-£0.5million)
 - Bristol Water (+£2.0 million)
 - Severn Trent Water (-£0.8 million)
 - Southern Water (+£2.9 million)
 - South West Water (+£2.6 million)
 - United Utilities (+£9.8 million)
 - Wessex Water (+£2.9 million)

- We amend the partnering within some of the solutions, most notably those involving United Utilities and Severn Trent Water, but also some minor changes to the West Country Water Resources group solutions.
- We make small adjustments to the gate timings and the deliverables required at each gate.
- We revise the approach to cost sharing and introduce cumulative cost sharing after gate two.

In Table 3.1 below we identify the maximum development allowances for each company we make for final determinations.

Table 3.1: Maximum development allowances in 2020-25 (£million, 2017-18 prices)

Company	Draft determination	Final determination
Affinity Water	83.3	83.3
Anglian Water	25.3	24.8
Bristol Water	0.0	2.0
Severn Trent Water	43.3	42.5
Southern Water	82.0	84.9
South West Water	1.3	3.9
Thames Water	179.2	179.2
United Utilities	34.3	44.1
Wessex Water	1.3	4.2
Total	450.1	469.0

We describe the approach for final determination in the sections below:

- Section 3.2 - Costs and solutions
- Section 3.3 - Gated process
- Section 3.4 - Customer protection

3.2 Costs and solutions

We continue to define solutions as either sources or transfers, although there may be elements of both within an individual solution. We include a revised list of solutions and their indicative description and potential water resource benefit in Table 3.2 below.

It is not expected that all future water resources solutions will follow this structured development process as this 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.

Table 3.2: Solution descriptions and maximum development allowance in 2020-25 (£million, 2017-18 prices)

Solution name	Description	Maximum development allowance
Abingdon reservoir	Joint solution – Thames Water and Affinity Water New bunded reservoir near Abingdon in Oxfordshire. Development to consider at least two sizes (including the currently proposed 150,000 MI), and interactions with other solutions, such as the River Severn to River Thames transfer. Potential solution capacity of 294 MI/d.	121.7
London effluent reuse	Individual company solution* – Thames Water Development to consider Beckton, Mogden and Teddington effluent reuse options. Potential solution capacity of 250 MI/d.	62.9
South Lincolnshire reservoir	Joint solution – Anglian Water and Affinity Water New reservoir (with a volume of 50,000 MI to be considered as part of options) constructed in South Lincolnshire with the potential for transfer to Affinity Water. Potential solution capacity of 100 MI/d.	38.6
Fawley desalination	Individual company solution* – Southern Water Desalination plant on south coast with at least three size options to be considered. Potential solution capacity of 75 MI/d.	37.4
River Itchen effluent reuse	Individual company solution* – Southern Water Transfer of effluent, upstream of the tidal limit, to augment flows and enable abstraction. Potential solution capacity of 90 MI/d.	35.8
Vyrnwy reservoir	Individual company solution* – United Utilities In-region transfer of water to enable release from Vyrnwy reservoir to support the River Severn to River Thames transfer. Potential solution capacity of 180 MI/d.	14.7
Minworth effluent reuse source	Joint solution – Severn Trent Water and Affinity Water Development to consider options to provide treated effluent for discharge into the River Avon to support the River Severn to River	9.0

Solution name	Description	Maximum development allowance
	Thames transfer or into the canal network to support the Grand Union Canal transfer. Potential solution capacity of 115 MI/d.	
United Utilities sources	Individual company solution* – United Utilities 11 source options identified, comprising groundwater enhancement, improved reservoir release control, local interconnection and treatment, and river abstraction. Potential solution capacity of 112 MI/d.	7.2
West Country south sources (and associated transfers)	Joint solution – South West Water, Wessex Water, Southern Water. Development of source options in the Wessex Water and South West Water areas, such as effluent reuse and additional pumped storage, to maximise available water for transfer to Southern Water. Potential solution capacity of 65 MI/d.	5.5
Severn Trent Water sources	Individual company solution* – Severn Trent Water At least three source options to be considered; Mythe unused licence transfer, Netheridge effluent transfer, and Shrewsbury abstraction. These options can be used to support the River Severn to River Thames transfer. Potential solution capacity of 80 MI/d.	5.3
West Country north sources (and associated transfers)	Joint solution – Bristol Water, Wessex Water, Southern Water. Development of a second Cheddar reservoir and pipeline to Wessex Water, and reinforcing the Wessex Water network to maximise a transfer from Bristol Water at Newton Meadows, and link to Southern Water. Potential solution capacity of 21 MI/d.	4.9
River Severn to River Thames transfer	Joint solution – Thames Water, Severn Trent Water and United Utilities Development to consider the transfer of water from the lower reaches of the River Severn to River Thames via a pipeline or restored canal route. Potential solution capacity of 180 MI/d.	66.6
Grand Union Canal transfer	Joint solution – Severn Trent Water and Affinity Water Transfer from the midlands to south-east using the canal network. This work should be in partnership between the companies and Canal & River Trust. Potential solution capacity of 100 MI/d.	18.0
Thames Water – Southern Water transfer	Joint solution – Thames Water and Southern Water Transfer from Thames Water to Southern Water. This can use existing sources or others developed as part of this programme, and consider at least two route options. Potential solution capacity of 100 MI/d.	15.0

Solution name	Description	Maximum development allowance
Anglian Water – Affinity Water transfer	Joint solution – Anglian Water and Affinity Water A transfer of water from Grafham reservoir to Affinity Water supported by the development of the South Lincolnshire reservoir. Potential solution capacity of 100 MI/d.	11.5
Thames Water – Affinity Water transfer	Joint solution – Thames Water and Affinity Water A transfer of water from Thames Water to Affinity Water (considering at least two options). Potential solution capacity of 100 MI/d.	10.9
West Country – Southern Water transfer	Joint solution – South West Water, Wessex Water, Southern Water. A transfer from the Bournemouth zone to Southern Water. This can use sources from both South West Water and Wessex Water, and potentially utilise the existing transfer between Wessex Water and the Bournemouth zone. Potential solution capacity of 45 MI/d.	4.0

