

**Portsmouth
Water**



**WRMP19 STATEMENT OF RESPONSE
ADDENDUM JUNE 2019**

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STATEMENT OF RESPONSE ADDENDUM

This document is an addendum to Portsmouth Water's (the Company's) formal Statement of Response (SoR) to the representations received on its Draft Water Resources Management Plan (Draft WRMP). The Draft WRMP was made available for public consultation for a period of 12 weeks between 5 March 2018 and 25 May 2018. The Company's SoR was published in September 2018.

The addendum provides further information in support of the Company's SoR as requested by the Department for Environment, Food and Rural Affairs (Defra). Defra requested the additional information in a letter to the Company dated 19th March 2019, following its review of the revised draft plan, SoR and advice from the Environment Agency. The addendum also provides responses to a list of non-material issues raised by the Environment Agency and provided to the Company in March 2019.

This document forms part of the Company's formal Statement of Response (SoR) prepared under Regulation 4 of the Water Resources Management Plan Regulations 2007. It provides the further information requested and sets out where the Company has made changes to its Draft Final Water Resources Management Plan in response. The Draft Final Plan will be submitted to the Secretary of State asking for permission to formally publish the Final Plan.

1 INTRODUCTION

This addendum provides further information in support of the Company's SoR as requested by the Department for Environment, Food and Rural Affairs (Defra). Defra requested the additional information in a letter to the Company dated 19th March 2019, following its review of the revised draft plan, SoR and advice from the Environment Agency.

The further information required from Portsmouth Water to support a decision on the Water Resources Management Plan was set out in Annex A, attached to the 19th March 2019 letter from Defra. In addition, the Environment Agency sent the Company a Statement of Response Review Annex in March 2019. The Environment Agency Review Annex set out non-material issues; whilst the Environment Agency do not consider these to be material to the plan, they believe that addressing them will improve the Company's plan.

This document forms part of the Company's formal Statement of Response (SoR) prepared under Regulation 4 of the Water Resources Management Plan Regulations 2007. It provides the further information requested from Defra and sets out where the Company has made changes to its Draft Final Water Resources Management Plan in response. It also provides responses to the non-material issues raised by the Environment Agency and identifies where the Company has made changes to its Draft Final Water Resources Management Plan in response.

2 RESPONSE TO FURTHER INFORMATION REQUEST FROM DEFRA

2.1 Improve confidence in supply forecast

In the Environment Agency's representation, it raised the Company's high outage as an issue and asked it to demonstrate how it plans to reduce this going forward. The Company's statement of response suggests it can reduce outage under normal year conditions, but it did not assess how outage could be reduced for its preferred plan which is based on a dry year scenario. Artificially high outage could affect the supply-demand balance and drive unnecessary investment. It could also impact resilience and transfers.

Additionally, the Company has not demonstrated that stochastic weather data used in its supply forecast is representative. The Company state that choosing a different data series would not materially impact the plan; however, the Environment Agency has not seen the evidence to support this statement. The Environment Agency are therefore not confident that the Company's deployable output is correct, which could affect security of supply.

The Company should outline options that will reduce its outage under its preferred plan (1 in 200-year scenario) and amend its planning tables accordingly. The Company should also validate the 1000 years of stochastic weather data used against the 15,600 years of generated data to show that it is representative and provide confidence in its supply forecast.

2.1.1 **Company response**

2.1.1.1 *Outage*

The Company has reviewed how outage could be addressed for a 1 in 200-year drought scenario, on which the preferred plan is based. The outage assessment has been revisited and certain events have been amended or re-categorised to reflect operational practice during periods when the supply-demand balance is critical. The revised outage assessment has been fully reported in an updated outage report, included as Appendix D of the WRMP19.

