



# Representation on Portsmouth Water's draft drought plan

2 March 2018

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We reduce the risks to people, properties and businesses from flooding and coastal erosion.

We protect and improve the quality of water, making sure there is enough for people, businesses, agriculture and the environment. Our work helps to ensure people can enjoy the water environment through angling and navigation.

We look after land quality, promote sustainable land management and help protect and enhance wildlife habitats. And we work closely with businesses to help them comply with environmental regulations.

We can't do this alone. We work with government, local councils, businesses, civil society groups and communities to make our environment a better place for people and wildlife.

Published by:

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# Contents

|  |                          |
|--|--------------------------|
| <a href="#"><u>1. Our summary of Portsmouth Water's draft drought plan</u></a> ..... | <a href="#"><u>4</u></a> |
| <a href="#"><u>2. Compliance with relevant legislation</u></a> .....                 | <a href="#"><u>5</u></a> |
| <a href="#"><u>3. Recommendations</u></a> .....                                      | <a href="#"><u>6</u></a> |
| <a href="#"><u>4. Improvements</u></a> .....   | <a href="#"><u>8</u></a> |
| <a href="#"><u>Appendix 1: Evidence report</u></a> .....                             | <a href="#"><u>9</u></a> |

# 1. Our summary of Portsmouth Water's draft drought plan

## 1.1 Introduction

This is the Environment Agency's review of Portsmouth Water's draft drought plan. We have a statutory duty to manage water resources in England and Wales. We aim to make sure that there is sufficient water for society, the economy and the environment in a drought. We are also a statutory consultee in the water company drought plan (WCDP) process and provide advice to Government on the content of these plans. We have assessed the plan against the relevant legislation<sup>1</sup>, the WCDP guideline<sup>2</sup> and supplementary technical information<sup>3</sup>.

A water company drought plan sets out the short-term operational actions that a company will take in a range of drought situations to maintain public water supplies without causing unnecessary risk or damage to the environment. These plans should be flexible, consider the needs of customers and other stakeholders, and be aligned to guidance. In this round of drought plans, we have also asked water companies to consider the resilience of their plans to more extreme drought events, which may indicate the need for resilience options in their water resources management plans.

The document is split into four sections. These are:

- **Section 1:** Summarises our view of Portsmouth Water's draft drought plan.
- **Section 2:** Reviews compliance with the Drought Plan (England) Direction 2016
- **Section 3:** Sets out our key recommendations for changes to the draft drought plan
- **Section 4:** Outlines further improvements that we consider should be made.

## 1.2 Summary

We consider that Portsmouth Water's draft drought plan demonstrates that it will provide a secure supply of water and sufficiently protects the environment during a drought. We recommend that Portsmouth Water revises some parts of its draft drought plan to ensure it meets Directions and gives clarity.

Portsmouth Water's draft drought plan sets out the actions it will take in a drought and demonstrates that it can meet a drought of approximately 0.5% return period in one year (1 in 200 year event) using drought management actions. The company needs to be cognisant of its neighbour Southern Water and provide some further information and clarity around its drought actions.

We recommend the company addresses the following key issues:

- Comply with all the Drought Plan (England) 2016 Directions.

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<sup>1</sup> Drought Plan (England) Direction 2016

<sup>2</sup> How to write and publish a drought plan <https://www.gov.uk/government/collections/how-to-write-and-publish-a-drought-plan>

<sup>3</sup> Supplementary information provided to water companies on Defra's Huddle website

- consistency in its assumptions around the [REDACTED] drought permit/order with Southern Water

We suggest that the company can further improve the effectiveness of its plan as follows:

- improve its scenario presentation and provide further clarity around the drought actions in its scenarios
- provide further information on its [REDACTED] drought permit
- provide more information on some of the drought options in its plan that it might need beyond 1 in 200 year event

## 2. Compliance with relevant legislation

This section contains our assessment of whether we consider Portsmouth Water has complied with the Drought Plan (England) Direction 2016.

In this assessment, we consider that a Direction has not been complied with where the draft plan does not meet the principles of the Direction.

Section 3 of the Drought Plan (England) Direction 2016 specifies additional matters that should be addressed in water company drought plans. We have assessed the draft plan for compliance against these Directions.

