



Strategic Solution Gate One Submission  
Draft Decisions - Statement of Response

# South Lincolnshire Reservoir

October 2021



This is the Statement of Response from Anglian Water and Affinity Water for RAPID's draft decision of the gate one submission for the South Lincolnshire Reservoir. The representation is structured to mirror the RAPID draft decision document. The first section outlines responses to the overall solution assessment, while the second section sets out the responses to the actions and recommendations.

In addition to the specific comments received for the South Lincolnshire Reservoir SRO, we welcome the overarching themes outlined in the RAPID summary report published alongside the representations. We will ensure to take these comments on board as we prepare the Gate 2 submission with South Lincolnshire Reservoir, where they are relevant.

## Solution assessment

RAPID DRAFT DECISION	DETAIL	RESPONSE
<b>Funding to gate two</b>	We are not changing the funding of this solution. This solution's total allowance and gate allowances remain the same as the final determination.	Since the gate one submission, work has progressed to provide more detail to the programme for gate two and the technical packages required. As a result of this, the gate two budget is now circa £0.5million over the £5.8million final determination allowance. The gate one spend was £1.48 million under the final determination allowance, and therefore it is requested that the underspend be carried forward to provide for the works required ahead of gate two. Anglian Water and Affinity Water are committed to co-creating the South Lincolnshire Reservoir with stakeholders. A lot of work undertaken for gate one focussed on agreeing the process and understanding the aspirations for the project. This was low-cost work and took time to complete but resulted in the gate one underspend. The process is now agreed, and stakeholders are fully engaged, enabling significant work to proceed to inform the gate one submission. Anglian Water and Affinity Water would welcome further discussions on the over-arching approach for calculating the gate two funding allowance.
<b>Environment</b>	The regulatory and environmental assessments will need to be refined, this includes reviewing the scopes of the environmental assessment and undertaking further monitoring. Anglian Water and Affinity Water will need to work with the Environment Agency and Natural England to ensure potential risks are addressed through detailed work program, including scope and mitigation requirements for identified impacts.	Our gate two programme for the SLR includes a package of work on environmental assessment. Building on the outputs that were presented in our gate one submission, the environmental assessment work package will refine our understanding of regulatory and environmental risks and highlight any areas where further monitoring is required. Mitigation strategies will be identified and further explored. We are committed to working collaboratively with both the Environmental Agency and Natural England and will look to share a detailed work programme and full risk register with them.
<b>Drinking water quality</b>	We expect to see further development of DWSPs, water quality monitoring, including	The DWSP presented at gate one will be expanded upon ensuring that additional considerations are included appropriately and that any required

	for emerging contaminants, and wider stakeholder engagement with ongoing dialogue with the respective water quality teams in gate two.	mitigation is embedded in the development of the Gate 2 concept design of the SLR.
<b>Gate one efficient spend</b>	Our assessment of the efficient costs as spent on gate one activities results in an allowance for this solution of £2.50m (of £2.50m claimed). We have made no adjustments to the costs claimed.	The final accounts will be submitted separately to confirm the total spend for gate one. This is broadly in line with the £2.6m claimed in the gate one report (£2.5m in 2017/18 prices).

## Actions and Recommendations

RAPID ACTION	DETAIL	RESPONSE
<b>Evaluation of costs and benefits</b>	Report the deployable outputs for 1:200 years drought and explain why the 1 in 500 years deployable output figures are higher than the 1 in 200 figures in the 2019 water resources management plan.	<p>Deployable output (DO) for a 1 in 500-year drought is estimated as:</p> <p>182 MI/d for a piped transfer option 151 MI/d for an open water transfer option</p> <p>There have been notable differences in the DO calculation from WRMP19. The most important in the context of stochastic drought is the methodology adopted to estimate the 1in200 year or 1in500 year drought event, whereby an updated Atkins Weather Generator has been used to create the synthetic river flow series for all the Anglian Water catchments. Due to differences in the stochastic sequences used, this has resulted in slightly different results in deployable output. Furthermore, a conjunctive use DO has been calculated with the scheme connected to existing supply network in a Pywr model, as opposed to having a standalone reservoir as in WRMP19.</p> <p>For gate two, DO estimation will be reviewed using new climate datasets developed by the Met Office with the advantage of covering a longer period, including the critical droughts in the first half of the 20th century, and explicitly incorporating climate change. Further explanation will also be provided in respect of the updated assessments used.</p>

