Anglian Water

11D. DIRECT PROCUREMENT FOR CUSTOMERS BUSINESS CASE: SOUTH LINCOLNSHIRE RESERVOIR

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Direct Procurement for Customers Business Case

(Five Case Model)

South Lincolnshire Reservoir Price Review 2019

Anglian Water

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Contents

1. Executive summary

A summary of the conclusions under each of the 5 cases is set out below recognising the early stage at which the project is at in its overall development. The Five Case Model is the approach for developing business cases recommended by HM Treasury, the Welsh Government and the UK Office of Government Commerce. It has been widely used across central government departments and public sector organisations over the last 10 years.

Strategic case

The strategic case for the South Lincolnshire Reservoir ("SLR") has not been made as part of our 2019 Water Resource Management Plan ("WRMP"). This is based on a current planning scenario which identifies alternative solutions to meet water resource requirements over the plan horizon. However, the need to consider supply-side investments over the long-term is an iterative process and changes to assumptions on sustainable abstraction levels, impacts of population growth and the impact of climate change over time considered in our resource modelling has shown the potential need for a reservoir scheme to meet supply requirements. The lead time required to develop a new reservoir scheme is significant and we need to continue developing the SLR scheme to be ready in the future and when we anticipate the scheme could be needed. As such, investment in developing the scheme further over AMP7 is key to adaptive planning efforts to ensure we can meet any challenges in the future. The strategic case will be reviewed and updated as part of the 2024 Water Resource Management Plan which will take account of future supply commitments when taking into account the requirements of Water Resources East (WRE).

Economic case

The South Lincolnshire Reservoir appears more suitable for Direct Procurement for customers ("DPC") based on the size of the scheme and its technical characteristics. The Totex value of the scheme is £934m and includes £600m of initial capex, well in excess of Ofwat's £100m wholelife Totex threshold. The asset scores highly on the technical assessment with all criteria being assessed as medium or high in terms of suitability.

The VfM analysis under the base case suggests that delivery under DPC could provide customer value for money. In comparing the conventional delivery route with a project finance arrangement as part of a DPC contract, customer costs could be significantly lower, saving customers approximately £80m over the lifespan of the asset.

The preferred tender model would be a 'late' model given the risk and uncertainty associated with the long development and planning requirements which are unlikely to be attractive to investors. In addition, we would want to retain control of the planning and development process to manage the key stakeholder interactions as part of this process and which will have a reputational impact.

A 'late' model that only includes scope for completion on financing and operations is less likely to provide opportunities for customer benefits as it would exclude the construction phase of the project which is significant and equates to c.65% of scheme costs over the contract period.

Commercial case

The size and nature of the SLR asset is likely to generate significant market interest. Generally, there is a high demand for infrastructure assets in the UK and a current shortage of opportunities. There is also a mature supply chain in water and wastewater delivery.

The significant capital investment will likely attract some of the larger infrastructure investors and potentially some institutional investors who are willing to accept construction risk and provide access to different sources of capital that smaller projects may not have the ability to access and this could benefit customers through lower financing costs.

Continued market sounding and engagement through the planning and development phase will help to create the right commercial and contractual framework to attract the most interest and drive a greater level of competition.

The procurement process is expected to take approximately 24 months in line with typical project finance procurement processes. The lead time available will help to design an optimum process that provides bidders with the detailed information to enable them to provide high quality submissions and to give them sufficient time to develop their proposals.

We are also considering some more innovate commercial structures including multi-sector financing arrangements involving, amongst others, local agriculture and industry in the region and which will also be tested through the market engagement process. This may provide the opportunity to realise additional benefits that will need to be considered as part of the VfM case as the potential for this option is further developed and better understood.

Financial case

Based on initial value for money analysis, the bill impact under a DPC delivery route would suggest customers will see lower bill increases compared with the conventional approach. Initial estimates suggests bill increase over the asset life would be 30% lower were the asset delivered under a DPC model versus a delivery under current price review framework.

The investment is likely to be considered as a financing lease and recognised as a liability on AWS's balance sheet and which could have implications for financial ratios under our lending and securitisation arrangements. This will need to be considered carefully as part of the projects development and precedents from TTT ("Thames Tideway Tunnel") exist and which suggest there are opportunities to manage this impact through close engagement with lenders.

The acquisition of the asset at the end of the contract will also need to be considered to provide sufficient confidence to bidders that AWS will be able to

purchase the assets at the point of handback. This could be more significant depending on depreciation rate over the contract period and the terminal value at the point of hand back.

Management case

The existing capital delivery arrangements within AWS are not considered to be optimal for a project of this nature and are likely to require the development of a new delivery route whether delivered in house or through DPC. In addition, under a DPC scheme, AWS will need to secure additional resources to support the procurement and ongoing contract management of the asset and which have been factored into the VfM analysis.

The project is still in the early stages of development and will continue to evolve through AMP7. As such, a number of key milestones have been identified at which point the business case for DPC will be reviewed and refined based on further understanding of the scheme and through soft market testing with the market and other stakeholders.

2. Introduction

As part of our Water Resource Management Plan ("WRMP"), we are considering the need for supply side investments to increase deployable output in order to address long-term supply demand challenges resulting from climate change, population growth and sustainability abstractions. As part of our AMP7 plan, we expect to further develop our supply-side options to meet these challenges and we expect to begin planning and development activity on for a new reservoir in the South Lincolnshire region and which requires a substantial planning effort and expenditure over AMP7.

The level of investment and effort required to develop and construct the South Lincolnshire Reservoir ("SLR") is significant and the lead time is substantial. As such, and recognising the opportunity Direct Procurement for Customers ("DPC") may offer in the delivery of a scheme of this nature, we have assessed the likely value for money DPC could provide in comparison with conventional delivery under the price control framework.

In line with Ofwat's PR19 Final methodology[1,2], and following our eligibility assessment of the scheme for DPC, suggesting it may be more suitable, we have further developed the case for delivering the scheme under a DPC model adopting the HMT Five Business Case framework[3].

Given the early stage of the project, we have focused on those elements of the 5 case where we have a greater level of certainty but recognise this will need to be refined and updated as our assumptions continue to develop and we engage with the market and our stakeholders over the AMP7 period.

This document sets out our initial considerations and findings under each of the five cases and at the an early stage which is potentially still in advance of the first stage, Strategic Outline Business Case as defined under a Five Case Model.

Specifically this document covers the following aspects under each case.

Strategic case: This sets out the strategic needs that are driving the project. It includes a statement of the key objectives, business needs and scope and service requirements.

Economic case: The purpose of the economic case is to determine the most appropriate option to best deliver the scheme and the extent to which a DPC or in-house delivery model is likely to provide best value for money for customers. It also considers the tender model and key risk considerations across the project lifecycle that will help inform this model.

[1] Ofwat, December 2017, Delivering Water 2020: Our final methodology for the 2019 price review
[2] Ofwat, 13 December 2017, Delivering Water 2020: Our methodology for the 2019 price review Appendix 9: Direct procurement for customers
[3] HM Treasury, 2018, 'The Green Book: Central Government Guidance on Appraisal and Evaluation'

Commercial case: The purpose of the commercial case is to assess the commercially feasibility of the proposed approach to DPC versus in-house delivery. It sets out the main contractual issues and arrangements set out by Ofwat and the considerations under a DPC model and how the risk allocation and proposed approach may potentially impact on the commercial appetite for the project amongst potential bidders.

Financial case: This case considers the likely bill impacts under a DPC model and consideration of the potential accounting treatment associated with a DPC scheme.

