September 2023

Appeal against Severn Trent Water Limited about a variation of a trade effluent consent

Made under section 126 of the Water Industry Act 1991

Final determination

Ofwat

Contents

1. Introduction

The Appeal

1.1 This is the final determination of an appeal made by [redacted] ("**the Appellant**") to the Water Services Regulation Authority ("**Ofwat**"), on 2 February 2022 for determination under section 126 of the Water Industry Act 1991 ("**the Act**").

1.2 The appeal relates to Severn Trent Water Limited's ("Severn Trent Water") proposal to vary the conditions of a trade effluent consent previously granted to the Appellant. Having received notice from Severn Trent Water, the Appellant is seeking to overturn Severn Trent Water's direction to vary the conditions attached to its consent in order to retain the historic pH limits set out in its current consent agreement.

Purpose of this document

1.3 This is our final determination of the appeal referred to above. It sets out the determination we have made following our consideration of the legal framework for appeals under section 126 of the Water Industry Act 1991 ("**the Act**") and the evidence provided to us by both parties.

1.4 Now we have issued our decision as final there are no routes of appeal if either of the parties disagree with our final decision. At this point, the only route of challenge to our final decision is via judicial review proceedings. Judicial review claims must be submitted promptly and within three months from the decision to be challenged.

Summary of our final determination

1.5 Our final determination is summarised below and explained in more detail in Chapter 5 of this document.

1.6 Our decision is to annul the direction by Severn Trent Water dated 1 March 2022 to vary the conditions of the trade effluent consent between itself and the Appellant, with reference to our powers under section 126(4)(a) of the Act. We consider the consent should retain its current conditions (i.e. the consent in operation since 1988).

1.7 Our decision reflects the legal framework set out in the Act, the information we have gathered from both parties and technical advice provided to us by an

independent consultant. In particular, our decision rests on information provided by Severn Trent Water confirming that there is no evidence that the Appellant's trade effluent is causing damage to the receiving sewer, and its position that it is only varying the consent in order to bring the Appellant's consent into line with practice across Severn Trent Water's wider business.

2. Background

The Parties

Appellant

2.1 The Appellant, and owner of the Site is [redacted] a chemical manufacturing company that develops scents and flavourings for commercial use. The business's effluent consists of by-products from the washing and processing of fruits and vegetables for the purpose of extracting flavourings.

Company

2.2 Severn Trent Water is appointed under the Act to provide water and sewerage services to customers in its area of appointment, which includes the Site's location.

The Site

2.3 The Site for which the Appellant has a trade effluent consent issued by Severn Trent Water, is located [redacted]

The dispute over consent to discharge trade effluent

2.4 The Appellant acquired [redacted] and has held a trade effluent consent with Severn Trent Water Limited since 2018. Prior to its acquisition, [redacted] held a consent from Severn Trent Water since 1988, which was novated to the Appellant when it acquired the company. Therefore, the consent that is subject to this appeal has been in place with Severn Trent Water in some capacity since 1988 under various company names.

2.5 In February 2022 Severn Trent Water gave notice to the Appellant that it intended to vary the current consent agreement on 1 March 2022.

2.6 The amended trade effluent consent being appealed by the Appellant includes a condition that specifies that discharged effluent from the Site must have a pH of between 5 and 10. This represents a change from the previous pH limits specified, the previous consent specified a pH of between 4.5 and 10.

2.7 Given that the appeal was received by Ofwat within the time limit set out in the Act, the proposed variation of consent has not taken effect and the

Appellant is still subject to its previously consented pH levels of between 4.5 and 10[1].

2.8 The other conditions of the consent are not in dispute; the Appellant is only disputing the new condition relating to pH limits. Therefore, we have not provided further details of the consent in this determination.

2.9 Requests from the Appellant to have the consent variation altered have been refused by Severn Trent Water following several periods of negotiation between the parties. Severn Trent Water initially attempted to issue a varied consent on similar terms in 2019, however following a complaint to Ofwat made by the Appellant, the parties agreed to enter into a period of monitoring the Site's discharges. This monitoring was to record the pH of the effluent being discharged, as this was the only aspect of the consent in dispute.

2.10 Since then, the Appellant and Severn Trent Water have not succeeded in negotiating a way forward.

2.11 On 2 February 2022 the Appellant made an appeal to Ofwat under section 126 of the Act. Between 2 February 2022 and 6 June 2022, we conducted a preliminary assessment of the appeal request, to assess whether Ofwat has jurisdiction in this matter, and to ensure the parties had exhausted other avenues to reaching a resolution. On 9 June 2022 we opened a full investigation to determine the appeal. More detail on our reasoning for accepting the appeal is set out in Chapters 3 and 4.

