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## Gate 1 queries process

<b>Strategic solution(s)</b>	Thames to Southern Transfer
<b>Query number</b>	TST008
<b>Date sent to company</b>	04/08/2021
<b>Response due by</b>	06/08/2021

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### Query

- 1) Please explain why a conjunctive use DO assessment using the available regional system simulator model for a range of dependent option combinations has not been completed at this stage.
  - 2) How have the water resources benefits of the scheme been included within the regional investment modelling and how will these be refined, and programme level in-combination / conjunctive use DO benefits modelled for Gate 2?
  - 3) Please explain what assumptions have been made regarding scheme utilisation to inform the Opex costs. Please explain the reasoning behind the utilisation value(s) used.
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### Solution owner response

- 1) Please explain why a conjunctive use DO assessment using the available regional system simulator model for a range of dependent option combinations has not been completed at this stage.

Thames Water and Southern Water jointly decided not to undertake a conjunctive use DO assessment using the available regional system simulator model because it was not known for Gate 1 how T2ST would be operated around other sources. For example, how T2ST would be used is dependent on both Havant Thicket Reservoir

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(and how it is used) and currently uncertain environmental and sustainability ambitions.

In order to model the conjunctive use benefit, we would have had to make some assumptions around other available sources for Southern Water. We weren't in a position to do this for Gate 1 and therefore took the conservative position of assuming no conjunctive benefit at this time. This is something we will be looking at further for Gate 2.

- 2) How have the water resources benefits of the scheme been included within the regional investment modelling and how will these be refined, and programme level in-combination / conjunctive use DO benefits modelled for Gate 2?

The scheme has been included in the WRSE regional option database and updated in March 2021 to ensure it aligned with the Gate 1 submission. As such the option forms one of the many regional options that the investment model can choose from to create a regional best value plan.

The benefits of the scheme were based on the potential transfer capacity between the two companies using a range of pipeline routes and sizes. The benefit of the transfer scheme will be re-evaluated once the regional solution has been derived. This will allow a better and more accurate representation of the benefits of the scheme.

Following the Gate 1 assessment the in-combination / conjunctive use modelling, using the regional simulation model, would be scheduled for later in 2021. This would allow the option to be updated and the new benefits to be incorporated into the regional investment model during the next update window in January 2022, and reported on for Gate 2.

- 3) Please explain what assumptions have been made regarding scheme utilisation to inform the Opex costs. Please explain the reasoning behind the utilisation value(s) used.

Utilisation of the T2ST is dependent on the outcome of the WRSE regional modelling and will be looked at further during Gate 2. Given the uncertainty on the utilisation at Gate 1, utilisations of 30% and 100% were assumed as a means to compare costs.

100% was selected as an upper limit and to represent a maximum assumption.

30% was selected as a lower end assumption as the utilisation of the transfer will be dependent upon the required sweetening flow for the preferred option, and a minimum flow rate of 30% maximum design capacity has been assumed to be required to maintain operation of the water treatment works for the transfer scheme. This 30% minimum flow ensures that the treatment plant is always operational and flows can be ramped up to full capacity when required and was therefore deemed to be a reasonable assumed lower limit.

<b>Date of response to RAPID</b>	06/08/2021
<b>Strategic solution contact / responsible person</b>	