Following reappraisal of outage, the 95% probability values for outage allowance for the Dry Year Annual Average scenario is 5.7% of Deployable Output, the Dry Year Critical Period scenario is 4.5 % of Deployable Output and the Dry Year Minimum Deployable Output is 5.7% of Deployable Output. Overall, these are lower than the values presented in the Draft Plan (7.0%, 4.5% and 6.9%, respectively).

The figures from the revised outage analysis have been used to update the Draft Final Plan.

2.1.1.2 *Stochastic weather data*

The Company has commissioned further work to validate the 1000 years of stochastic weather data used against the 15,600 years of generated data. This demonstrates that the stochastic weather data used in its supply forecast is representative. The evidence has been included as part of Appendix A of the Draft Final Plan.

2.1.2 **Changes to Draft Final Plan**

The Draft Final WRMP has been updated to reflect the changes to Outage. The following changes have been made:

- Draft Final WRMP text in Section 4.5 'Outage Assessment' revised
- Appendix D Outage report updated
- Draft Final WRMP Tables – row 10BL updated.

The Draft Final WRMP text has been updated to state that the 1,000 year sequence used has been validated against the 15,600 years of generated data to show that it is representative. This analysis is presented in a technical note included as part of Appendix A.

2.2 Ensure consistency with Southern Water transfer and resolve any final planning deficits

There is a discrepancy in the Company's plan between the tables and the plan text for the transfer from the Company to Southern Water's Sussex North zone. The tables state that the transfer is 10 MI/d until 2024 when it increases to 15 MI/d. The plan text states that the 15 MI/d is available from the beginning of the plan, which is consistent with Southern Water's WRMP. Amending its tables in line with Southern Water would cause a small deficit (-0.11 MI/d) in the first year of the plan that would also need to be resolved.

The Company must ensure that this transfer is presented consistently in its plan and is consistent with Southern Water. If this causes a deficit then this must be resolved.

2.2.1 Company response

The discrepancy between the tables and plan text for the transfer from the Company to Southern Water's Sussex North zone was a mistake and the tables have now been corrected. Both the tables and the plan text now show that 15 MI/d is available from the beginning of the plan, which is consistent with Southern Water's WRMP. As a result of the changes made to Outage (see 2.1.2), the change does not result in any deficit.

2.2.2 Changes to Draft Final Plan

Row 6.1BL has been updated in the Draft Final WRMP Tables to show a 15 MI/d transfer from the Company to Southern Water's Sussex North zone from 2017-18 onwards. No changes were required to the Draft Final WRMP text.

Whilst making alterations, a small change has also been made to Row 6.2 BL for the current year (2019-2020). The potable water export to Hants South Phase 1 for 2019-2020 has been revised downwards from 15 MI/d to 7.5 MI/d to represent the predicted bulk supply transfer volume. This change has been agreed with Southern Water who have also made a similar change in their WRMP.

2.3 Improve sensitivity/scenario testing

The Company's sensitivity and scenario testing is relatively simplistic. It is unclear how the scenarios have been selected or how likely they are. Some of the scenarios shown by the Company show large deficits which may affect the Company's ability to supply transfers to Southern Water or mean a risk to its own customers.

This is particularly significant around the potential changes to its River Itchen abstraction, which is as a result of a future target flow regime for the River Itchen. The River Itchen source is utilised by both Portsmouth Water and Southern Water. The future target flow regime for the River Itchen is still to be determined and agreed as part of an AMP7 WINEP investigation. The approach the Company has taken to model and report this uncertainty in its revised WRMP is not consistent with Southern Water. It is important that this work is carried out collaboratively with Southern Water to ensure that assumptions made by both companies are consistent and impacts on bulk supplies are shared.

For the final plan the Company should explain the assumptions behind each scenario, giving an indication of likelihood and how it will manage these risks. The Company should work with Southern Water to adopt an approach that consistently determines uncertain sustainability reductions on the River Itchen. The Company must also work with Southern Water to identify

and manage risks to its future transfers, ensuring Southern Water is aware of the risks shown in Portsmouth Water's scenario and sensitivity testing.