Portsmouth Water has not presented sufficient evidence in its draft plan to demonstrate compliance with all Directions. The company needs to provide more details to show how it complies with the following Directions.

| Direction not complied with  | Recommended changes to ensure compliance with Direction |
|--|---|
| (f) the permits and approvals that the water undertaker expects to need in order to implement those mitigation measures; | See Recommendation 2.                                   |

# 3. Recommendations

This section sets out our key recommendations on addressing any major issues for the Portsmouth Water's draft drought plan.

## Summary

We consider that the issues described in this section are significant to maintaining the security of supply and/or present a major risk to the environment during a drought. Following the recommendations outlined below will ensure Portsmouth Water's drought plan demonstrates that it is planning a secure supply of water and protects the environment whilst in a drought.

We have set out the evidence to support these recommendations in table 1 of Appendix 1.

### Recommendation 1 – Present further information regarding drought permit/order assumptions with Southern Water and impact to bulk supply

We recommend that Portsmouth Water clarifies within its drought plan assumptions around Southern Water's drought permit/order and how this will affect the company's bulk supply to Southern Water. This will provide reassurance to customers and regulators that transfers are reliable during drought, and if any changes to transfers will affect security of supplies, the environment or restrictions for its customers.

There are inconsistencies between Southern Water and Portsmouth Water's assumptions around [REDACTED] drought permits/orders. We recommend the company clarifies;

- The inconsistency with Southern Water's plan around whether Portsmouth should have demand restrictions in place before Southern Water applies for a drought order at [REDACTED]. We are supportive of actions to reduce demand being in place.
- The difference between the two plans regarding the current minimum residual flow in the River Itchen and therefore potential differences in the amount of water that is assumed to be available.

### Recommendation 2 – Drought permit environmental assessment and mitigation (linked to Direction (f))

We recommend that Portsmouth Water provides the information needed describing mitigation actions in its drought permit.

Portsmouth Water's drought plan does not set out the details of any permits or approvals that are required to carry out any mitigation measures associated with its [REDACTED] drought permit. This causes the failure of Direction 3f. The company must provide this information to meet the direction, or state that no permits or approvals are needed.

The company could also do more to identify mitigation measures for its [REDACTED] drought permit as it states that mitigation options are available but does not provide any details as to what these are.

## 4. Improvements

This section sets out our suggested further improvements to Portsmouth Water's draft drought plan. These improvements are in addition to our key recommendations set out in Section 3.

We have set out the evidence to support these improvements in Table 2 of Appendix 1.

### **Improvement 1 – Improve scenario presentation and clarity of drought actions being used**

The company has presented a number of scenarios to show how it would manage different droughts. Some of the information presented in these scenarios is confusing and therefore further clarity is needed around some of the scenarios and the actions that will be taken. The company should also provide more information on its post-drought review so that it plans to learn from any drought experience it has gained.

### **Improvement 2 – Provide further information on the [REDACTED] drought permit**

The company should provide further information on its [REDACTED] drought permit. The company should provide information around how it will make the case for an exceptional shortage of rain and provide information around timetable for its drought permit application. Although this permit is only needed in the most severe droughts, it is important that the company prepares in advance to reduce the potential problems that could cause a delay in the application process.

We also recommend that Portsmouth Water ensures its environmental monitoring plan is appropriately designed to adequately assess the environmental impact of all its drought permits. It is the water company's responsibility to undertake this monitoring.

### **Improvement 3 – More information on drought options**

The company has identified several options which could be used in an extreme drought, however has not provided any estimate of the yield or the lead in time needed to bring these options on line. The company should provide further details of these options so it is clear what options might be available in an extreme drought and the time needed to bring these online.



