IN THE NORTHAMPTON CROWN COURT

BETWEEN:

Drinking Water Inspectorate

v

Anglian Water Services

SENTENCING BUNDLE INDEX

ASN – NO ASN REQUIRED

SUMMONS

(MC Act 1980, s1; CPR Rules 2015, r7.4(1))

Leicester Magistrates' Court

DATE :

TO THE ACCUSED : Anglian Water Services Limited (Company number 02366656)

OF : Lancaster House Lancaster Way, Ermine Business Park, Huntingdon, Cambridgeshire, United Kingdom, PE29 6XU

You are HEREBY SUMMONED to appear on the XXXXX at XXXX before the Leicester Magistrates' Court at 15 Pocklingtons Walk, Leicester, LE1 6BT, to answer the following Information.

ALLEGED OFFENCE : see schedule

INFORMANT : [redacted]
CHIEF INSPECTOR OF DRINKING WATER

ADDRESS : DRINKING WATER INSPECTORATE
GROUND FLOOR, SW, SEACOLE BUILDING, 2 MARSHAM STREET, LONDON SW1P 4DF

DATE OF INFORMATION :

JUSTICE OF THE PEACE/JUSTICES CLERK

SCHEDULE

1. Between 16 April 2016 and 15 December 2021, Anglian Water Services Limited (company number 2366656) introduced a product or substance to water, namely Electrofresh Plus pipe into Hannington 1A Reservoir, that was supplied for such domestic purposes that consisted in or included cooking, drinking, food preparation or washing to consumers within the Ruthamford Supply System, when those pipes did not comply with the requirements of Regulation 31 of the Water Supply (Water Quality) Regulations 2016, contrary to Regulation 33(3)(a) of those Regulations.

2. Between 7 February 2017 and 24 January 2023, Anglian Water Services Limited (company number 2366656) introduced a product or substance to water, namely Electrofresh Plus pipe into Hannington 1B Reservoir, that was supplied for such domestic purposes that consisted in or included cooking, drinking, food preparation or washing to consumers within the Ruthamford Supply System, when those pipes did not comply with the requirements of Regulation 31 of the Water Supply (Water Quality) Regulations 2016, contrary to Regulation 33(3)(a) of those Regulations.

3. Between 7 October 2016 and 13 December 2021, Anglian Water Services Limited (company number 2366656) introduced a product or substance to water, namely Acothane into Pitsford Storage tank B, that was supplied for such domestic purposes that consisted in or included cooking, drinking, food preparation or washing to consumers within the Ruthamford Supply System, when the Acothane did not comply with the requirements of Regulation 31 of the Water Supply (Water Quality) Regulations 2016, contrary to Regulation 33(3)(a) of those Regulations.

4. Between 31 March 2020 and 14 May 2020, Anglian Water Services Limited (company number 2366656) introduced a product or substance to water, namely Electrofresh Plus pipe into Kedington Water Treatment Works, contact and balance tanks, that was supplied for such domestic purposes that consisted in or included cooking, drinking, food preparation or washing to consumers within the Haverhill Public Water Supply Zone, when those pipes did not comply with the requirements of Regulation 31 of the Water Supply (Water Quality) Regulations 2016, contrary to Regulation 33(3)(a) of those Regulations.

5. Between 27 February 2018 and 21 September 2021, Anglian Water Services Limited (company number 2366656) introduced a product or substance to water, namely Electrofresh Plus pipe into Diddington reservoir, that was supplied for such domestic purposes that consisted in or included cooking, drinking, food preparation or washing to consumers within the Huntingdon

South, Huntingdon North Public Water Supply Zones and Ruthamford supply system, when those pipes did not comply with the requirements of Regulation 31 of the Water Supply (Water Quality) Regulations 2016, contrary to Regulation 33(3)(a) of those Regulations.

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Anglian Water Services Ltd

CASE SUMMARY

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Introduction

1. This case summary is prepared in order to assist the Court and Defence in relation to the prosecution of Anglian Water Services Ltd ('AWSL') by the Drinking Water Inspectorate ('DWI'). It does not include all of the law or served evidence in the case, and the omission of reference to any aspect of the served evidence should not be taken to be an admission as to relevance or admissibility.

2. The prosecution arises in respect of the use of materials and consequent water supply from four drinking water reservoirs and storage tanks owned/operated by Anglian Water. These are at Hannington Reservoir (1A and 1B), Diddington Reservoir, Pitsford Storage Tank and the Kedington contact and balance tanks.

3. The regulatory framework has the objective of ensuring that consumers, who have no choice in supplier of their domestic tap/drinking water, can have confidence that their water supply is wholesome and does not contain substances that may cause harm to their health.

4. The risk to supply or water quality is for the relevant company to manage. In relation to Regulation 31, the DWI served ASWL with a notice on the 11th June 2019 that required ASWL to review governance of Regulation 31 throughout the company. This was two years before the discovery of the offending.

5. At all four locations materials that were unsuitable for being in contact with drinking water (in all cases ductile iron pipes coated with paint) were installed in the body of tanks and reservoirs in breach of Regulation 31 of the Water Supply (Water Quality) Regulations 2016.

6. It is the prosecution case that AWSL have repeatedly failed to comply with their Regulation 31 requirements and that, as a consequence, many of the substances introduced into the tanks are materials that are banned from children's toys or are listed as chemicals of concern. The substances have been associated with birth

defects, to affect fertility and are associated with some cancers according to published data. Because of deficiencies in the testing processes employed by AWSL, both in the method of testing and caused by the delay in identifying the issues, a proper assessment of the levels of banned chemicals has not been possible.

7. In summary, at four service reservoirs that directly supplied water to consumers, materials that were not compliant with Regulation 31 were installed Water that contained elevated levels of contaminants was supplied, sometimes for years, and water supplied to more than 1.3million consumers was affected.

Regulatory Framework and Law

8. The supply of drinking water to consumers is subject to extensive regulatory control. The controls include requirements concerned with the quality of water intended for human consumption, with the objective of protecting human health from the adverse effects of any contamination.

9. Regulation 31(1) Water Supply (Water Quality) Regulations 2016 ('Regulation 31' and 'Water Quality Regulations' respectively) prohibits the introduction of any unapproved product into water which is supplied to customers.

10. Pursuant to Regulation 33 of the Water Quality Regulations contravention of Regulation 31(1) creates an either way offence:

> *Regulation 33(3) A water undertaker or wholesale licensee which—*
>
> *(a)applies or introduces any substance or product in contravention of regulation 31(1) or a notice given under regulation 31(8), or*
>
> *(b)uses any process in contravention of a prohibition imposed under regulation 32(1) or without complying with a condition imposed by virtue of regulation 32(2),*

is guilty of an offence and liable on summary conviction, or on conviction on indictment, to a fine.

Disclosures

11. There is a legal obligation placed upon AWSL by the Water Industry (Suppliers Information) Direction 2012[1] to notify the DWI in specific circumstances including relating to the supply of water that–

    Para 9(1) (d)
    (ii) has attracted or, in the opinion of the supplier, is likely to attract local or national publicity;
    (iii) has caused or, in the opinion of the supplier, is likely to cause concern to persons to whom water is supplied.

12. On the 22nd June 2021, AWSL notified the DWI that a concern had arisen about the Kedington Water Treatment Works ('Kedington') in that internal inspection of the contact and balance tanks revealed evidence of small blue flakes on the tank walls and flooring. AWSL subsequently identified that sections of the pipework within the tanks did not have the required approval.

13. Approximately five months later, on the 15th November 2021 AWSL notified the DWI of a second Regulation 31 event in that on the 2nd November 2021, sections of pipework at the Diddington reservoir ('Diddington') had been found to have been installed outside of the requirements of Regulation 31.

14. On the 21st December 2021 two additional notifications were made. The first at Hannington Reservoirs 1A and 1B ('Hannington 1A' and 'Hannington 1B') in which sections of unapproved pipework had been installed in February 2016 and February 2017 respectively, and the second relating to Pitsford Storage Tank B ('Pitsford') that also had unapproved pipework installed in the tank in 2015.

[1] Made pursuant to Section 202 of the Water Industry Act 1991.

Anglian Water Materials in Contact Approval Process

15. AWSL have a Materials in Contact with water('MIC') procedure that is part of their 'Policies and Standards for Water Supply Hygiene' that are intended to define 'the processes by which materials and chemicals are verified as compliant with Regulation 31 and the current Water Supply (Water Quality) regulations.' (Exhibit SEV014)[2]

16. These processes in summary required:

    (i) That those responsible for the installation of new MIC hold responsibility, or if delegated, that the person to which it is delegated understands the requirements of the procedure.

    (ii) To ensure that materials used in contact with water comply with Regulation 31.

    (iii) That the Water Quality Risk Team is notified of the intent to use materials, to have the materials listed on the MIC form, and ensure that MIC materials are compliant with Regulation 31 before a decision is made to purchase and install.

    (iv) To ensure that materials are used as intended and in accordance with manufacturer's conditions for use.

    (v) To ensure that appropriate samples are taken following installation to verify no deterioration in water quality.

    (vi) Ensure that all standing times and sample results are added onto the MIC and the MIC form is to be signed to confirm sampling.

17. Additionally, water quality risk scientists are required to, amongst other things,

    (i) Check that MIC forms are being completed correctly and to approve Reg 31 compliant materials,

[2] In his statement Ray Butler states that he is unable to locate the Materials in Contact procedure that was in place at the time of the incidents, but refers to the 2018 version.

(ii) Check and approve types of sampling and detail the type of sampling requires and standing times

(iii) Check and approve sample results as being compliant with the Regulations for use in public supply and that the materials have not impacted on water quality.

(iv) Check and approve sample results for water quality and confirm the samples taken are appropriate for the materials listed and that every product has been tested by signing part C of the MIC form.

(v) Request resamples if and when required.

18. Supply Chain professionals include the following processes:

(i) Ensure that all materials with Framework Agreements are fully compliant with Regulation 31 and evidence has been obtained.

(ii) Ensure that the Water Quality Risk Team has reviewed all documentation prior to awarding or renewal of a contract which contains items covered under Regulation 31.

(iii) Ensure framework suppliers know their responsibilities to supply Anglian Water with compliant materials / products/ items.

(iv) Provide the commercial interface for Anglian Water to the suppliers and feedback any concerns raised with regards to materials.

(v) Notify the Water Quality Risk Team of any changes to products on framework agreements highlighted by the supplier.

19. AWSL also has a 'Policies and Standards for Materials in Contact with Water' (POSWSH) policy document (Exh SEV013) that clearly states[3] *'All chemicals and materials used in contact with water will go through an internal verification process prior to purchasing and use.'*

20. In interview on the 21st February 2023 AWSL accepted that the MIC processes had failed in this case stating: *"a set of circumstances arose in these instances which caused these systems to be circumvented."*[4] The prosecution say that the

[3] P 1 of Exh SEV013)
[4] P11 of 46 of interview CD1.

processes were not circumvented, but rather they were not applied at multiple levels.

21. In relation to Compliance with Instructions For Use (IFU), AWSL in 2017 developed a method to record and capture key data in relation to IFU compliance. These records should be maintained for all schemes and include IFU information, recording amongst other things, coating records and surface preparation. Engineers, in accordance with this IFU are expected to check and sign off the forms to provide further assurance of IFU compliance. It is stated in the Hannington 20-day report document[5] that this 'was briefed out to all relevant staff.' As will be set out in the following paragraphs, material coatings are a significant factor in the offences and there was a complete failure to apply the Instructions for Use is relation to assessing the coatings.