2.3.1 Company response

The Company has met with Southern Water and discussed the approach on uncertain sustainability reductions on the River Itchen. Both Company's WRMPs now consider the impact of tighter flow standards on the River Itchen in the same way within their scenario testing. Both Company's are committed to further collaborative work as part of the AMP7 WINEP investigation.

The Company has also discussed with Southern Water the potential risks to future transfers which are included within the Company's sensitivity/scenario testing. Southern Water are aware of the scenarios that have been tested and the potential risks to future transfers. The Company understands that Southern Water's WRMP considers alternative options in the event that future transfers are not available as planned.

The Company has updated the WRMP text to provide further explanation as to why scenarios were selected, the likelihood of different scenarios and how the Company will manage these risks. The Company has shared the results of their sensitivity tests and the updated WRMP text with Southern Water.

2.3.2 Changes to Draft Final Plan

The Draft Final WRMP text has been updated as follows:

- The sensitivity results have been recalculated using the revised supply demand balance figures (following amendments to the WRMP Tables described elsewhere in this document such as changes to outage, bulk supplies etc.)
- Section 8 'Testing the Plan' has been updated to reflect the updated sensitivity results and to provide further explanation on scenario selection, likelihood and management of risks.

2.4 Monitor the risk around delivery of its resource and demand management programmes

The Company's plan includes significant resource development that is driven by transfers to Southern Water, which uses the vast majority of the options on the Company's feasible options list. The Company also plans a reduction in per capita consumption and has committed to a 15% reduction in leakage by 2025 in its WRMP and 35% by 2045. If the Company does not achieve this or is delayed in its resource and demand management programmes, the Company has little flexibility in terms of other options which it could bring online, meaning a potential risk to its own customers or the transfers to Southern Water.

The Company has a small surplus for most of the planning period, which provides some buffer, however the Company should set out what options or actions it would undertake if there was a risk to delivery.

The Company should closely monitor the progress of its demand management and resource development programmes. In its final plan the Company should show how it will monitor its progress, and what actions it will take if its plans are not achieved. The Company should report on its progress through its annual reviews.

2.4.1 Company response

The Company has made amendments to the WRMP Tables with respect to bulk supplies and outage as described in section 2.1.2 and section 2.2.2. In addition, the Company has taken the opportunity to revise its leakage figures in the WRMP Tables to match the latest revisions to the Company's Business Plan. The Company is now planning a 20% reduction in leakage by 2025. These amendments have resulted in a different final planning supply demand

balance. The sensitivity scenarios have been reassessed and the text in Section 8 'Testing the Plan' has been revised to provide further information on management of risks (as described in section 2.3.2).

As a result of the changes made, the Company has a slightly larger surplus through the planning period which provides some buffer to address risks to delivery e.g. from not achieving full leakage or demand savings.

The Company has added a new section in the WRMP text 10.2 'Monitoring and Contingency Planning'. This describes how the Company will monitor progress with respect to demand management and resource development programmes and sets out actions the Company will follow if progress falls behind forecast or targets. The new section also considers the forecast volumetric savings from demand management options, the forecast annual yields from development of resource options and the effect on the supply demand balance if these were not achieved. The text sets out the actions the Company will take in the event of a supply-demand shortfall and what the contingency option would be.

2.4.2 Changes to Draft Final Plan

As discussed in section 2.3.2, the Draft Final WRMP text has been amended by updating Section 8 'Testing the Plan' to include text on risk management.

In addition, a new section – 10.2 'Monitoring and Contingency Planning' has been included to provide further information on monitoring risk around delivery of resource and demand management programmes.

2.5 WRMP Direction compliance

Portsmouth Water must demonstrate compliance with Directions 3 (e), 3(f) and 3(h) in its final plan.