# Appendix 1: Evidence report

## Evidence report: Portsmouth Water draft drought plan

### Major issues identified

Major issues are those that we consider highly significant to the draft plan that may result in an unnecessary risk to public water supplies and/or major risk to the environment. They also include issues with compliance with relevant legislation, such as Directions. These are reported as recommendations in our representation submission.

| Recommendation 1 – Present further information regarding drought permits assumptions with Southern Water                            |   |   |  |
|---|---|---|--|
| Area of issue   | Issue and evidence  | Implications  | Information or changes required  |
| Issue 1.1 – Clear understanding between Southern Water and Portsmouth Water's drought plans around the drought order at [REDACTED]. | <p>There appear to be inconsistencies between Southern Water's draft drought plan and Portsmouth's plan as to the conditions and the assumptions the drought orders will operate under.</p> <p>Portsmouth Water states that it must have demand restrictions in place at the same time as Southern Water, in order that Southern Water would be given a drought permit for this site. This is not reflected in Southern Water's plan.</p> | Clear agreements on drought actions in a drought will ensure all companies plan appropriate actions during a drought. The permits affect a bulk supply to Southern Water. Therefore this issue has the potential to affects security of supply and/or the environment. If Portsmouth has used different assumptions from Southern Water, the company may not have a | <p>We suggest that Portsmouth Water clarifies within its drought plan how its drought actions will operate during a drought and ensure that this is cognisant of Southern Water's plan.</p> <p>The company should clarify if it is required to have demand restrictions in place when the [REDACTED] drought order is applied for by Southern Water.</p> |

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|  | <p>There also appear to be a difference between the two drought plans in the expected MI/d Minimum Residual Flow and available MI/d. Portsmouth Water states that Southern Water has proposed a relaxation of the flow condition from 194 MI/d to 150 MI/d. Whereas, Southern Water appear to refer to a reduction of flow condition from 198 MI/d to 160 MI/d</p> | <p>correct understanding of how much water would be available in a drought.</p> |  |
|--|--|---|--|

| Recommendation 2 – Mitigation measures for drought permits        |   |   |  |
|---|---|---|--|
| Area of issue   | Issue and evidence  | Implications  | Information or changes required  |
| Issue 2.1 - Direction failure – Approvals for mitigation measures | <p>As required under Direction 3f, the plan does not set out details of all additional permits or approvals required to carry out any mitigation measures e.g. land/planning permissions, abstraction or transfer licences required for compensation (Please note - this list is not exhaustive, the company should consider if others apply) .</p> <p>Appendix F contains mitigation "<i>Compensation water to lower</i></p> | <p>Including sufficient information in the drought plan in advance of a drought will allow timely determination of drought orders and permits.</p> <p>Without adequate monitoring and assessment information, applications for drought permits may be delayed or rejected.</p> <p>This could put public supplies at risk of failure</p> | <p>The company should state whether permits or approvals are expected to be needed to implement those mitigation measures.</p> <p>Or if relevant, the plan should state that no permits or approvals are needed for any mitigation measures planned. (Linked to Direction 3f).</p> |

|  |   |   |   |
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|  | SSSI" - but no reference is made to whether this requires any permits. It potentially could include another drought permit for the compensation water.  | or the environment at risk of unnecessary damage.                                     |   |
| Issue 2.2 – [REDACTED] drought permit mitigation | The company could do more to identify mitigation measures for this site. The environmental assessment (Appendix J) states <i>"Mitigation - Various mitigation measures are possible, for example augmentation of the wetland SSSI at the WWT site. This may influence the monitoring regime chosen and subsequent data analyses."</i> | Mitigation measures are important to protect the environmental from potential damage. | The company should identify what specific mitigation measures it could carry out for its [REDACTED] drought permit and if any permits are required<br><br>We also ask Portsmouth Water to ensure its environmental monitoring plan is appropriately designed to assess the environmental impact of all its drought permits. |

## Moderate issues identified

Moderate issues are those that we consider significant to the draft plan and may reduce the effectiveness of the plan, stakeholder/customer understanding and/or present a moderate risk to the environment. These are reported as improvements in our representation submission.