22. AWSL state that so far as training is concerned, an e-learning module and a one-day classroom training course have been introduced. The e-learning course was created in 2018 'to raise the overall awareness of key aspects of Regulation 31' The two versions of the course are aimed at engineers and water quality teams. In August 2021 it became a requirement for this training to be repeated every three years.[6]

23. As a large utility company with a turnover in excess of £1.4 Bn, that performs a vitally important public health function through the supply of domestic drinking water, the onus is on it to ensure that the water that it supplies is carried through safe and approved materials. AWSL has the resources to ensure that the purchase and installation process is properly supervised and checked. This requirement applies, whether the works are completed by AWSL employees, or contractors working on behalf of AWSL.

Hannington Reservoirs 1A and 1B

[5] P18 0f 25 of Hannington 20-day report
[6] Exhibit SEV008 – Hannington 20 day report.

24. Hannington Reservoirs provide drinking water for a population living in Milton Keynes and Northampton. A population of 852,695 people. Water from these reservoirs is also exported to Thames Water and an Independent Water network.

25. In 2016, four outlet main pipes were installed into the Hannington reservoirs, two into each reservoir. The outlet main pipes each protruded 500mm into the water tank and were in contact with drinking water both on the inside of the pipe and also the exterior.

26. The works were designed by contractors Mott McDonald and carried out by J N Bentleys as part of the AMP6 Capital Engineering Scheme for AWSL.

27. The pipes that were installed were Electrofresh Plus pipe – a ductile iron pipe. The inside of the pipe has WRAS and Regulation 31 approval and is designed to carry potable water. The outside of the pipe is coated for aesthetic purposes only and is not designed or approved for use in contact with drinking water.

28. The pipes fitted by J N Bentleys were additionally painted with V&M enamel paint called Dacrylate. This paint has no Regulation 31 approval and the safety data sheet (SEV012) shows that this paint contains many hazardous elements – harmful to skin, may cause damage to eyes, cause lung damage if swallowed and may cause genetic defects and cancer. It may cause organ damage through repeated exposure. It may damage fertility or an unborn child.

29. The Hannington 1A reservoir was put into supply on 16th April 2016 and isolated from supply on the 15th December 2021 for inspection of the pipework. That inspection took place on the 20th December 2021. During this inspection sections of blue pipework were identified as having blistering of the pipe coating with some of the paint returning to powder form. Water from Hannington 1A was supplied to consumers for approximately 5 years and 8 months.

Figure 4: External surface of Electrofresh pipe length Reservoir 1A new outlet pipe1

Fig 4 from the Hannington 20 day report exh SEV008 showing blistering paint.

30. The Hannington 1B reservoir that had been fitted with identical pipes on the 7th February 2017 and remained in supply until 24th January 2023 – a period of 5 years and 11 months, supplying drinking water directly to consumers throughout.

31. As set out above, the Materials in Contact policy of AWSL and the POSWSH policy require that materials are signed off by the company's water quality scientists before any materials are bought or installed on any capital projects or upgrades. These policies had clearly not been applied in the fitting of these pipes into the two reservoirs.

32. [redacted] worked at J N Bentley and described that their role was to 'core through the [reservoir] wall' at the Hannington reservoirs, slot pipes through and grout them up. Following this, AWSL attended to clean the reservoir before it was put into service. This process was done in respect to Cell 1A in February 2016 and in respect to Cell 1B in February 2017. The grout used had been specified by the designers, but the approval lapsed between design and use. In relation to the paint used on the pipe exterior, [redacted] stated that that J N Bentley had ordered a Regulation 31 approved pipe, that he was unaware that the suppliers had done anything to the pipe at the time that would not have been approved, and that they

had installed the pipe that was delivered. Mr [redacted] from the pipe supplier Electrosteel stated *'My gut feeling, personal opinion on the event was that human error occurred and someone did not realise that the pipes going into the tank were not Regulation 31 approved for submersion.'* It is clear, the prosecution say, that a fundamental part of fitting any drinking water supply pipe requires that consideration is given to whether it is submerged and in contact with water to be supplied or carrying the water internally.

33. [redacted] was a site engineer employed by J N Bentleys in 2017 (implying that he was involved with Hannington 1B). He stated that he worked with [redacted] and [redacted] from AWSL in completing the handover paperwork for the site that included being given an MIC form to complete. He stated that in relation to everything that he put on the sign-off form that he took advice from [redacted] and [redacted]. Mr [redacted] populated the form, without inspecting the pipework, and was unaware with anyone identifying that the pipework was not approved.

34. AWSL, unusually, did not supply the MIC forms with the 3-day and 20-day reports to the DWI and these had to be specifically requested by the DWI. The MIC forms were supplied on 9th March 2022 (SEV016 for side 1A) together with a response letter in relation to the incident (SEV015). The response letter indicated that when Hannington 1A was initially filled on the 15th and 16th April 2016, that AWSL were unable to close the inlet valve. Rather than calling out emergency repairs, a decision was taken to put the reservoir into supply. It remained in supply for four days until 20th April 2016 when the valve was repaired, with the reservoir being put back into use on 10th June 2016. When provided, it became clear that the MIC signoff was dated 10th May 2016 in relation to [redacted](the AWSL project manager) and 26th May 2026 for [redacted] The evidence is clear that the MIC approval process took place after Side 1A had already been put into supply. Not only was it the MIC procedure carried out afterwards, but it also failed to identify that the pipes/coatings were unauthorised for the submerged use to which they were being put.

35. [redacted]s explanation for how this process was carried out was *'I was given a list of all of the materials that were to be used on site. I, [redacted], [redacted] and I got the list and rang up the suppliers and manufacturers and asked for the approval certification for the items that were going to be procured. I just took the information from the list, checked it was Reg 31 approved and then got the scientist to sign off the MIC form. I was in a co-ordinating role and took it upon myself to support [redacted] and [redacted] when they completed the form.'* Given that the MIC form 'approvals' are dated after Side 1A was already in supply, this account cannot be correct so far as obtaining and recording Reg 31 approved products before procurement.

36. [redacted]'s statement also contrasts with an e-mail that she sent internally within AWSL on the 20th April 2016 (Exh RB01). In the e-mail she states that *'I have been trying to complete the MiC form for the materials used in Hannington reservoir Cell 1a. One of the materials used is Fosroc Conbextra High Flow grout, which we used to seal the gap between the core drill aperture and the puddle flange pipe... I have spoken to Fosroc this morning, and they have confirmed that no WRAS approval has been given for the material.'* A remedy was suggested by the supplier and Ms [redacted] continued *'I have spoken to [redacted] this morning, and he is now making arrangements to get the reservoir taken out of service, so we can apply this coating. I will make sure that all of the other materials and products used on site have been listed on the MiC form and approved before anything is put back into supply.'* Mr [redacted] questions whether this use of the non-compliant grout had been reported to the DWI as is required by law. It was not reported.

37. It is clear that:

(i) the requirement for product approval prior to purchase was not complied with;

(ii) that there was a failure by those responsible for the installation to ensure that the materials in contact with water were Reg 31 compliant;

(iii) there was a failure to ensure that materials were used as intended (the ductile pipe was Reg 31 approved to carry water on its interior, but its use was in fact with the exterior surface in contact with water);

(iv) The MIC material signoff process took place after the reservoir was already in supply;

(v) Non-Reg 31 compliant grout had been used, that was not reported to the DWI;

(vi) The fact that an unapproved product had been used in contact with drinking water in contravention of Regulation 31ought to have acted as a warning, in 2016, that procedures had not been followed.

(vii) There was an opportunity (and promise) to check all of the other materials on site have been listed on the MIC form and approved. Clearly this was not done at that time.

38. The 20-day report for Hannington (SEV008) states that the company sampled Hannington 1A for 'Materials in Contact' parameters after 16 hours stand time on the 16th April 2016. The same report states that side 1A was returned to supply on the 16th April 2016. This is unusual in that, for example, bacteriological samples take at least 16 hours to incubate and same-day results are not usually expected. The inadequate testing is clearly the result of putting Hannington 1A into supply because of the faulty valve.

39. The evidence points to wholesale failures to follow MIC procedures.

40. The outlet pipes in relation to Hannington 1A were inspected by ASWL on 20th December 2021 and sections of the pipes that had been coated in Dacrylate paint were found to be blistering.

41. In relation to Hannington 1B, that reservoir remained in supply providing drinking water to consumers until 24th January 2023 – more than a year after ASWL had discovered the issues relating to Hannington 1A. This was a deliberate act by ASWL who have stated that taking the reservoir out of supply 'would put

customers at high risk of loss of supply'. This was notified to the DWI through the actions of a whistle-blower on the 5th September 2022.

42. Having disclosed the incidents to the DWI in December 2021, initially ASWL told the DWI that they anticipated that the Hannington 1B tank would be taken out of supply in February 2022[7]. The eventual solution used by ASWL was to cut back the protruding pipe to make it level with the tank wall and plate over the pipe to prevent contact with drinking water.

43. Sampling was conducted of water from both Hannington 1A and Hannington 1B throughout the period and when interviewed ASWL stated that there were 302 regulatory monitoring samples taken from Hannington 1A. It was asserted that all samples *'have been satisfactory and below regulatory limits'*. Exhibit SEV019 sets out the results of the sampling. All, bar two of the samples were bacteriological tests that would not detect paint contamination.

44. The two trace organic tests were carried out in April 2016 at Hannington 1A, and neither detected trace organics. However, the asset had not been left to stand for 16 hours ahead of sampling as per the company's procedure to bring it back online. (Exhibit SEV014). The sample results were also not signed off by a member of the water quality team before the reservoir was put back into supply. There were no more appropriate tests carried out at Hannington 1A.

45. Hannington 1B did have trace sampling conducted with a 16-hour standing period before it was put into supply on 7th February 2017 with clear results for trace organics.

46. Samples taken at Hannington 1B on 10th January 2022 and in a regular sampling strategy that followed revealed low-level trace organic compounds that include nonanal, tridecanol, oleic acid and ethyl hexanol. Ethyl hexanol is a known metabolite of the phthalates present in the paint on the outlet pipes. It is on the REACH list of substances of high concern with documented health issues as

[7] Page 24 of 20-day report Exhibit SEV 008.

identified in paragraph 5 above. Ethyl hexanol was present many years after the outlet pipes had been submerged into drinking water.

47. In interview AWSL stated that the trace organic test levels were below the 'suggested no adverse response limits' ('SNARL'). The SNARL levels are however based upon short-term exposure and are not relevant to possible health impacts created by long-term exposure. The company is not known to have carried out any long-term assessment of potential for risk to human health in adults, children and infants through lengthy exposure, or as to the possible effects of multiple contaminants, rather than a single chemical in isolation.

48. Additionally in the interview under caution on 24th January 2023, AWSL while giving the outcome of the enhanced sampling, did not provide information about the toxicology and associated samples taken from customer's taps downstream from Hannington 1B. The samples from customer's taps revealed the presence of ethyl hexanol and tridecanol.

49. There were no Regulation 31 training records for [redacted]. [redacted] was given training on 15th July 2016. The project manager, [redacted] was not trained until 14th June 2018.

Pitsford

50. The Pitsford storage tank B was modified and retrofitted with a new inlet pipe in 2015. The purpose of the storage tank was to act as an onsite reservoir for the storage of drinking water that would normally supply a population of 291,864 people. The work was carried out under the AMP5 and 6 Pitsford water treatment works resilience scheme.

51. The inlet pipe was designed by the Anglian Water @One Alliance with the works being carried out by Stonbury. The pipe was manufactured by a company that was then called Jindal Sigma Pipeline Solutions Ltd. That work was completed in 2015.