[1] As per section 126(2) of the Act, the direction shall not take effect until the appeal is withdrawn or finally disposed of.

3. Legal framework

3.1 This chapter outlines the legislative provisions relevant to this case.

3.2 Under section 118 of the Act the owner or occupier of any trade premises must obtain the consent of a sewerage undertaker before it may discharge trade effluent into public sewers.

3.3 Section 141(1) of the Act states that trade effluent means any liquid, either with or without particles of matter in suspension in the liquid, which is wholly or partly produced in the course of any trade or industry carried on at trade premises. Section 141(1) of the Act confirms that trade effluent does not include domestic sewage.

3.4 Pursuant to section 119(1) of the Act, the owner or occupier of any trade premises may serve notice on the sewerage undertaker of an application requesting consent for it to discharge trade effluent into that sewerage undertaker's public sewer system. Section 119(2) of the Act states that application for consent to discharge must set out the:

- nature or composition of the trade effluent;
- steps to be taken to minimise the polluting effects of the discharge on controlled waters and the impact of the discharge on sewerage services;
- maximum quantityof the trade effluent which is proposed to discharge on any one day; and
- highest rate at which it is proposed to discharge the trade effluent. Section 121 of the Act states that when granting consent to the owner or occupier of

3.5 any trade premises to discharge trade effluent into its public sewer system, a sewerage undertaker may impose a number of conditions. Section 124(1) of the Act allows a sewerage undertaker to give a direction varying the

3.6 conditions attached to any consents made specifically under section 118, and generally under ‘Chapter Trade Effluent’ of the Act. The sewerage undertaker must give the owner or occupier notice of any such variation (section 124(5) of the Act). This must include reference to the owner or occupier’s right of appeal under section 126 of the Act. It must state the date from which the direction will take effect; this must be no less than two months after giving the notice. A sewerage undertaker may not give a direction varying the conditions of a consent within two years from the date of the initial consent, or within two years from the date notice was given of any prior direction varying that consent.

3.7 Section 126(1) of the Act allows the owner or occupier of any trade premises to appeal to Ofwat about any section 124(5) notice issued to it. It must do this either within two months from the date of that notice or, if after two months, with Ofwat's permission. Section 126(4) of the Act states that on appeal, Ofwat may annul the direction given by the sewerage undertaker and substitute for it any other direction, whether that direction is more or less favourable to the appellant. It also states that any direction given by Ofwat may include provision as to the charges to be made for any period between the notice given by the sewerage undertaker and Ofwat's determination of the appeal.

3.8 Ofwat has published guidance as to how it will approach trade effluent consent appeals under section 126 of the Act (a copy is provided in Appendix A1). This explains that: Appeals will normally be decided in light of Ofwat's understanding of the practical and financial consequences for both sewerage undertaker and discharger. Health and safety requirements will be taken into account and consideration given to any substances likely to damage sewers, or cause special difficulty (or expense) in treatment. As well as a general duty to protect customer interests, we also have a specific duty, in deciding trade effluent appeals, to have regard to the desirability of a sewerage undertaker recovering costs incurred, including a reasonable return on capital. Therefore:

- We must be satisfied that a new or amended condition is justified. The conditions imposed by the sewerage undertaker should be related to the discharge conditions imposed on it by the Environment Agency, to meet environmental obligations in respect of sewage treatment works and storm overflows. If not, there must be a good explanation.

- We will need to establish and then compare the long-term cost implications, for the discharger and sewerage undertaker respectively, of treating the effluent at minimum cost to meet environmental obligations. The estimates will have to take account of all of the consequences of the new or revised requirements, especially changes in necessary processes. Evidence will also be required about sensible timetables for the achievement of these changes.

4. Jurisdiction to determine the complaint

4.1 In February 2022, Severn Trent Water issued a notice to vary the Appellant's consent agreement, with the proposed variation to take effect from 1 March 2022. The consent was originally granted in 1988 and the proposed variation was issued as part of a rolling review programme Severn Trent Water was undertaking for all of its trade effluent consents. The Appellant was aware of the proposal to vary this consent following Severn Trent Water previously seeking to vary the conditions which had resulted in a period of monitoring and negotiations.

