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Secretary of State for Environment, Food & Rural Affairs
Water resources management plan consultation
Area 3D
Nobel House
17 Smith Square
London
SW1P 3JR

1 June 2018

Dear Secretary of State,

Anglian Water – draft water resources management plan 2019

Anglian Water published its draft water resources management plan 2019 on 12 March 2018 for consultation. This letter provides a summary of our assessment of the draft plan. It is our statutory consultation response, produced in accordance with our statutory duties and the Government's strategic policies and objectives for Ofwat. These views are without prejudice to any subsequent decisions that we may make at the next price review (PR19) in connection with the business plan that the company is scheduled to provide to us in September. Our assessment has considered:

- how adequately the draft plan follows the requirements of the water resources planning guideline and Defra's guiding principles for water resources planning; and
- how the draft plan helps achieve our vision of ensuring trust and confidence in the sector through the delivery of our key themes for PR19 of great customer service, affordable bills, resilience in the round and innovation.

Long term water resources planning is a key part of company business activities. We expect companies to integrate the development of their water resources management plans into their business plans which they submit to Ofwat. We also expect them to adopt the 'twin track' approach to improve water supply resilience through both increased supply and reduced demand. We will continue to work closely with Government and the other regulators in both England and Wales to ensure that a long term secure and sustainable supply of water is achieved.

Anglian Water supplies water to a population of approximately 4.8 million people in the east of England across East Anglia, Lincolnshire and parts of the East Midlands.

The company also supplies Hartlepool. In terms of area of supply Anglian Water is the largest water company in England and its water resources are planned on the basis of 28 water resource zones.

Anglian Water predicts a significant number of its water resource zones will be in deficit in the future, without additional action to reduce demand or provide additional supplies. This means there would be insufficient water to maintain supply to customers in some severe drought conditions. By 2025, 14 water resource zones are forecast to enter a deficit driven by abstraction licence changes, climate change and population growth. The scale of the challenge and complexity of the issues means that effective action is required to deliver for customers and the environment.

The Anglian Water plan sets out a range of demand-side and supply-side options to meet future demands for water and ensure that customers receive a sustainable and resilient service. The draft plan has demonstrated good practice through the focus on demand management to achieve the supply demand balance, including the setting of ambitious leakage reduction targets across the planning period. However, there are a number of important areas where the plan fails to provide convincing evidence that it delivers in the best interest of customers. In particular:

- The company faces a number of challenges including population growth, climate change and abstraction licence reductions. Anglian Water also intends to enhance its drought resilience and has revised the number of water resource zones from 14 in the previous plan to 28 in the draft plan. Considering these factors we are therefore concerned the company has assessed and characterised the planning problem as low concern.
- Anglian Water proposes significant investment in 2020-25 with the largest proportion allocated to interconnecting the multiple water resource zones identified. Further considerations:
 - The company should ensure that it uses robust methods to identify and fully justify this investment in its final preferred plan.
 - Anglian Water should demonstrate in the final plan that the solutions selected are appropriate, considering the uncertainties associated with the key drivers, and that they are also deliverable against the proposed timeline.
 - The company should clearly identify in the final plan how it will manage the uncertainty and deliverability risk associated with this significant programme.
- Anglian Water has worked closely with the Water Resources East (WRE) regional group and recognises the importance of water resource cross-boundary schemes and trades. However, there are inconsistencies between

draft plans of companies in this group. This is especially a concern as the potential for future exports drives investment in Anglian Water's plan. The WRE members should work to better coordinate their approaches and to clearly identify options in the near term that are beneficial at both the regional and national level.

Further details on these points are outlined in the annex to this letter alongside more detailed comments on different areas of the draft plan.

I look forward to seeing these points addressed in Anglian Water's statement of response and final plan.

Yours sincerely

A handwritten signature in black ink, appearing to read 'D Black', written in a cursive style.

David Black

Senior Director, PR19

Annex

In this annex we outline further details on the points raised in our main letter alongside more detailed comments on different areas of the draft plan. Our points reflect our assessment approach and cover:

- 1. Plan building blocks:** The overall approach to the development of the draft plan in line with the technical guidance and broader resilience issues.
- 2. Customer participation:** The type and quality of interaction with customers and the impact this has had on the draft plan formulation and proposals.
- 3. Demand forecast:** How the company has considered the impacts of population growth, leakage and water efficiency in its demand forecast.
- 4. Supply forecast:** How the company has considered climate change, abstraction licences changes and transfers in its supply forecast.
- 5. Forecast uncertainty:** The robustness of the draft plan in accommodating uncertainties in the demand and supply forecasts.
- 6. Supply-demand balance:** The robustness of the overall need for water, if any, and the scenario testing applied to this assessment.
- 7. Options:** The approach taken to identifying and screening options for both supply and demand, including identification of trades and third party options.
- 8. Decision making:** The decision making tools, preferred programme development process and accompanying assurance processes.
- 9. National and regional considerations:** The interaction and consistency with national studies and regional groups (where relevant).