52. On the 17th December 2021, following the identification of issues at Keddington and Diddington Anglian Water conducted inspections of to check compliance

with Regulation 31. At Pitsford tank B the inspection team found flaking paint on the installed pipe used to create the inlet stack, which was of a different colour to that originally installed (see for example Fig 5 of SEV010). One of the flaking sections was on a section adjacent to the tank wall that is submerged when the tank is in use. AWSL had believed that the flaking paint was Acothane DW blue.

Fig 5 Exhibit SEV010 (3-day report)

53. What followed were 3 and 20 day reports sent by AWSL to the DWI, both reports describing an internal inspection in 2017 and remedial work carried out to prevent ingress through the walls and tank floor.

54. AWSL state that the remedial works were completed and inspected on 1st August 2017 and that Pitsford tank B went into supply on 11th August 2017. (3 and 20-day reports Exhs SEV010 and SEV011 respectively). It was claimed in the 3 and 20 day reports that MIC sampling for the works had passed the necessary tests. The DWI requested the MIC form and was sent exhibit SEV041.

55. This MIC form listed [redacted] as the main point of contact responsible for the scheme at Pitsford in 2017. [redacted] worked for SWECO which is a @One Alliance Partner of AWSL as part of the team working on the site in 2015 and produces his copy of the 2015 MIC form as Exh DF01.

56. [redacted] was spoken to by the DWI and gave a statement. In it he stated that even though he was named on the MIC form, that he was not involved in the 2017

remedial works – nor was he aware that they had been undertaken. This was contradicted by [redacted] (the Stonbury project manager in 2016 and 2017). He stated that [redacted] was his main point of contact during work in 2016 and 2017 and that he had pointed out his concerns about fitting non-approved pipes because of their coating not being approved for submersion to [redacted].

57. In relation to the replacement pipe sections in 2017 there is an absence of records about compliance with instructions for use in both the application of Acothane and also the use of Flexcrete products that needs to be cured for a minimum of 21 days at a temperature above 7 degrees celcius. According to [redacted] there was no equipment on site to ensure the proper application of Acothane to the pipes – no grit blasters, heaters or dehumidifiers being present.

58. When the instructions for use are followed correctly, Acothane is a suitable material for being in contact with drinking water. In this instance the product was not properly applied and that resulted in the Acothane coating flaking away from the pipe.

59. Whatever the exact truth as between [redacted] and [redacted], it is clear that in late December 2023 an employee, [redacted], a water quality risk scientist at AWSL was trying to work out what had taken place at the Pitsford site.

60. In an e-mail that [redacted] was sent by [redacted], [redacted] is asked a series of questions. The e-mail chain that was forwarded made reference to two MIC forms in which Acothane was described as being used. It also mentions the construction of a new outlet chamber within the tank that had not been previously mentioned by AWSL. These investigations had taken place within the 20-day report period, and none of this information is included in that report that AWSL sent to the DWI.

61. Further investigations by the DWI confirmed (see question 20 in exh SEV044) that a new chamber had been constructed within the Pitsford tank. A request was submitted by the DWI for all MIC forms for the tank. Those MIC reports indicated that on two occasions Acothane had been applied in the tank. Once in 2017 and on another occasion with the approval granted on 29th September 2016 by [redacted]

[redacted]. This approval was granted after the product had been used on site and not at the procurement stage. There were no sample results or signature to approve the tank being put back into supply.

62. Examination of the sections of pipe that had been removed from the Pitsford Tank B on the 1st September 2022 revealed two distinct layers of paint had been applied to the pipe that could be Acothane. Enhanced corrosion could be seen on the ductile pipe underneath the paint layers. The combination of flaking paint and dappled surface of the ductile iron pipe presents a challenge to water quality through the risk of bacterial growth.

63. The DWI investigation also discovered that an event had taken place in 2016 when the Pitsford Storage tank B had been rushed into supply because the Pitsford works were impacted with algae. The storage tank was put into supply before it had been filled to a high level or left to stand at 60% full before samples were taken. The tanks would also have needed cleaning and disinfecting before use. None of this is in accordance with company procedures.

64. There had been a number of inspections of tank B since the new Hannington inlet was installed. It was inspected shortly before it went into supply on the 6th October 2016. No-one from AWSL noted any issue with the pipework despite the obvious colour differences of the four sections and being an unusual design. There were internal tank inspections on 1st August 2017, 25th March 2021 and 11th May 2021 where nothing was identified as being problematic. The problem was identified in December 2021. The extent of the flaking on the pipe is clearly shown in the removed section:

Photograph Exhibit SEV050

65. There was little active management of project work, the materials used or the contractors involved. Records were inaccurate and there were no checks on whether instructions for use had been followed. In the interview under caution the representative of AWSL was still of the opinion that the Acothane had been applied in 2017.

66. There is no evidence that any of the personnel from Stonbury's – who carried out some of the works – had received Regulation 31 training. There were no training records for [redacted], [redacted], [redacted] or [redacted] who all appear on the MIC forms for Pitsford. [redacted] was trained on the 6th April 2018, after the assets had been modified and returned to supply.

67. There were 26 sets of samples taken for trace organics from the works final, which carried a blend of water from Storage tanks A and B. This sampling methodology diminishes the significance of the findings. Samples have been found to contain isopropyl alcohol (19th February 2018), formamide (12th March 2021) and nonanol (19th February 2021 and 12th March 2021). A coliform detection was found on 18th March 2021.

Kedington

68. Kedington water treatment works was constructed to provide a low metaldehyde (a pesticide) water source to blend with water supplied from the Great Wratting works. It supplied a population of 78,187 people.

69. The construction of the Kedington works was completed under a DWI legal notice (Exh SEV057) which, at paragraph 4, specifically required all products and substances used to comply with Regulation 31.

70. The works at Kedington entered supply for a short period on 31st March 2020, and then entered supply again from 27th April 2020 until 14th May 2020 when it was taken out of supply due to the detection of quantitative odour samples. It has remained out of supply since. In total water was supplied for 412 hours.

71. In May 2021 the balance and contact tanks were drained for inspection as part of the one-year warranty check, and small blue flakes were discovered on the tanks' flooring. [redacted] who carried out the inspection was concerned that jetting the tank would simply spread the paint flakes around further. Photographic evidence from the tanks show small flecks of paint on the tank walls indicating that they had been suspended in the water before the tank was drained. (Exh SEV061) The source of the paint was identified from bubbling on the pipework within the tanks.

Powdered paint coating, and paint flecks on wall indicating unapproved paint suspension in drinking water.

Exhibit SEV061.

72. In the 20-day report AWSL accepted that the pipes that had been fitted within the tank did not have Regulation 31 approval for use in the submerged environment that they were in. In the 20-day report, it was asserted that the reason for the presence of the non-Regulation 31 material was due to a change in the pipework when it was fitted, with a flange being attached at each end that was then overcoated with an unapproved product.

73. In the 3-day report (SEV002) AWSL stated that the pipes had been coated with QD5 Promatch paint. In the 20-day report this was revised to QD8 Promatch paint. The manufacturers safety sheet (SEV058) identifies xylene as representing a 30-50% constituent of the product. The UKWIR Toxicity Datasheet states that xylene is moderately soluble and that it causes skin irritation. Animals exposed to repeated doses exhibited decreased body weight and increased mortality. Repeated oral exposure increased the incidence of foetal deformations. Xylene has a SNARL of 20 micrograms/litre and gives a sweet aromatic taste/odour that can be detected above 0.3 mg/l.

74. It is notable that the AWSL water taste tests (Exh SEV059) described a sweet taste from an unblended final sample taken on 11th May 2020 by two AWSL analysts. The samples were taken from the works when they were running into supply.

75. On the 28th May 2021 AWSL took samples from the paint that coats the pipes located in the contact/balance tanks. The analysis (SEV60) showed Xylene present at a concentration of 71.92 micrograms/l.

76. Other chemicals present included dibutyl phthalate and Benzyl Butyl Phthalate (BBP). These chemicals are REACH controlled because of their carcinogenic properties and because they cause fertility and foetal defects.

77. In interview, AWSL advanced the proposition that all of the samples were below published SNARLs and that there was no risk to public health. In fact the Xylene level was higher than the operational SNARL. There was a clear risk to consumers before the works were removed from supply.

78. AWSL, although in possession of the sample results, failed to mention them to the DWI when making their event notification on 22nd June 2022 or in the 3-day report on 25th June or in the 20-day report submitted on 20th July 2021. There was no voluntary sharing of the information in the sample results. The fact of the results existence only came to light when DWI were investigating the reports. The results had to be specifically requested. The omission of this fundamental information shows a lack of transparency and openness.

79. In relation to the MIC sign-off process, as with all of the other sites prosecuted, Linda Olsen signed off the pipework used two weeks before the commissioning testing and sampling commenced and after the pipes had been installed. (line 123 of SEV066). This was not in accordance with company policy.

80. The pipe fitted was an Electrofresh Plus pipe that is not listed on the MIC form. There is also no reference on the MIC form to the materials used in the tanks, showing a lack of control over the MIC process.

81. The MIC form states that samples were taken from various parts of the plant that were found to contain methyl isopropyl ketone at concentrations above 0.15 ug/l. The company was asked why these were considered a pass level and the

response given (SEV067) *'The results were reviewed internally and as the concentrations were very low and more sampling would be done whilst running to waste it was decided that the levels were acceptable.'*

82. The AWSL project delivery manager, [redacted], was not materials in contact or Regulation 31 trained. [redacted] was to say, contrary to AWSL policy, that it was the contractor's responsibility to procure the correct materials for use.

83. There is no evidence of training or assessment of the Anglian Water risk scientists who were responsible for signing off the materials. [redacted] was reported as having undertaken training on 16th April 2016.

84. FLI Water were the contractors chosen to implement the scheme at Kedington. [redacted] stated that the original pipe specification had been changed, he thought to expedite the programme to meet the delivery date in order to meet the DWI legal notice requirements. AWSL are aware that they can apply to extend the legal date deadline if necessary as the company has made such applications before.

Diddington reservoir

85. On the 15th November 2021, AWSL notified the DWI of another Regulation 31 event. This followed the discovery of sections of pipework at Diddington reservoir that did not comply with Regulation 31 requirements. The reservoir supplies to a population of 89,449 in the Huntingdon area and possibly a wider population of 749,219 in the Ampthill area if required. The Diddington reservoir had been built with construction starting in 2015 and the reservoir entering supply on 27th February 2018. By the time of the discovery of the issue the reservoir had been in supply for 3 years 6 months and 24 days.

86. The Diddington reservoir was designed by Mott McDonalds and constructed by J N Bentley (the same contractors used for the Hannington Reservoir). The Diddington reservoir has two water tanks. Each tank had an overflow pipe that

was located inside the tank with a bell-mouth at the top. Should the tank overfill, water could then be diverted.

87. The 3-day event report (SEV005) indicated that two sections of the overflow pipework at the reservoir had been identified as having blistering paintwork that was peeling away from the pipe in some areas.