4.2 The Appellant is the owner of a company that develops scents and flavourings from fruit for commercial use. The Site is a trade premises and the discharges of trade effluent from the Site fall under the definition of trade effluent under section 141 of the Act.

4.3 As the appeal was received by Ofwat on 2 February 2022, prior to the official notice being given, this has been made in time as it is within two months from the notice made under section 124(5) of the Act. There is a live, unresolved dispute between the parties, and the parties have demonstrated that the efforts they have made to try and resolve the dispute themselves. Therefore, Ofwat has powers under section 126 of the Act, to make a determination on this appeal.

4.4 Our role is to determine whether:

- Severn Trent Water's direction dated 1 March 2022 should be annulled, resulting in the conditions of the consent remaining as they have been previously;

- Severn Trent Water's direction dated 1 March 2022 should be replaced with a new direction varying this condition of the consent. This would set out what the Appellant is allowed to discharge to Severn Trent Water's sewer and under what conditions, with specific attention to prescribed pH limits; or

- the appeal should be dismissed, which would mean that Severn Trent Water's direction dated 1 March 2022 would be allowed to become effective upon our determination of the appeal.

5. Responses to our draft determination

5.1 On 6 July 2023, we issued a draft determination to the Appellant and Severn Trent Water setting out details of the determination we were minded to make on this dispute. This was to provide both parties opportunity to comment. In response, to this draft determination we received a representation from Severn Trent Water, in which it:

- Clarified that the Consent in question has been held by the Appellant since 2018 and that its direction issued on 28 February 2022 was the consent in question.

- Confirmed it did not intend to provide any further representations and accepted the outcome of the appeal as set out within the draft determination based on the particular facts and circumstances considered.

- Stated that its understanding was that this determination does not preclude it from imposing more restrictive limits in the conditions of its consents in the future if, as a result of trade effluent discharges, there is evidence of harm or definitive potential harm or physical damage to its assets, or they could cause a difficulty in meeting its own environmental permits. Similarly, more restrictive limits could be imposed if there was evidence of a serious health and safety risk. In addition, it stated that it understood that this decision does not preclude it from imposing more restrictive limits in new applications for consent or for any other reasons not explored in this appeal.

- Noted that as highlighted in our previous communications with Severn Trent Water and in our guidance, each trade effluent appeal is considered on its own merits and the decision made in this appeal does not preclude Severn Trent Water imposing more restrictive limits for different customers.

We have considered the representation provided by Severn Trent Water in finalising our determination on this dispute.

6. Final determination

6.1 We set out our final determination in this chapter. It has been informed by the legal framework, our published guidance as to how we will consider trade effluent appeals (as set out in Chapter 3), the evidence provided to us by both parties; and technical advice provided to us by an independent technical consultant.

A. Grounds of the appeal

6.2 The Appellant disputes Severn Trent Water's proposed variation because it will change the consent's condition relating to the pH level of discharges from the Site. The variation would change the consent from requiring their discharges to have a pH level of between 4.5 and 10, to having a pH level of between 5 and 10, thereby reducing the band within which the discharges' pH level must sit.

6.3 The Appellant notes that despite discharging to Severn Trent Water's network for a period of approximately 35 years, there is no evidence of damage to the pipework or network to necessitate the proposed variation to this condition in its consent.

B. Severn Trent Water's response to the appeal

6.4 Severn Trent Water sent its initial response to Ofwat in respect of this appeal on 18 March 2022. It notes in this response that it commenced conversations with the Appellant regarding the consent conditions about pH levels in 2019 following a review Severn Trent Water was doing of its own standard operating procedures. We received additional information from Severn Trent Water in relation to this appeal on 2 June 2023.

6.5 Severn Trent Water explained that the Appellant has held a trade effluent consent which has allowed it to discharge various consented limits of effluent, including discharges with a pH level in the range of 4.5 to 10. It stated that the consent's conditions have had what it considers to be a very relaxed pH limit of 4.5 due to the Appellant's trade effluent being discharged to wastewater having an estimated dilution ratio of 111:1.

6.6 Severn Trent Water advised that its approach to pH limits has changed since the Appellant's consent was originally granted (in 1988), to incorporate learnings from experience and scientific research used as the basis of Severn Trent Water's trade effluent protocol. Its protocol states that a trade effluent discharge's pH level should normally be no less than 6 or more than 10. However, should various conditions be met this range can increase to between 5 to 12. The proposal in this

case is to vary the consent's condition to this lower limit of 5. Severn Trent Water has advised that it only has a total of five consents which remain outside of its protocol out of a total of 2,500.