Management case: This focuses on the planning of the practical arrangements for implementation and the likely capability and requirements needed to run a successful process. It also considers the timetable and stage gates for developing the business case further.

The Five Case Model is an iterative process which is conducted over three key stages as set out below and where each of the five cases is further developed at each iteration.

1. Strategic Outline Case (SOC);
2. Outline Business Case (OBC); and
3. Full/final Business Case (FBC).

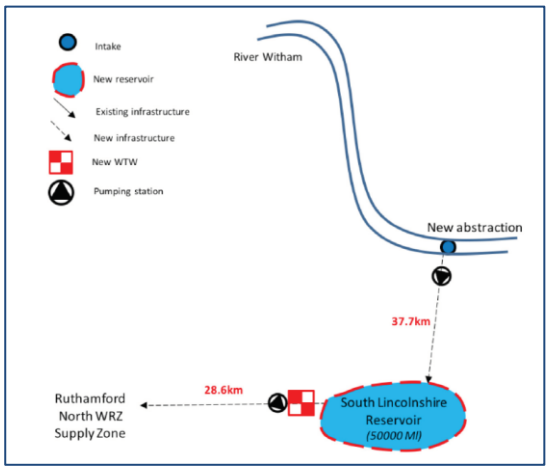
This document provides the Strategic Outline Case, which we plan to evolve and develop over time as the planning and development of the scheme progresses.

3. Overview of the scheme

The project comprises a number of assets including a river intake, raw water pumping station, raw water transfer, fully embanked 4km^2 reservoir structure, draw off tower, and raw water delivery to downstream network[4]. The water will feed into downstream raw water transfer to Ruthamford North WRZ and associated new WTW process which does not form part of the scope of this scheme.

Construction of the project is expected to take approximately 4 years followed by a 3 year filling period before operation can start.

Figure 1 Schematic for the South Lincolnshire Reservoir



Source: Anglian Water: Draft WRMP 2019: Supporting Technical Reports, Supply-side option development, January 2018

The scheme will be constructed on a standalone greenfield site. This scheme would have limited impact on existing operations during construction. It is assumed AWS would purchase the land and secure planning prior to tender and reducing risks for the DPC.

Operation of the asset will require ongoing coordination with AWS' wider network to balance supply into the network with demand. Given the interface is well understood and will require minimal monitoring we do not expect this to introduce a large amount of complexity to the assets ongoing operation when delivered under a DPC model.

Relating to the interface at the river intake availability of river flows and abstraction levels will need to be reported to Environment Agency on an ongoing basis.

We expect that the operation of the SLR will be run locally and that the asset will be require relatively infrequent co-ordination with the wider network apart

[4] Anglian Water, January 2018, Draft WRMP: Supporting Technical Reports, Supply-side option development

from the upstream treatment works which it is connected to directly. The treatment works would call for demand from the reservoir to maintain raw water storage levels at the treatment works, and this process would be fully automated and operated via telemetry, reducing complexities associated with operational management.

Within a certain range, there is high predictability of the schemes output, and the associated short term volatility in output is low. This means the assets specifications are likely to remain fit for purpose over the duration of the asset life, reducing the need for modifications and upgrades. This enhances the potential for a DPC delivery model as the likelihood of asset stranding is significantly reduced and the asset is sized to meet future demand.

4. Strategic case

The strategic case for the SLR has not been made at this stage as part of our draft WRMP, which was published in February 2018[5]. However, our adaptive planning will need to take account of a number of factors that will emerge in the medium to long term. The lead time associated with a reservoir scheme is substantial and the planning and development activity must start well in advance in order to be prepared should the scheme emerge as a preferred option in the future. As such, early work on planning and development needs to begin in AMP7 and therefore consideration of the schemes potential for delivery under DPC has been evaluated even at this early stage.

The reservoir is estimated at a cost of approximately £600m in initial capital construction costs, making it of significant size and scale and likely to attract interest from infrastructure investors seeking exposure to UK water and wastewater assets. There has not been a reservoir of this scale built in the UK for a number of years and which potentially represents a greater risk to customers and Anglian Water than the more typical investments that have been delivered over successive AMPs. As a result the strategic case for delivery of the scheme under a separate project finance vehicle.

[5] Anglian Water, Draft Water Resources Management Plan 2019

5. Economic case

This section addresses the Economic Case and presents an economic appraisal of the South Lincolnshire Reservoir focusing on the value delivered for customers under a DPC model.

This section looks at the economic case from three different angle

- First, it presents the results of the value for money analysis
- Second, it sets out key considerations around risk allocation and how different option may impact the VfM outcomes
- Third, building on the findings of the risk analysis different tender model options are discussed and the most suitable for the purpose of this assessment is selected.

We note, that while the section follows a sequential approach and moves from the VfM to risk assessment and to tender models, the different aspects assessed under the economic case are closely interrelated. The assumption on the tender model impacts the risk profile of the project which ultimately drives the costs and the value delivered to customers under a DPC model in the VfM.

5.1. Value for money analysis

This section presents the results of the Value for Money (VfM) analysis completed for the reservoir in order to assess whether the delivery of the scheme under a DPC model (factual) could result in greater benefits for customers compared to a delivering the scheme under the PR19 framework (counterfactual).

We built a VfM stylised model in order to compare the costs of project delivery under the DPC model and the as-is PR19 model and understand the key value drivers of customer benefit under the two models.

The VfM analysis is based on the late tender model and reviews the costs profile over the entire useful economic life of the asset equal to 100 years, including the construction phase. The analysis is based on the assumption that the undepreciated asset value at the end of the contract period is transferred from DPC to AWS and remunerated under the PR19 framework. As the model focuses on the differences in costs to customers between the two models (factual and counterfactual), it disregards opex and renewal capex beyond the contract period as they result in equal costs to customers.

An overview of the key model input assumptions for the base case scenario are summarised below.

Base Case DPC model assumptions:

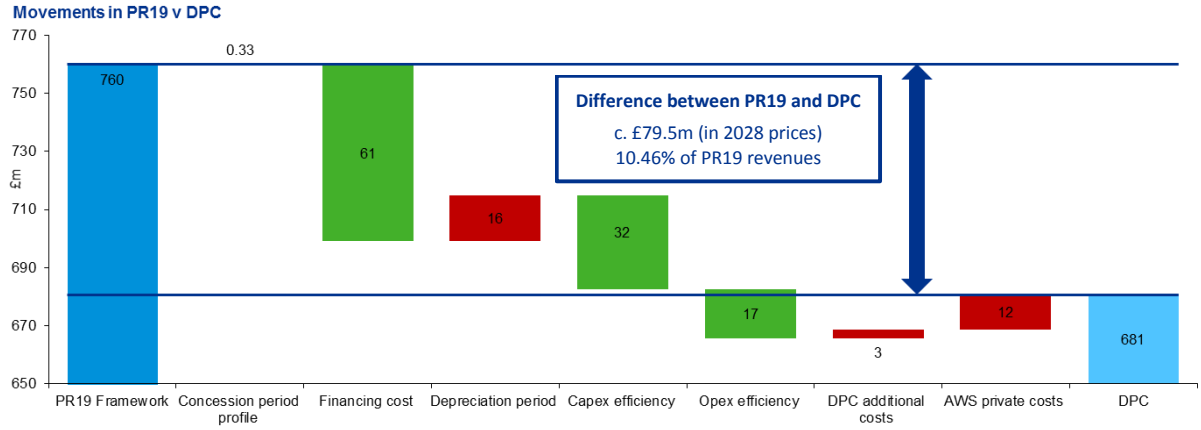
- **Cost of debt:** Dual financing so that investor can take advantage of decreased risk profile and thus lower financing costs during the