Figure 5: Electrofresh pipe length on the west cell overflow

Figure 6: External surface of Electrofresh pipe length on the east cell overflow

88. The location of these are shown at Fig 8 of the 3 day report – the sections of pipe are within the water tank.

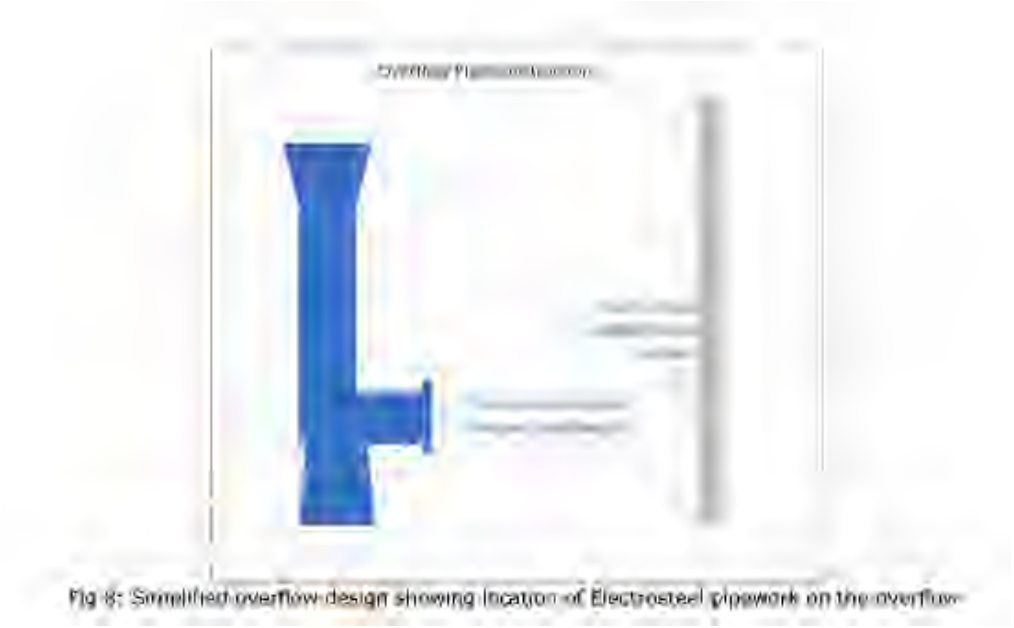


Fig 8: Simplified overflow design showing location of Electrosteel pipework on the overflow

89. Investigation, as at Hannington, revealed that the Electrofresh Plus ductile iron pipe had been coated with Dacralyte V&M enamel paint. The paint, as confirmed by [redacted] the company's reservoir engineer, had deteriorated to powder in parts.

90. The appearance of this paint and the replacement pipe is obviously different to the original materials. There is no record of anyone questioning the obviously different materials being used.

From SEV033 Internal Pictures of reservoir.

91. [redacted], AWSLs Strategic Supply Integration Scientist, approved the 201 MIC lines for materials used in the project, stating that *'I do not believe that any of the lines listed on this form were not approved for being in contact with water intended for potable supply, and were all signed off with relevant DWI of WRAS approval details. However, I now understand that listed on the form there were lengths of pipework that were approved for carriage of water but were instead installed in a position of total immersion (which negates approval).'* The AWSL MIC form makes no reference to plans or to the environments in which the materials are used.

92. [redacted] signed off the pipes used on the 27th July 2016, meaning that when they were purchased by JN Bentley on 24th November 2015 they had not been approved in accordance with AWSL policies and procedures. Records show that [redacted] was first trained in Regulation 31 on the 15th July 2016, just days before he approved the MIC form. The fact that the training failed to educate [redacted] as to the difference between pipes that were immersed and those carrying water raises questions about the effectiveness of the training.

93. [redacted] was, as with Hannington, responsible for ensuring that material used complied with Regulation 31. Neither [redacted], nor [redacted] and [redacted] who all appear on the MIC form had any Regulation 31 training.

94. [redacted] the engineer responsible for running the project on behalf of JN Bentley was not trained until 14th June 2018, after the asset was commissioned.

95. Before the two tanks were put into supply MIC samples were taken from each tank. On the 29th January 2018 the analysis showed the presence of 0.14 ug/l of ethyl hexanol in one tank, the second recording 0.19 ug/l. Samples taken on 8th February 2018 were clear of any organics. It is clear from the 3-day report that these figures were compared by AWSL to the SNARLs level, but not to any other toxicology limits for longer term exposures.

96. On the 19th November 2021 AWSL tested paint samples – almost four years after Diddington had been put into supply, and a suite of compounds were found including phthalate esthers. One of the substances, Di-isobutyl phthalate (DIPD) was found at a concentration of 30.08 ug/l. That is over half of the 7-day SNARL limit. DIPD is considered a substance of very high concern and is labelled a persistent bio-accumulative and toxic substance. It is a known endocrine disruptor and may cause reproductive damage and harm to unborn children. It is fatal if swallowed or if it enters the airway. Other chemicals were found including dibutyl phthalate (DBP) and Benzyl butyl phthalate (BBP) and oestrogenic chemicals of concern. REACH controls restrict the use of BBP, DBP and other phthalates at concentrations is plasticised materials, toys and childcare articles.

97. If Regulation 31 approved pipework had been applied, there would be no risk to consumers.

98. The reservoirs were inspected, the east reservoir on the 29th May 2020 and 8th November 2021. The west reservoir on the 22nd May and 8th November 2021. All four inspection reports referred to deposits in the tank that were attributed to flushing. Photographs taken during the 2019 inspection (SEV033) show blue deposits present in the West cell. As previously indicated [redacted] had noted flaking paint in 2019, and in 2021 noted that the paint had deteriorated to powder. It is clear that the paint was actively deteriorating in supply.

99. There were repeated failures at critical control points. These include:

    (i) The contractors failed to procure the correct product;

(ii) AWSL failed to control the procurement in accordance with their policies;

(iii) The MICs were retrospectively raised in conflict with AWSL procedure;

(iv) There was inadequate or no Reg 31 training for staff and contractors;

(v) Inspections, although showing deterioration of the paint, failed to identify the issue.

100. AWSL was to remediate the overflow pipe at Diddington by encasing the sections of unapproved pipe in concrete.

Sentencing

101. There are no sentencing guidelines directly applicable to Regulation 31 offences. However, Courts dealing with prosecutions for these offences have considered both the Guidelines for Environmental Offences and the Guidelines for Health and Safety, Corporate Manslaughter and Food Safety and Hygiene Offences when considering setting the level of fines. Given that the drinking water was supplied for human consumption details of the Food Safety and Hygiene offence guidelines may be the most appropriate.

102. In relation to the **Food Safety Guidelines**, the prosecution say that the following features are present:

Culpability

102.1 There was a failure to implement measures designed to prevent the commission of the offences. In particular there was:

- inadequate training,
- inadequate understanding of the fundamental distinction between approval for pipes carrying drinking water and those submerged in drinking water
- there was no prior approval before purchases were made

- there was inadequate oversight and training of contractors
- the MIC signoff took place after the reservoirs were commissioned and supplying drinking water to consumers.
- The MIC signoff process failed to identify the use of unapproved products. It could be said that it was not fit for purpose since the MIC signoff process did not identify the use to which the materials were being put.

The failure to properly adhere to systems is indicated as carrying medium culpability. In this case the failures were repeated and apparent at every stage of the commissioning process in relation to each of the sites.

102.2 The failures occurred over a considerable period of time.

Hannington 1A was supplied to consumers for approximately 5 years and 8 months.

Hannington 1B, remained in supply providing drinking water to consumers until 24th January 2023 – more than a year after ASWL had discovered the issues relating to Hannington 1A. Water was supplied for a period of 5 years and 11 months

Kedington supplied water for 412 hours.

Pitsford supplied water from 7th October 2016 until 13th December 2021.

Diddington reservoir by the time of the discovery the reservoir had been in supply for 3 years 6 months and 24 days from 27th February 2018 until 21st September 2021. At Diddington, inspections failed to identify clear defects in the pipe coatings many months before the reservoir was taken out of supply.

High culpability arises where the offender falls far short of the appropriate standard, for example by allowing breaches to subsist over a long period of

time, and failing to put in place measures that are recognised standards in the industry.

102.3 The sentencing guidelines state that very high culpability arises where there is a deliberate breach or flagrant disregard for the law. In relation to Hannington 1B a deliberate decision was taken by AWSL to keep the reservoir in supply for more than a year after discovery of the unauthorised materials use. The eventual remedy of encasing the pipework in concrete was something that could have been accomplished much faster.


Culpability

Very high

High

Medium

Low

103. The prosecution say that in relation to all of the offences, save Hannington 1B, that the repeated failures over numerous sites point to High Culpability.

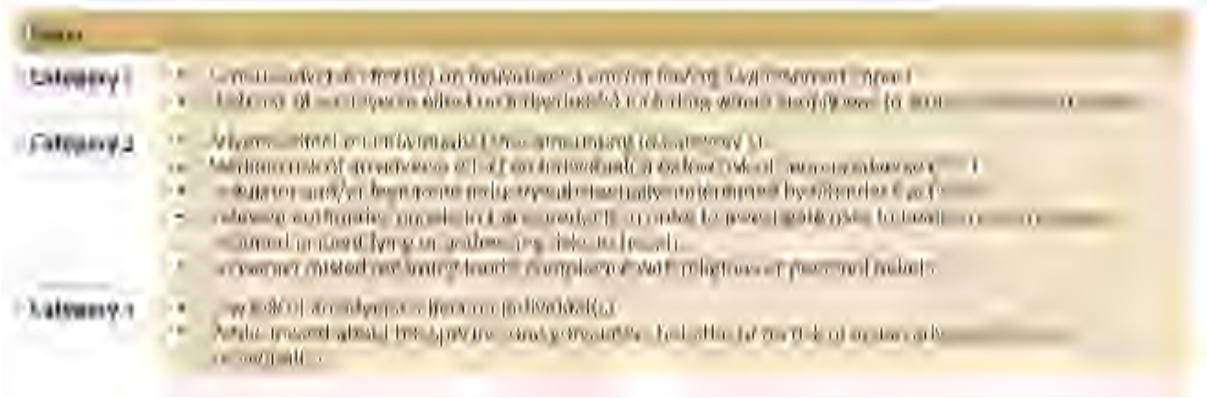
104. Regarding Hannington 1B, following the discovery of the use of unauthorised materials a decision was taken to keep the reservoir in supply to consumers.

Harm

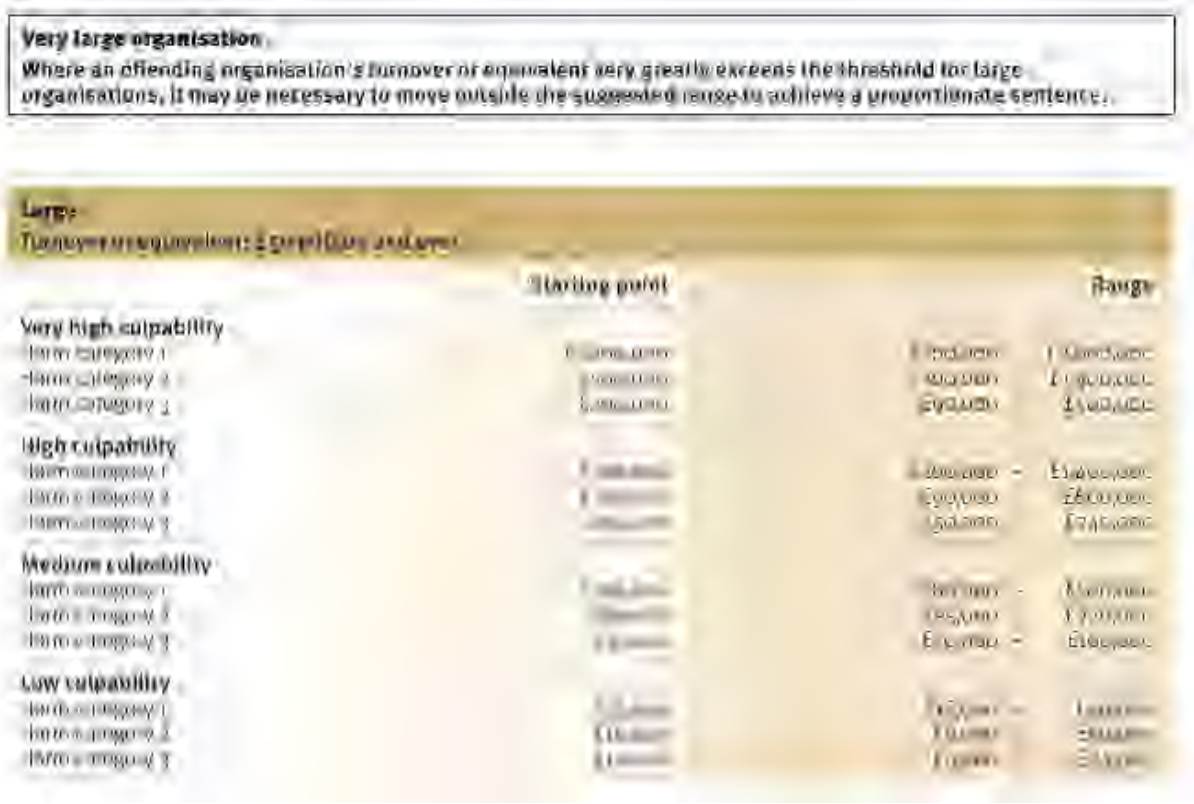
105. The identified risks associated with the use of unauthorised products in this case are unquantifiable given the limited and inappropriate testing carried out by AWSL.

