

Draft South East Plan Examination In Public Data Meeting – Water 17th October 2006**Briefing Note By Thames Water Utilities Ltd.****Methods and Data used in the
Needs Case and Reservoir Site Selection Studies for the
Upper Thames Major Resource Development (Upper Thames Reservoir)**

1.0 Introduction

- 1.1 Thames Water Utilities Ltd. (TWUL) predict that more water will be needed in future years because people are continuing to move into London and the South East from other parts of the UK and overseas, so our customer numbers are increasing. To accommodate this TWUL is working with the Regional Planning Bodies and others to determine the water resource requirements of these plans.
- 1.2 The River Thames basin is highly populated but receives relatively low rainfall, so water is a particular problem here. Parts of TWUL's water supply area are predicted to have enough water to last them for the next 25 years but two zones; the London area and the Swindon and Oxfordshire area do not. We forecast that by the year 2030 we will need about an extra 280 million litres a day in London (which for illustration is about enough water to supply the whole of Northern Ireland) and 60 million litres a day in Swindon and Oxfordshire (enough water to supply the city of Coventry). These amounts are worst case estimates because they are what we would expect to have to supply to our customers when the weather is very dry, which is a water resource planning requirement.
- 1.3 Our assessment of this additional water need is informed by forecasting demand and supply over a 25-year period in a formulation referred to as the Supply Demand (SD) Balance. For the purposes of the Needs Case work for the Upper Thames Major Resource Development (which is of direct relevance to need for the Upper Thames Reservoir referred to in Policy NRM2 of the draft SE Plan), the SD Balance for London and Swindon and Oxfordshire (SWOX) resource zones was calculated. The assumptions used in this formulation are set out in Annex 1 attached. The SD balance used in the UTMRD Needs Case has been updated from that included in Thames Water Utilities PRO4 Water Resource Plan, as shown in Table A.1 of Annex 1. In this respect the data used here is an update from the SD information used by the WRSE group in its work for SEERA. Albeit that the overall conclusion that a combination of demand management and new water resource development is necessary through the application of a 'Twin-Track' approach is unchanged.
- 1.4 Having arrived at the SD figure and identification of what additional water is needed, the options to provide for this must be identified and assessed, with the objective of meeting this requirement in a sustainable way. A Best Practicable Environmental Programme (BPEP) assessment was undertaken of all the options available to determine the environmental, social and financial costs and benefits of each option. From this assessment the best performing options were able to be selected for inclusion within a suite of programmes for further detailed assessment outlined below.

- 1.5 A selection of twin track focussed water resource programmes were generated using the current industry best practice methodology (which is based on a least economic (including environmental and social costs) cost approach) and incorporating a new methodology by TWUL allowing a more explicit consideration of cost, risk and environmental and social impacts, consistent with the core principals of sustainable development.
- 1.6 The method can be summarised as follows:
- Identify a long list of possible types of measures for saving or supplying water (e.g. metering; fixing leaks; importing water from other countries; reusing wastewater; desalinating estuary water);
 - Screen these and reject any impractical ones;
 - Convert the remaining measures into actual schemes that could be planned and implemented (e.g. a scheme for abstracting a known quantity of groundwater at a particular site in Oxfordshire), so that we can make reasonable assessment of their costs, risks and impacts;
 - Work out which schemes perform best in terms of their cost and impacts and rank them in order;
 - Choose schemes to fill the gap between the predicted demand and supply of water over a 25 year planning period, focussing initially on implementing demand management and leakage reduction schemes, and then selecting new supply schemes (i.e. following the twin track approach);
 - Compare different combinations or programmes of schemes, again using cost, risk and impact indicators, to check which performs best overall;
 - Use this information, along with other considerations, to help decide on the most suitable programme
- 1.7 This 2 page briefing note together with the attached Annex 1 (specifically outlining the latest forecasting assumptions) give an overview of the approach that has been adopted by TWUL in identifying the need for the Upper Thames Reservoir. We would strongly recommend that the EiP panel and other interested parties refer to the full '**Upper Thames Major Resource Development Stage 1 Needs and Alternatives Report**' 14th September 2006 which is available online at www.thameswater.co.uk/UTMRD and if the EiP Panel wish, this document could be made available to the EiP Library.
- 1.8 Of the options identified for assessment the option of an Upper Thames Reservoir to which Policy NRM2 of the draft SE Plan specifically refers, was the subject of a separate site selection study. A tailor made methodology was developed to identify a suitable reservoir site or sites and central to this was the concept of sustainability. This methodology was the subject of consultation in 2005 with local authorities and appropriate national and regional organisations and agencies within the study area. Overall there was a general endorsement of the approach set out with some amendments made where appropriate and possible to respond to specific comments made by consultees.
- 1.9 Given the significance of this water resource to the South East and neighbouring regions we believe it appropriate that we provide through this data meeting a summary of the methodology developed, which is attached as Annex 2. As with the Needs Case, we would strongly advise the EiP panel and other interested parties to refer to the full '**Upper Thames Major Resource Development Reservoir Site Selection Study Report**' 14th September 2006, which is available online at www.thameswater.co.uk/UTMRD and if the EiP Panel wish, this document could also be made available to the EiP Library.