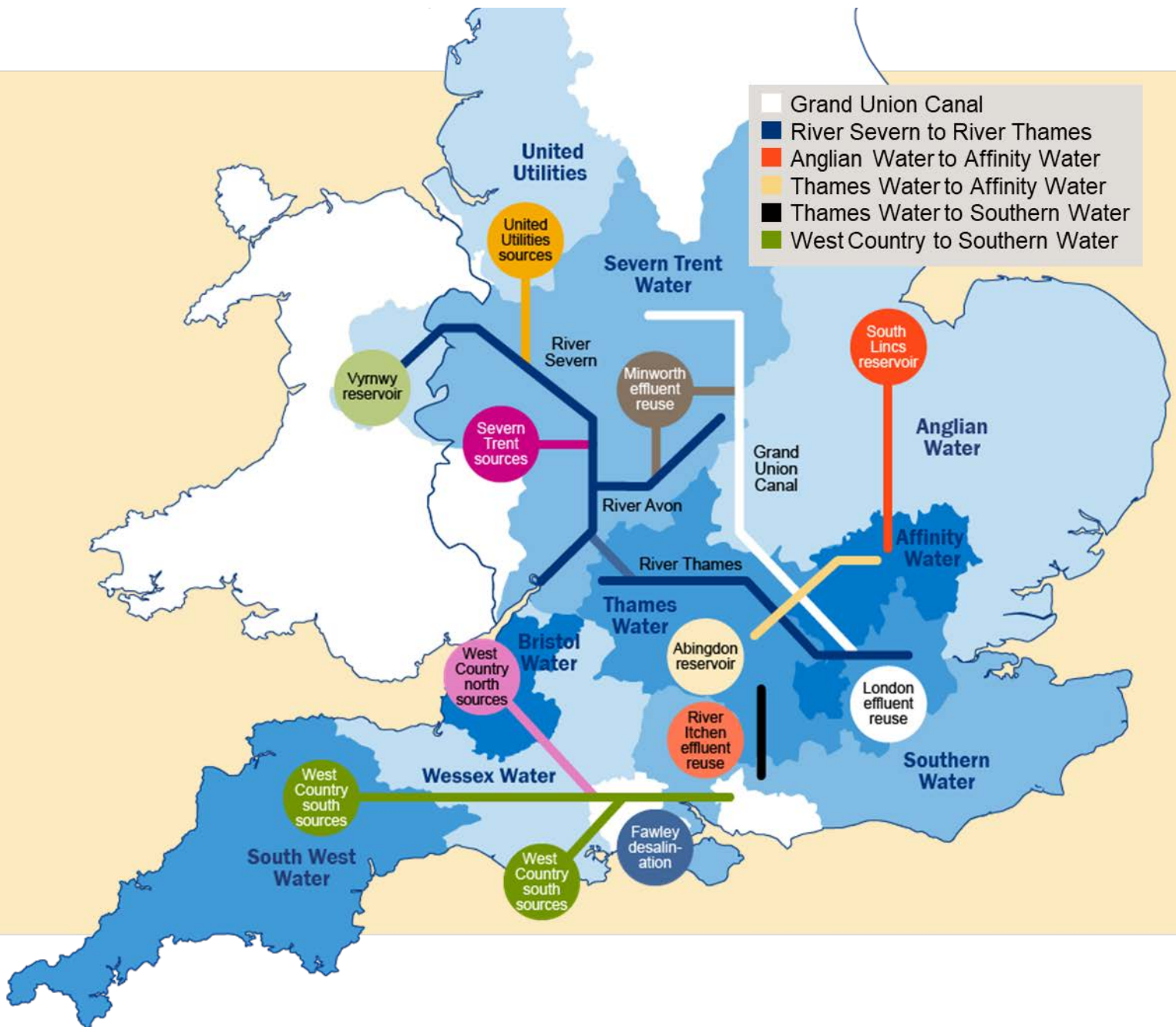
* Although a company solution with no identified partner this has potential to benefit other companies and interact with joint solutions, therefore its delivery will benefit from development funding and RAPID facilitation.

We assess the evidence the companies submit in order to identify updated partnering arrangements for the solutions. We summarise this in Table 3.3 below.

Table 3.3: Final determination funding allocation matrix (£million, 2017-18 prices)

Solution name	Solution type	Affinity Water	Anglian Water	Bristol Water	Severn Trent Water	Southern Water	South West Water	Thames Water	United Utilities	Wessex Water	Total
		Maximum development allowance									
Abingdon reservoir	Source	40.6	-	-	-	-	-	81.1	-	-	121.7
London effluent reuse	Source	-	-	-	-	-	-	62.9	-	-	62.9
South Lincolnshire reservoir	Source	19.3	19.3	-	-	-	-	-	-	-	38.6
Fawley desalination	Source	-	-	-	-	37.4	-	-	-	-	37.4
River Itchen effluent reuse	Source	-	-	-	-	35.8	-	-	-	-	35.8
Vyrnwy reservoir source	Source	-	-	-	-	-	-	-	14.7	-	14.7
Minworth effluent reuse	Source	3.0	-	-	6.0	-	-	-	-	-	9.0
United Utilities sources	Source	-	-	-	-	-	-	-	7.2	-	7.2
West Country sources south	Source	-	-	-	-	1.5	2.6	-	-	1.5	5.5
Severn Trent Water sources	Source	-	-	-	5.3	-	-	-	-	-	5.3
West Country sources north	Source	-	-	2.0	-	1.5	-	-	-	1.5	4.9
River Severn to River Thames transfer	Transfer	-	-	-	22.2	-	-	22.2	22.2	-	66.6
Grand Union Canal transfer	Transfer	9.0	-	-	9.0	-	-	-	-	-	18.0
Thames – Southern transfer	Transfer	-	-	-	-	7.5	-	7.5	-	-	15.0
Anglian-Affinity transfer	Transfer	6.0	5.5	-	-	-	-	-	-	-	11.5
Thames – Affinity transfer	Transfer	5.5	-	-	-	-	-	5.5	-	-	10.9
West Country – Southern transfer	Transfer	-	-	-	-	1.3	1.3	-	-	1.3	4.0

Figure 3.1: Strategic regional water resource solution map



The 2020-25 gate allocations as a proportion of total development funding are unchanged from draft determination and shown in Table 3.4. These reflect our view that there will be intense activity at the later gates associated with planning permission and pre-development consent order applications. The feasibility, design and decision making activities can benefit from efficient industry wide approaches (supporting the consistency issue) and build on work already ongoing for regional

plans and water resources management plans. The majority of the activity for gate one and gate two would have been undertaken for inclusion within draft and final water resources management plans and business plans regardless of this additional funding. The development allowance is relatively low at this stage to reflect this. This funding allows an acceleration of the activities to be undertaken, supports consistency, encourages joint working (including with third parties), enables additional analysis where required and provides outputs with greater certainty than would be available without it.

Table 3.4: Gate allowances for final determination (£million, 2017-18 prices)

Gate	Proportion of maximum development allowance (%)	Maximum development allowance (£million)
Gate 1	10	46.9
Gate 2	15	70.4
Gate 3	35	164.2
Gate 4	40	187.6
Total	100	469.0

Companies identify the potential for approximately £300 million of additional funding which may be required at gate five for some solutions to be considered 'construction ready'. This expenditure would relate to solutions that need the development consent order planning process and substantial land purchase. These costs may form part of the direct procurement for customers (third party) delivery, if this route is appropriate.

Based on the regional requirements and the mutual exclusivity of some solutions, in terms of sourcing the same water and meeting the same needs, not all will progress to gate four. It is likely that the majority of the 17 solutions identified at this stage will not be funded through this process beyond gate three, therefore, a large proportion of the £469 million will be returned to customers at the end of the period.

3.3 Gated process

Table 3.5 provides the agreed timings for gate one (both standard and accelerated). The timing and activities of gates two to four are indicative with the full details of gate two to be confirmed alongside the decisions made at gate one, and the same process will be followed for subsequent gates. As gates two and three are aligned to the water resources management plan statutory process, namely the publication of draft and final plans, there is flexibility in these gate timings to acknowledge that external factors may cause the planned dates to change.

Table 3.5: Gate timings for final determination

Gate	Standard gate start (submission) dates	Accelerated gate start (submission) dates
Gate 1	Monday 5 July 2021	Monday 28 September 2020
Gate 2	October 2022 (aligned with draft WRMP24 consultation period)	Monday 27 September 2021
Gate 3	Summer 2023 (aligned with final WRMP24 publication)	June 2022
Gate 4	Summer 2024	April 2023
Gate 5 (if required)	Winter 2025	Autumn 2024

Gate timing alignment across the whole programme becomes less important as it progresses, in particular after gate three, where most of the decisions on solutions not progressing will have been made. There will also be more confidence that those remaining will form part of the optimum solution portfolio. Beyond gate three the timings also become more dependent on external factors such as the planning application process. The need for flexibility and bespoke solution gate timings will be reflected in future decisions.

The accelerated gate timings are assigned to solutions that are most likely to provide Southern Water with supplies in time to meet its environmental obligations by 2027 (as agreed under section 20 of Water Resources Act 1991). In a change to the draft determination, the solutions to follow the accelerated gate timings outlined above (eg gate one – 28 September 2020) are Fawley desalination, River Itchen reuse and West Country north sources. Southern Water has requested transitional expenditure in this area to support early work on some of these solutions that we allow in the final determination.

Gate activities and outputs

We detail the activities, outputs and expected outcome for each gate in the following section. The gate submissions will allow companies to propose refinements to the activities and outputs described for the subsequent gate(s). Further details of the gate activities are defined in Annex 2.

Gate one: Initial concept design and decision making - Based on appropriate studies generate sufficient information for an initial assessment of identified strategic solutions. This will include initial concept design using agreed consistent assumptions and input into initial regional plans for the pre-consultation stage (to

support decision making to carry forward selected solutions). The solution should be developed to a standard suitable for submitting into draft regional plans or draft water resources management plans. This stage of the programme remains focused on eliminating solutions that are demonstrated to be unsuitable, no longer require further development funding or will not benefit from the structured gate process, and the identification of suitable alternative solutions.