6.7 Severn Trent Water noted that the Appellant's consent has been reviewed several times as part of Severn Trent Water's rolling review programme for all trade effluent consents. During this consent review process, the Appellant was initially notified on 11 March 2019, that Severn Trent Water proposed to tighten the existing consented pH range from 4.5 to 10, to 6 to 10.

6.8 In April 2019, Ofwat notified Severn Trent Water of an appeal made to it, against Severn Trent Water's direction to vary the consent's conditions. As a result, Severn Trent Water deferred the imposition of the proposed condition with the new pH level limit.

6.9 Following discussions at this time it was agreed that the parties would attempt to resolve this matter informally.

6.10 Severn Trent Water has explained that the proposition was to defer the imposition of the new limit for a two-year period during which Severn Trent Water would monitor the pH levels of the Site's trade effluent discharge and subsequently set a more appropriate limit once that time period had elapsed.

6.11 Severn Trent Water notes that it then spent two years monitoring the pH performance of the Site's discharges to ensure the parties could reach a consented limit that was acceptable to the Appellant.

6.12 Severn Trent Water has stated that it has worked to ensure it does not compromise its ability to treat sewage, either by endangering the biological treatment processes at its sewage treatment works or damaging the sewerage network.

6.13 Severn Trent Water believes that it has taken a flexible approach to making its direction to vary the consent's condition in order to accommodate the customer’s wishes and communicated each stage clearly to them.

6.14 Severn Trent Water states that, by offering a pH limit of 5, it has proposed what it considers to be a compromise based on a clear rationale, grounded by scientific research supported by the wider water industry, despite this sitting outside of the range in Severn Trent Water's standard protocol.

6.15 This decision was reached due to Severn Trent Water being aware of the Appellant's resistance to a lower pH limit being required by their consent.

Therefore, Severn Trent Water undertook additional investigation work, to understand if the trade effluent was damaging the receiving sewer. On 20 January 2022, Severn Trent Water completed a CCTV survey of the sewer in question. The subsequent recording and report confirmed that the fabric of the sewer is sound. As it was confirmed that the sewer is not being damaged by the customer's trade effluent, the proposed new pH limit was adjusted to 5 rather than the 6 in Severn Trent Water's protocol. Severn Trent Water notes that this was designed to move towards the Appellant's request and provide a tailored service to the customer.

6.16 Severn Trent Water also notes that due to the monitoring it has undertaken it is aware that the trade effluent being discharged by the Appellant has not been of a pH lower than 5 in the past three years and it believes this is why the sewer is not damaged.

6.17 Severn Trent Water has additionally provided further justification for not allowing for a pH lower than 5 in this instance. It has stated that some of the specific consequences that may follow the discharge of acidic effluents include potentially severe attacks on cement pipes[2] if a liquid it is used to hold has a pH of 4.5 or lower. n addition, acidic conditions engender the production or release of dangerous gases into a sewer atmosphere including the following: hydrogen cyanide, chlorine, sulphur dioxide, hydrogen sulphide and carbon dioxide. Severn Trent Water therefore maintains that acidic effluents can damage sewerage assets and pose a serious health and safety risk to staff and members of the public.

6.18 Severn Trent Water maintains that this approach is reflected in the wider water industry's practice on permitted pH levels for trade effluent. Severn Trent Water has stated that its discussions with other sewerage undertakers have consistently supported this approach, with all of those it has spoken to having standard pH ranges of 6 to 10.

6.19 Severn Trent Water advised in this submission that the effluent from the Site drains to a pumping station along with some domestic sewage. From this point, it is pumped and introduced into the public sewerage network at the beginning of the system through a rising main. Recent investigation has shown that the rising main is of 100mm PVC construction, rather than cast iron as previously assumed, and aside from some congealing and collection of a dark red coloured material around the internal pipe walls, it appears to be in reasonable condition. This is consistent with the information previously provided regarding the condition of the sewer.

[2] Severn Trent Water subsequently confirmed that the pipe in question is made of PVC rather than cement.

6.20 Severn Trent Water also raised a further consideration that there are three storm overflows on the network which could periodically discharge the sewer contents into the local watercourse. For this reason, Severn Trent Water considers that it is important for the pH to remain at a level which will not adversely impact the watercourse.

6.21 Severn Trent Water also confirmed that it has continued to discuss this matter with the Appellant regarding a potential process change to remove the sulphuric acid dosing in the Appellant's on site process. With this change, Severn Trent Water states that it is entirely possible that the effluent could then be compliant with not only a pH 5 limit but also potentially a pH 6 limit.