106. The materials used carry risks of being harmful to skin, causing damage to eyes, lung damage if swallowed genetic defects, foetal deformation, damage to fertility and cancer.

107. The limited nature of testing, measured against SNARL levels, is not accepted as providing a proper degree of assurance as to the risks posed by the materials. There has been no testing of mixtures of chemical present that may behave differently or pose unknown risks. The water supplied in every case went directly to consumers, and there has been no assessment of the potential risk posed by suspended paint in powder form, for example that shown at para 70 above. There has been no assessment of the effect of long-term exposure to the substances present in the drinking water supply, and the possible effect on different population groups.



108. The prosecution say that risk of harm is unquantifiable. Harm, should it occur, would be extremely serious. The role of the DWI is to ensure public confidence in drinking water supply. Public confidence will be significantly impacted by the actions of AWSL.



Very large organisation

Where an offending organisation's turnover or equivalent very greatly exceeds the threshold for large organisations, it may be necessary to move outside the suggested range to achieve a proportionate sentence.

Large

Turnover or equivalent: £ [illegible]

	Starting point	Range
Very high culpability		
Harm category 1	[illegible]	[illegible]
Harm category 2	[illegible]	[illegible]
Harm category 3	[illegible]	[illegible]
High culpability		
Harm category 1	[illegible]	[illegible]
Harm category 2	[illegible]	[illegible]
Harm category 3	[illegible]	[illegible]
Medium culpability		
Harm category 1	[illegible]	[illegible]
Harm category 2	[illegible]	[illegible]
Harm category 3	[illegible]	[illegible]
Low culpability		
Harm category 1	[illegible]	[illegible]
Harm category 2	[illegible]	[illegible]
Harm category 3	[illegible]	[illegible]

Very Large Organisation sentencing

109. AWSL are a Very Large Organisation ('VLO') that disclosed revenues of £1.4 billion in 2022. In accordance with Criminal Practice Direction 2023 para 5.9.5 the case needs to be dealt with, in the first instance, by an authorised District Judge and fall to be sentenced separately to the guidelines.

110. <u>*As to venue for sentencing in R* v *Thames Water Utilities Ltd* (2015) EWCA Crim 960 it was stated that :</u>*"Sentencing very large organisations involves complex issues as is clear from this judgment."* (para 47 of judgment) and *"Such cases are categorised as class 2 C cases and must therefore be tried either by a High Court Judge or another judge only where either the Presiding Judge has released the case or the Resident judge has allocated the case to that judge. It is essential that the terms of this Practice Direction are strictly observed."* (para 47 of judgment)

111. Paragraph 5.9.5 (c) of CPD 2023 states that if an authorised District Judge decides not to commit (to the Crown Court) a case involving the imposition of very large fines (i.e. a case under that satisfies 5.9.5 a. and any of the criteria in 5.16.1) the reasons must be recorded in writing to be entered onto the Court register.

112. The approach to be adopted in relation to sentencing VLO companies has been explored in a number of cases. In *R* v *Sellafield* (2014) EWCA Crim 49 it was held that: *"It will therefore always be necessary in the case of companies with a turnover in excess of £1 billion to examine with great care and in some detail the structure of the company, its turnover and profitability as well as the remuneration of the directors."* (para 7 of judgment)

113. As to the appropriate level of fine, in *R* v *Thames Water Utilities Ltd* (2015) EWCA Crim 960 the following approach to sentencing was set out:

i. *"The Court is not bound by, or even bound to start with, the ranges of fines suggested by the Sentencing Council in the cases of organisations which are merely 'large'".* (para 36 of judgment).
ii. *"The object of sentence is to bring home the appropriate message to the directors and shareholders of the company…….This Court has on two occasions observed that it would not have interfered with fines "very substantially greater" or "significantly greater" than six figure fines imposed for environment offences: R v Southern Water Services Ltd (2014) EWCA Crim 120 paragraph 21 and R v Day (2014) EWCA Crim 2683 paragraph 46."* (para 38 of judgment).
iii. "*Previous convictions will always be relevant aggravating features and in the case of some, seriously aggravating features."* (see para 39 of judgment).
iv. *Relatively limited weight may be given to offences committed with low or no culpability (in the Sentencing Council's definition in step 3); but offences which result from negligence or worse should count as significantly more serious. Repeated operational failures – suggestive of a lack of appropriate management attention to environmental obligations – fall into this category.*

*For example, to bring the message home to the directors and shareholders of organisations which have offended negligently once or more than once before, a substantial increase in the level of fines, sufficient to have a material impact on the finances of the company as a whole, will ordinarily be appropriate. This may therefore result in fines measured in millions of pounds.***"** (para 39 of judgment).

v. *"In the worst cases, when great harm exemplified by Category 1 harm has been caused by deliberate action or inaction, the need to impose a just and proportionate penalty will necessitate a focus on the whole of the financial circumstances of the company. We have already outlined the approach by reference to the guideline – starting with turnover, but having regard to all the financial circumstances, including profitability. In such a case, the objectives of punishment, deterrence and the removal of gain (for example by the decision of the management not to expend sufficient resources in modernisation and improvement) must be achieved by the level of penalty imposed. This may well result in a fine equal to a substantial percentage, up to 100%, of the company's pre-tax net profit for the year in question (or an average if there is more than one year involved), even if this results in fines in excess of £100 million. Fines of such magnitude are imposed in the financial services market for breach of regulations. In a Category 1 harm case, the imposition of such a fine is a necessary and proper consequence of the importance to be attached to environmental protection."* (para 40 of judgment)

vi. *"Where the harm caused falls below Category 1, lesser, but nevertheless suitably proportionate, penalties which have regard to the financial circumstances of the organisation should be imposed. In an appropriate case, a court may well consider, having regard to the financial circumstances of the organisation, that to achieve the objectives in s.143 of the CJA 2003, the fine imposed must be measured in millions of pounds, as we have already indicated."* (para 40 of judgment).

vii. *"In the case of (a very large organisation), there must not be a mechanistic extrapolation from the levels of fine suggested at step 4 of the guideline for*

large companies. This is made clear by (1) the fact that by definition a very large commercial organisation's turnover very greatly exceeds the threshold for a large company, and (2) the requirement at step 6 of the guideline to examine the financial circumstances of the organisation in the round." (para 40 of judgment)

viii. *"Size becomes much more important when some harm is caused by negligence or greater fault. Even in the case of a large organisation with a hitherto impeccable record, the fine must be large enough to bring the appropriate message home to the directors and shareholders and to punish them. In the case of repeat offenders, the fine should be far higher and should rise to the level necessary to ensure that the directors and shareholders of the organisation take effective measures properly to reform themselves and ensure that they fulfil their environmental obligations."* (para 42 of judgment).

Statutory and other aggravating features

114. In relation to statutory and other aggravating features, the prosecution say that there was the potential for financial gain (or more properly the reduction of financial loss) through keeping Hannington 1B in supply for a long period after the issues were identified. There would also have been savings accrued through lack of training.

115. While the offending was self-reported, DWI have had to actively seek out important information that ought to have been voluntarily supplied.

Previous convictions

116. AWSL has 106 convictions relating to environmental offences. ASWL have five previous convictions relating to supplying water unfit for consumption contrary to Section 70 of the Water Industry Act 1991. The most recent offence is

a twenty-year-old conviction that was sentenced at Cromer Magistrates' Court on 26th March 2004. Prior to that there were offences sentenced at Bedford Magistrates' Court on 5th September 2001, Ipswich Magistrates' Court on in January and February 1999 and Witham Magistrates' Court in 1999.

Costs

117. The Prosecution should recover its reasonably incurred costs. A Costs Schedule will be available at the hearing.

[redacted]

6 Pump Court

17th September 2024.

IN THE NORTHAMPTON CROWN COURT

B E T W E E N

DRINKING WATER INSPECTORATE

-v-

ANGLIAN WATER SERVICES LIMITED

BASIS OF PLEA

Summary

1. The defendant company, Anglian Water Services Limited ('Anglian Water, the Company') pleads guilty to the following offences:

1. Between 16 April 2016 and 15 December 2021, Anglian Water Services Limited (company number 2366656) introduced a product or substance to water, namely Electrofresh Plus pipe into Hannington 1A Reservoir, that was supplied for such domestic purposes that consisted in or included cooking, drinking, food preparation or washing to consumers within the Ruthamford Supply System, when those pipes did not comply with the requirements of Regulation 31 of the Water Supply (Water Quality) Regulations 2016, contrary to Regulation 33(3)(a) of those Regulations.

2. Between 7 February 2017 and 24 January 2023, Anglian Water Services Limited (company number 2366656) introduced a product or substance to water, namely Electrofresh Plus pipe into Hannington 1B Reservoir, that was supplied for such domestic purposes that consisted in or included cooking, drinking, food preparation or washing to consumers within the Ruthamford Supply System, when those pipes did not comply with the requirements of Regulation 31 of the Water Supply (Water Quality) Regulations 2016, contrary to Regulation 33(3)(a) of those Regulations.

3. Between 7 October 2016 and 13 December 2021, Anglian Water Services Limited (company number 2366656) introduced a product or substance to water, namely Acothane into Pitsford Storage tank B, that was supplied for such domestic purposes that consisted in or included cooking, drinking, food preparation or washing to consumers within the Ruthamford Supply System, when the Acothane did not comply with the requirements of Regulation 31 of the Water Supply (Water Quality) Regulations 2016, contrary to Regulation 33(3)(a) of those Regulations.

4. Between 31 March 2020 and 14 May 2020, Anglian Water Services Limited (company number 2366656) introduced a product or substance to water, namely Electrofresh Plus pipe into Kedington Water Treatment Works, contact and balance tanks, that was supplied for such domestic purposes that consisted in or included cooking, drinking, food preparation or washing to consumers within the Haverhill Public Water Supply Zone, when those pipes did not comply with the requirements of Regulation 31 of the Water Supply (Water Quality) Regulations 2016, contrary to Regulation 33(3)(a) of those Regulations.