1. Plan building blocks

Anglian Water has referenced the appropriate guidance and methods in its characterisation of the problem it needs to address. It is consulting on two plans, a principal and adaptive plan. Its preferred plan is based on the principal plan with additional investment to enable the development of options in the adaptive plan. We have concerns around the approach to problem characterisation, water resource zones and non-drought resilience. Further specific comments:

- In the two plans for consultation noted above the demand management strategy is consistent, the key difference is the approach to supply-side options and water trading. Further considerations:
 - The principal plan includes the confirmed impacts of growth, climate change, abstraction licence reductions for 2020-25 and increased

drought resilience. The company intends to ensure all zones are resilient to a 1-in-200 year drought event by 2025.

- The adaptive plan additionally includes an increased level of water trading to support neighbouring companies and the uncertain abstraction licence reductions for 2025-30. As a result it includes additional supply-side options such as the South Lincolnshire reservoir development and the Felixstowe desalination.
- Planning tables are only presented for the principal plan which means it is not possible to fully understand the adaptive plan. This reduces transparency and for the final plan the company should consider what steps it could take to provide a clearer overview for both plans. This could include the provision of aggregated company level tables for each plan.
- The company's problem characterisation assessment appears to conclude that it is facing a low level of concern. However, this is inconsistent with the approach of other companies facing similar challenges and Anglian Water's approach is presented differently in the draft plan narrative and technical appendices. Greater clarity on problem characterisation is required in the final plan to provide assurance the approach adopted is robust. Further considerations:
 - The problem characterisation identifies that all areas are considered to be low complexity, including Ruthamford and Lincolnshire. However, this does not appear to be consistent with the challenges and drivers presented in the plan, including climate change and population growth. These result in significant deficits that require the production of a principal and adaptive plan to resolve.
 - The draft plan indicates that an earlier problem characterisation assessment suggested that the plan should be developed based on a higher level of concern. For clarity Anglian Water should provide a clear and transparent summary explaining how and why the assessment has changed.
 - Linked to the above point, the problem characterisation is inconsistent between the narrative and technical appendix. The narrative states "*We have since updated this initial assessment and completed a Final Problem Characterisation assessment, which confirms that we are facing moderate and high levels of concern across our region*". However, the conclusion in the technical appendix is that the company faces low to moderate levels of concern and this is the approach adopted in the draft plan. This needs to be corrected or explained.

- Anglian Water has significantly increased the number of water resource zones to 28 from 14 in the previous plan. This is a key driver and is driving significant investment through the stated requirement to interconnect a number of zones. However, only limited information has been provided in the draft plan to support such a significant change and greater clarity needs to be provided in the final plan. Further considerations:
 - For transparency the company should provide a water resource zone integrity report with the final plan. This should clearly articulate the supporting evidence for each of the rezoning decisions, justify the splitting of zones that have previously been considered integral and demonstrate the risks faced in the current system.
 - Linked to the above point the final plan should demonstrate the support for the change from key stakeholders, such as the Environment Agency, and detail the assurance process followed.
 - It is unclear why, if there are now 28 independent water resource zones, they have been grouped into the same seven areas as in the previous plan for the problem characterisation exercise. Greater clarity is required on how this approach is appropriate given the significant changes made to the zones.
- There is some evidence of non-drought resilience consideration including the potential increased resilience to unforeseen events from increased connectivity. The company should consider providing further detail of its approach in the final plan, referencing the full range of potential hazards and threats, such as freeze-thaw events.