6.22 Severn Trent Water has advised us that the Appellant is undertaking an investigation into these possible process changes and monitoring arrangements and that if these changes are implemented a pH limit of 4.5 would no longer be necessary.

6.23 Severn Trent Water has also stated that there is some evidence that the Appellant is in breach of the sulphide limit within the consent and that there have been three breaches out of the last 12 samples taken. It notes that the presence of sulphide in the effluent and a low pH level also has the potential to increase the likelihood of sewer corrosion.

6.24 More broadly, Severn Trent Water has highlighted its view that its protocols are specifically designed to safeguard the sewage treatment process and the catchment as a whole.

6.25 It has stated that its view is that the practical implications for a water company if a determination decision is made based solely on harm (potential or realised) from a single discharger are hugely significant. It states that it is well understood that discharges with pH levels of 6 present little risk to people, process, assets and the environment, and that this therefore enables Severn Trent Water to apply these limits without undue need for specific investigational work, which may include asset condition assessment, quality-monitoring survey in the sewers and CCTV survey. f this investigative work was mandated for each application, which range from approximately 100 to 200 per year for Severn Trent Water, prior to establishing consent limits and granting approval, it would result in a substantial rise in the costs associated with issuing consents and monitoring compliance.

6.26 Additionally, Severn Trent Water notes that it would cause significant delays in it approving applications, surpassing the 60-day statutory obligation outlined in the Act.

6.27 In addition to the above Severn Trent Water has highlighted that the water industry is moving towards more stringent environmental obligations and restrictions due to tighter chemical constraints imposed on permits issued by the Environment Agency.

6.28 t has stated that in addition, water companies are required not to show undue preference to different customers. It notes it has had several recent examples where other customers have invested heavily in managing, controlling and treating their effluent to the appropriate environmental standards in response to limits as set out in their consent. This effluent management activity is a customer's responsibility prior to discharge, in order to gain a consent to discharge. PH neutralisation is one of the more prevalent examples of where customers invest in on-site effluent management systems.

6.29 Severn Trent Water's position remains that by allowing a limit of pH 4.5, the protection of the network, sewage treatment processes and the people in close proximity could not be assured.

Ofwat's considerations in making this determination

6.30 As set out in Ofwat's guidance on our approach to trade effluent appeals, appeals will normally be decided in light of our understanding of the practical and financial consequences for both the sewerage undertaker and the discharging customer. Health and safety requirements will be taken into account and consideration given to any substances likely to damage sewers, or cause special difficulty (or expense) in treatment. In assessing whether the trade effluent consent condition should be varied in this matter, Ofwat must ensure that any new consent is justified, and the conditions imposed by the sewerage undertaker should be related to the discharge conditions imposed on it by the Environment Agency, to meet environmental obligations in respect of sewage treatment works and storm overflows. If not, there must be a good explanation. We also need to establish and compare the long-term cost implications, for the Appellant and Severn Trent Water, respectively, of treating the effluent at minimum cost to meet environmental obligations.

6.31 Severn Trent Water additionally, raised a concern that the Appellant has been in breach of the sulphide limit conditions in its consent on three occasions. We understand the risks associated with this, however we note that the sulphide levels are not in contention for this appeal and enforcement of the terms of a consent is a responsibility for the issuing water company.

6.32 Reflecting our guidance, in order to make this determination we needed to understand:

- The nature of the Appellant's effluent.
- Is there a technical or practical need for this variation? If the Appellant were to retain its current consent levels, would this impact Severn Trent Water's ability to treat sewage or cause damage to the network?
- What evidence is available to substantiate Severn Trent Water's concerns?
- The specifics of Severn Trent Water's concerns in relation to health and safety and whether these are substantiated.
- Would this variation be restrictive to the Appellant's business or be prohibitively expensive and whether there would be any cost implications for Severn Trent Water if the Appellant were to maintain its current consent agreement?
- Are any additional conditions in respect of monitoring required?
- Are there reasonable options which the Appellant could consider implementing to control the pH of its effluent?
- Is Severn Trent Water's protocol reasonable and in line with industry standards?

6.33 In order to help us answer these questions, we commissioned advice from a third-party specialist, Aqua Operations ("**Aqua**") to consider these technical questions. Aqua issued its final report to Ofwat on 13 June 2023. The report was provided to both Parties. Due to the Appellant declining to provide further information in relation to processes on the Site, only a high-level view of operations can be given and therefore it was difficult for Aqua to fully confirm the nature of the effluent. The report is based on the information provided by both parties.