Gate two: Detailed feasibility, concept design and multi-solution decision

making – Builds on gate one activities to improve the detail and breadth of studies for a key decision point for strategic solutions. This will include concept solution designs with reduced uncertainty in costs and benefits and re-testing in revised regional and company models (to support updated decision making and filtering on outputs including those that are mutually exclusive). The solution should be developed to a standard suitable for submitting into final regional plans or final water resources management plans. This stage of the programme aims to further enhance the funding portfolio, based on refined and consistent costs and benefits, with suboptimal solutions eliminated and viable solutions carried forward to the pre-planning stage.

Gate three: Developed design, finalised feasibility, pre-planning investigations and planning applications

– Whilst further developing the designs the focus moves towards the pre-planning application activities. This will include revising strategic environmental assessments, planning permission-related stakeholder engagement, developing planning application or starting development consent order pre-application investigations (where applicable), finalising a procurement strategy (including a direct procurement for customers business case) and starting land procurement preparation. The solution design and supporting data should be developed to a standard suitable to progress solutions to the next level of planning and tendering. This stage of the programme aims to further refine the portfolio based on planning investigations, final water resources management plan publications and revised designs, costs and benefits.

Gate four: Planning applications, procurement and land purchase – This is fully focussed on planning applications, procurement activities (in-house or direct procurement for customers) and land acquisition. Planning application activities will either be continuing pre-application investigations for development consent order solutions, or activity to secure planning permission for the standard planning process.

3.4 Customer protection

To protect customers we propose an end of period reconciliation mechanism that will apply to this development funding. This enables efficient and timely delivery while providing the necessary customer protection for the potentially significant expenditure. The mechanism allows the following decisions to be implemented at the end of period:

1. **Solution discontinued** - returns future funding where a solution is cancelled at a gate decision partway through the process. The funding will be returned to customers through end of period reconciliation. Decisions will be made in-period and aligned with gate timescales.
2. **Solution substitution and reallocation** – allows transfer of development funding to a substitute solution, where it proves to be of better value than the rejected solution, up to and including gate three.
3. **Partner substitution and reallocation** - enables reallocation of funding for changes in solutions or solution partners, including those not identified at this stage, up to and including gate three.
4. **Delivery penalties** - applies penalties for late submission and delivery of poor quality (incorporating completion of gate activities and expected certainty of outputs) deliverables. Decisions regarding penalties will be made at each gateway in-period but applied at the end of period.

We provide further details on cost sharing, penalties and substitutions in the following sections where there have been changes since draft determination.

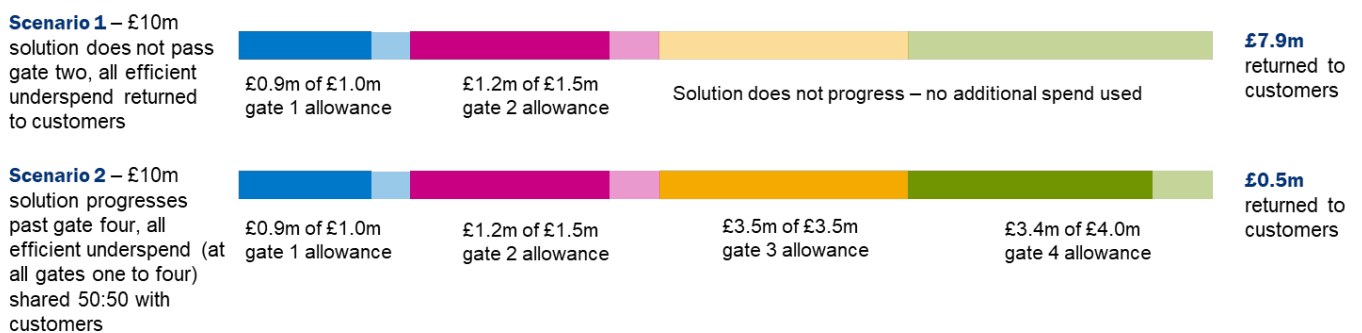
3.4.1 Cost sharing

We allocate the development funding to companies in full from the start of the 2020-25 period to encourage progress with the evaluation of these solutions. It is allowed on the assumption that the gate activities can be delivered for the allocated proportions of the total allowance. Any efficient spend on these activities up to gate decision point is allowed, and is in general not subject to recovery (subject to the maximum development allowance at each gate and any delivery incentives that may be applied). This funding is for the development of the joint solutions listed as part of the formal gated process. Any spend on activities outside the gate activities for these 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.

In a change from draft determination we introduce cost sharing following completion of gate two. However, for solutions that do not progress beyond gate two any overspend or underspend at gate one and gate two is fully borne by the companies involved. This can be considered as full cost sharing with customers. For solutions that progress beyond gate two cost sharing is applied to the ring-fenced development allowance for each solution on a cumulative basis. This cumulative cost sharing after gate two applies to efficient underspend or overspend and will use a 50% sharing rate with customers. The cumulative nature of the cost sharing (after gate two) allows potential underspend in the early gates to offset overspend at later gates, and vice versa.

The cost allocations to each gate reflect the future costs that can be returned to customers through the end of period reconciliation mechanism if solutions do not progress through this programme of work. Future gate allowances for solutions that do not progress are fully returned to customers (with no cost sharing) regardless of the gate that the solution fails to progress beyond. This aspect of the mechanism protects customers from paying for gate allowances for future activities that, following a gate decision, are no longer necessary due to the discontinuation of the solution’s development (in this process). Although the decision to not further progress a solution will be made transparently using the outputs of the gate activities in-period, the adjustment will not be made at this point. Future gate activity funding allocations will be returned to customers at the start of the 2025-30 period through the end of the period reconciliation mechanism. Figure 3.2 provides two scenarios that demonstrate how the cost sharing mechanism for underspend and solution progression will be applied.

Figure 3.2: Cost sharing mechanism – cumulative sharing of efficient spend for solutions progressing beyond gate two



3.4.2 Delivery incentives

Delivery incentives form part of the customer protection which is necessary not only where a decision is made to no longer progress a solution but also to ensure that companies meet the submission dates for the gate deliverables and produce these to a suitable quality. Late delivery could result in customers either funding sub-optimal long-term solutions or facing increased risk to drought.

At each gate we will apply up to 30% of each company's total efficient spend (for that gate) as a penalty for submission delay or poor quality deliverables (incorporating completion of gate activities and required certainty of outputs).

For gate one delivery incentives we have further developed, in conjunction with companies, a framework to be followed building on the principles outlined in the draft determination. The framework considers the submission timing, quality and progress through a two stage assessment. The initial stage, stage A, is a simple test of whether companies have submitted material by the gate one submission deadline. This test is binary, companies either pass or fail, with a fail incurring the maximum 30% penalty. The second stage, stage B, focuses on the progress and quality of the submission.

Penalties will apply to the partner that causes the late submission, quality or progress issues. We acknowledge that this may be difficult to ascertain and expect that as part of the joint working agreements between companies, the process for identifying and agreeing the cause of any issues is described. In the event that we consider that it is unclear which party or parties have caused any delay or quality issue for a solution then all partners involved will receive the penalty.

3.4.3 Substitutions and additions

We recognise the potential for companies to identify new solutions, in addition to those currently identified and which we provide development funding for, as a result of continued analysis and the regional solution identification process. Therefore, where a solution is deemed to be unsuitable to progress further at a gate (up to gate three), the future development allowance for this discontinued solution can be transferred, with our agreement, if there is a compelling substitute solution. This transfer can be between companies when combined with the partner substitution function and not limited to within an individual company's allowance. It is possible that the substituting solution has a higher or lower total cost. However, given the potential late stage of the substitution, we consider the development allowances are

appropriate to cover remaining activities to gate four, to the degree that decisions can be made prior to future business plan submissions.