operational phase. For DPC and PR19 financing costs to be comparable construction debt is assumed to be raised in 2020 when PR19 WACC is coming into effect.
    - Construction: bank debt with a tenor equivalent to the construction period represented by a 2 year forward of a 6M LIBOR swap with a tenor of 4 years plus + 240bps.
    - Operation amortising bond finance through operations represented by a 6 year forward Gilt with a tenor of 14 years + 125 bps, RCV bullet repayment bond represented by a 6 year forward Gilt with a tenor of 25 years plus + 130bsp.
- **Cost of equity (EIRR):** 10% EIRR based on recent project finance precedents.
- **Gearing:** Gearing level is determined using the model to solve for a target DSCR level of 1.25x.
- **Depreciation:** A straight line depreciation of 70% of the asset value during the 25 year concession period.
- **Efficiency savings:** Includes both capex and opex cost efficiencies.
    - Opex: 10% on the total opex as a large scheme has potential for a greater operating cost efficiencies and the chance of a loss in economies of scope and scale is limited.
    - Capex: 5% on the total capex as the scale and size of the project is significant and therefore there is an opportunity to identify innovative solutions, especially at the construction stage.
- **Private costs to AWS:** Procurement costs of £3m associated with advisor support (e.g. legal and commercial) and procurement activity by AWS. These excludes Ofwat costs suggested at £500k per project[6]. In addition, AWS team will be responsible for the contract management and administration costs assumed to be incremental to as-is capability suggested at £422k per annum.
- **Additional costs to DPC:** Total of £4.5m based on the bid costs associated with advisors.

The VfM analysis revealed that the customer benefit under the DPC model is driven by seven main value layers which explain the difference in the overall cost to customers under the DPC model and PR19 framework. The figure below demonstrates the results under the base case model.

[6] Ofwat, 13 December 2017, Delivering Water 2020: Our methodology for the 2019 price review Appendix 9: Direct procurement for customers

Figure 2 Base Case VfM results in 2028 prices

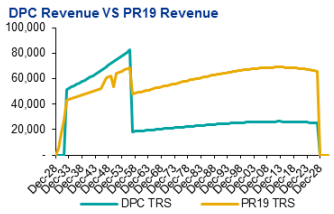
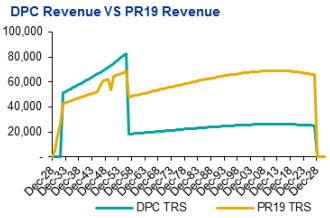
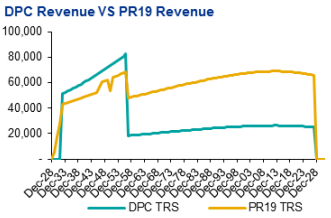


Overall, the VfM assessment results in a significantly lower overall costs to customers under the DPC delivery model compared to the PR19 framework. The key drivers making the DPC delivery model preferable are the capex and opex cost efficiencies and the benefits from a cheaper source of financing. The lower cost of financing is driven by the combination of a higher gearing level and lower cost of debt compared to the PR19 assumptions for a notional company.

These benefits are marginally diminished through the accelerated depreciation profile, where 70% of the asset value is depreciated during the contract period and additional costs for the DPC and AWS driven by the bid procurement cost and procurement running costs respectively.

Since the model is heavily dependent on the assumptions, we have tested the sensitivity of the results for key inputs, such as equity IRR, depreciation and efficiencies in both low case and high case scenarios and summarised key findings in the table below.

Figure 3 Sensitivity analysis results

Low Case	Base Case	High Case
Assuming: • EIRR increased to 12% • Decreased efficiency levels • 100% of the asset value depreciated during the contract period	Assuming: • EIRR equal to 10% • 10% opex and 5% capex efficiencies • 70% of the asset value depreciated during the contract period	Assuming: • EIRR decreased to 9% • Increased efficiency levels • 50% of the asset value depreciated during the contract period
		

Sensitivities	*Assumption*	*Difference between PR19 and DPC**		*Assumption*	*Difference between PR19 and DPC**
EIRR	EIRR = 12%	*- £32.3m [- 4%]*		EIRR = 9%	*- £101.1m* [- 13%]
Efficiency:					
Capex	*Capex = 2.5%*	*- £63.2m [-8%]*		Capex = 7.5%	- £95.9m [- 13%]
Opex	*Opex = 5%*	*- 71.1m [- 9%]*		Opex = 15%	- £87.9m [- 12%]
Depreciation	100%	*- £113.2m* [- 13%]		50%	*- £92.5m* [- 13%]

The results from the sensitivity analysis are presented in the form of the difference between the costs to customers under the DPC model and PR19 framework in 2028 prices. The results highlighted in green indicate that the DPC model delivers greater value to consumers compared to the PR19 framework compared to the base case model results. The results highlighted in shaded greed indicate that the DPC model delivers greater value to consumers compared to the PR19 framework, however, the benefit over the PR19 framework is smaller than under the base case.

The VfM assessment suggests that the DPC delivers greater value to customers than the PR19 framework under all scenarios (base case and sensitivities), with savings to customers ranging between 4% and 13% in NPV terms over the asset's useful life compared with the counterfactual.

5.2. Risk considerations

In its Final Methodology[7] Ofwat acknowledges the fact that the risk profile of a project may affect its suitability for DPC. In order to ensure that we deliver best value for customers we have carefully considered the risks associated with the project delivery.

In line with Ofwat's guidance set out in the Technical review[8] published alongside the Final Methodology we looked at project risks across the a typical project lifecycle: project development; design; construction; operation; finance and regulation.

[7] Ofwat, 13 December 2017, Delivering Water 2020: Our methodology for the 2019 price review Appendix 9: Direct procurement for customers

[8] Direct Procurement for Customers: Technical Review, A KPMG report for Ofwat, 1 December 2017

The main difference between the DPC model from today's model is that risks are not allocated any longer between us a as the incumbent, the consumers and our contractors, but between us, the DPC provider and consumers. The different parties have different perspectives on where risks should sit under the DPC model:

- **AWS:** The risk profile of a water company should not change merely as a result of delivering a project under a DPC model. It is therefore important that water companies are not left with a high level of residual risk through adopting the DPC model.
- **DPC Provider:** Investors will require a return which reflects the risk profile of the project, i.e. the more risks are born by the DPC provider the higher return will be required by potential investors. Also, a key consideration for them, is the level of control they have regarding future performance and potential for upside in returns.
- **Consumers:** Ofwat is the party responsible to protect consumers' interest and will expect the DPC model to result in no additional risks born by customers just for the purpose of attracting investors and lenders.

In the light of the technical characteristics, complexity and environmental constraints of the SLR we have thoroughly assessed how to allocate the risks, i.e. which party would be best placed to bear certain risks in order to deliver best value for money to consumers.

We have also undertaken a desktop research and reviewed comparable frameworks such as OFTO, TTT and general PPP/PFI projects. We informed our risk allocation for SLR with the approaches adapted in comparable regimes and the mechanisms in place to manage and mitigate risks.

The below table summarises how risk allocation changes from its current form under our proposed approach for a DPC delivery.