6.34 Overall Aqua's report found that, there is no adverse effect to the sewerage or sewage treatment process arising from the Appellant's trade effluent discharge to date. However, the report acknowledged that within the context of the wider industry a pH of 5 is already lower than is usually consented. The report also notes that tightening the discharge pH from a lower limit of 4.5 to 5 is unlikely to significantly reduce any obvious technical risks and therefore the risks are similar at both levels. Only a pH level around neutrality would remove these technical risks given the low level of dilution in the sewer.

6.35 Our criteria for considering trade effluent appeals also sets out that we will consider any impacts on environmental permitting or environmental harm. Severn Trent Water confirmed in its submissions to us that there is no permitting requirement linked to its proposed variation. It did raise an additional concern in relation to potential discharges from storm overflows on its network, however this was raised after we had commissioned technical advice from Aqua and therefore

was only covered in brief in the report. However, the report does confirm that there does not appear to be a risk of environmental harm from the Appellant's effluent discharge.

Whether there is a technical need for the variation and whether maintaining a lower pH would impact Severn Trent Water's ability to treat sewage or cause damage to the network

6.36 The analysis carried out by Aqua indicates that there is no operational need for the pH limit to be raised, due to a lack of demonstrable adverse impacts on the infrastructure and treatment process. The report notes that even if there had been demonstrable damage or deterioration to either, the proposed raising of the limit would be unlikely to be sufficient to stop any future damage.

6.37 The report notes that the pH profile of the discharge as measured by Severn Trent Water during its monitoring and compliance testing, may not fully characterise the full range of effluent discharged due to the narrow time period for which samples have been taken.

6.38 The report also notes Severn Trent Water's concerns in relation to storm overflows on the network and that in the event that any adverse environmental impacts are demonstrable in the future (of which there have been none to date), this would require a restriction on the consent's COD limits rather than the pH range.

6.39 From the above information it concludes that the historical discharge has not caused any noted adverse impact on the sewerage system, works or the environment. The report notes that on request of further information, there was evidence provided that there have been samples indicating a pH of closer to 4.5 and below 5 and that the actual recording of pH below the proposed new limit does lend additional weight to the Appellant's claim that the new limit would have adverse cost implications on the Appellant, given that Severn Trent Water has argued the Appellant is not currently discharging effluent below a pH of 5.

6.40 The primary technical concerns considered show that there is no evidence of observable or measurable adverse impact of discharges on either infrastructure or sewage treatment processes.

The specifics of any concerns in relation to health and safety.

6.41 The report finds that there has been no evidence submitted in relation to suspected incidents concerning health and safety, that could be related to the low pH of the trade effluent discharge. Therefore, there is no evidence to substantiate this concern raised by Severn Trent Water.

6.42 The report notes that the main potential risk would arise from the release of gases from the incoming sewage. Severn Trent Water has mentioned gases such as hydrogen cyanide and chlorine, however this appears to have been raised in a background and policy context, rather than in any specific reference to the situation at the Site.

Would this variation be restrictive to the Appellant's business or be prohibitively expensive?

6.43 Whilst data provided by Severn Trent Water indicates that the Appellant could already be compliant with a higher pH limit of 5, the report confirms that this sampling has been conducted during a limited portion of the Appellant's working day. t is concluded that there is a realistic possibility that the Appellant's effluent may not fully comply with the proposed limit of 5 for as much as 10% or 20% of the time, given other information provided. Given that standard consents require absolute compliance this should not be disregarded.

6.44 The report states that if the Appellant were required to install pH correction equipment the cost of this would likely be in excess of £100,000 and could be significantly more depending on the required equipment and civil works. In addition to installation costs, it is estimated that running costs of this equipment could be around £30,000 per annum. It is estimated that it might be possible to correct the pH for a lower cost however this is not clear due to the limited information provided by the Appellant on its processes, or without conducting a more detailed site assessment.

Are any additional conditions in respect of monitoring required?

6.45 If the lower pH limit is to stand, the report concludes that it would not be unreasonable to expect the Appellant to more closely monitor and record its discharged pH levels. At present the Appellant is not monitoring the pH of its discharge closely. The cost of such monitoring would be low in comparison to the installation of equipment to correct the pH levels.