3 (e) the assumptions it has made as part of the supply and demand forecasts contained in the water resources management plan in respect of— (i) the implications of climate change, including in relation to the impact on supply and demand of each measure which it has identified in accordance with section 37A(3)(b);

The Company has described the impact of climate change on its final planning scenario as a total rather than on each of its preferred options individually. The Company must clearly state the impact of climate change on each preferred (final plan) supply and demand option individually, including the assumptions made in the assessment, to meet Direction 3(e).

3 (f) its intended programme for the implementation of domestic metering and its estimate of the cost of that programme, including the costs of installation and operation of meters;

The Company has set out the intended programme, including costs, of its preferred metering strategy, however no costs associated with the continuation of its baseline metering programme have been provided. The Company must state the installation and operational costs of its current (baseline) metering programme to meet Direction 3(f).

3 (h) its assessment of the cost-effectiveness of domestic metering as a mechanism for reducing demand for water by comparison with other measures which it might take to meet its obligations under Part III of the Act;

The Company has not provided a clear assessment of the cost-effectiveness of each metering type. The Company must provide an assessment of the cost-effectiveness of the following types of metering to meet Direction 3(h): Selective, Change of occupancy and Optant.

An assessment of cost-effectiveness should include an estimate of the costs for the above types of metering together with the associated reductions in demand, to enable comparison between options.

2.5.1 Company response

2.5.1.1 Direction 3 (e) Climate change

To address this comment, the Company has presented the climate change impact of each supply and demand option in the preferred plan individually in section 9.5.2 of the plan text. An explanation is provided as to how the numbers were derived and the assumptions made.

2.5.1.2 Direction 3 (f) Programme and costs for domestic metering

To address this comment, the Company has presented the costs (Capex and Opex) associated with the continuation of its baseline metering programme in section 5.3.2 of the plan text.

2.5.1.3 Direction 3 (h) Cost-Effectiveness of domestic metering

To address this comment, the Company has included an assessment of the cost-effectiveness of Selective, Change of occupancy and Optant metering. This is included in section 9.4.1.2 of the plan text.

2.5.2 Changes to Draft Final Plan

The Draft Final WRMP text has been updated by inclusion of three new tables:

- Table 73 in section 9.5.2 sets out the predicted impact of climate change over the length of the plan individually, for each supply and demand option in the preferred plan. It includes the assumptions made in the assessment.
- Table 36 in section 5.3.2 sets out the Capex and Opex costs associated with baseline metering.
- Table 69 in section 9.4.1.2 sets out the costs (AISC) of each domestic metering option and the associated reductions in demand for each option.

3 RESPONSE TO ENVIRONMENT AGENCY NON-MATERIAL ISSUES

3.1 Issue 1: Climate change impact in headroom

The impact of climate change in headroom has been significantly reduced from the draft WRMP (by about 30%). This appears to be a result of using 2018 climate data, however this is not explicitly stated in the plan.

3.1.1 Company response

The Company has reviewed the changes made to headroom between the Draft Plan and the Draft Final Plan and the same climate data (a representative sample of 100 climate change scenarios from the UKCP09 10,000 member ensemble for the 2080s under a Medium Emission Scenario, provided by HR Wallingford) was used for both assessments.

The Company do not believe that the impact of climate change in headroom has been significantly reduced from the draft WRMP. Comparison of the relative contribution of climate change factors to Company headroom analysis between the Draft Plan and the Draft Final Plan shows very little change (see Table 1).

Scenario	Relative contributions at 90% probability (MI/d)	Draft WRMP19		Draft Final WRMP19	
		2019/20	2044/45	2019/20	2044/45
DYAA	Non-climate change factors	9.92	16.07	2.13	8.25
	Climate change factors	4.88	7.91	4.86	7.91
DYCP	Non-climate change factors	10.48	18.68	2.4	8.74
	Climate change factors	6.66	11.05	6.55	11.05

Table 1 Relative contributions of climate change factors to Company headroom allowance

The numbers in Table 1 illustrate that it is not the climate change factors that have changed between the Draft Plan and Draft Final Plan but the non-climate change factors.