Figure 4 Risk allocation under current model and DPC model

Allocation of key risks	Current AWS model		Base case DPC model		
Key risks	AWS	Consumers	AWS	DPC	Consumer
1. Project Development					
Land purchase and site risk	✓	✓	✓		✓
Environmental and social risk	✓	✓	✓		✓
Planning / Consent permission	✓	✓	✓		✓
WRMP approval	✓		✓		
PR19 approval	✓		✓		
2. Design					
Outline and reference design	✓	✓	✓		✓
Failure to build design	✓	✓		✓	
3. Construction					
Detailed design	✓	✓		✓	
Time and cost overrun risk	✓	✓		✓	✓
Unforeseen ground or existing building conditions	✓	✓		✓	✓
Subcontractor default / bankruptcy	✓	✓		✓	
Commissioning overruns	✓	✓		✓	✓
4. Operation					
Service performance risk	✓	✓	✓ (Legal obligations)	✓	✓ (some)
Resource or input risk	✓	✓		✓	✓
Maintenance risk	✓	✓		✓	✓
Interoperability with AWS' network			✓		
6. Finance					
Interest rate risk	✓			✓	
Inflation risk		✓		✓	✓
Insurance risk	✓			✓	
7. Transfer					
Asset condition and performance			✓	✓	
8. Regulatory					
Changes to price control or regulatory requirements	✓	✓	✓		✓

Under the base case DPC model a large share of risks is transferred from AWS to the DPC provider. Risks related to failure to build design risk, and most risks during construction, operation and financing of the asset are considered to be best managed by the 3rd party DPC provider which he can mitigate by transferring some of them to the supply chain.

Given the asset will introduce an important supply source into our system, it is critical that it is constructed to a specification that ensures smooth and efficient operation with the existing network. To that end we consider that AWS is best placed to lead on the project development and retain the risks associated with planning, consent permission, regulatory approval. Also in light of various stakeholder and environmental considerations site risk and environmental and social risks might be best managed in-house by AWS.

Apart from project development risk, given our statutory and legal obligations service risk is an area where risk ultimately sits with AWS. Through contracting some of the risk can be transferred from AWS to DPC, however, failure to meet our obligations under licence/WIA91 might be more severe than contractual penalties could allow, and some residual risk will remain with us. Also, there is a

risk that if service penalties are significant then the DPC provider may be unable to fund penalties effectively effecting costs of bidding.

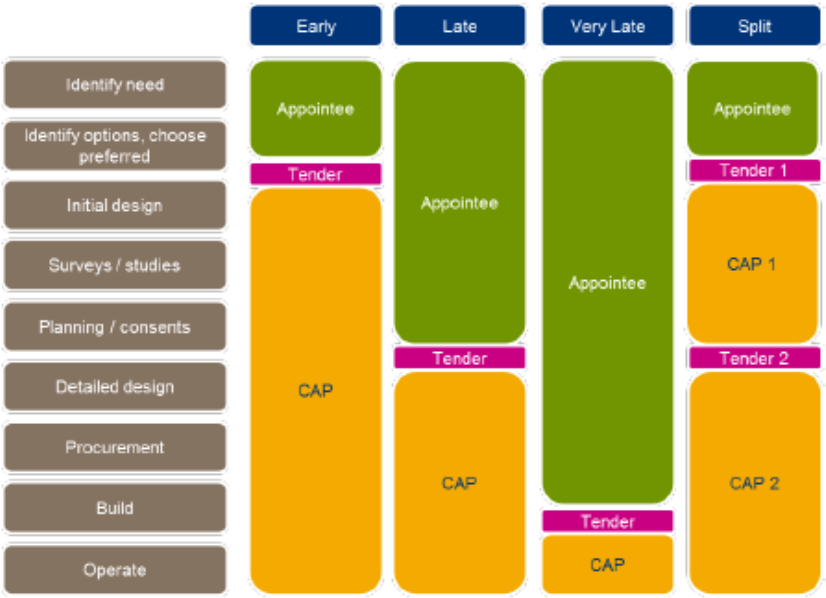
The high level risk analysis suggests two new risks may exist under a DPC model that are not present under today's regime. These are the result of introducing new contractual boundaries in the delivery model. The new interoperability and transfer risks are inherently born by AWS but could be managed through a project and interface agreement with the DPC provider. In a small number of instances risk transfer to customers improves under the proposed model, for example the DPC takes some elements of construction risk as a result of a fixed price contract and biddable indexation could reduce inflation risk sharing with customers.

Overall risk appetite from investors will be heavily dependent on (a) construction phase risk (i.e. potential for cost over runs and delays) and (b) security and variability of revenue stream. Construction risk can likely be allocated to sub-contractors and revenue risk may be more challenging for investors to accept if linked to demand rather than availability. If operations are included and there are incentives related to performance then likely to become more complicated for investors to price.

5.3. Tender Model

Ofwat has set out a range of tender models that companies could adopt based on precedents in competitively procured infrastructure investment. These are summarised in the figure below.

Figure 1: Ofwat tender models



Source: Ofwat, 2017, Methodology statement, Appendix 9

There are a number of risks associated with each stage of project development, and different parties are better placed to manage and mitigate these risks. The table included in the previous section under risk considerations (section 4.2)

sets out each project phase (planning, design, build, finance, and operate) and some of SLR' risks at each of these stages and has been used to inform our preferred option which is a 'late' tender model.

The late model is considered to be the most appropriate tender model for the SLR scheme. This is principally driven by the uncertainty, prolonged planning and development stage and risks associated with securing planning consent and approval and land purchase. These are risks that investors are unlikely to take if an early model was adopted.

A 'late' tender model was also preferred on the basis that:

- This is expected to maximise bidder interest in the scheme maximising competitive rivalry through the procurement process
- This model enable us to take advantage of our local experience, stakeholder relationships and powers as a statutory undertaker in seeking necessary approvals and consents, something we have previous experience with;
- The project risks anticipated at the planning stage are significant and the 'late' model would best allow those risks to be managed. The site at which the scheme is to be built has yet to be procured and has therefore not obtained the relevant planning permission and consents. Local stakeholders and conservation groups may challenge the proposals for the scheme and we already have well established relationships and experience of engaging a number of these groups and is therefore considered that we are best positioned to retain control during the planning stage.
- To maximise the opportunity for the CAP ("Competitively Appointed Provider") to deliver benefits to customers via DPC a 'very late' model is also not preferred, this limits the opportunities for efficiency to the operation of the asset and removes the incentive for the party building the asset to do so in a way that reduced whole life costs.
- The 'split' model is also not thought to be appropriate because of the risk of separating design and operations, this can result in inefficient design for operation and a failure to minimise whole life costs. The split model is also likely to have high transaction costs associated with running two separate tender processes.
- A late model allows for greater certainty over the likely project costs and better understanding of potential risks which is likely to improve the ability for bidders to price competitively and uncertainties which could led to re-openers or higher costs in the future.

6. Commercial case

6.1. Market appetite

Market appetite for the project will be driven by a number of factors, such as risk allocation between the DPC provider, AWS and customers, certainty of the

revenue stream, the selected tender model, pipeline of similar projects and Ofwat's role in the procurement and delivery.
In a report prepared for Ofwat KPMG has summarised the views of potential investors regarding Ofwat's early proposals for DPC who may have an interest in the initiative.

An overview of potential investors is presented in the figure below along with some key considerations.

Figure 5: Universe of potential investors in SLR under a DPC model

- Infrastructure funds: they may prefer investing in ongoing operations without construction risk
- Pension plans: SLR is unlikely to be large enough for large pension plans/sovereign wealth funds
- Greenfield funds: they are likely to prefer single stage procurement
- Constructors: Some may be unwilling to participate where existing relationship could be impacted under a more rigid project finance arrangement
- Lenders: Post credit crunch debt tenure has compressed and only recently have 25 year terms begun to re-emerge
- Rating agencies: as there won't be comparable UK precedents on which to draw DPC projects may be assessed as project finance/regulatory hybrid

Generally, there is a strong appetite amongst investors for infrastructure assets which could translate into a healthy competition for SLR under a DPC delivery. While different investor groups look for different types of schemes, given its size and project type SLR is likely to attract interest across the investor spectrum, especially from infrastructure and greenfield funds and debt investors. Being a relatively high value project for the sector at c. £600m initial capex element, and the limited number of similar size assets expected in the upcoming AMPs and with investors looking to deploy capital in large infrastructure assets, bidder interest in the SLR scheme is expected to be significant.