<b>Solution design</b>	The in-combination assessment should include all relevant interactions between options. It will be beneficial to consider the potential competing resources from the energy sector	The scheme has been incorporated into WRE regional system simulator alongside other competing demands, including from the energy sector. The WRE Regional Plan will confirm the size and the output from the scheme. Interaction with other SROs affecting Trent flows will be considered further for gate two. The WRE regional plan will include an in-combination assessment undertaken through the Integrated Environmental Assessment (IEA)
<b>Programme and planning</b>	The invasive non-native species (INNS) treatment design should consider pathways, likely future risks and mitigation measures for the River Trent.	We have included INNS treatment in our gate one initial concept design for the Trent abstraction as preliminary mitigation. For gate two we will update the INNS risk assessment using any new approach that will have been agreed by the All Company Working Group for all SROs and revisit the type of mitigations required.
<b>Evaluation of costs and benefits</b>	Engage third parties who will benefit from the solution to contribute a fair share of the development costs, particularly where this significantly increases solution costs.	We are engaging with stakeholders from different sectors and working collaboratively with them to create a vision and concept which will achieve the optimum benefits for the local area and the environment. To achieve this vision there is a need to investigate additional funding sources, for both the development and capital costs. We have a plan in place to define the project to be delivered and funded by the water companies, including stakeholder workshops and economic modelling, and will work with our stakeholder group to investigate funding options for the wider vision.

RECOMMENDATION	DETAIL	PROGRESS NOTES
<b>Solution design</b>	A permanent siphon into the South Forty Foot Drain (SFFD) is proposed for the safe removal of the water from the reservoir in an emergency. Evidence is needed to show the SFFD has capacity to accommodate high volumes of water in an emergency.	Emergency drawdown arrangements will depend on the final site; the gate one design should only be considered as indicative and inclusion of the SFFD is still to be confirmed. An emergency drawdown is a highly unlikely event for a non-impounding reservoir like the SLR, but a clear approach for managing this situation will be detailed for gate two, based on the preferred site location. Protecting property from flooding is central to the design criteria and associated site selection work and we are working closely with the South Lincolnshire Water Partnership on these issues.
<b>Evaluation of costs and benefits</b>	Include which option is considered best value (rather than just least cost) for customers and the environment and the criteria and method used for best value. More detail on amenity features should be provided when the site has been selected	The three options included as part of the gate one submission are only indicative with the aim of exploring the sort of multi-sector benefits the scheme could deliver and the associated costs. As such, they have not been compared from a best value point of view at this stage.  For gate two we are developing a robust decision-making process to select the preferred site and concept design using a facilitated Multi-

		<p>Criteria Decision Analysis and an optimisation process that incorporates both constraints (e.g. cost, carbon) and opportunities (e.g. habitat improvement, flood risk protection). This is being undertaken in close collaboration with stakeholders to achieve best value as opposed to least cost.</p>
<b>Evaluation of costs and benefits</b>	<p>Develop as a priority environmental modelling, monitoring plans and approach to in-combination assessment. The yield of the solution should be considered in-combination with the Fens reservoir, the Anglian to Affinity transfer and existing water resources assets.</p>	<p>There are hydrometric, water quality and ecological monitoring programmes in place to gather additional information that will feed into gate two environmental assessments, environmental flows estimation, drinking quality risk assessment and deployable outputs (DO) calculation.</p> <p>The environmental assessment will include in-combination effects.</p> <p>Final DO of the scheme will be derived as part of WRE system simulation, integrating it with other SROs and existing water resources assets. The WRE regional plan will include an Integrated Environmental Assessment that will pick up in-combination effects.</p>