Water Resources Management Plan 2019

Six-monthly review:

to September 2023

1 Purpose of this document

Water companies are required to produce a Water Resources Management Plan (WRMP) every five years which sets out how the company intends to provide a secure and sustainable supply of water to its customers, whilst protecting the environment.

In April 2020 we published our Final WRMP19. We developed WRMP19, which covers the next 80 years from 2020 to 2100, based on insights from customers and we also engaged extensively with stakeholders and regulators throughout the development of the plan.

This document is the mid-year update for the reporting year 2023/24 **covering our performance up to September 2023**. The full year Annual Review to March 2024 will be published in June 2024.

2 Key messages

2.1 Our WRMP19 remains valid

We have checked our current position against the strategic messages established by WRMP19 and can confirm that the foundation of WMRP19 is robust and remains valid as a basis for future planning. We remain committed to delivering substantial programmes of demand management alongside resource development in a twin track approach.

2.2 We are building on lessons learnt from the drought event in 2022/23

Following our experiences through the drought of 2022, a number of strengths and areas for improvement have been identified. We continue to work through areas for improvement outlined in this section.

2.2.1 Updates to the drought plan

We have made a number of non-material changes (i.e. those not requiring consultation). These are show below and will be included and published in an Addendum to our current Drought Plan:

Review of Drought Triggers – We have reviewed the triggers for our drought options following the drought of 2022 which highlighted that the TUB could have been introduced slightly earlier. We do not consider that we should amend our drought triggers as this could lead to the introduction of TUBs in years when they are not required. However, to address the need to be able to respond more quickly to weather situations like that of 2022 we have introduced more scenarios to inform our drought planning with the introduction of the 40% average rainfall scenarios to enable us to identify where we may need to introduce TUBs to address very severe hot and dry spells such as was experienced in 2022.

Code of Practice (CoP) - We have also updated our Drought Plan following the update to the CoP for TUBs and NEUBs by UKWIR. Through this process we have worked closely with other water companies to ensure our plans for exemptions are as closely aligned as possible with other companies.

Drought Permit methodology – During the 2022 drought in which we were required to make applications for Drought Permits (DP) for the first time. We have since worked with the Environment Agency to build the learning from the DP applications into an updated DP methodology. We are also updating a number of our EARs (Environmental Assessment Reports) to ensure they are more flexible. This will enable them to be introduced at different times of year to cover a range of scenarios including both winter and summer drought periods.

Communications Plan - We have updated our communications plan within our Drought Plan following the drought of 2022.

More Before 4 options: We have updated our section on More Before 4 options following a more detailed review of the feasibility of potential options.

2.2.2 Further learning

Lower Thames Intakes – During the drought, it was noted that the storage of individual reservoirs differed according to their placement along the Lower Thames intakes. A study to investigate the abstractions, effluent returns, river flows, and levels at various points along the Thames and its tributaries is currently being undertaken to better understand this. We are liaising with the EA throughout the course of this study, and aligning this work with the EA's River Thames Scheme.

River Thames Scheme (RTS) - We have noted risks relating to the development of the River Thames (flood management) Scheme. We continue to liaise with the EA and relevant teams to ensure we are accounting for these risks.

2.3 We are focussed on delivering significant demand reductions.

2.3.1 Per Capita Consumption

We have reviewed our progress, and in terms of Ml/d demand reduction from Thames Water led smart metering and water efficiency initiatives, we are ahead of WRMP19 forecast for end-AMP7 in September 2023. A combination of smart metering, water efficiency engagement and external factors such as the 'cost of living crisis', resulted in a reduction on household consumption and reported PCC during 2022/23. The annual movement in PCC through AMP7 will differ from PR19 forecast, following the external impacts of Covid, hybrid-working, population and commuter movement changes, and cost of living crisis, record heatwave and national drought events, which are all post-PR19 forecast.

As it stands, PCC remains as per AR23 year end. Our smart meter data is showing stable household and non-household consumption patterns, with the usual consumption responses to temperature and rainfall. A multi-company study has commenced to quantify the consumption and PCC impacts from external factors such as Covid, hybrid-working, drought and cost of living crisis. The scale of these variations in PCC will be compared to the demand reduction volumes funded and targeted through PR19.