5. Between 27 February 2018 and 21 September 2021, Anglian Water Services Limited (company number 2366656) introduced a product or substance to water, namely Electrofresh Plus pipe into Diddington reservoir, that was supplied for such domestic purposes that consisted in or included cooking, drinking, food preparation or washing to consumers within the Huntingdon South, Huntingdon North Public Water Supply Zones and Ruthamford supply system, when

those pipes did not comply with the requirements of Regulation 31 of the Water Supply (Water Quality) Regulations 2016, contrary to Regulation 33(3)(a) of those Regulations."

2. This Basis of Plea responds to the Prosecution Case Summary, dated 17th September 2024. Further submissions on sentence, mitigation and the case generally will follow at the sentencing hearing. This Basis of Plea is not to be taken as a definitive response to all matters to which reference is made in the Prosecution's Case Summary.

3. The Company's basis is that

3.1. At all material times Anglian Water operated as the statutory appointed water and sewerage undertaker for the Anglian region. Its undertaking is vast and covers the largest of the geographical areas operated by the UK's appointed water companies, supplying water and recycling services to nearly 7 million customers in an area stretching from the Humber estuary in the North to the Thames estuary in the South and from Buckinghamshire in the West to Lowestoft on the East Coast. Anglian Water's operating area includes 1,257km of coastline and 112,833km of water and sewer pipes transporting water across 27,500 square kilometres of towns and countryside, a quarter of its region being below sea level. Employing c. 5,000 people, Anglian Water supplies on average 1.2 billion litres of clean, safe drinking water to 4.3 million people every day.

3.2. In 2020 Anglian Water was awarded the Queen's Award for Enterprise: Sustainable Development for the second time. It was awarded for demonstrating excellent, positive impacts across a number of initiatives such as reducing carbon and improving water quality, as well as continuing to put social and environmental prosperity for local communities at the heart of all it does. In 2019 and 2023 Anglian Water was awarded 'Water Company of the Year', It was named 'Utility Company of the Year' and 'The UK's Best Place to Work' in 2018. It is a highly reputable company which treats its social, safety and environmental responsibilities with the upmost seriousness. It is therefore a matter of enormous disappointment and regret to Anglian Water that it finds itself before the Court in respect of these offences.

3.3. Anglian Water's purpose is to bring environmental and social prosperity to the region we serve through our commitment to love every drop, and in 2019, the Company became the first large European utility to change its constitution (Articles

of Association) to include public interest into the way our business is run, both for current and for future generations.

3.4. Safe, clean drinking water is one of the Company's key outcomes agreed at Board level. Customers view that delivering safe, clean water is the most vital service we offer. The Company published an updated Long Term Plan in January 2023 for the quality of drinking water supplies, outlining four key strategies to deliver this outcome – to protect and improve raw water quality at source, to increase resilience in our treatment processes, to safeguard quality across our distribution system and to ensure water is clean and safe within the home.

3.5. On 27 May 2021 during a planned warranty inspection of a storage reservoir for drinking water at Kedington WTW, an Anglian Water technician observed small blue flakes on the floor of the underground tank. Pipework with a coating approved for total immersion in water had been planned and approved, but different pipework had been installed without notification to Anglian Water. The installed pipework was approved for conveying drinking water above and below ground but not for immersion in water. After cutting and welding, a non-approved overcoat was applied at the manufacturers facility that had partly flaked off. The Inspectorate were informed of these findings on 22 June 2021 once preliminary investigations had been completed.

3.6. On 2 November 2021, an internal inspection was carried out at Diddington storage reservoir. The reservoir was part of a resilience scheme and had been removed from supply on 21 September 2021 to enable further validation testing. Pipework defects were identified following routine internal inspections of tanks at Diddington Reservoir on 2 November 2021, with particular attention paid to the condition of pipework internal to the tank. The coating of sections of pipework on the overflow arrangements in both cells were noted to have areas of blistering and peeling. The Inspectorate were informed of these findings on 15 November 2021. The installed pipework was approved for conveying drinking water above and below ground but not for immersion in water. After cutting and assembly, a non-approved synthetic overcoat, Dacralyte, had been applied at the manufacturers facility for aesthetic purposes.

3.7. Based on a potential link between the asset delivery route of the improvements at Kedington and Diddington, the Company undertook to drain and inspect all treated water tanks constructed or with pipework modifications since 2010, during the

AMP5, 6 and 7 periods[1] as part of an urgent program of asset inspections. Thirteen treated water tanks were inspected. The programme revealed potential issues under Regulation 31 at two further assets, Hannington Reservoir and Pitsford Storage Tank B.

3.8. At Hannington Reservoirs 1A and 1B, new outlet pipework had been installed in AMP6, designed to provide support and resilience to Grafham WTW. Hannington Reservoir 1A was isolated from supply on 15 December 2021 and an internal inspection was carried out on 20 December 2021. The coating of sections of pipework was found to have areas of blistering. This finding was reported to the Inspectorate on 21 December 2021. The installed pipework was approved for conveying drinking water above and below ground but not for immersion in water. The coating originally applied held WRAS[2] approval for the supply of water but after cutting and assembly a non-approved synthetic overcoat, Dacrylate, had been applied at the manufacturers facility for aesthetic purposes. Hannington Reservoir 1B was also fitted with pipework approved for conveying drinking water above and below ground but not for immersion in water. It's pipework was also coated with Dacrylate at the manufacturers facility for aesthetic purposes and was removed from supply on 24 January 2023.

3.9. As part of an AMP6 engineering scheme to provide support and resilience to the area supplied from Pitsford Water Treatment Works, a new inlet was engineered into each of the storage tanks at Pitsford to provide an additional supply from Hannington. The work to install the inlet main into Storage Tank B was carried out in 2015 and the work to install the inlet main into Storage Tank A was carried out in 2020. Storage Tank A was subject to an internal inspection on 19 August 2021 and the new inlet was found to be constructed of stainless steel and required no further inspection.

3.10. Pitsford Storage Tank B was isolated from supply on 13 December 2021 and subject to an internal inspection on 17 December 2021. It was determined that two new sections of the inlet pipework had been coated with an approved coating, Acothane, but that it may not have been applied in accordance with its Instructions for Use ('IFU'). The coating of the pipework adjacent to the tank wall, which is immersed in water when operational, had been subject to flaking. The potential

[1] Asset Management Plan Period, a five-year time period used by OFWAT to target construction of new facilties and/or the upgrading of existing assets as required.
[2] Water Regulation Advisory Scheme.

cause was determined to be the incorrect surface preparation ahead of coating. The findings was reported to the Inspectorate on 21 December 2021.

4. The pleas are entered on the following specific matters of fact.

Policy and procedures

5. Anglian Water's policy standards for 'Asset Design and Creation' mandates that all assets involved in the production and delivery of drinking water will be designed and commissioned / decommissioned to ensure they do not impact adversely on water quality, including meeting the Company's obligations under Regulation 31. Asset design envelopes known as 'Minimum Asset Standards' are developed according to these policies and standard requirements.

2. At the time, Anglian Water had appropriate policies and procedures to operate as a water and sewerage company. Polices, standards and procedures governing compliance with Regulation 31 are documented in the Company's Policies and Standards for Water Supply Hygiene' ('POSWSH'). Prior to and during the dates contained in the charges and subsequently, the polices have been externally accredited as an integrated management systems framework complying with the ISO9001 Quality Management standard.

3. The Company's 'Materials in Contact' policy ('MIC') is a longstanding procedure and details how Anglian Water comply with Regulation 31 and ensure that materials and substances are fully compliant if they are to be introduced into water intended for public supply. The MIC procedure was implemented in 2005 and has been an effective system for checking that items used in contact with water intended for supply are approved and to evidence that such items have no effect on water quality.

4. Under the MIC policy, the 'scheme owner' requests and populates Part A of the MIC documentation, listing items to be used in contact alongside relevant approvals ('MIC Form'). The form lists the items required and the regulatory compliance status of each is stated and then assessed by the Water Quality Risk Team.

5. A further spreadsheet is populated with sample results inserted in 'Part B' (see below 'Sampling').

6. By formal Notice served under Regulation 28(4), dated 11 June 2019, regarding treatment processes at Hall WTW, the Inspectorate also required a Company wide review of its

governance of Regulation 31 by 31 August 2019. The suitability of Anglian Water's policies and procedures was confirmed by the Inspectorate in 2020 following an assessment of the Company's submitted Report.

7. As is common in the wider water industry, the schemes at Kedington, Diddington, Hannington and Pitsford were delivered by highly experienced partners of good standing in their professional fields of expertise selected through a careful appointment process and audited throughout their partnership with the Anglian Water (the '@one Alliance partners', 'partners'). For example, Stonbury are a specialist contractor to both the water industry and wider water environment. They currently hold over 30 frameworks, working with most of the UK's water companies and the Environment Agency across their assets, either directly or through their major supply chains. This includes water and wastewater treatment centres.

8. Anglian Water has a positive commercial relationship with its partners that are contracted to undertake planned and reactive works to its assets. Anglian Water requires supplier assurance through framework agreements awarded. This ensures selected suppliers are capable of meeting Anglian Water's Regulation 31 obligations and are committed to doing so. MIC and product / substance traceability are built into the framework contracts. For example, assurance of key performance measures from chemical suppliers are sought via an electronic questionnaire that must be completed on a regular basis. Other suppliers are subject to continuing assurance checks. This includes confirming if there have been any changes to product manufacturing processes, raw material changes, or continuity of supply. At the time, the processes for checking and monitoring the supply of materials intended to be used in contact with water were in excess of those understood to exist in other parts of the water industry at the time.

Root cause - Approvals under the MIC procedure for Hannington, Diddington, Pitsford and Kedington

9. However, despite those procedures it is accepted that on the occasions referred to in the charges that the systems reasonably required to ensure compliance with Regulation 31 were not effective. It was the responsibility of the contractor partner compiling the MIC Form to ensure that the correct products or materials were listed. If products and materials were changed by the contractor they should be entered on the MIC. Approvals would then be sought from Anglian Water Risk Scientists and checked as before according to the product or material listed.

10. AWSL had appropriate working procedures to operate within Regulation 31, including staff training, sampling, reservoir inspections, cleaning and maintenance operations.

11. Following a root and branch review of documentation, despite the extensive systems in place, in each case at the 4 assets concerned, there was a set of site specific circumstances and in all likelihood human-specific circumstances that brought about the contraventions of Regulation 31 that allowed those contraventions to go undetected and

12. None of the products or coatings where approval was negated by immersion in water had been introduced intentionally, in the face of the obligations under Regulation 31 or the need to adhere to a relevant IFU.

13. Products or substances were installed in contact with water that were incorrectly listed. Although approved for conveying water, that approval was negated if the product was immersed in water. Products and materials were submitted to the Water Quality Risk Team for approval based on their listing. The MIC Form did not require specific notification that pipework etc. would be immersed in water as reliance was placed on the contractor partner to compile the list accurately.

14. The Water Quality Risk Team did not review drawings, purchase orders, invoices or delivery notes before confirming that products and materials were approved. The Team did exactly what they were trained to do by approving products intended to be used as populated on Part A of the MIC Form. The fact that products or substances were installed or applied that had not been populated on the MIC Form or brought to the attention of Anglian Water meant that the procedure was circumvented. The procedures relied on Anglian Water's professional partners to compile the appropriate products, procure those products following approval and install according to IFUs. That fundamental approach, underpinning the Company's policies and procedures governing Regulation 31 compliance, was only recently considered in 2020 to be entirely satisfactory by the Inspectorate. It was not necessary under MIC for the Water Quality Risk Team to be consulted again or to inspect products as they were delivered to site.