| Improvement 1- Improve scenario presentation and clarity of drought actions being used |  |  |   |
|--|--|--|---|
| Area of issue  | Issue and evidence   | Implications   | Information or changes required                           |
| Issue 1.1 – Presentation of scenarios  | Figures 8 to 11 present the scenarios the plan is tested against. Although information | Although the information is presented, improving the display of what the | The worked examples in Figures 8 to 11 could be improved: |

|   |   |   |   |
|---|---|---|---|
|   | <p>on triggers, actions and timings is presented in the text, the information is hard to find and could be presented on the graphs for clarity for customers and regulators to know what the company would do when.</p> <p>This would help with confusion over when actions will be implemented. For example, in Scenario A when Level 3 is reached, the company states in the table that it would apply for drought orders and permits, but not need them. It would be beneficial to be clearer in the table of actions (and on the graph if annotated) whether the company is applying for a drought order for NEUB and if the company is applying for a permit at [REDACTED] at the same time or sometime after.</p> | <p>company could do when in a drought will ensure it is clear that the plan is comprehensive.</p>   | <ul style="list-style-type: none"> <li>• Include annotations of the actions in the table below the figures and include more detail of actions, e.g. initial discussion with EA on permit, application for permit, permit implementation, TUB advertised, TUB implemented.</li> <li>• A colour key for levels 1 to 4 is needed on the graphs.</li> <li>• Figures 8 to 11 should show what the red zone is and what happens there.</li> <li>• A key for the black line on the graphs is needed.</li> <li>• The 'end of drought' trigger which is set 1.6m above the 'Level 1' trigger should be added to the graphs.</li> </ul> |
| Issue 1.2 – Lead in time for drought permit | <p>Table 1/Table 9 includes an application for a drought order and drought permit in Jan Year 2, but then the drought permit is put in place in Aug Year 2.</p>   | <p>If the company applies for a permit seven months ahead of needing it, it may have issues justifying an exceptional shortage of rain.</p> | <p>The company should provide further detail in the tables regarding drought actions and show clearly when permits/orders will be applied for, advertised and implemented.</p> <p>Adding annotations to figures 8 to 11 (and figure 1) as per Issue 1.2 will help.</p>  |

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| <p>Issue 1.3 – Clarity on what drought actions are needed in 2-year and 3-year drought scenarios (C and D)</p> | <p>Scenario D (and p39) states that <i>"If an exemption were offered in the most extreme events for drip irrigation, it would require further drought permits that have the potential to impact designated habitats."</i></p> <p>This suggests that the plan can only just manage a 1 in 200 year event.</p> <p>For scenario C, (Section 4.4.9.4) the company states that <i>"it might be necessary to apply for further supply side options, such as commissioning unused private boreholes and lowering of borehole pumps."</i></p> <p>This also indicates that the company might need additional options to manage this scenario.</p> | <p>The plan needs to demonstrate it is able to manage to meet its level of service. It is concerning that this suggests the plan can only just meet its 1 in 200 scenario (assuming water saved from drip irrigation exemption is minimal) although the company does include other options in its plan.</p> | <p>The company should clarify what drought actions it would need to use, in what sequence and when, if it did include this exemption or didn't achieve the level of demand savings it is expecting.</p> |
| <p>Issue 1.4 – Scenario presentation</p>   | <p>Figure 1 shows scenario C, which is a 1 in 125 year drought event. The text states that <i>"that the company believes it can maintain supplies throughout the most severe drought scenario with only recourse to one Drought Permit at the Company's [REDACTED] source."</i></p>  | <p>There is currently confusion for customers on the resilience of the company in droughts of this severity.</p>  | <p>The company should present scenario D in section 1, or revise its wording.</p>   |

|                                  |   |  |   |
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|                                  | This wording of 'the most severe drought' in this sentence is confusing as the company has considered more severe droughts in its plan.   |  |   |
| Issue 1.5 – Post drought actions | <p>The plan does not outline the process for stopping its drought management actions.</p> <p>Although the company states it will carry out a post drought review, it does not detail how it will communicate the review information (e.g. lessons learnt) and what timetable it will follow for the review.</p> <p>The drought plan does not include information on what it will review, how and any relevant milestones (e.g. data gathering stage or report writing stage) for its post-drought review.</p> | Key learning from a drought event could be lost if a post drought review is not planned and undertaken at the time | The company should include more detail about how it will carry out its post drought review. |

| Improvement 2- Provide further information on the Slindon drought permit |  |   |   |
|--|--|---|---|
| Area of issue  | Issue and evidence   | Implications  | Information or changes required   |
| Issue 2.1 – EA Environmental monitoring network                          | The company is relying on Environment Agency monitoring for this site. The EAs network of monitoring is constantly under | Not having sufficient environmental monitoring data could delay a drought permit or lead to | We recommend that Portsmouth Water ensures its environmental monitoring plan is appropriately designed to adequately assess the |