2.3.2 Green Economic Recovery

Our meter installations in Thames Valley were steered by the 25,000 smart meter installs to previously unmetered households that were included in the PR19 Final Determination, as well as preparatory field work for our Green Economic Recovery (GER) smart metering programme. We have now installed all of the 25,000 smart meters in Thames Valley which were forecast for delivery in WMRP19. We put forward a proposal to Ofwat in 2021 to deliver an additional 204,700 meters as part of the national GER initiative. The bulk of these smart meter installations were planned for the Thames Valley water resource zones.

This bid was approved by Ofwat and our ability to recover the £72m allowance was conditional on us delivering at least 98% of our leakage performance commitment between the 2020-2025 period. While we met our leakage target in years 1 and 2, the impact of the 2022 drought and freeze-thaw events over the last year meant we fell short of our year 3 target.

We asked Ofwat to review the GER funding conditions in response to these challenges, but our request was declined. Therefore, regrettably our GER initiative has been halted, and a letter sent to all regulators, government and other interested party confirming this. We remain committed to driving down leakage and encouraging our customers to use water wisely and are reviewing our AMP7 and AMP8 meter installations to include as much of the GER scope as possible to support our WRZ's where we have a tighter supply demand balance.

2.4 We continue to prioritise leakage.

Thames Water did not meet its leakage performance commitment in 2022/23. The three-year average for 2022/23 achieved was 602.2 Ml/d against a target of 579.3 Ml/d or in percentage terms our target was 14.1% from the baseline leakage position and our out turn was 10.7%.

To get back on track with our AMP commitment we have evolved our leakage recovery plan into a 'Leakage Transformation Plan'. This transformation plan has Thames Water Board backing, along with external support helping in finalising key initiatives to help us develop a more sustainable operating model.

We recognise that supply demand balance in our SWOX WRZ is challenging. In our AR23 Annual Review report Dry Year Uplifted leakage in SWOX was 23 Ml/d above our WRMP19 forecast. The four main company-wide initiatives running at the moment are summarised below.

- The Oracle in Raynes Park South London. This is our sand pit for trying different ways of working and has been focused on cross functional operability improvements.
- Find and fix - we have introduced a new leak grading system based on the severity of the leak and not the asset the leak is on. Along with this we have reduced service level agreements to improve cycle time, fixing our worst leaks sooner, following this process we have seen a dramatic improvement in the cycle time a leak is running for. We are also rolling out campaign management which will allow us to monitor the effectiveness of our detection campaigns.
- We are also making improvements to our demand and consumption understanding. In development we are looking to use smart meter data to update night allowances at DMA level to support the targeting teams.
- We are making improvements to customer side leakage, again using the smart meter data continuous flows to engage with customers sooner and prioritise the high leak fixes.

2.5 We continue to ensure a secure and sustainable water resource base.

2.5.1 Overview

We recognise some of our supply schemes delivery have been delayed, but consider the risk in this cases to be limited – namely in the London and Guildford WRZs.

As set out in our recent letter, most of this work is now scheduled for delivery through AMP8, with some beyond AMP8. We also note that delays to work at Ladymead WTW in Guildford relate to ongoing discussion with the EA regarding the relocation of a local depot.

Both zones remain in surplus and as such we consider these delays are not putting customer supply at a greater risk, while some of the resilience work should mitigate some of the risk in the meantime.

2.5.2 Thames Gateway WTW (Desalination plant) operated into supply.

Our Gateway WTW desalination plant was unavailable during the 2022/23 drought due to a planned outage. We have been undertaking necessary repairs and improved our communication with the EA regarding the progress of this work. Following an initial phase of work, and delays in returning to service due to a European wide supply chain challenge for carbon dioxide, in July 2023, Gateway WTW successfully commenced into supply. The plant operated into supply from late July to late September before returning to "standby mode". As expected, we experienced site trips through this period, identifying a number of issues which were resolved before returning to supply. Water quality into supply has remained excellent throughout this period. We were unable to operate the plant at 50 Ml/d as intended as two independent issues arose.