15. For Hannington reservoirs 1A and 1B, pipework was listed on MIC Form 2361 that was not approved for immersion in water to construct 4 outlets, each consisting of 500mm of pipe extending into a very large reservoir tank; Hannington 1A and 1B each had a capacity

of over 11.3m litres. Products and materials were added by the contractor partner J N Bentley and subject to scientific sign-off by Anglian Water employees. Pipework was listed on the form by J N Bentley that had approval but when used immersed in water to construct the outlets, the approval was negated. The outlet pipework installation was managed by J N Bentley and they were unaware that the manufacturers had altered the coating of the pipework.

16. A grout material was also used between the new outlet apertures and puddle flange pipes in Hannington 1A. The approval lapsed between design and use. This product was only in contact with water intended for supply between 16 to 20 April 2016 before it was covered with an approved product before re-entering supply later in 2016. Hannington 1A entered supply over the weekend of 16 – 17 April 2016 in an emergency after an inlet valve failed and there was a risk of the reservoir overflowing. The situation arise out of hours, over a weekend. The inlet valve is a major asset and the considered decision of the operational team on stand-by was that it could not be repaired that night. The Company made a decision based on a careful assessment of the risk to consumers to allow Hannington 1A to remain in supply. The MIC Form had not received its final 'Part D' sign-off at that date but there was no risk of harm to consumers.

17. Hannington 1B remained in supply until 24 January 2023. It could not be removed from supply immediately after the appropriate remedial work on 1A because hydraulically both sides of Hannington need to be in supply to avoid disrupting water supplies to over 800,000 people, itself a potential risk to public health. The decision to maintain Hannington 1B in supply was taken by the Company on a careful assessment of the risks, shared with the Inspectorate. Water supplied from Hannington 1B was sampled for trace organics throughout. It is incorrect to suggest that the Inspectorate only knew that it remained in supply through a 'whistleblower' and / or that fact was deliberately concealed. The Inspectorate was made aware that Hannington 1B remained in supply in the 20 Day Report. Furthermore, sampling analysis of water supplied from Hannington 1B was shared with the Inspectorate at least until September 2022. Finally, the Inspectorate had been informed that it remained in supply in February 2022 and subsequently on an informal basis. There was no regulatory intervention by the Inspectorate in the meantime.

18. Diddington service reservoir was part of the overall Grafham resilience scheme. The Diddington service reservoir MIC Form 2428 was scientist approved across the 201 lines of products or materials, 58 relating to the reservoir tank. Pipework was listed on the form that was not approved for immersion in water to construct both overflows. Materials were

added as the 18 month project progressed. Under the MIC procedure, the contractor partner was responsible for ensuring that the location within the scheme of each product was compliant with its approval and any IFU. As with Hannington, J N Bentley were responsible for populating the MIC Form, obtaining scientific sign-off from Anglian Water and installing the pipework. J N Bentley were unaware that the manufacturers had altered the coating of the pipework.

19. The Pitsford scheme provided a 7.5km pipeline from Hannington Reservoir to Pitsford WTW and a new inlet to each storage tank at Pitsford to provide support and resilience to the area supplied by the Pitsford WTW. MIC Form 1984 was created for the original scheme in 2015. The design of the inlet was prepared by the contractor partner at SWECO and MIC Form 1984 was populated by them for approval in accordance with the MIC procedure, liaising with Anglian Water's risk scientist.

20. Further remedial work was carried out on 1 August 2017 for Storage Tank B. In accordance with the MIC procedure, a new MIC Form 2790 was created, dated 24 March 2017, and populated by the contractor, Stonbury. Part A lists the coating to be applied to the pipework as Acothane DW Blue. It is approved for immersion in water and is signed off by [redacted], Anglian Water.

21. When inspected as part of the programme of asset inspections following Kedington, one section of the inlet pipework that is immersed in water when the tank is operational was found to be subject to flaking. Anglian Water have determined that there had been incorrect surface preparation of the affected section ahead of the application of the Acothane that did not accord with the IFU.

22. The Company's system from 2017 made provision for IFUs to be recorded and retained and followed by partners. IFU documentation for products or substances should have be obtained and adhered to by partners to ensure compliance.

23. It is not accepted that Flexcrete products, listed on MIC Form 2790 and signed off by [redacted], Anglian Water, had been misapplied in 2017. It is also not accepted that Acothane had been misapplied in September 2016, as listed on an earlier MIC Form 1796, also signed off by [redacted], Anglian Water.

24. No fair conclusions as to the manner of the application of coatings in September 2016 can be reached from the photograph taken of the pipework on 1 September 2022. The flaking shown is after the section had been removed from Storage Tank B for many months and

is not representative of its appearance when in situ or when internal inspections of Storage Tank B took place.

25. Storage Tank B was not 'rushed into supply' in 2016. Samples were taken as water was going into supply and a careful, risk based decision, was taken by senior operational staff to maintain supply to customers.

26. Kedington was an AMP6 engineering scheme, entering into supply on 31 March 2020. A short period out of supply occurred before returning to supply on 27 April 2020. The asset was taken out of supply in response to a quantative odour detection from a known borehole hydrogen sulphide challenge on 14 May 2020. A planned warranty inspection of the contact and balance tanks occurred on 27 and 28 May 2020 when the assets were out of supply. Evidence of blue flakes were found on the tank floor. The tanks have not been returned to supply.

27. The MIC Form 3659 listed Saint-Gobain System CL pipework for use that had approval for total immersion in water and is suitable to be installed in contact and balance tanks. The pipework was substituted without notification to Anglian Water and was not added to the form or assessed by a Risk Scientist.

28. The appearance of the coating and powdering shown in photographs from May 2021, a year after the tank and pipework were taken out of supply, are not representative of the pipework as it would have been, in situ.

29. It was not part of the MIC procedure to conduct an audit of assets, post-installation, for Regulation 31 purposes. Even if such a step was included, it would not be obvious whether pipes approved for immersion in water and/or approved repair coatings had been used or not. Colour changes would not automatically indicate that a non-approved coating had been applied.

Sampling

30. All assets referred to in the charges had been subject to a full program of commissioning sampling prior to going into supply, including MIC sampling to ensure materials used did not pose a risk to water quality. Anglian Water's MIC sampling consisted of an extensive suite of analysis covering a range of aesthetic, microbiological and chemical parameters including trace organics screening.

31. Samples are formally assessed for compliance by a Risk Scientist from the Drinking Water Standards Team with compliance recorded and documented. 'Part C' lists sample results obtained post-installation. Sampling procedures require samples are taken from water that has been in contact with surfaces for a period double that which is likely during actual operation, usually 16 hours or in line with any IFU documents, whichever is greater. Analyses include taste, odour, microbiological parameters, pH, colour, turbidity, conductivity and trace organics. It is accepted that the two trace organics tests at Hannington 1A occurred before water had been left to stand for 16 hours. Testing for trace organics is not a legal requirement and no stand time is therefore set but it is acknowledged that this was not in accordance with the Company's procedure.

32. Regulatory monitoring samples, internal monitoring samples and operational samples have been taken from each site, as well as regulatory samples at customer taps to ensure compliance with the relevant regulations at the point of consumption. The Company also has a full and thorough internal monitoring programme which goes over and above the requirements of the Regulations advancing Anglian Water's water quality first approach.

33. Kedington MIC tests were carried out over a period of 10 days before it went into supply. The results were entirely satisfactory. For large schemes such as Kedington WTW, the Commissioning team undertake functional site acceptance tests following their commissioning plan. During this time flushing and sampling is undertaken as the specific units are tested. Water is then 'run to waste' during a seven-day, hands off, performance trial. At the end of the trial a 'pre into supply meeting' is held to review the outcome of the hands-off trial. This meeting includes presentation of documentation and test results to the Risk Scientist, the Supply Manager (site owner) and Regional Supply Manager for agreement, before the asset can enter supply following the into supply impact plan.

34. During the 412 hour period that Kedington was in supply, 44 regulatory monitoring samples, 4 internal monitoring samples and 24 operational samples were taken at the works. All sample results were satisfactory and below regulatory limits, with the exception of one sample on 11 May 2020 where a 'bad eggs' odour was detected. The works were removed from supply as a response but as with other regular odour detections at Kedington it was a result of the source borehole water quality. In addition, 7 regulatory and internal monitoring samples taken at customer's taps. All samples were satisfactory.

35. The return to service of Hannington 1A and 1B was managed via Major Impact Plans, part of the Company's POSWSH procedures. The Plans included sampling as approved by Supply, Network, Water Quality and Tactical Operations Teams. MIC tests were also

conducted following installation of the outlets. All sample results were satisfactory, including trace organics and taste and odour analysis.

36. During the period when Hannington 1A was in supply, 302 regulatory monitoring samples, 126 internal monitoring samples and 86 operational samples were taken. All were satisfactory and below regulatory limits. Elevated levels detected between April 2018 and October 2018 were investigated and it was concluded that these were as a result of the sample tap which was rectified. During the period Hannington 1B was in supply, 313 regulatory monitoring samples, 183 internal monitoring samples and 193 operational samples were taken. With the exception of a small number of induvial parameters, all were satisfactory and below regulatory limits.

37. During supply to the public water supply zone, some 32,087 regulatory and internal monitoring samples were taken at customers taps. There were 148 individual parameter exceedances which were fully investigated.

38. Pitsford MIC tests were conducted in August 2017 after the remedial work had been completed. All sample results were satisfactory including trace organics and taste and odour analysis. An 'into supply' sample was taken with results also satisfactory. During the period in which Storage Tank B was in supply, a total of 1997 regulatory samples were taken and 856 internal monitoring samples, with 447 operational samples. With the exception of a small number of induvial parameters, all were satisfactory and below regulatory limits. During the period within Storage Tank B was in supply, 21 dip samples taken were satisfactory and below regulatory limits.

39. During the period in Storage Tank B was in supply from October 2016 to December 2021, a total of 6950 regulatory and internal monitoring samples were taken at customers taps. This extensive sampling identified 33 individual parameter exceedances which were all fully investigated.

40. Diddington MIC tests were carried out on both cells and a combined sampled point prior to commissioning in February 2018. Only two, low level, organic compounds were detected from the West Cell, and one from the East Cell. A second set of samples from both cells with a longer standing time and from the combined sample point were entirely satisfactory with no trace organic compounds detected. During the period when Diddington Reservoir was in supply, 191 regulatory monitoring samples, 61 internal monitoring samples and 67 operational samples were taken at the reservoir. Elevated levels detected

between March and April 2018 were found to be the result of a new sample line which had been commissioned at the time.

41. In addition, 1767 regulatory and internal monitoring samples were taken at customers taps. There were 10 individual parameter exceedances which were fully investigated.

Soak Tests

42. Laboratory soak tests were carried out by Anglian Water on blue particulate matter taken from the pipework in all 4 sites, to identify the chemical make-up of the coating. The soak tests involved soaking particles in deionised water or dichloromethane over a number of days to ensure that as much of the chemical content of the matter leached out for analysis. The sample was extracted with dichloromethane and analysed by gas-chromatography mass spectrometry ('GCMS').

43. The soak tests identified 68 chemicals, 15 chemicals with one or more long-term hazards and 31 chemicals with one or more short-term hazards. Some 22 chemicals were either not classified or there was no data available.

44. Dr [redacted], Consultant Toxicologist, prepared a toxicological health risk assessment on behalf of Anglian Water, based on the potential for customers to be exposed to the chemicals and taking all uncertainties into account (Report, dated 16 October 2023). Dr [redacted] cross-referenced the chemicals identified in soak tests with any chemicals found in water while assets were in supply or just prior to going into supply at commissioning, and chemicals measured at customer taps. Of the 15 chemicals identified as having long-term hazards:

    44.2. None were identified in water from assets whilst in supply or prior to going into supply;

    44.3. 6 were identified from the soak tests that were within water from customers taps.