2. Customer participation

Anglian Water has carried out wide ranging customer consultation including focus groups, in-depth interviews, deliberative research with its online community and the H2OMG water festival. However, it is unclear if customers fully understand and support the approach on areas such as resilience or bill impacts of potential solutions and greater clarity on these points is required in the final plan. Further specific comments:

- The draft plan includes a clear summary section at the start for a non-technical audience and includes key consultation questions to the reader. This is complemented by a customer booklet summary of eight pages which provides a high level overview of the consultation process and the company's strategic choices which increases the accessibility of the plan.
- Anglian Water has discussed resilience with its customers, who identified the importance of ensuring both a reliable supply and affordable bills. The

importance of reliability led to the selection of a 1-in-200 year level of service with respect to emergency drought orders (such as standpipes) in its principal plan by 2025. Further considerations:

- The customer engagement suggested that customers are satisfied with the existing levels of service for temporary use and non-essential use bans but viewed the use of standpipes as unacceptable.
- It is unclear whether the impact and timing of the selected level of resilience was discussed with customers in terms of the supply-demand balance, the scheduling of options or the bill impact. It is also unclear if customers have been presented with the impacts of selecting alternative levels of service or whether relative drought resilience levels have been compared with other companies to enable informed engagement.
- The research suggests Anglian Water's customers have preferences for leakage control and demand management over investment in new supplies. This includes support for metering, particularly smart meters to enable customers to understand their usage, and identify supply pipe leakage. Anglian Water appears to have incorporated these preferences in selecting options for leakage control and demand management in both the principal and adaptive plan.
- Anglian Water presents bill impacts in its draft plan and states investment in supply-side enhancement will add about £10 a year to the average bill. However, it is unclear if customer support for this has been demonstrated and greater clarity is required in the final plan. Further considerations:
 - It is unclear if the increase was presented to customers in the context of one of a number of factors that could influence bills. It also appears the impacts are focused on aspects of the plan independently, such as supply, rather than as a package (supply and demand options).
 - Given that Anglian Water have broken down the increase in bills into areas such as drought resilience, climate change and sustainability reductions the company needs to demonstrate this has been presented to customers in a transparent manner. We expect the final plan to clearly account for the influence of customer preferences and their willingness to pay.
- The draft plan does not include reference to engagement with, or challenge from, the company's Customer Challenge Group (CCG) on the customer participation programme. In the final plan clarity is required on the approach adopted to CCG engagement and how this engagement has shaped the plan.

3. Demand forecast

Population growth is one of the main drivers of the plan. Anglian Water appears to have followed the relevant guidance and assessed demand through consideration of appropriate components. Further considerations:

- Population in each zone has been estimated based on appropriate data including local authority plan-based projections.
- The trend in non-household demand is relatively constant over the planning period. Anglian Water has provided evidence of consultation with retailers and large users but recognises it currently has insufficient data to support any future forecast of efficiency savings and is instead using data from historic trends. Anglian Water should continue to engage with retailers and large users to further validate the demand forecast, and reflect these outputs in the final plan.

4. Supply forecast

Anglian Water has calculated available supply in line with guidance, and statistical approaches have been used to help determine low frequency drought yields with higher levels of confidence which is an example of good practice. However, the company faces significant challenges with respect to abstraction licence reductions and climate change. Further explanation is required regarding the status of its system model and the relationship between the restrictions that have been identified and the selection of options in the preferred plan. Further specific comments:

- The impacts of the Water Industry National Environmental Programme (WINEP) abstraction licence changes are presented differently in the principal and adaptive plans. Further considerations:
 - The principal plan includes abstraction licence reductions for the certain and indicative WINEP categories resulting in a 73 MI/d loss of available supply by 2025. The adaptive plan has further licence impacts of 58 MI/d resulting from considering the range of potential uncertain reductions scheduled for 2025-30 and using the mid-point value.
 - For the final plan we expect Anglian Water to revise its forecasts with reference to the latest WINEP outputs (release 3) and explain any variations between these two releases and how the selected plan, either principal or adaptive, has changed as a consequence. This should also provide details on how the company intends to appropriately manage this uncertainty around reductions.

- The impact of climate change results in a supply reduction of 66 MI/d by 2030 and is included in both the principal and adaptive plans. Further considerations:
 - Anglian Water states it has delayed the impact of climate change in its plan from 2020 to 2025, to allow the choice between supply-demand options, rather than phasing in climate change over the period. For clarity, the final plan should provide a further detail on the benefits and risks of this approach.
 - Given the inherent uncertainty regarding potential climate change reductions the company should clarify if they have considered how this would be accounted for in the adaptive plan. This would reflect the potential for both lower and higher impacts and identify the flexibility of the plan and the key decision points to ensure effective investment decisions.
- In a change from the previous plan Anglian Water has used a new system modelling approach for the Ruthamford and Lincolnshire zones. The company should confirm if it plans to extend this approach further across its area and how the plan has been influenced by the identification of network constraints through this modelling.
- The outage allowance is approximately 3%, marginally lower than the previous plan and below the industry average of 6%. The company states the intention of updating outage for the final plan based upon its resilience assessment and the final plan should clearly explain any changes from the draft plan.