The changes in target headroom between the Draft Plan and the Draft Final Plan are largely due to the removal of oil pollution risks from the headroom assessment and the revised risk profile in which the risk is increased in steps of 5% for each 5-year period rather than 1% as previously. These changes affect the relative contribution of climate change uncertainty.

In the Draft Final Plan the potential impacts of climate change on Portsmouth Water's supply-demand balance initially account for over two thirds of the headroom uncertainty allowance, at the 90% probability level, reducing to about half by the end of the 25-year planning period (or just over a half for the DYCP scenario). The majority of the climate change uncertainty is associated with the future impacts of climate change on the deployable output of sources rather than the future impacts of climate change on demand.

3.1.2 Changes to Draft Final Plan

No changes have been made to the Draft Final Plan.

3.2 Issue 2: Risk of deterioration

A Water Framework Directive investigation for the River Itchen was not included in the WINEP on the grounds that Portsmouth Water stated there would be no growth in abstraction at Source A. We acknowledge this commitment by the Company but reiterate that water companies must carry out investigations to assess 'risk of deterioration' and put any necessary measures in place to prevent deterioration before allowing abstraction to increase. Additionally, any future licence variations cannot rely on previous WFD/RSA assessments.

3.2.1 Company response

The Company has made a commitment that there will be no growth in abstraction at Source A. The Company recognises the requirement to carry out investigations to assess 'risk of deterioration' at their sources and put any necessary measures in place to prevent deterioration before allowing abstraction to increase. The Company recognises that any future licence variations will require new environmental assessments.

At Source A, the Environment Agency has asked the Company to undertake a joint investigation with Southern Water and South East Water with a completion date of March 2022. This investigation is to determine the costs, impacts and technical feasibility of reaching or maintaining revised CSMG flow targets for the River Itchen SAC. There is also a linked biodiversity investigation. The Company is committed to ongoing work and collaboration with Southern Water on the River Itchen and to identifying appropriate solutions.

The Company will continue to work with the Environment Agency and ensure that all future required environmental assessments are completed and reported through the annual review process.

3.2.2 Changes to Draft Final Plan

Further text has been added to the Draft Final WRMP in section 4.3.3. and in section 8.4.7 which provide additional clarification regarding the Company's commitments to 'risk of deterioration' assessments and planned investigations at Source A.

3.3 Issue 3: Options appraisal

The Company has provided further information with regard to its options appraisal, and how its preferred options perform against certain drivers. However, it is still not clear how some specific drivers have impacted the selection of the preferred plan or how or where expert judgment has been used.

3.3.1 Company response

The Water Resources Planning Guidance (July 2018) clearly states that the preferred solution for a Company may not necessarily be the least-cost solution as there may be other criteria (other than least-cost) that are important to the plan.

To determine the preferred plan, the Company considered various factors including:

- Total cost
- Performance against SEA objectives
- Programme risk
- Alignment with Government policy priorities
- Customer preference
- Resilience

These were developed based on the WRPG and a review of Company priorities, government policy priorities and the perceived priorities of its customers. Except for cost (financial, environmental and social and carbon), the programme appraisal was qualitative.

The Preferred Plan was derived from the list of feasible options but is very similar to the least-cost plan. Section 7.7.3.1. in the Draft Final Plan sets out the feasible options that were excluded and the justification for this (only one option that had been in the least cost plan was excluded). Section 7.7.3.2 describes the additional feasible options that were included in the preferred plan (three in total; two water efficiency options and a smart metering trial).

The minor differences between the least cost plan and the preferred plan were all driven by the Company's commitment to delivering improved water efficiency and reducing household PCC.

3.3.2 Changes to Draft Final Plan

No further changes have been made to the Draft Final Plan.