To understand if a solution is of better value than the rejected solution and on a level playing field with others still in the process, we expect that gate activity deliverables up to the point of substitution will be available for the transferring-in solution to allow us to make a decision whether this is a suitable use of funds. It is expected that development cost is part of normal company activity, such as investigations for solutions for submission in water resources management plans and business plans. Therefore, any costs incurred prior to a decision to transfer in is made will not be recovered through the end of period reconciliation mechanism. In the absence of a compelling substitute solution and Ofwat agreement to any substitution, the future gate allocations are fully returned to customers as described above.

We also recognise the potential for partners involved in the identified solutions to change during the solutions development. Subject to our assessment of, and agreement with, any proposal to amend the partners associated with a solution, we will allow an end of period adjustment to account for changes in the water companies involved in solutions identified at final determination. This will allow an upward adjustment for companies that are not listed as part of this development allowance but join the solution as a partner (by gate three) and a corresponding downward adjustment to other partners. Therefore, all companies could be subject to the end of period adjustment if they are part of this development programme in the final determinations or if they join before gate three. We consider gate three, summer 2023 (June 2022 for accelerated gate timing solutions), as the deadline for substitutions within this process to make sure we progress the optimal potential solutions to meet customer and environment needs.

The development allowance for strategic regional water resources solutions is set to the maximum of £469 million for 2020-25. Therefore, any solution and/or partner substitutions and potential additions will be considered within this limit.

4. Stakeholders' representations, our assessment and reasons

4.1 Representation summary

We take the responses to the draft determinations into account in our decision making for final determinations. We additionally take into account any evidence that was submitted late in the draft determination process. Where appropriate, we explicitly set out our response to points and issues respondents raise. We focus on key changes since the draft determination in this document but many elements remain unchanged and the draft determination appendix and updated strategic regional water resources feeder model should be used in conjunction with this documentation for a complete picture of our assessment and expectations.

We received representations from 15 stakeholders for this area of funding. This includes ten representations from water companies and two from regional water resource planning groups (Water Resources South East and West Country Water Resources). The representations focus on the following areas:

- Solutions including costs and joint working;
- Gated process including timing and outputs; and
- Customer protection including cost sharing.

Table 4.1 summarises the representation challenges. We focus on areas where the stakeholder indicates that a change may be necessary. We do not summarise where a stakeholder accepts a policy decision either implicitly or explicitly.

Table 4.1: Summary of draft determination representation challenges

Stakeholder	Stakeholder representation summary	Section(s) considered
Affinity Water	<ul style="list-style-type: none"> • Suggests all its solutions are likely to be applicable for development consent orders, and proposes amendments to gate activity outputs for gate three and four. • Proposes costs are reconciled using the same RCV/PAYG basis as the runoff rate within its financial model. 	Section 4.3 Gated process Section 4.4 Customer protection
Bristol Water	<ul style="list-style-type: none"> • Proposes that the company jointly provides solutions as part of the West Country Water Resources group. • Requests the costs for proposed solutions and a joint working approach but identifies there are inconsistencies as a result of submission timescales. Costs and partner allocations confirmed in a query response. 	Section 4.2 Costs and solutions

Consumer Council for Water (CCWater)	<ul style="list-style-type: none"> • CCWater's representations are tailored dependent on the company's primary role as exporter or importer in this programme. It recognises that progress needs to be made to address the future water resources needs of customers. However, it raises concerns about customers bearing the costs of these solutions where they may not be the beneficiaries. It wants to see further details about how the mechanism ensures it is those customers who benefit from enhanced resilience who meet the costs. 	Section 4.4 Customer protection
Environment Agency	<ul style="list-style-type: none"> • Expects to be involved in the decision about the final dates for the gated process to ensure it aligns across both our regulatory duties. States that over the next three years, it will be vital for both our organisations to work together to ensure decisions are made on these new strategic solutions. 	Section 4.3 Gated process
Group Against Reservoir Development (GARD)	<ul style="list-style-type: none"> • Welcomes our approach to strategic regional water resources and the formation of the RAPID unit to oversee it but considers the allowances are too generous. • Challenges Affinity Water's need for water by 2037 and suggests a decision should be delayed by five years to 2027, it says the 2022 target will not provide enough time for detailed investigations to be completed. • Considers Ofwat has proposed a comprehensive and wide ranging options list. It has no proposals for additions or deletions. It provides specific comments for several solutions. • It is pleased to see stakeholder engagement as part of the gated decision process and wants further details. Considers there has been a lack of option cost transparency in the current process and hope this will be rectified by Ofwat's gated decision process. 	Section 4.2 Costs and solutions Section 4.3 Gated process
Northumbrian Water	<ul style="list-style-type: none"> • Makes a cost request related to activities undertaken in conjunction with two regional water resource groups, Water Resources North and Water Resources East. 	Section 4.2 Costs and solutions
Severn Trent Water	<ul style="list-style-type: none"> • Raises concern that joint solutions with United Utilities and Affinity Water will not bring sufficient benefits to overcome the additional cost overheads. This includes reservations over the practicality and competition concerns of sharing source development between potentially competing suppliers. • The reconciliation adjustment mechanism should be consistent with how the totex has been funded over 2020-25 ie part revenue adjustment based on our PAYG rate with the remainder as a RCV adjustment. 	Section 4.2 Costs and solutions Section 4.4 Customer protection
South West Water	<ul style="list-style-type: none"> • Proposes to develop additional strategic source capacity, transfers and solutions. • Presents revised costs for the solutions reflecting common reporting standard for funding across the West Country Water Resources group companies and correction of cost calculation errors in the draft determination. Costs and partner allocations confirmed in a query response. 	Section 4.2 Costs and solutions Section 4.3 Gated process Section 4.4 Customer protection

	<ul style="list-style-type: none"> Proposes to adopt standard gateways rather than the accelerated timetable proposed for some of the Southern Water solutions. Also suggests the gate timings are aligned with the regional planning timetable. 	
Southern Water	<ul style="list-style-type: none"> Submits revised costs reflecting updated solutions from the West Country Water Resources group. Costs and partner allocations confirmed in a query response. Propose that accelerated timings only apply to its Fawley desalination and River Itchen reuse solutions, and not the Thames to Southern transfer or updated West Country Water Resources solutions. 	<p>Section 4.2 Costs and solutions</p> <p>Section 4.3 Gated process</p>
Thames Water	<ul style="list-style-type: none"> Considers the 5% cost challenge (on a solution that did not include optimism bias) and lack of flexibility increases the risks if there are scope changes. Proposes flexibility in gate allocations to manage uncertainty of gate timings and scope changes. Considers that an RCV reconciliation mechanism would be the most appropriate way to return un-needed funds to customers as the totex is fully added to RCV (with no RCV run-off or fast money). It requests that an RCV adjustment is used to align how solution funding is recovered from customers. 	<p>Section 3.2 Costs and solutions</p> <p>Section 3.4 Reconciliation mechanism</p>
United Utilities	<ul style="list-style-type: none"> Considers the 41% cost challenge as unreasonable and creates risks to delivery. It provides further supporting evidence for its costs. Raises concerns about a cost sharing mechanism with a competitor, including competition concerns. Suggests that the programme has an overly punitive cost sharing regime inconsistent with other aspects of totex. Raises a concern about the reconciliation mechanism which adjusts revenues and will contribute to volatility in customer bills. Requests that the gateway process aligns to existing regulatory timescales and clarity is provided for deliverables required at each gate. 	<p>Section 4.2 Costs and solutions</p> <p>Section 4.3 Gated process</p> <p>Section 4.4 Customer protection</p>
Wessex Water	<ul style="list-style-type: none"> Proposes to expand the source and transfer capacity of its solutions compared to the draft determination. Provides updated costs for its solutions. Costs and partner allocations confirmed in a query response. 	<p>Section 4.2 Costs and solutions</p>
All Company Working Group joint statement (Affinity Water, Anglian Water, Severn Trent Water, Southern Water, South West Water, Thames Water, United Utilities,	<ul style="list-style-type: none"> Suggests the allocation between gates is inflexible. Proposes to allow companies to carry forward unspent totex from one gate to future gates to resolve this. Considers that gate timings and definitions of activities do not align with other relevant processes. It believes some minor realignment of the gates and clarification of the required activities by each gate would resolve this. Considers there is too much consultation as part of this process that will cause confusion with other statutory processes. It suggests that Ofwat decisions are published as usual to maintain process transparency. Considers the incentives for efficient delivery are weakened by not allowing companies to share totex 	<p>Section 4.2 Costs and solutions</p> <p>Section 4.3 Gated process</p> <p>Section 4.4 Customer protection</p>