Contractors and strategic investors may find the significant size of the project less appealing leading to somewhat lower interest for the scheme from these

two investor groups. Given SLR represents a somewhat 'passive' asset with limited complexity and risk associated as opposed to a treatment works, strategic investors are likely to be less interested as there is perhaps more limited scope for innovation.

Figure 6 Potential investor appetites at different project sizes

Project Size	£100m totex	£500m capex	£1bn+ capex
Infrastructure funds	Limited	Significant	Significant
Greenfield funds	Some	Significant	Significant
Debt investors	Some	Significant	Significant
Contractors	Some	Some	Limited
Strategic investors	Some	Some	Limited

Figure 7 Potential investor appetites at different types of project

Project Type	STW/WTW	Network transfer	Large reservoir
Infrastructure funds	Limited	Limited	Significant
Greenfield funds	Limited	Some	Significant
Debt investors	Significant	Significant	Significant
Contractors	Significant	Significant	Some
Strategic investors	Significant	Some	Limited

Beyond its size and project type, its technical characteristic play an essential role in the project's attractiveness to potential investors. Key indicators for market appetite include idiosyncratic nature of the asset and risk profile of the construction and operational phases.

Figure 8 Indicators of market appetite for the SLR scheme under a DPC model

Indicators	Assessment	Market appetite for SLR		
		Low	Medium	High
Idiosyncratic nature of the asset	Number of similar projects planned over the next 5 years	1-2	3-5	>5
Construction risk	Length of construction period	> 4 years	2 – 4 years	<2 years
Operation risk	Impact of service performance on AWS's statutory obligations	Direct and significant	Direct and limited	Indirect

- It is expected that a number of reservoirs may emerge as key infrastructure investments by water companies to address WRMP supply demand deficits
- Over the next 2-3 AMP periods. However, the current pipeline is relatively limited in terms of firm projects coming to market in the next 5 years, which suggests a medium level of market appetite for the SLR scheme.
- Reservoirs are large infrastructure assets and whilst they are relatively simple in design complexity, the scale and long construction period is likely to be considered higher risk especially considered that there have been no UK precedents in a number decades.
- Failure may lead to availability or water quality issues however processes are well understood and potential risk mitigations such as quality sampling and alternative supply options should reduce impacts and are well established processes leading to a limited risk profile during operation and a medium level of market appetite amongst investors.

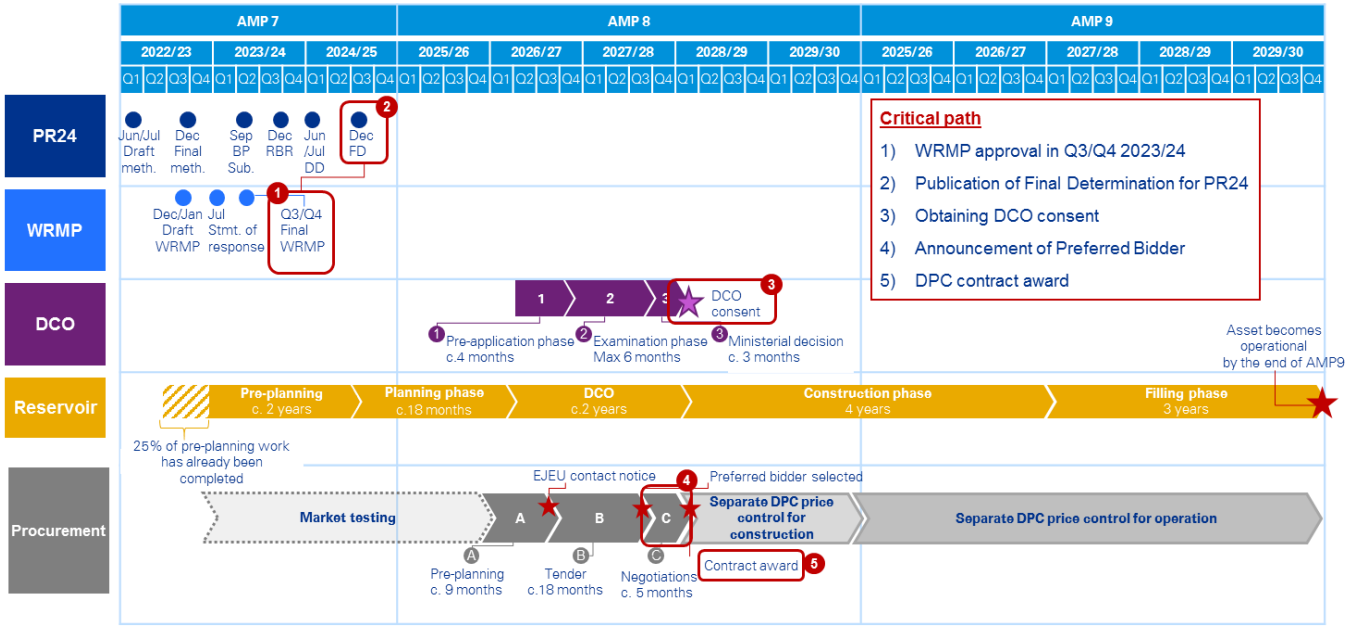
We are planning to engage early with investors in order to ensure that benefits for customers are maximised under a DPC model.

6.2. Procurement considerations and timetable

Based on our high level risk assessment and in line with our selected tender model we are envisaging to run a competitive tender process for the construction, operation and financing of the SLR after the environmental studies have been completed and the planning consent has been obtained.
Given the asset will need to become operational by the end of AMP9 and considering that construction takes 4 years with filling requiring an additional 3 years, the DPC contract will need to be awarded by the end 2027/28 so that construction can start in 2028 in line with our internal timeline allowing us compliance with our legal and statutory obligations.

The procurement process will need to align with associated DCO planning, WRMP, PR24 timetables, as presented in the graph below.

Figure 9: Indicative procurement timetable of key activities and milestones



A critical path analysis of the key activities shows that approval of WRMP in Q3/Q4 2023/24 is the first gateway for a timely project delivery, followed by Final Determinations for PR24 ensuring that the need case for the project is established and regulatory approval is obtained to progress with the DCO application and preparation of the procurement process (pre-planning phase).

We are planning to carry out an early market testing ahead of the official launch of the procurement process which will allow us to inform both our Business Plan submission in September 2023 and the procurement phase ensuring that we attract appropriate interest from key players in the market and deliver best value for customers under the DPC model.

The pre-planning phase will focus on defining the procurement and contract strategy, developing the contracts, and assessing the financeability and affordability implications of a DPC delivery. As part of the pre-planning phase we will carry out a robust market sounding exercise and we will engage with rating agencies in order to ensure financeability of the project. Once the key project documentation and material have been developed we will start to start to engage and test with the debt (and equity) markets specific model features and project characteristics (e.g. nature and certainty of revenue stream) and overall market appetite for the project.
We will consider whether to prepare a good quality Vendor Due Diligence ahead of launching the procurement in order to help lenders to compete their due diligence in the bid stage and thus shorten the negotiation and financing phase.