- On 15 September we experienced a leak on the RO (Reverse-Osmosis) permeate pipework which could not be resolved until 4 October, due to lead times on essential equipment. This work is now complete.
- From the beginning of September 2023 there was an increasing trend for Solids Density Index (SDI) upstream of the RO membranes, which resulted in SDI exceeding the manufacturers upper limit recommendation of 3.5. This caused the RO pressure to significantly increase.

Significant technical reviews were undertaken to understand the challenge, however we were unable to arrest the upward SDI trend. On 25 September we ceased supply from the site and shifted our investigations to the "Non-Regulation 31 approved" RO membranes sending all water to waste. Whilst we might have persisted at elevated SDI levels we were/are very concerned by the risk of long-term damage, which is acute given the absence of any new Regulation 31 approved membranes. Investigations into the increased SDI will continue while the plant is in standby mode, and we anticipate resolution by early 2024.

3 Forward look

We have provided a short update below and will provide further information in the tripartite letter from Defra, EA and Ofwat received on 20th October 2023, requesting details on our AMP7 performance planning in areas such as leakage.

3.1 rdWRMP24

We published our revised draft WRMP in August 2023 followed by our statement of response in September 2023. Defra is now reviewing the response and we hope to publish the Final Plan in early 2024.

3.2 SROs

We continue to work collaboratively with other water companies to investigate Strategic Resource Options (SROs) to provide a resilient and sustainable water resource to the South East. All five of the SROs we are involved with as part of the RAPID process are progressing towards Gate 3 which will include for selecting their respective preferred options for planning consent applications. The London Water Recycling (LWR) and Severn to Thames Transfer (STT) SROs will be reporting on progress against their Gate 2 priority actions in December 2023. We undertook in November our next round of community engagement and initiated a consultation on the direction of the Teddington DRA pipeline. We also started our dialogue with investors and contractors for the Teddington Direct River Abstraction (DRA) and South East Strategic Reservoir Option (SESRO) options which have been selected in the rdWRMP24 preferred plan. The Gate 3 submissions for Teddington DRA and SESRO are planned for June 2024 and January 2025

respectively. As part of the PR24 business plan submission in October 2023 we requested funding to progress the delivery of the preferred options in rdWRMP24 and selected alternatives to ensure we have an adaptive plan for the AMP8 period 2025 to 2030. We continue to have dialogue with Ofwat and expect the Draft Determination late spring / early summer.

3.3 Leakage planning

In addition to the work set out in Section 2.5 we are planning next year's programme. Our themes for next year are:

- Our people - how do we ensure that all our teams have the right key competences, training and knowledge to move us into an equally challenging AMP 8.
- Technology - ensuring we are getting the best out of our sensors and smart systems.
- Efficiency - building on everything we have learnt this year have can we improve leakage delivery and be cost sustainable too.

3.4 Key Risks / Concerns

In our AR23 WRMP19 review, we reported a surplus in the DYAA (Dry Year Annual Average) scenario in all WRZs in our data tables and SoSI/SDBI calculations. We reported a deficit in SWOX DYCP (Dry Year Critical Period) scenario in our data tables, and in our SoSI calculation, which led to a SoSI of 99. Following discussions around our SDBI methodology, our board assured SDBI score was 100, although we noted that the surplus in SWOX DYCP is small in the Actual DI scenario.

In a recent letter to the EA, we outlined some key concerns and responses to these concerns in some WRZs:

Henley –The DYAA surplus has reduced owing to a reduction in DO in AR21. Following some recovery in AR22, projects have been set out to recover the DO in AMP8, with improvements in resilience in the short term. The risk in this WRZ is also limited with the ability to re-zone and make use of a network transfer from the Kennet Valley WRZ, if deemed necessary.

Guildford – We recognise there has been a reduction in surplus in the DYAA scenario. This is largely driven by an increase in DI when compared with WRMP19. Leakage and demand reductions remain a priority to address the elevated demand compared with WRMP19. Our 'Leakage Transformation Plan', which is underpinned by the PALM initiative will support the reduction of leakage.

SWOX – The risk in SWOX supply demand balance is primarily due to an unforeseen reduction in DO at Gatehampton and Chinnor groundwater sources and elevated demand compared to WRMP19 forecasts. A programme of work has been outlined to improve resilience and recover DO through AMP7 and early AMP8. We will continue with this work alongside leakage and demand reduction initiatives to restore surplus in SWOX.

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