Wessex Water and Water Resources South East)	<p>overspend and underspend with customers. Proposes applying the standard regulatory incentive mechanism.</p> <ul style="list-style-type: none"> Proposes allowing the return money to customers in the same way as it was raised, rather than via a revenue only adjustment which risks penalising companies. 	
West Country Water Resources (WCWR)	<ul style="list-style-type: none"> Proposes revised common reporting costings and comments on the strategic solutions reflecting funding across all West Country Water Resources group companies and correction of an error in the calculation of the draft determination funding. Proposes to use the standard gate timings and provides comments on the reconciliation mechanism approach, consistency and collaborative working. 	<p>Section 4.2 Costs and solutions</p> <p>Section 4.3 Gated process</p> <p>Section 4.4 Customer protection</p>
Yorkshire Water	<ul style="list-style-type: none"> Requests costs to develop solutions as part of Water Resources North outside of the gated process. This funding would be used to identify feasible solutions that will enable transfers from the north to the east, west and midlands, and potentially further south. 	<p>Section 4.2 Costs and solutions</p>

4.2 Costs and solutions

4.2.1 Solutions

What we said in our draft determinations

At draft determination we included 15 strategic solutions within the formal gated development process. We classified these into predominantly source-type solutions (nine) and predominantly transfer-type solutions (six).

Stakeholders' representations

The West Country Water Resources group and member companies clarify the solutions they ask us to consider for the development funding. The update includes Bristol Water source solutions - the second Cheddar reservoir and upgrades to Newton Meadows transfer. It also proposes an alternative solution from South West Water using Roadford reservoir.

United Utilities provides additional information to support its solutions to enable the River Severn to River Thames transfer whilst maintaining the resilience of supplies in its own operating area. This includes details of the work to support identifying additional sources in its own area as well as work on the Vyrnwy reservoir system to enable the reservoir to supply the upper reaches of the River Severn.

GARD considers that Ofwat has proposed a comprehensive and wide ranging list of solutions for investigation. It has no proposals for additions or deletions. However, it provides specific comments on the following solutions:

- Abingdon reservoir – agree that the in-combination effects with the River Severn to River Thames transfer are worth considering, but note that its modelling has shown little additional benefit of combining these solutions.
- Thames Water to Affinity Water transfer – propose that an alternative option incorporating a raw water transfer from an existing reservoir is considered fully for gate one.
- London effluent reuse – pleased to note that this includes the Teddington reuse option which was previously rejected. It concludes that the output from the solution could be more than the 250 Ml/d referenced in the draft determination.
- Minworth effluent reuse via the Grand Union Canal and Anglian Water transfer from South Lincolnshire reservoir – considers that any solution that meets Affinity Water’s needs provides a double benefit of increased river flows for further abstraction.
- River Severn to River Thames transfer – proposes that Ofwat should give the independent supervision of these options a high priority during the gate one investigations.

Our final determination decision

At final determination we include 17 strategic solutions within the formal gated development process. We classify these into predominantly source-type solutions (11) and predominantly transfer-type solutions (six). This includes the following updates:

- We include the additional sources and transfers within the West Country Water Resource solutions. However, we conclude that in the interest of transparency, partnering arrangements and early delivery, there is a benefit from dividing these solutions into three, rather than the original two.
- We split the United Utilities source solution from draft determination into two solutions for final determination, United Utilities sources and Vyrnwy reservoir.
- We note the additional information provided by GARD on technical details of several solutions. This technical analysis may be useful for the process going forward. We modify the description of the Thames Water to Affinity Water transfer slightly to consider a broader range of sub-options. We consider no further changes to solutions are necessary at this stage.

4.2.2 Solution costs

What we said in our draft determinations

We reviewed the cost evidence companies presented and used a unit cost (£million per MI/d) to benchmark similar solution types and reviewed the development cost component. Where necessary we cap the development allowance to 6% of total solution costs. This resulted in a maximum of £450 million development allowance for this programme of work.

Stakeholders' representations

The representations about solution costs relate to our cost challenges in the draft determinations, updates to cost requests as a result of scope changes and total solution cost transparency:

- United Utilities considers the allowance in the draft determinations is inadequate to progress its work. Its original submission includes costs for the in-region transfer of water which enables the release of up to 180 MI/d from Vyrnwy reservoir (supporting the River Severn to River Thames transfer), and to develop 112 MI/d of water resources within United Utilities' area to maintain drought resilience. It provides a more detailed breakdown of the activities and costs linked to its own sources solution.
- Thames Water states that the funding allowance for the River Severn to River Thames transfer, which we apply a 5% efficiency challenge to, does not include any optimism bias. It states that the proposed mechanism does not include an outperformance element to cope with legitimate scope increases (and decreases) that affect costs. The company considers that this exposes it to a level of risk on the solution without any mechanism to address it. The company reiterates its recommendation to provide flexibility and use optimism bias to manage unknown risk.
- The West Country Water Resources group and its member companies submit revised costs and refined solution descriptions for consideration in this area. The companies' response to our further query clarifies each partner's costs and enables us to better understand the proposals. This describes additional sources from Bristol Water including a second Cheddar reservoir.
- Yorkshire Water and Northumbrian Water both request funding, £0.408 million and £0.425 million respectively, to undertake strategic assessments as part of regional planning groups (Water Resources North and Water Resources East). Both companies make clear that this funding will not be to develop specific regional solutions through the gated process with the aim of being 'construction-ready' in 2025-30.

- United Utilities notes that we have published most, but not all, of the total solution costs. It considers that this creates information asymmetry which puts those companies (including United Utilities) whose costs are now public at a commercial disadvantage.

Our final determination decision

We update the costs for United Utilities based on costs it submits for its source development and enabling solutions. We correspondingly reduce Severn Trent Water's allowance because we no longer share development funding between United Utilities and Severn Trent Water for several solutions. As a result the total allowance for United Utilities' solutions are slightly higher.

We maintain the costs we allowed at draft determination for the River Severn to River Thames transfer because we do not consider the additional evidence Thames Water provides as sufficient to justify a change in our approach. We discuss mechanism flexibility later in this document but we do not envisage significant scope changes for the first stages of this development programme because it is primarily desk-based design and investigations.

We update the costs for the West Country Water Resource solutions based on the representations and subsequent clarifying query responses. We accept in full the costs each company requests and refine the named solutions. Recognising the updated set of regional solutions the companies present, we split the programme to reflect the potential for some solutions to follow an accelerated gate timetable to provide timely solutions for Southern Water's need, and to facilitate easier joint working arrangements.

We do not consider Northumbrian Water's or Yorkshire Water's evidence for funding regional planning activities sufficient and convincing, as it does not meet the funding objectives. Consistent with our funding approach for investigations and future planning within the supply-demand balance feeder model, no allowance is made.

Based on the representations and query responses received we have assessed the total solution costs of all solutions in order to confirm the development allowances defined at draft determination. The Strategic regional water resources feeder model includes the latest total solution costs used in our assessments. We note that these costs will change over time as these solutions progress through the gated process and common assumptions are applied and data certainty increases. RAPID, in conjunction with Ofwat, will be taking forward work on the appropriate extent of cost transparency under the legal framework, to best support delivery efficiencies in the interest of customers including through the facilitation of markets.

4.2.3 Solution partners

What we said in our draft determinations

We used the joint working arrangements as companies proposed in their April 2019 submissions, apart for the West Country Water Resources solutions where we intervened to propose solutions and allocate costs between Wessex Water and South West Water based on draft water resources management plan solutions. We also intervened for the United Utilities and Severn Trent Water source development options which we allocated jointly between these companies.