3.4 Issue 4: Leakage options

The plan still contains relatively few specific leakage options, stating that many alternative approaches overlap with the Company's existing/baseline activity.

The plan states 'the Company has been conducting satellite leak detection trials using satellite imaging technology'.

However no indication of benefit or when this may be available has been provided.

3.4.1 Company response

The Company has been investigating and developing innovative leakage options to reduce leakage including:

- Fixed Networks Using Permanently Installed Noise Loggers
- Leakage Efficiency
- Increased Data Collection
- Satellite Imagery and Drones
- Pressure Optimisation
- Smart networks

The Company considers that reducing leakage by 20% by the end of AMP7 will require considerable improvements, efficiencies and innovation in leak detection and repair. As a result, since the PR19 Business Plan was submitted, the Company has been investing significantly in new technology to reduce leakage. Further detail on the latest work on innovative leakage reduction has been added into the Draft Final Plan.

The Company will continue to research and trial innovative leakage options for inclusion in WRMP24.

3.4.2 Changes to Draft Final Plan

Further text has been added to the Draft Final WRMP in section 5.5.3 'Forecasting Leakage' and a new section 10.5 'Delivering Leakage Reductions Through Innovation' has been included.

3.5 Issue 5: Change of occupancy metering

The Company has two phases of change of occupancy metering. Phase one - change of occupancy in 'existing meter pits', starts at the beginning of the plan. Phase two - change of occupier 'all properties', begins in 2025. The Company has not explained why it has split change of occupancy into two phases.

Additionally, it is not clear what 'selective metering' in the planning tables refers to. It appears that it is phase one of change of occupier metering.

3.5.1 Company response

The Company has two phases of Change of Occupier metering because it will be rolling out its Change of Occupier metering programme in two phases, each of which have different costs. The first phase targets new occupants in specific areas where mains renewal has already taken place and meter pits have been installed. In these locations, new occupants will be required to have a meter. The second phase, which commences in 2025, will target all instances where there is a change of occupancy. All properties with new occupants will be metered.

Where the Company has included Selective Metering in the planning tables, this refers to the first phase of the Change of Occupier metering programme. This is Selective Change of Occupier metering as the instances where meters are installed are 'selected' by Portsmouth Water (on a cost basis i.e. new occupants in certain areas where mains renewal has already taken place and meter pits have been installed, will be required to have a meter).

3.5.2 Changes to Draft Final Plan

The table of feasible metering options in section 7.5.2.1 of the Draft Final Plan provides a clear description of the two feasible options related to Change of Occupier metering (Options CO06a and CO06b). Additional text has been added to section 9.4.1.2 of the Draft Final Plan to provide further explanation with regards the two phases of Change of Occupier metering included in the preferred plan.

3.6 Issue 6: Non-drought hazards

The Company has provided further detail on non-drought hazard resilience. However, the evidence appears to be mostly anecdotal with little supporting data/assessment in the plan. It is also not clear if lessons identified in Ofwat's 'Out in the Cold - Water Companies Response to the Beast from the East' have been implemented, or how non-drought resilience will be improved going forward.

3.6.1 Company response

The Company has included information on non-drought hazard resilience in section 7.7.1.6 of the Draft Final Plan. This includes information to support the fact that the Company is well placed, relative to many other companies, to demonstrate it is resilient and can supply its customers with wholesome water under varying weather conditions by reference to the recent freeze-thaw event (March 2018) and long dry period (summer 2018).

Further information on non-drought resilience has been added to section 9.6.2 of the Draft Final Plan. This includes observations on the Company's response to the "Beast from the East" from Ofwat and the Drinking Water Inspectorate. The text also refers to the agreed action plan against which progress is reviewed by the Company's Board on a quarterly basis.

3.6.2 Changes to Draft Final Plan

Further text has been added to the Draft Final WRMP in section 9.6.2. 'Improved Resilience'.