5. Forecast uncertainty

Anglian Water use a simple approach to headroom adapted from the approach defined in the guidance. Target headroom is 5% of demand in 2020, increasing to 12% of demand by 2045 which is slightly higher than the industry average. There are inconsistencies in its presentation between the narrative and planning tables, as the narrative states headroom will be no greater than 6.5% of demand by 2045 rather than the 12% noted above. This should be explained or corrected in the final plan.

6. Supply-demand balance

The supply-demand balance profile presented is in line with the assumptions of the individual supply and demand components and appears to be consistent with the guidance. Further specific comments:

- In the final plan we expect Anglian Water to provide clear evidence for the choice of final planning scenario (either principal or adaptive). This should

explain how the outcomes of consultation with customers and key stakeholders have influenced the decision.

- A review of the supply-demand balance components is complicated by the number of zones in the Anglian Water area. The company should consider whether production of an aggregated company level table for both scenarios would aid understanding and transparency of the plan.

7. Options

Anglian Water has considered a wide range of supply and demand options, reflecting the scale of challenge faced. However, as referred to in section 1, further evidence is required to justify the drivers for the options selected. There is also uncertainty regarding the trading requirements of neighbouring companies which would have a large impact upon the proposals, especially those in adaptive plan. Further specific comments:

- Anglian Water has used what appears to be appropriate screening criteria and processes for developing lists of options. The company has provided reasons for the rejection of options in a clearly presented table. However, third-party options appear to have been screened out due to insufficient information and we would welcome further evidence to show the criteria have been applied consistently.
- Anglian Water has provided evidence of engagement and discussion with third parties to generate options for consideration within the planning process. However, the consideration of third party options appears to have focused on supply-side options and the company should consider what it could do in order to promote further demand-side options. Further considerations:
 - Anglian Water appears to focus on regional engagement with third parties through groups such as Water Resources East (WRE) and the River Trent and Ouse working groups. This has resulted in the consideration of options that have third party and multi-sector involvement such as the South Lincolnshire reservoir and the River Trent transfer that are included in the adaptive planning scenario.
 - Beyond the regional options discussed above, no third party options have been included on the feasible list and a number were rejected due to insufficient data being available. For these options Anglian Water should continue to actively engage with the third parties and provide support to ensure viable options are not unnecessarily screened out.

- We expect Anglian Water to demonstrate equal vigour in gathering data on third party as in-house options and to ensure equal treatment of these options. It should be careful to ensure that its in-house options are not unfairly or unduly favoured and that the [principles for company bid assessment frameworks](#) are followed.
- Water trading is a key feature of Anglian Water's plan reflecting its location and the company's involvement in groups such as WRE. However, we have concerns regarding the consistency of the presentation of some transfers and the limited evidence of the development of a regional strategy and clarity on these points need to be provided in the final plan. Further comments:
 - In the principal plan trading options with neighbouring companies have been considered in the feasible list but significant options are limited to a new import from Severn Trent Water in 2030 and adjustments to existing exports to Affinity Water from 2020. Further considerations:
 - The starting value, trend and end point of the reduced export to Affinity Water is not consistent between the two companies. For example there is a difference of 23 MI/d in its starting value. Further justification for this trade is also required given the near term needs that Affinity Water faces.
 - The new import does not appear to be represented in the Severn Trent Water preferred plan where over 50 MI/d of new exports are identified in total with no clear description of the individual component trades.
 - In the adaptive plan significant new exports of up to 60 MI/d to Affinity Water and Cambridge Water commence in 2025-30. However, these do not appear as imports in the respective companies preferred draft plans.
- Anglian Water demonstrates good ambition in its leakage targets proposing a reduction of 20% by 2025 with further reductions to 40% by 2045. The focus on leakage reductions aligns with the reported customer preferences and there is an expectation that smart meters will help reduce supply pipe leakage. Anglian Water appears to be relying on the reduction in water bills as sufficient incentive to drive this behaviour. It should clarify its evidence and underlying assumption for this and whether alternative approaches have been considered.
- Anglian Water has an ambitious metering programme with the level of metering penetration forecast to rise from 83% in 2020 to 90% by 2025. The company consider the installation of smart meters as a key enabler for effective demand management and plan to install smart metering across its

region. However, the company should provide further evidence to support the deliverability of this strategy within the final plan.