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|  | review and sites changed or closed.  | unknown risks to the environment.   | <p>environmental impact of all its drought permits. It is the water company's responsibility to undertake this monitoring.</p> <p>The company should regularly assess and update the information held in its environmental assessment network to ensure they are current, for example when it reviews its drought plan every year.</p>  |
| Issue 2.2 – Provide further details on the [REDACTED] drought permit | <p>The guideline states that companies should carry out as much preparation work as possible in advance of a drought event and drought permit applications should, where possible, be ready to submit. The company has provided information on its drought permit, including an environmental assessment and a monitoring plan.</p> <p>However the company does not prepare (as much as possible), a case for the 'exceptional shortage of rain'. The plan does not provide a plan or programme to show how it will do the necessary work to</p> | <p>This work now will identify any potential problems that could cause a delay in the application process. Without adequate information applications for drought permits may be delayed or rejected and potentially could put public supplies at risk of failure.</p> | <p>To increase the 'permit application ready-ness', we suggest the company:</p> <ul style="list-style-type: none"> <li>• plans for all outcomes of the permit e.g. venues for public hearings</li> <li>• prepare (as much as possible) a case for 'exceptional shortage of rain'</li> <li>• identify if the company will submit a draft of the permit needed with their drought permit application</li> <li>• provide a plan or programme to show how the company will do the necessary work to complete</li> </ul> |

|  |  |  |                                |
|--|--|--|--------------------------------|
|  | complete the drought permit application. |  | the drought permit application |
|--|--|--|--------------------------------|



| Improvement 3 – More information on drought options    |  |  |  |
|--|--|--|--|
| Area of issue  | Issue and evidence   | Implications   | Information or changes required  |
| Issue 3.1 – Yield assessment of recommissioned sources | <p>The company identifies a number of existing boreholes that could be recommissioned in an extreme drought. The company does not provide an estimate of yield for these options or a lead in time.</p> <p>This action was identified in the EA Supplementary advice report on its 2013 drought plan and has not been actioned:<br/> <i>“Identify the lead in times for recommissioning boreholes and provide information on the quantity of water you expect to obtain from them.”</i></p> <p>The plan states that <i>“The yield from such boreholes is largely untested and although the proposal remains possible, no significant volume can be identified without further work and water quality assessments. As mentioned previously, given access to the Environment Agency’s East Hampshire and Chichester Chalk Block model might help identify possible</i></p> | <p>The company should understand these options and the water they might supply in an extreme drought. This will provide clarity as to the water available in an extreme drought.</p> | <p>The Environment Agency’s East Hampshire and Chichester Chalk Block groundwater model is available to the company and the company has employed consultants to run it.</p> <p>The company should ascertain source yields and lead in times where missing, using the model.</p> <p>The company states the model <i>“will help to predict what the source yields will be at the end of a three year drought”</i> and could usefully carry out this assessment.</p> <p>The company should update this section of its plan.</p> |

|                                       |  |  |   |
|---------------------------------------|--|--|---|
|                                       | <i>further yields from existing sources.”</i>  |  |   |
| Issue 3.2 – Desalination plant        | <p>The company includes a supply option in Appendix F for a temporary desalination plant.</p> <p>Although the company does not show that it requires this option under its scenario testing and it is commendable that the company has explored all potential supply options in a drought, the company does not provide much information on this option nor discussed feasibility with our area staff.</p> | Without further information we cannot be sure that the drought option proposed will be feasible. | <p>The company should include more information on this option and discuss its feasibility with our area staff.</p> <p>The company should clarify when the trigger for when the option might be used, as it is triggered after a TUB, and only takes 3 months to get going, so one would expect to see it in scenarios B to D.</p> |
| Issue 3.4 – [REDACTED] drought permit | <p>The [REDACTED] condition allows the company to abstract more water for a period of weeks as long as flows are higher than a certain level. The company states that the drought permit would be to suspend the flow condition. This is incorrect.</p>  | Permit application could be rejected on inaccurate information.                                  | <p>The company should amend plan to reflect that the drought permit for [REDACTED] would be to abstract more on a daily basis (and annual) than the licence would usually allow.</p>  |

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