Stakeholders' representations

Both United Utilities and Severn Trent Water make representations about joint working and the disadvantages of having to work with other companies. They highlight that risks may outweigh the benefits of joint working. This is particularly noted by United Utilities, who strongly suggests the individual company specific source development solutions are undertaken by the company in whose area of operation they are found. Both companies also raise a concern about competing suppliers (exporters) working collaboratively on each other's solutions.

United Utilities considers its options are an integral part of its strategic supply system and therefore the potential for consequential effects across this supply system needs to be considered carefully. The company identifies that working on these solutions in a fully integrated way with Severn Trent Water will not add value for customers, and highlights the following points:

- 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 Water 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.

Severn Trent Water also highlights its concerns with being allocated 50% of a solution (Grand Union Canal transfer) when it has seen limited information regarding its scope and costs.

The West Country Water Resource group and individual company submissions clarify the partnering arrangements of the solutions as well as the development cost

sharing. This includes adding costs for Bristol Water whose system is described as integral to moving water from west to east because it already has a transfer arrangement with Wessex Water and it is part of the Water Resources West group.

Our final determination decision

For the United Utilities Vyrnwy reservoir source solution and the company's other sources development solution, which were considered as a single solution and proposed to be jointly developed between United Utilities and Severn Trent Water at draft determination, we now allocate the development funding solely to United Utilities. Likewise for the Severn Trent Water sources solution, that at draft determination we proposed to be jointly developed between Severn Trent Water and United Utilities, we now allocate the development funding solely to Severn Trent Water.

The Minworth effluent reuse solution, which has the potential to support both the River Severn to River Thames transfer and the Grand Union Canal transfer, was proposed as a joint solution between Severn Trent Water, United Utilities and Affinity Water at draft determination, with each company receiving an equal share (1/3) of the development funding. For final determination we now allocate this solution between Severn Trent Water (2/3) and Affinity Water (1/3), based on the companies' representations. Severn Trent Water receives a larger share because it will consider this solution as a potential source for two other solutions, while Affinity Water has involvement in only one solution.

For the West Country Water Resource group solutions that at draft determination were proposed as two solutions, source and transfer, the companies provide further details for the options within each of the two solutions, and the partner companies involved in the development of each. We now split the source solution into north, which only includes Bristol Water sources, and south which only includes South West Water's sources. This will facilitate easier joint working and allow the north solution to follow the accelerated gate timescales. The north source solution is based primarily around the second Cheddar reservoir, which has already passed through a water resources management plan process and received planning permission. The outstanding development work will focus on the transfers from the proposed reservoir site into the Wessex Water grid and onto Southern Water.

4.2.4 Gate costs

What we said in our draft determinations

We allocated the 2020-25 total development funding across four gates. Each gate was associated with a proportion of the total development costs, which at draft determination were:

- Gate one – 10%,
- Gate two – 15%,
- Gate three – 35%; and
- Gate four – 40%.

These gate allocations are common across companies and solutions.

Stakeholders' representations

Thames Water notes that any change in gate timing may result in some activities and associated expenditure moving from one gate to another. It highlights that it needs to complete studies (with partners) and initial design work up to gates one and two before it can be sure it is spending efficiently on the optimal solutions. It concludes that there should be a degree of flexibility in allocating funding across gates to address this uncertainty and to respond efficiently to new information as it is revealed.

Our final determination decision

We consider no changes are required to the proportions of development funding related to each gate activity as defined at draft determination.

We do not consider that the cost of investigations and feasibility will vary significantly because most of the cost uncertainty is associated with development consent orders, land purchase and construction activities that will fall within the 2025-30 period. However, we now allow cumulative cost sharing for solutions progressing beyond gate two. We provide further details in the reconciliation mechanism section.

4.3 Gated process

4.3.1 Gate timings

What we said in our draft determinations

We proposed four gates within 2020-25, with the possibility of a fifth (if necessary for solutions requiring development consent orders) in 2025-30. These were aligned to

either standard or accelerated gate timings (for solutions that benefitted Southern Water). The proposed standard gate timings were:

- Gate one – April 2021;
- Gate two – April 2022;
- Gate three – April 2023; and
- Gate four – June 2024.

Stakeholders' representations

We received the following representations on gate timings, which we group into three categories; gate timing alignment with other processes; sufficient time for decision making; and the solutions for accelerated gates:

- The All Company Working Group joint statement (referred to as the company joint statement) and United Utilities highlight misalignment concerns with existing processes, notably the water resources management plans. They suggest that the gateways should be moved back to allow a more efficient and integrated approach to be developed. Similarly the Environment Agency represents that it expects to be involved in the decision regarding final dates for the gated process to ensure it aligns across both our regulatory duties.
- GARD is concerned that the programme to reach gate two decisions by 2022 will not allow enough time for the detailed investigations needed to ensure that sound decisions are made. It raises a concern that the target date of 2022 is driven primarily by Affinity Water's need for a major new source by 2037 and the 15 year lead time for Abingdon reservoir. GARD considers its analysis shows a decision on the next major source for the south-east can and should be delayed by five years to 2027.
- The West Country Water Resources group and Southern Water indicate they only want accelerated gate timing for Fawley desalination and River Itchen reuse solutions and not for the Thames Water-Southern Water transfer or West Country Water Resources solutions. The West Country Water Resources group concludes it would not be possible to produce solutions at the required quality as set out in the new combined consistency for costing, and meet the earlier dates in the accelerated timetable. It considers that as currently written, the draft determination will cause these solutions to fail the quality test and proposes the timing should revert to the standard timetable.

Our final determination decision

We continue to work with companies and other regulators (through RAPID) on the gated process including gate timings. We base our final determination on these

discussions (via meetings and workshops held in September and October 2019) and our review of the draft determination representations.

We maintain the four gates within 2020-25, with the possibility of a fifth (if necessary) in 2025-30. We note that gate five activities may only be necessary for solutions requiring development consent orders and significant land purchase. As at draft determination, the first two gates are mostly for desk-based investigations and design work, and the second two for site investigations and planning applications.

We do not fully agree that any misalignment significantly impacts this development programme or that there is an intrinsic link to other statutory processes. There is a risk that delaying the gate timings, means that funding for strategic resources will be less effective in accelerating their development to meet regional needs and less able to support effective co-ordination of companies work for water resources management plans. However, based on the representations from companies and the Environment Agency, and the need to balance timing of solution development and water resources management plan process, we have agreed to minor changes to the standard gate timings to better align with water resources management plan and regional planning outputs. This particularly impacts gate one which we move to July 2021 and gate two that now moves to October 2022. As a result of delayed timings and better scoped outputs, we expect the revised programme to deliver more, at higher quality (lower uncertainty) than the draft determination proposals (see Annex 2: Gate activities and outputs).

For final determinations we keep some solutions relating to Southern Water with accelerated gate timings, but not as many as we proposed at draft determination. The accelerated gate timing solutions are now:

- Fawley desalination;
- River Itchen effluent reuse; and
- West Country Water Resources sources north.

We consider that the West Country Water Resources sources north solution can be delivered by the accelerated gate timings. This conclusion is reached because of:

- the clearer demarcation of the West Country Water Resources solutions and partnering arrangements;
- the relatively high level requirements for gate one; and
- a significant element of the solution (the second Cheddar reservoir) already has planning permission.

There are clear regional benefits of considering the solution in parallel with Fawley desalination and River Itchen reuse solutions. We maintain the dates of the accelerated gate timings the same as at draft determination.

4.3.2 Gate decision window

What we said in our draft determinations

We proposed a four month gate decision window for each gate in the draft determination. This included time to allow gate output submission, assessment, decision making, consultation on decisions and publication.