- Anglian Water’s long term target for average per capita consumption (PCC) is identified as 122 l/h/d by 2045 in the planning tables. This is consistent with the average for other companies nationally and it is therefore maintaining comparative level of performance. We welcome the proposals to investigate the feasibility of greywater and rainwater reuse and consideration should be given to scaling these options to help drive further reductions to meet challenges faced.
- New interconnections between zones are included in the preferred plan for 2020-25 with a significant expenditure. This includes the creation of a linked strategic grid. However, as referenced in section 1, greater clarity for the drivers behind this are required in the final plan. Further considerations:
 - The company should present options considered for each interconnection and explain how these have been evaluated in the context of the potential change in key drivers, such as future trades and climate change.
 - Anglian Water need to demonstrate how it has optimised the solution and considered the benefits of a flexible approach, such as extending the delivery phase. The company should provide evidence the solution presented represents an appropriate balance of risk and it is adaptable to varying future scenarios.
- A large variety of supply-side options have been considered and significant supply-side options are included throughout the planning period in both plans. We expect Anglian Water to consider the scale of investment required in its final plan, in light of potential uncertainties, in particular if the future exports to Affinity Water and Cambridge Water of 60 Ml/d are not required. Further considerations:
 - The principal plan has a short term option to convert a source from a non-potable to potable supply while providing an alternative non-potable supply through reuse.
 - The adaptive plan adds options to support trading with Affinity Water and Cambridge Water and further abstraction licence reductions including the South Lincolnshire reservoir and the Felixstowe desalination development.
 - The company is proposing development of a significant number and scale of supply-side options within 2020-25 and therefore should include greater detail on the potential risks in terms of environmental mitigation, deliverability and uncertainty in timing.

8. Decision making

Anglian Water has adopted an economics of balancing supply and demand (EBSD) approach to develop its plans. However, we have concerns around the transparency and robustness of the decision making in the draft plan. We would expect to see greater clarity provided on the deliverability of the programme and the assurance processes undertaken in the final plan. Further specific comments:

- Anglian Water has presented two plans for consultation, principal and adaptive, which were chosen on a least-cost basis. The preferred plan is based on the principal plan with additional investment to enable the development of options in the adaptive plan. However, it is unclear how the preferred plan was selected and further clarity is required in the final plan. Further considerations:
 - While there is a large amount of material provided on both plans it is unclear how the final preferred portfolio was selected. Anglian Water should clarify the decision making process and in the final plan include a clear summary that concisely explains how and by whom the preferred plan was decided.
 - As noted in sections 4 and 6 above, there is significant uncertainty in both the level of abstraction licence reductions and the water trading requirements of neighbouring companies. Anglian Water should provide a clear explanation of how this uncertainty has impacted its decision making process and how further information subsequent to the draft plan led to any revisions for the final plan.
 - Given the high levels of uncertainty Anglian Water should consider how it can ensure flexibility in the final plan to enable it to adapt to a variety of outcomes. The plan should consider key trigger points for decision making to promote efficient investment. Additionally the evaluation and selection of options should account for this, ensuring lower regret options are considered first and the benefits of more flexible solutions are realised (such as modular delivery).
 - As noted in section 1, the challenge Anglian Water faces suggest more advanced decision making techniques could be adopted. Anglian Water should consider how it could further validate its decision making through more advanced techniques and set out its considerations in the final plan.
- It is not clear how deliverability of the preferred plan has been considered in the decision making process and this needs clarifying in the final plan. For example there is considerable investment planned in both demand-side and

supply-side options in 2020-25 which could represent a challenge for delivery at a programme level.

- Anglian Water briefly refer to the assurance process for the plan and approval by the company Board. The company should provide greater clarity on the assurance process followed and Board involvement for the final plan.

9. National and regional considerations

Anglian Water has demonstrated it worked closely with WRE and groups such as the River Trent and Ouse steering groups during plan development. However, further work is required to build a regional strategy consistent with WRE. We expect the regional level discussions to be ongoing and for greater clarity on these considerations to be provided in the final plan. Further specific comments:

- The company has referenced the Water UK national project and used the outputs to inform decision making in areas such as evaluating the benefits of enhancing resilience.
- The company states where options in the preferred plan are consistent with the WRE outputs. However, to increase transparency the plan would benefit from a summary and explanation of the differences between WRE outputs and the preferred plan.
- Anglian Water has selected the standard planning period of 25 years while other companies have used longer periods. We note WRE uses a longer term horizon and considers impacts into the 2060s. The company should clarify its chosen planning horizon in the context of the regional plan outputs it is using for comparison.