In the tender phase (bid stage) we will need to allow for relatively extensive due diligence by lenders and lender's advisors and set procurement timetable

accordingly. In case we require bidders to obtain credit rating, bidders will need to accomplish this during the bidding process.

While it is possible to run the tender in parallel to the DCO process to accelerate the timeline a DCO consent will be key for entering into the negotiations phase with the preferred bidder. The procurement process will be developed in an open and transparent way ensuring that investors and bidders have clarity over the process and understand how their submissions will be assessed. For our bid assessment we are expecting to adapt a combination of qualitative and quantitative criteria with their weighting changing across the different phases of evaluation, i.e. (i) qualification, and (ii) ITT. Given its size and importance for the wider network we will be looking for robust, comprehensive and high-quality submissions and not just a simple competition on costs in the form of low quality submission.

- **Qualification**: The focus of the qualification process needs to be on a fair process, which minimises the burden on the bidders and maximises the access to the project for a wide range of potential investors. Therefore, the criteria is likely to focus on the bidders track record of delivering similar projects, financial standing, and understanding of the requirements for the scheme. A limit to the number of bidders could be introduced in order to streamline the ITT stage. This stage is expected to take c.4 – 6 months.
- **ITT**: At this stage we will require bidders to submit fully developed tender documents and our evaluation will focus on both qualitative and quantitative aspects of the bid submission with marks being awarded for the tender revenue stream (TRS) and the quality and deliverability of the bid. The emphasis of this round will be to minimise the due diligence that can't be completed at this stage to ensure the respective bids leave little room for manoeuvre to re-open issues at negotiation stage which speeds up the time needed to reach financial close with the selected preferred bidder.

Overall, a key determinant of the timetable and process is ensuring financeability of the project involving two key aspects

i. time period to which the lenders are able to hold their financial terms, and
ii. contracting arrangements.

If the project documents are well developed and Financial Close can be achieved soon after Preferred Bidder stage then the risk on lenders not holding their terms is less. Otherwise lenders face a high risk related to potential changes to their financing terms.
Contracting arrangements in a normal Project Finance Initiative (PFI) financial close involves debt being fully committed at contract signature. However, in TTT it was not required to commit debt for some time, as the procuring company took comfort in the quantum of equity being invested upfront and TTT had the flexibility to go to the market and raise debt as construction progressed.

6.3. Commercial principles

The following table sets out the key contractual terms that are highlighted by Ofwat as part of the PR19 Methodology alongside some key considerations specific to the SLTR scheme. A number of these contractual features will need to be market tested through soft market engagement with prospective bidders to help develop an optimal solution that balances the risks appropriately between all parties and does not increase costs to customers against the conventional delivery route. In some cases, these principles may need to be adapted to attract sufficient interest from the market and can be refined during soft market testing.

Table 1 – Ofwat DPC Contract principles considerations

Contract principles	Key features based on Ofwat guidance	Key considerations
Contract duration	15-25 years of operation, plus construction period.	Likely to be 25 years or potentially longer (30 years) given size of project and length of asset life. Limited precedents for PPP style contracts greater than 30 years. Longer duration should attract highest level of competition where bidders can secure long-term revenue stream and returns. Need to balance financing terms and asset life which will be tested through market engagement.
Revenue and financing costs	Revenue paid to CAP: - After construction when appointee accepts assets - Fixed over contract period	The build time for the reservoir is estimated at 7 years (including filling and commissioning) and before the asset is in beneficial use. This lengthy construction period may be challenging if revenues do not start until the asset is 'in use' and could create liquidity issues for the project. As such, payments may need to commence earlier through construction in staged payments or the fixed revenue stream could potentially start ahead of filling albeit this creates some risks for customers and may require a mechanism to recover revenues if issues arise during filling and after payments to the CAP have been made. A fixed revenue stream over the period will potentially help 'lock-in' customer benefits and is typical for project finance contracts.
	Assets depreciated over useful lives	A reservoir has an economic life of approximately 100 years. Under project finance arrangements, it is typical for assets to be fully paid for over the contract life (~25 years). Depreciating the asset over the full asset life is likely to be less attractive to investors and creates a risk associated with payment of the terminal value.[9] Therefore, depreciation may need to be accelerated but which will increase costs to customers and potential reduces inter-generational fairness. As such the depreciation rate and implications for terminal value at the end of the contacting will be a key area to test with potential investors to help inform what level is acceptable to bidders whilst minimising costs to customers.
	Revenue streams not index-linked	Bidders may not want to accept indexation risk over such a long contract but building in an opportunity to allow for 'biddable indexation' as part of the procurement process could offer opportunities for bidders to differentiate their offering.
	Provisions for debt re-financing	Where the CAP is able to out-perform its financing assumptions there should be a mechanism to ensure customers can benefit from this. To help ensure the CAP is incentivised to secure lower cost financing a sharing of the benefits could best achieve this as in line with other PPP arrangements.
	Provisions to require approval by appointee for any change of control in the CAP	Any changes in CAP ownership should require AWS approval to ensure that any provider has the required credentials to construct and operate the scheme and has the necessary resources. Changes should not be unreasonably withheld.
	Revenues based on availability or usage	It may be beneficial for revenues to be more closely linked to usage where variable costs are linked to output. However, including a level of demand risk is likely to create risk for the CAP and is likely to drive an increase in expected returns to offset this and therefore an availability charge may be preferred. It may be difficult for bidders to accept demand risk as Anglian will be in full control of the supply requirement form the scheme.
Risk allocation	Allocate risks to parties based on their ability to best manage these	Risk allocation between the CAP, ourselves and customers need to be carefully considered and tested as part of market engagement. Under the current framework, cost overruns are shared between customers and appointees and this may be a more optimum solution than securing a fixed price contract where pricing of risk may increase costs for customers. Some potential sharing over construction costs over run could be developed to improve the benefits to customers in line with the current framework.

[9] World Bank Discussion Paper No.420, Financing of Private Hydropower Projects, July 2000