Stakeholders' representations

The company joint statement represents that we should keep to a minimum the time it takes to decide whether a solution is to progress. It points out that decision making represents a quarter of the time companies have to progress to the next gate, which it considers disproportionately large. It wants clarity on whether companies can progress with the development of the solution while we make decisions or whether solutions would have to be put on hold, which could impact costs and environmental survey windows. It also raises a concern over consultation and the risk that some communities and stakeholders might feel they are being consulted too many times on the same solution and may cause confusion with statutory consultations.

Our final determination decision

At gate one RAPID will assess the outputs and the RAPID organisations' Boards will ultimately decide which solutions progress in this process. We expect this to take up to four months. This is on a no-surprises basis with the submission content at the gate start date consistent with findings shared with RAPID during the gate one activity period. The four month window may increase in the event of inconsistent submissions. We will allow efficient costs incurred by companies progressing a solution that does not pass the gate while they are waiting for a decision. We will consider such costs as part of the end of period reconciliation mechanism.

We no longer expect companies to consult on solution outputs prior to submitting information for gate decisions, although we still expect ongoing engagement with stakeholders and that companies should present clear submissions and make improvements based on the transparency and consistency concerns raised with other processes.

4.3.3 Gate outputs

What we said in our draft determinations

We proposed expected activities and outputs for each gate with a high level outcome summary at each being as follows:

- Gate one - Initial feasibility, design and multi-solution decision making.
- Gate two - Detailed feasibility, design and multi-solution decision making.
- Gate three - Finalised feasibility, pre-planning investigations and planning applications.
- Gate four - Planning applications, procurement strategy and land purchase.

Stakeholders' representations

The company joint statement outlines that it is critical that we agree a set of outputs for gate one. It presents that the level of design maturity is a critical consideration for gate one and subsequent gates. There is a typical linear process of developing designs through a project lifecycle but no commonly used terminology or set of definitions for the stages of design. Terms like initial design, conceptual design, outline design and detailed design mean different things to different companies and are sometimes used interchangeably. The regional group provides a lot more information in this area for suggested edits to gate high level descriptions and activity definitions.

Affinity Water additionally suggests that we change the objectives for gates three and four, with Environmental and Social Impact Assessment (ESIA) scoping at gate three and ESIA and licence application at gate four.

Our final determination decision

We make minor clarifications to the defined gate activities and outputs, following our review of the representations and ongoing discussions with stakeholders in RAPID facilitated meetings during the autumn. This results in the following high level outcomes for each gate:

- Gate one - Initial concept design and decision making
- Gate two - Detailed feasibility, concept design and multi-solution decision making
- Gate three - Developed design, finalised feasibility, pre-planning investigations and planning applications
- Gate four - Planning applications, procurement and land purchase.

We change the indicative activities for gates two to four, based on company submissions and subsequent discussions. We expect that at each gate we will clarify the outputs for the next gate(s).

4.4 Customer protection

4.4.1 Cost sharing

What we said in our draft determinations

We proposed that any efficient spend incurred on the activities up to a gate decision point was allowed, and was in general not subject to cost recovery unless penalties were applied. We considered that all unspent money or inefficient spend for each gate would be returned to customers, and all overspend at a gate be borne by the company. For solutions not progressing beyond a gate, any remaining future gate allowances would be fully returned to customers.

Stakeholders' representations

The company joint statement does not agree with an approach where the standard regulatory cost sharing mechanism is not applied, either for overspend or underspend. It considers that companies should be incentivised to outperform on their cost allowances and that without cost sharing there is no incentive for companies to deliver efficiently below their expenditure allowance because savings will not be retained. The company considers that there is no reason why totex for the strategic regional solutions should be treated differently from other totex in the regulatory allowance. United Utilities repeats this argument emphasising the punitive nature of this in combination with the insufficient cost allowance the company considers it receives.

CCWater raises concerns about customers bearing the costs associated with transfer of water between regions where they may not be the beneficiaries. It wants to see further details regarding how the mechanism ensures it is those customers who benefit from the enhanced resilience who meet the costs.

Our final determination decision

We expect that any unspent money or inefficient spend up to and including gate two is returned to customers. Similarly we expect any overspend at gate one and gate two is also fully borne by the companies involved. This can be considered as full cost sharing with customers which we consider appropriate at this stage due to the

activities being primarily desk based and not significantly more than further development of previous water resources management plan outputs. Our view is that companies should be able to accurately deliver these early activities efficiently and therefore a cost sharing mechanism is not required.

In a change to draft determination, we accept that some cost sharing should apply in order to encourage delivery efficiencies later in the process. We consider that the most appropriate stage for this to start is after gate two decisions, where the companies focus activities upon gaining planning permission for solutions that should be featuring in draft water resources management plans. After gate two the certainty of costs is also reduced as primarily desk-based activities move to predominantly site investigations and interactions with external bodies as part of planning activities.

Many of the solutions within this funded development programme either featured in business plans at PR19 (such as Abingdon reservoir and Fawley desalination plant) or in longer term water resources management plans (such as South Lincolnshire reservoir and the River Severn to River Thames transfer). This gated development route has more customer protection (for non-progression and poor quality delivery) than similar types of solutions included in business plans under supply-demand balance or resilience enhancement funding. Many of the solutions featuring in this programme of work also deliver an element of resilience to the exporting company, which will be articulated in combination with the more obvious. We consider that customers in the exporting company additionally benefit from the development of these solutions including sharing in economic profits from exports and helping to inform the exporting company's strategy to deliver long-term resilience to its customers.

4.4.2 Revenue adjustment

What we said in our draft determinations

We proposed that the end of period reconciliation mechanism will be an adjustment of company revenues based on the implementation of the decisions made during the gated process.

Stakeholders' representations

West Country Water Resources group represents that the mechanism should adjust on the same basis by which costs are funded ie using a standard totex mechanism

of a revenue adjustment based on pay as you go (PAYG) ratios plus a RCV adjustment for the balance.

Both Thames Water and United Utilities consider that a RCV reconciliation mechanism would be the most appropriate way to return funds that are not required to customers. United Utilities considers it would be inappropriate for customers to be compensated through revenue for something that they will only be paying for as a return on RCV.

Our final determination decision

We reconsider our position and conclude that, in the context of other protections already in place, the mechanism should use an adjustment of company revenues and regulated capital value in the same proportions as other company totex allowances. Therefore, we will use companies' water resources and water network plus final determination PAYG ratios to allocate any required end of period reconciliation adjustments into RCV and revenue adjustments of the water resources and water network plus price controls. This end of period adjustment can apply to all companies that are either currently part of this programme in the final determinations or join before gate three.

4.4.3 Delivery incentives

What we said in our draft determinations

We proposed that at each gate we will apply a penalty of up to 30% of a company's total efficient spend at each gate for submission delay or poor quality deliverables. We outlined key principles that we may want to apply to any penalty decision framework that is developed.

Stakeholders' representations

The company joint statement agrees that companies should be incentivised to deliver on time and at a high quality, to protect customers and encourage companies to be efficient. It requests that further clarity is provided about the proposed penalty structure, including how Ofwat will decide if a penalty is needed, how it will judge the scale of any penalty and who it should apply to. It also considers it important to set out any relevant circumstances outside a company's control for which a penalty would not be applied.

Our final determination decision

For the gate one delivery incentives we have developed, in conjunction with companies, a framework that takes into account submission timing, quality and progress through a two stage assessment. This builds on the principles we defined in the draft determination. We maintain the penalty maximum of 30% of total efficient gate spend for each company and the reasons that a penalty may be imposed at each gate. We have refined the assessment of the quality element from draft determination which we will base on consistency of assumptions, certainty of output and activity progression. Our framework is focussed on gate one, recognising that more work will be required to develop the design and detail of an appropriate delivery incentive mechanism for all gates.

4.4.4 Substitutions and additions

What we said in our draft determinations

The reconciliation mechanism enabled reallocation of funding for changes in solutions or solution partners, up to gate two. This reconciliation included the potential to reallocate funding to solutions and solution partners that were not identified at the time of final determination.

Stakeholders' representations

The company joint statement responds that it considers a longer timeframe to allow changes in solution partners, which aligns with finalisation of water resources management plans and regional plans would be more appropriate. The group considers that is only after this stage that the identification of new partners becomes less likely.