6.46 The report notes that while there has historically been no damage, if the effluent were to be discharged continually at a rate of 4.5 this could increase the likelihood for harm. Therefore, the report finds that it may be reasonable for the consent to specify times at which the lowest pH values are permitted only for restricted periods.

6.47 Aqua stated in its report that it was of the view that continuous pH monitoring and recording appears to be a possible method of balancing concerns from both parties.

Are there reasonable options which the Appellant could consider implementing to control the pH of its effluent?

6.48 The report noted that there is a possibility of segregating and holding known low pH streams on the Site and either discharging at a low rate over a longer period or removing it from the Site by tankering. Aqua's report stated that it could not give a view on the appropriateness of alternative solutions without a full site assessment.

Is Severn Trent Water's protocol reasonable and in line with industry standards?

6.49 The report notes that the pH level limits set out in Severn Trent Water's standard protocol appear to be in line with those used across the industry and established over a period of decades. There appear to be very few consents with pH limits as low as 4.5.

6.50 However, it notes that it is possible that a default policy-based approach with prescribed limits does not take into account individual situations that may be different from common scenarios. It is acknowledged that Severn Trent Water's protocol does allow for a lower limit of 5 to be imposed in justifiable circumstances, however there does not appear to be a justification for why it is set at 5 and not a different level. This is significant in this case, as the difference in harm is negligible between 4.5 and 5.

6.51 Aqua stated that it considers there is an outstanding question regarding legacy consents such as this, given that there is no demonstrable history of harm or damage. It noted that there is a potential for setting a precedent given that this could be considered a departure from what is considered normal protocol. There is also a potential risk that other customers may contend that it is justifiable to operate at lower consented pH levels or have already incurred costs to meeting higher limits.

What damage would a lower pH potentially cause and would this have any environmental implications?

6.52 Severn Trent Water's concerns as to the negative impacts of the Site's discharges in this case have been found to be unsubstantiated. However potential harm from a low pH could include, corrosion of pipework, an increase in the rate of the release of dangerous gases and an increase in the risk to biological sewage treatment processes. The presence of acidic effluent is not an issue if it is neutralised prior to the treatment process.

Cost implications to the Appellant and Severn Trent Water

6.53 As outlined above the report noted that the potential cost for full pH correction could be in excess of £100,000. It stated that evidence indicates that in order to achieve total compliance this could be necessary if the pH limit was raised to 5. This could only be avoided if there was some provision within the consent to permit what appears to be occasional and short-lived occurrences of pH values below 5.

6.54 However, the costs involved in installing and maintaining pH monitoring and recording on site would not be as high and could be beneficial in this scenario.

6.55 The report did not raise any concerns that maintaining the current consent limit of 4.5 would create any additional cost implications for Severn Trent Water with regards to treating its effluent, given that this lower limit has been in place for a significant period of time and has not required any additional treatment.

Our final determination

6.56 Taking all of the above into account, we determine that the revised direction dated 1 March 2022 is not justified. On that basis, under section 126(4)(a) of the Act, the direction of 1 March 2022 is annulled. The effect of this determination is that the existing condition of a pH between 4.5 and 10 will remain. In its response to our draft determination Severn Trent Water has confirmed that it understands that this will be the case and does not intend to submit further representations on the matter.

6.57 As outlined above, Severn Trent Water has not found any evidence of damage to its sewer caused by the trade effluent that has been discharged by the Appellant. The consent for this Site has existed in some form with Severn Trent Water for over 30 years and the sewer has been surveyed on multiple occasions with no evidence of harm or damage caused to the assets. The technical advice that we have received has substantiated that there is currently no evidence of harm and that even if there were evidence of damage or harm being caused a new limit of 5 would have a negligible impact on mitigating damage.

6.58 Our published policy states that the conditions imposed by the sewerage undertaker should be related to the discharge conditions imposed on it by the Environment Agency, to meet environmental obligations in respect of sewage treatment works and storm overflows. If not, there must be a good explanation.

6.59 Many of the reasons provided by Severn Trent Water for varying the consent relate to high level statements of potential future harm, however given the longstanding

nature of this consent there does not appear to be any evidence of actual harm. Severn Trent Water's concerns were not evidenced for this specific site. In addition, whilst Severn Trent Water has put forward arguments that there is a potential risk to the environment via storm overflows on the network, it has not provided evidence of this harm.

6.60 Similarly, Severn Trent Water has argued that there is a potential health and safety risk if the Appellant were allowed to maintain its current consented pH levels. Whilst we note the concerns around this, no evidence has been provided to substantiate this claim with regards to this Site's effluent.