Contract principles	Key features based on Ofwat guidance	Key considerations
	Provisions for force majeure events in line with good industry practice	Specific force majeure events will need to be tightly defined to reduce the risks to customers and ourselves. Established precedents provide a good basis from which to further consider this.
Expiry, termination and step in	Specification of end date Asset condition at termination Circumstances under which the contract can be terminated and compensation payable to the CAP	The end date should align with the end of the contract period. For assets with a useful life at the end of a contract, consider whether to retender or bring the assets back in-house. Contract termination will need to be very carefully defined to help protect Anglian and our customers from performance issues outside of accepted tolerances and recognising our statutory duties under the licence remain our obligations under DPC arrangements.
	Specify circumstances under which appointees can step in	We will want to secure step in rights to ensure we can take control where a CAP has been unable to remedy an issue and the performance is causing a negative impact on our customers. Where public health could be put at risk through a water quality incident we would want to ensure we have sufficient protections to remedy a situation without protracted contractual discussions.
	Specify residual asset values and condition of asset at the designated end date, and how this is paid to the CAP	Asset standards at handback will be documented in the contract to ensure the asset meets AWS' standards at handover and provides an incentive for appropriate ongoing capital maintenance. Where the asset is not in an acceptable condition, the asset value at the end of the contract may be adjusted to reflect this. An ongoing asset monitoring and review process could be established to help manage this issue.
Construction programme and completion	Construction milestones and completion date	The construction programme and milestone completion dates will be set out in the contract and implications of delay against the programme schedule will need to be included. Some level of pain/gain arrangements to reward cost and/or time out performance may be established to incentivise on time and on budget delivery.
	Acceptance requirements for assets to trigger completion	Acceptance requirements to trigger formal completion of the asset including commissioning and handover specifications should be provided to ensure asset is in appropriate condition and operating as expected.
	Provisions for liquidated damages in the event of late delivery	Typically bidders will price liquidated damages costs into bid pricing and therefore a balance needs to be struck to protect AWS in the event of late delivery versus potentially higher bid costs. Pricing of some specific risks within the bid submission could be made explicit to help mitigate the impact this could create.
Operation and maintenance	Operational requirements - Performance commitments - Performance incentives	The operational performance commitments and incentives will need to be clearly established with acceptable tolerances and implications of actual performance above and below tolerance set out. We should look to set the same performance levels as we set ourselves to avoid adding costs under a DPC delivery route.
	Provisions for any variations in operating expenditure	Allowing for flexibility in operational costs could be in the interests of customers where benefits of lower costs could be passed into revenues. This will need to be considered in the context of the expected costs for the reservoir and the likely benefits associated with efficiencies against the complexity and costs associated with implementing any changes.
	Terms to enable AWS to fulfil any ongoing reporting or information requirements	The contract should specify the nature, format and periodicity of all information that needs to be reported to AWS to meet its reporting obligations and to ensure it is monitoring CAP performance at a sufficient level to assure itself that the CAP is compliant with the contract.
Performance deductions	How availability is accounted for: definition and payment deductions	Unavailability should be measured in as simple a way as possible to avoid complexity and higher costs associated with administration of the contract. Tiered deductions based on length of outage over a given period could be adopted.
	Level of performance required - Performance monitoring - Performance deductions	Performance measured based on water quality standards will be specified within the contract including clear and measurable water quality metrics. Monitoring based on sampling regime to assess non-compliance and the requirement on DPC to provide timely and accurate data. Deductions should include impacts on ODIs and customer satisfaction but should be proportionate to the impact of failure. Other performance metrics could include health and safety, asset maintenance completion against schedule etc. A performance scorecard for monthly reporting could be required under the contract.
Security	Provision against late delivery or non-delivery of assets	A form of security such as a PCG or performance bond could be used to enable recovery of costs from in the event of non-delivery and where AWS may experience costs required to remedy the situation. The nature and size of security needs to be carefully considered to avoid high costs associated with its provision and to ensure it does not preclude a bidders.
Compliance with legislation	Relevant statutory or licence obligations	The contract will need to ensure all of our statutory obligations are capable of being delivered through the contract and we are able to monitor performance against these obligations effectively. This will include compliance with the 1975 Reservoirs Act currently enforced by the Environment Agency (EA).
	Provisions to vary allowed revenues because of changes in regulatory requirements	Contracts will need to support changes to regulation that may be made over time. In some circumstances this may result in additional costs which the CAP may be reasonable for the CAP to recover in revenues.

7. Financial case

This section sets out some high level consideration for the financial case focusing on the affordability of the project under a DPC delivery and the accounting implications it may have for the wider AWS business.

7.1. Bill impacts

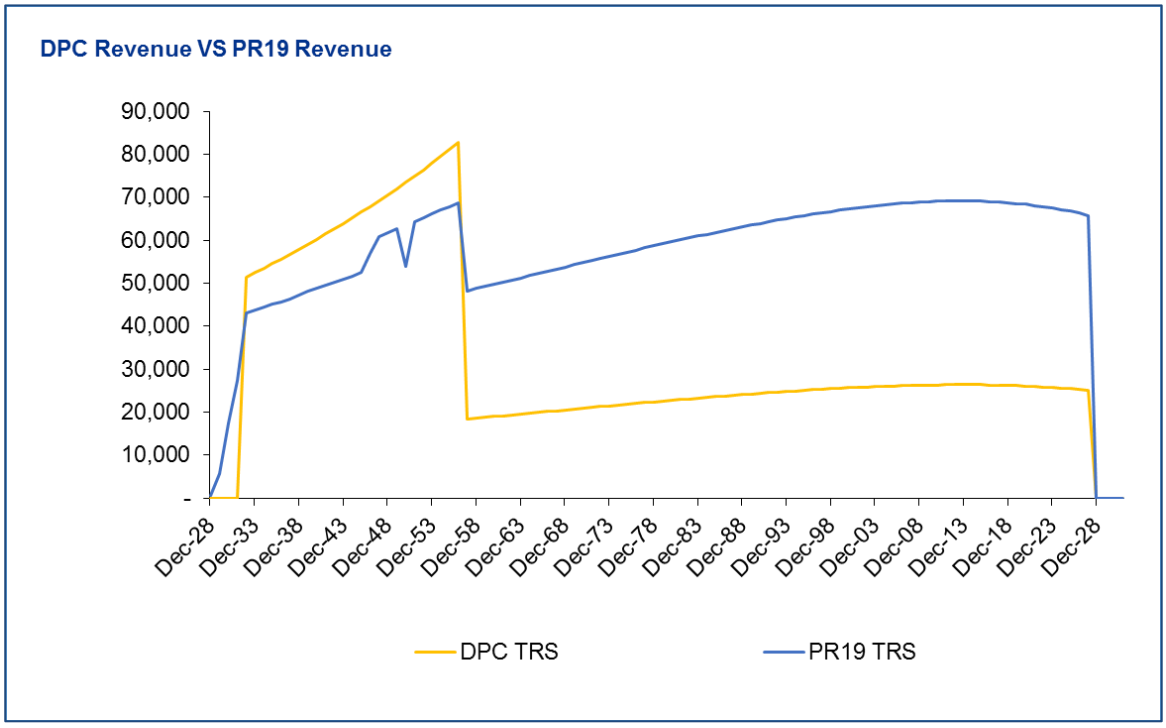
Whether delivered by DPC or AWS under the PR19 framework being a water supply infrastructure asset the SLR scheme will be ultimately funded by customers as part of their water bill. As the scheme impacts customers' water bill it raises affordability questions which are considered in this section as part of the wider financial case.

This section unpicks the bill impact from a cash flow perspective and addresses the scheme's affordability implications in the wider water bill context.

Bill impact has been derived by looking at the overall costs to customers under both a DPC model and in-house delivery under the PR19 framework, as ultimately this is the amount that will need to be recouped from customers to fund the scheme. Apart from the overall level of costs, also timing has been considered from an affordability point of view. As the financial case focuses on cash flows, costs to customers are considered on a non-discounted basis.

The biggest single element of the overall costs to customers represents the annual revenue paid by customers to the service provider (DPC under a DPC model and AWS under PR19 framework) over the asset's useful economic life.

Figure 10 Annual revenue to the service provider under the DPC model and PR19 framework



As shown in the graph above customers would face different cost profiles under DPC and in-house delivery mainly as a result of two factors

- Revenues to DPC start upon asset completion, while customers occur costs as they arise under PR19 framework (i.e. customers pay for the asset during construction, although not benefitting from its service when asset delivered in-house).
- DPC model assumes an accelerated depreciation profile, customers pay for a larger share of the capital costs during the contract period than the amortised asset value, resulting in lower costs to customers after contract ends under the DPC model.

The impact on customer bills has been calculated from the annual tender revenue stream shown in the graph above, AWS' total water revenue of £482m in 2016-17[10] and average annual water bill of £184[11] in 2016-17, both inflated to 2017-18 prices based on a stylised calculation.

A high level estimate of the potential bill impact over the three main phases of the asset lifecycle (construction, contract and post contract period) from a 3rd party delivery perspective is provided in the table below. Note, this would need to be assessed much more carefully as part of the overall price control period in which it would impact. It is shown here to demonstrate the difference between the impacts under a DPC and conventional framework.