Our final determination decision

We will allow the flexibility to change solution partners up to and including gate three. This deadline also applies to companies identifying new substitution solutions and submitting evidence to justify inclusion in the process at each gate submission.

Annex 1: Summary of changes for fast track companies

Table A1: Fast track company solutions and allowances (£million, 2017-18 prices)

Company	Fast track draft determination		Slow track draft determination		Final determination	
	No. solutions	Allowance	No. solutions	Allowance	No. solutions	Allowance
Severn Trent Water	1	25.7	5	43.3	4	42.5
South West Water	0	0.0	2	1.3	2	3.9
United Utilities	1	25.7	4	34.3	3	44.1

Annex 2: Gate activities and outputs

The final determination gate one activities described below are based on the draft determination representations and working group meetings (with RAPID). It should be noted that these are not significantly different to the draft determination expectations or descriptions but mainly contain updates for clarification and consistent language.

Our indicative gate two to four activities are also described below. However, we expect companies to submit further detail on the subsequent gate activities during each gate submission (starting at gate one). These submissions will then form part of the gate assessment, decision making and consultation process.

Gate five is expected to happen during 2025-30 and primarily consist of land purchase and finalising develop consent orders. These activities will be confirmed at preceding gates, where relevant for specific solutions.

Initial concept design and decision making

- Preliminary solution feasibility and data collection presented in a conceptual design report, using comparable methodologies and consistent assumptions:
 - Initial configuration/sub-option solution designs
 - Initial costing and estimating report supported by benchmarking evidence
 - Initial water resource benefit
 - Initial data available and provided to regional groups to support high-level assessment of regional water resource benefit
 - Initial option-level Strategic Environmental Assessment and Habitat Risks Assessments, including consideration of in-combination effects and identification of environmental risks that need mitigating through the solution design and costing
 - Initial environmental, social and economic valuations (or metric benefits) consistent with principles in the National Planning Statement and Water Resources Planning Guidelines
 - Initial drinking water quality considerations
- Initial outline of the solution procurement strategy
- Initial considerations of planning application route (high level view of process and timelines)
- Initial comparison of solutions' costs and benefits in early draft regional plans with consideration given to inter-regional supply options and systems impacts
- External assurance of data and approaches supported by Board statement
- Regional stakeholder engagement including customer preferences to identify any issues that need further investigation
- Details of efficient spend to gate submission on gate one activities, including a breakdown of costs against activities, evidence of efficiency of spend (benchmarking or tenders) and assurance.
- Assessment of key risks to identify potential regulatory barriers, guidance or changes required for the solution to progress
- Identify impacts of solution on current supply-demand balance delivery plan with simple comparison to current programme solutions.
- Identification of any changes in solution partner (other water company) or solution substitutions
- Develop solution programme plan to determine the activities that need to be undertaken prior to each subsequent gate
- Proposals for gate two activity and outcomes, and penalty scale, assessment criteria and contributions

Indicative gate two activities

Detailed feasibility, concept design and multi-solution decision making

- Detailed feasibility and data collection (with increased certainty) in a concept design report
- Develop procurement strategy including assessment for potential direct procurement for customers' delivery.
- Pre-planning application activity plan (land referencing, field surveys, environmental permitting plans)
- Full comparison of solutions' costs and benefits as tested in regional or national modelling with consideration of inter-regional options and systems impacts
- Identification of mutually exclusive solutions
- External assurance of data and approaches supported by Board statement
- Updated regional stakeholder engagement including customer preference studies
- Details of efficient spend to gate submission on gate two activities, including a breakdown of costs against activities and evidence of efficiency of spend (benchmarking or tenders) and assurance
- Assessment of key risks to identify potential regulatory barriers, guidance or changes required for the solution to progress
- Identify impacts of solution on current supply-demand balance delivery plan with simple comparison to current programme solutions.
- Identification of any changes in solution partner (other water company) or solution substitutions
- Develop solution programme plan to determine the activities that need to be undertaken prior to each subsequent gate
- Proposals for gate three activity and outcomes, and penalty scale, assessment criteria and contributions

Indicative gate three activities

Developed design, finalised feasibility, pre-planning investigations and planning applications

- Updated finalised feasibility, data collection and developed design
- Cross-comparison of updated solutions costs and benefits in regional and national models
- External assurance of data and approaches supported by Board statement
- Confirm procurement strategy including direct procurement for customers delivery decisions
- Pre-planning application submissions
- Start development consent orders pre-planning application investigations
- Planning permission-related stakeholder engagement completed
- Identify impacts of solution on current supply-demand balance delivery plan with simple comparison to current programme solutions.
- Identification of any changes in solution partner or solution substitutions
- Develop solution programme plan to determine the activities that need to be undertaken prior to each subsequent gate
- Proposals for gate four activity and outcomes, and penalty scale, assessment criteria and contributions

Indicative gate four activities

Planning applications, procurement and land purchase

- Designs updated where necessary
- Incorporation of pre-planning investigations
- Cross-comparison of updated solutions costs and benefits in regional and national models
- Implement procurement strategy including direct procurement for customers (where necessary)
- Continue planning applications (where relevant)
- Finalise development consent orders planning application investigations (where relevant)
- Planning permission-related stakeholder engagement completed
- External assurance of data and approaches supported by Board statement
- Identify impacts of solution on current supply-demand balance delivery plan with simple comparison to current programme solutions.
- Develop solution programme plan to determine the activities that need to be undertaken prior to each subsequent gate
- Proposals for gate five activity and outcomes, and penalty scale, assessment criteria and contributions (where necessary)

Annex 3: Delivery incentives

For the gate one delivery incentives we have developed, in conjunction with companies (and facilitated by RAPID), a framework that takes into account submission timing, quality and progress through a two stage assessment. This builds on the principles we defined in the draft determination.

Stage A is a binary test of whether companies have submitted the gate outputs by the gate one submission deadline. Solutions will either pass or fail this test. This is designed to avoid the submission deadline being missed, which is expected to be unlikely. Where the submission is later than the gate submission date (as defined in this document) the stage A penalty of 30% of the companies' total gate one efficient spend would then apply. In this circumstance the companies contributing to this solution would not be liable to any further penalties under stage B. However, the submission should still be made as soon as possible and any further omissions will be taken into account when the efficient spend is assessed to ensure customers are protected for the remaining 70% of gate costs.

The second stage, stage B, focuses on the progress and quality of the submission. Quality for this purpose includes an assessment of confidence in the information which includes data certainty (suitable for the gate outcome) and consistency with other solutions in the programme. This will also include the extent of regional and third party engagement, external assurance, Board assurance and the amount of potential rework required for the information to be used for decision making.

Stage A and stage B are intended to work together so that if a company was to submit an incomplete or poor quality submission, to avoid the Stage A deadline penalty, this would result in some penalty under stage B.

Where a 30% penalty is applicable this indicates that the submission date has been missed or the submission is substantially incomplete and of poor quality, all of which would result in delays for decision making and impact on the overall programme. Where a 30% penalty is applied this will be to the relevant company's total efficient gate spend, rather than just the solution (if it has more than one in the programme). This will ensure that companies with more than one solution are putting appropriate management effort and resource into all solutions and not favouring particular ones over the wider portfolio.

The penalty proportion of the gate activity that has already passed, will be added to any future non-progression gate funding that will be returned to customers as part of the end of period reconciliation mechanism.

At gate one it is difficult to set out in detail the potential delay that may result from an either incomplete, missing or poor quality submission and so we are proposing a focus on progress of outputs that are expected. This will be an important area where the approach to delivery incentive assessment needs to develop for later gates with more explicit consideration of delay.

For gate one we will not consider exemptions for events outside management control, which we expect to be minimal. We will consider this further for the design of the assessment criteria for gate two onwards where we understand the impact of events outside management control have the potential to be more significant.

For gate two to gate four activity penalties we expect companies to submit an updated framework, assessment criteria and penalty scaling as part of the gate outputs (from gate one onwards) and these will form part of the gate assessment, decision making and consultation process.

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