6.61 Severn Trent Water has stated that this variation will bring the Appellant's consent more closely in line with its standard trade effluent protocol. This appears to be the company's main motivation for the proposed variation. Severn Trent Water has argued that by allowing a lower pH limit to stand this may set a precedent or cause Severn Trent Water to treat other customers unfairly. Ofwat has considered this appeal on the specific facts and circumstances of the Site, rather than forming a view on Severn Trent Water's overall policy with respect to trade effluent consents. A key factor in Ofwat's decision to uphold this particular appeal is the legacy nature of this agreement. As this is a legacy consent it does not appear to be proportionate to state this may set a precedent for future customers. Additionally, we could come to a different view with regard to a prospective application, compared to a variation of a consent which has operated over a period exceeding 30 years – noting that the costs to comply with revised conditions may be higher after infrastructure has already been constructed, and that the ability to plan for and mitigate these costs may be lower for legacy consent holders.

6.62 Severn Trent Water confirmed to us that it only has a total of five consents which remain outside of its protocol out of a total of 2,500. Ofwat's view is that whilst this consent's pH levels may be outside of the company's normal protocols, due to the very few consents currently held at this level it is unlikely to have a large impact on future variations. Whilst other businesses may consider that they have incurred costs in raising their pH levels, these have not been brought to us as appeals at the time of variation and given the time limits that apply to trade effluent appeals it would be unlikely that any customer historically impacted by this would be able to bring an appeal. Therefore, the impact on Severn Trent Water's process going forward is limited. The appeal process is case specific and is not a decision on Severn Trent Water's policy overall.

6.63 In terms of cost implications for Severn Trent Water, it has not argued that there would be any cost implications directly from allowing the Appellant to maintain a lower pH limit of 4.5 in respect of its treatment process. However, it has explained

the practical implications for it if, in general, it is to make decisions on individual consents based on actual harm from the relevant site, setting out that this could have a significant impact on the investigative work that it would be required to do in granting trade effluent consent applications, and cause a knock-on impact in terms of its capacity for issuing consents and monitoring compliance. As outlined previously, the role of the appeals process is to consider an appeal on the specific facts of that case. n considering consent applications in general, it is for Severn Trent Water to best manage applications and consider each application on its merits. This determination does not constitute an opinion of Severn Trent Water's overall policy and process for considering trade effluent consents.

6.64 Severn Trent Water has also confirmed in its submission that a key part of the rationale for its current protocol specifying a pH limit of between 6 and 10 is that this enables Severn Trent Water to apply these limits without need for site-specific investigation work, which may include asset condition assessments, quality-monitoring surveys in sewers and CCTV surveys. Whilst we understand the rationale for this concern, this again relates to Severn Trent Water's own policies and processes rather than the specific circumstances of the Appellant's case. Our determination is not seeking to make a decision with respect to the suitability of Severn Trent Water's protocol in the round. Section 126 of the Act enables an individual customer to appeal a trade effluent consent, and we must consider the issues on a site-specific basis, as also set out in our published approach to considering trade effluent appeals. In this case we found that it was more appropriate for Severn Trent Water to investigate and consider the specific facts of the Site rather than apply its standardised protocol.

6.65 Our published policy states that if the discharger's costs are more than those of the sewerage undertaker, then Ofwat will normally uphold the appeal. In this respect, the Appellant stated to Ofwat in its request for this determination, that the proposed variation could have significant financial consequences for the business. This has been confirmed by the technical advice we sought to inform our consideration of this appeal, which confirmed that potential full monitoring and balancing of pH to bring the Site's discharges into total compliance with a higher pH level could cost in the region of £100,000. Given that Severn Trent Water has not provided any evidence of a financial impact on its own processes specific to the Site, it appears that the costs to the discharger would be higher than those faced by the sewerage undertaker.

6.66 In addition, the advice we have taken has indicated that it may be possible for Severn Trent Water and the Appellant to negotiate whether further monitoring of the Site would be appropriate and /or if it is viable for the consent's conditions to specify times at which discharges with the lowest pH values are permitted only for restricted periods of time. Our decision in relation to this appeal is that the

Appellant's appeal should stand, and that Severn Trent Water's direction should be annulled, allowing the pH limit of 4.5 to 10 to remain. We are not making a direction at this time for monitoring or time restrictions on the Appellant's effluent discharge, but this may be a consideration for the parties to discuss further and may in time result in a future proposed variation amenable to both parties.

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We regulate the water sector in England and Wales.

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