[10] Anglian Water, Annual Performance Report 2016-17
[11] Source: http://www.discoverwater.co.uk/

Table 2 Average annual bill impact

Average annual bill impact	During construction	During DPC contract	Beyond DPC contract	Over asset life
DPC	0.0%	7.8%	1.1%	2.8%
PR19	2.0%	6.4%	3.0%	3.8%

Given its value of £934m with an initial capex of c.£600m the scheme represents almost 10% of current RCV and results in a corresponding bill increase for customers. The analysis suggests that customers are expected to experience the largest increase on their bills during the contract period (first 25 years of operation) leading to an increase of 7.8% under DPC and 6.4% under PR19 framework, which however drops significantly to 1.1% and 3.0% post contract period. Over its useful economic life, however, the estimated bill impact is below 4% under both scenarios with the DPC delivery offering 30% lower average bill increase than the PR19 framework. While under the PR19 framework customers would be required to pay £7.1 more annually in real terms over the asset life, the equivalent bill increase under the DPC model would be only £5.2.

7.2. Accounting implications

In addition to bill impact accounting implications of a DPC delivery model represent the other important area that needs to be carefully considered under a financial case as they impact AWS' financing structure and financeability.

According to current accounting standards, as AWS would in reality the sole user of the asset it will be captured as a liability in the balance sheet classifying the asset as a lease.

The asset can be considered either a financial or an operating lease depending on the risks and rewards allocation between the DPC and AWS. Given risks and rewards associated with owning the asset are likely to sit with the DPC provider, it is reasonable to assume that the asset will be classified as a financial lease.

IASB framework[12] defines leases in the following way
"A lease is classified as a finance lease if it transfers substantially all the risks and rewards incident to ownership. All other leases are classified as operating leases. Classification is made at the inception of the lease."

The fact that Thames Tideway Tunnel was also considered as a finance by TWUL from an accounting perspective further supports our assumption.

The asset's classification as a financial lease will have implications for our accounting position, impact our bottom-line financial statement numbers, as well as our financial ratios. Main changes to accounting practices involve:

[12] IAS 17.2, reissued in December 2003

- Setting up a lease liability for the value of the asset recognised (based on the revenues payable to the DPC)
- Charging depreciation on the asset recognised over the contract period
- Annual payment to the DPC provider will be in the form of capital repayment (i.e. against the lease obligation) and an interest payment with financing cost
  tied up within the transaction, shown as a finance cost in the statement of profit or loss.

8. Management case

8.1. Delivery route

Our capital delivery alliance is the primary delivery route for infrastructure investment within Anglian Water.

An overview of the @One alliance is contained in the table below.

Table 3 - @One alliance overview

Alliance name	Alliance members	Programme of work	Contract dates
Integrated Main Works Capital (IMWC) alliance	Anglian Water Capital Solutions, Balfour Beatty, Barhale, Grontmij, Mott MacDonald Bentley, MWH, Skanska	Capital engineering programmes (WNI, WWNI, WI, WWI) and special projects	All alliances will run for 15 years, with a performance review period every five years

The @One alliance delivers approximately £200m of investment every year and projects are relatively small in terms of size and scale and based on previous period's investment plans.

The SLR is a much larger project than the alliance has experience of delivering and the commercial structure and contractual arrangements established under the alliance are not optimised to support such a significant standalone project. As a result, to support the delivery of the reservoir we would look at alternative delivery approaches to support the scheme using a programme partner or similar to manage the overall programme and in line with best practice adopted by other large infrastructure providers (e.g. HS2, TTT, Crossrail).

There are no recent precedents for the construction of large reservoirs in the UK and we will want to ensure the selected supply chain has the necessary and proven skills, expertise and experience to manage a scheme of this nature.

In order to procure such a large project under a project finance arrangement, we will also need to bolster our procurement capabilities and will require

specialist external advisory commercial and legal support to help manage and deliver a successful procurement process.

There will also be a need to for ongoing contract management of the CAP to ensure it is delivering in line with expectations and we are able to monitor its performance against the licence obligations that for which we will maintain responsible for under our statutory licence.

The costs of these additional requirements for establishing a new delivery route, managing a project finance procurement and ongoing contractual management are set out in the DPC financial tables in greater detail and a summary is provided in the table below. Some of these costs are only relevant under a DPC model and are therefore included in the cost benefit analysis under the DPC delivery route whereas other are common under both delivery approaches.

Table 4 – Key management costs

Cost	Description	Estimated expenditure (£)	Comments
Procurement costs	One-off costs associated with procurement of CAP including specialist advisors fees for commercial and legal support	£3.2m	Below estimated costs suggested by Ofwat as part of PR19 methodology.
Programme partner costs	Specialist Programme partner to manage delivery of SLR	£7.1m	Estimate from Mott MacDonalds.
Ongoing contract management costs	Ongoing contractual management of DPC contract including legal support	£0.422m per annum	Bottom up resourcing estimates for contractual management

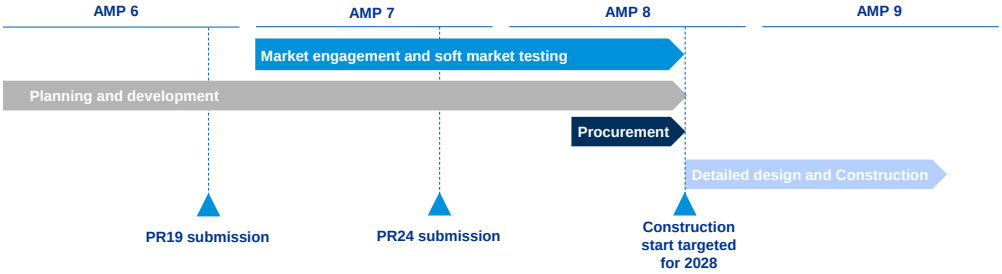
8.2. Delivery timetable

The SLR is currently targeted for construction start in 2028 and there is an estimated 4 year build timetable (plus a further 3 years filling and commissioning). A significant planning and development lead time is also anticipated given the requirements for the scheme including land acquisition and permitting and consent requirements. We are currently assuming that the planning for the SLR is completed under a Development Consent Order (DCO).

Given the time available between now and when we will need to go to market for procurement, we will have an opportunity to build a robust procurement process developed and refined through engagement with potential bidders in the market and key stakeholders (Ofwat, DWI, DEFRA). This will help to ensure a successful procurement process and will also allow soft market testing on specific key principles that will be necessary to attract significant interest and increase competition to provide best value for customers.

We have set out some key staging gates that will act as check points and at which point we will update the business case based on greater understanding of project specifics, market sounding and the wider market environment and to ensure the DPC delivery route remains the best value for customers.

Figure 11 – Timeline and key check points



Timeframe	Key checkpoints and activities
AMP 6	▪ Develop organisational understanding of DPC and assess project potential to provide benefits to customers ▪ Complete initial strategic outline case (SOC) for DPC delivery as part of PR19 submission ▪ Gain approval for delivery of the scheme under a DPC route
AMP7	▪ Begin more focused soft market testing with market players and supply chain ▪ Update business case from SOC to outline business case (OBC) ▪ Secure approval for OBC
AMP8	▪ Develop full business case ▪ Start procurement process to appoint CAP ▪ Confirm FBC assumptions and complete contract award

Version	Date	Reviewer	Title	Date
1.0	13.08.2018	[redacted]	Head of Direct Procurement	
2.0	24.08.2018	[redacted] [redacted]	Chair of DPC Steering Group	