45. Based on a detailed hazard and risk assessment, Dr [redacted]'s conclusion is that even based on the concentrations of the 6 chemicals measured, intake of all chemicals would have been below a very conservative Tolerable Daily Intake ('TDI') derived by Dr [redacted] for the risk assessment.

46. Dr [redacted]s overall conclusion is that adverse effects to public health were highly unlikely following consumption of water containing the levels of the 6 chemicals measured, based on a moderate to high level of confidence given some uncertainties in the data used to develop robust TDIs or Guideline Values ('GV'). Moreover, the levels of all chemicals measured in the public water supply zone were in the low µg/l range, so it was unlikely that such levels were high enough to induce synergistic effects. To ensure that was a proper conclusion, a mixture risk assessment was carried out. The Hazard Quotients ('HQ') and Hazard Index ('HI') for each for the three public water supply zones were calculated. All were less than '1', indicating that adverse health effects from single chemicals or as a mixture, were highly unlikely.

47. The Inspectorate requested that the UK Health Security Agency ('UKHSA') carry out its own toxicological heath risk assessment based on the same sampling measurements. Authored by three toxicologists, dated 21 March 2024, the UKHSA confirmed that although there were uncertainties and minor differences in approach, the chemicals and concentrations reported were unlikely to have presented an appreciable risk to health, in agreement with Dr [redacted]

Training

48. There is no legal requirement or industry wide standard for training for Regulation 31 purposes. Materials in Contact training operating at the material time comprised:

    48.2. an e-learning module and a one-day classroom training course created in 2018 to raise overall awareness of key aspects of Regulation 31, including a competency test as part of the module. In August 2021, a new requirement has been set for this to be re-taken on a three-yearly basis;

    48.3. a one-day classroom training course that had been in place for a number of years and builds on knowledge of Regulation 31 requirements from the e-learning module. There are two versions of this course; one for engineers and one for the scientific team (forming part of our Licence to Operate programme). The training course was fully reviewed and updated in 2022 to include more practical elements. To date over 300 members of staff have completed this revised training.

49. Specific targeted training within groups is carried out with those who partner and contract with Anglian Water, including our training to ensure responsibilities under Regulation 31 and the Company's internal MIC procedure are understood.

50. In 2016, J N Bentley's own engineering, procurement and management teams attended an Anglian Water Regulation 31 training day, which led to process improvements in terms of supervision and audits by their teams. In 2018 the Anglian Water MIC e-learning course was delivered to 'CRL'[3] and Stonbury, who carry out storage asset refurbishment work on behalf of the Company.

51. Anglian Water's Water Quality Training team also produce Water Quality Alerts internally and to partner organisations, to share good practice and learning from events or near misses. A number of Regulation 31 themed Water Quality alerts have been produced and distributed over a number of years to share learning.

52. It is not possible to ensure that every Anglian Water employee or contractor partner has completed training at any given point or that every record is retained of training that is delivered.

53. In any event, any deficiencies in specific training in relation to Regulation 31 was not causative of the non-compliances identified in the charges. The fact that individuals had not completed all training provided did not contribute to the manner in which the MIC procedure was circumvented.

Risk of Harm

54. The Prosecution refer directly to hazard statements or hazardous properties of chemicals and substances. Those hazard statements are designed for the purposes of harmonised classification, labelling and packaging of substances, as identified in Material Safety Data Sheets. The Prosecution also refer directly to a UKWIR/WRc toxicity datasheet for xylene. The use of hazard statements or hazard properties alone as representing a fair basis for an assessment of the likelihood of the risk of harm is not accepted.

55. Moreover, direct reference to substances of 'high concern' for the purposes of the regime relating to registration, evaluation, authorisation and restriction of chemicals ('REACH') as

[3] Concrete Repairs Limited an Anglian Water @One Alliance partner.

being relevant to an assessment of risk is, on its own, misplaced. The regime under the REACH Regulation 2006 regulates chemicals in the EU. The underlying objective is to ensure that chemicals are used in a way that minimises unacceptable risks to human health and the wider environment.

56. Moreover, direct reference to the apparent presence of substances that are 'banned from children's toys' is of no evidential value. Referring to the mere presence of substances and their hazardous properties and regulation elsewhere does not provide a realistic starting point for a fair assessment of risk.

57. Firstly, such statements provide information about the constituent parts of a product or substance, that undergo physical change during their application as a product. Information relevant to the classification of a sample of coating as a product does do not inform the scientific analysis of the propensity of its constituent chemical compounds to, (i) leach into water under certain conditions, (ii) its likely concentration in any water supplied taking into account the volume stored and likelihood for greater dilution in the supply network, and / or (iii) any consideration of its route of ingestion and ingestion rates as opposed to exposure limits.

58. As for 'banned' chemicals, data sheets refer to substances within products that are potentially harmful when the product is used, rather than provide levels or any assessment of whether their ingestion would be potentially harmful to human health in the scenarios arising at the 4 assets in this case.

59. The presence or otherwise of a chemical does not automatically translate to a reliable representation of the likelihood of the risk of harm via ingestion through consumption of drinking water. The inferences drawn by the Prosecution between product classification hazard statements and risk are not valid.

60. A proper assessment of the likely levels of substances in drinking water supplied has been possible and there is a common position between the parties as set out in the toxicology and health risk assessment evidence, as set out above.

61. To place the risk of harm in its proper context and to better understand the potential impacts, the Company chose as its appropriate starting point the contact risk score of the product surface area exposed to water for the purposes of Regulation 31(4)(b) ('C-score').

62. Regulation 34(1) states:

> Subject to paragraph (2), a water undertaker shall not apply any substance or product to, or introduce any substance or product into, water which is to be supplied for regulation 4(1) purposes unless one of the requirements of paragraph (4) is satisfied.
>
> …

63. Regulation 31(4)(b) states:

> (b) that the Secretary of State is satisfied that the substance or product either alone or in combination with any other substance or product in the water is unlikely to affect adversely the quality of the water supplied;

64. The Inspectorate's 'Advice Sheet 8', version 4.9, October 2018 sets out the Secretary of State's view as to when subsection (b) is satisfied, namely:

a. *that product offers only a small surface area contact ratio with the water; and*

b. *that the material of which the product is made, despite the small surface area contact with the water, does not give rise to unintended odour/flavour to the water and does not support the growth of microbial organisms.*

65. The Advice Sheet provides examples of how to calculate small surface area contact risk scores. If the score is low, it may be appropriate to use a product regardless of its composition or constituent substances should the contact risk score be less than 100 and the Company is satisfied that as part of its risk assessment, the use of the product is not likely to adversely impact the quality of the water.

66. All products and substances applied and installed in the 4 assets the subject the charges were calculated to have contact risk scores far less than 100, as follows:

66.2. Kedington, 11.37 for the contact tank, 34.41 for the balance tank and 19.04 for the combined contact and balance tanks;

66.3. Diddington Reservoirs overflow pipework for the East and West Cells combined was 6.20;

66.4. Hannington 1A and 1B, the scores for the outlet pipework were 1.64 for reservoir 1A and also 1.64 for reservoir 1B; and

66.5. Pitsford Storage Tank B, the score for the inlet pipework installed was 21.13.

67. At Kedington, the pipework was well below the small surface area contact risk score threshold 100. The pipework was in contact with the water for a short duration of supply and therefore the likelihood of any risk of harm was very low. The contact risk scores at Diddington, Hannington and Pitsford were all well below the threshold indicating a low likelihood of any risk of harm.

68. The MIC sampling undertaken by the Company is in excess of the BS6920 standards referred to in Advice Sheet 8, confirming that the overall likelihood of the risk of harm was low. The analysis was carried out by Anglian Water's accredited laboratory that equates to and is above that required by BS6920, although not specifically accredited to BS6920 standards. The advice in relation to C Scores informed the Company's approach to risk of harm but accepts by virtue of its guilty pleas that the products should not have been in contact with water for supply.

69. The Company has reviewed, some 45,705 samples.

70. At all times the water supplied was wholesome meeting the requirements of the Water Supply (Water Quality) Regulations 2016 and as a result Anglian Water was fully compliant with the general requirements of Regulation 4.

71. The Company did not receive any notifications or reports where consumers rejected water supplied from the 4 assets in question for matters that could be related in any way to non-compliance of the requirements of Regulation 31. Customer contact data did not reveal any particular increase in comment on the quality of drinking water.

72. Samples from customer's taps indicated parameters that were in exceedance of regulatory requirements had occurred quite separately from the Company's investigation into materials in contact. The common position between the parties based on the chemicals identified from soak testing of particles from the various assets is that adverse effects to public health were highly unlikely following consumption of water containing the levels of the 6 chemicals measured.

73. As a result, the duties placed on Anglian Water under Chapter 3 of the Water Industry Act 1991 was fully complied with at all times.

74. Water supplied was not unfit for human consumption, under s.70 WIA 1991, the more serious offence in this area of regulation.

75. There is no evidence that particles or powder or flakes were carried with water supplied for human consumption.

76. Anglian Water takes the risk of harm to drinking water and consumers very seriously.

4 November 2024

IN THE NORTHAMPTON CROWN COURT

DRINKING WATER INSPECTORATE

– v –

ANGLIAN WATER SERVICES LIMITED

PROSECUTION RESPONSE TO BASIS OF PLEA

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1. This document sets out the Drinking Water Inspectorate ('DWI') response to the basis of plea ('BoP') submitted by Anglian Water Services Limited ('AWSL') dated 4th November 2024.
2. In summary, there are numerous asserted differences between the prosecution and defence. The prosecution maintain that there was a failure to implement measures designed to prevent the commission of the offences. There were multiple failures at four different locations indicative that these were not isolated errors.

   In particular there was:

   (i) inadequate training of internal staff (either no training or training that was demonstrably ineffective),

   (ii) there was inadequate oversight and training of contractors

   (iii) there was an inadequate understanding of the fundamental distinction between approval for pipes and products use for carrying drinking water and those submerged and in contact with drinking water.

   (iv) systems were not followed correctly or were unfit for purpose including

   (a) that there was no prior approval before purchases were made

   (b) the MIC signoff took place after reservoirs were commissioned

   (c) the MIC signoff process failed to identify the use of unapproved products in contact with drinking water.

(v) in this case the failures were repeated and apparent at every stage of the commissioning process in relation to each of the sites

(vi) the failures generally occurred, and remained unidentified, over a considerable period of time.

3. There is a clear distinction as between assertions as to facts and identifying evidence underpinning assertions. In responding to the basis of plea document, and in identifying areas in dispute, this document seeks to identify relevant evidence underpinning the prosecution position.

Policy and Procedures

4. In para 2[1] of the BoP document it is stated that the *'The Company's 'Materials in Contact' policy ('MIC') is a longstanding procedure and details how Anglian Water comply with Regulation 31 and ensure that materials and substances are fully compliant if they are to be introduced into water intended for public supply.'*

   The DWI have not been supplied with a copy of any version of this document prior to the 2018 version. [redacted] on behalf of AWSL stated that he was unable to locate the Materials in Contact procedure in place at the time of the offences.

5. In para 3 of the BoP it is asserted *'The Company's 'Materials in Contact' policy ('MIC') is a longstanding procedure and details how Anglian Water comply with Regulation 31 and ensure that materials and substances are fully compliant if they are to be introduced into water intended for public supply.'* It is further stated *'The MIC procedure was implemented in 2005 and has been an effective system for checking that items used in contact with water intended for supply are approved and to evidence that such items have no effect on water quality.'*

   It is questionable whether it has operated as an effective system when there have been repeated failures at numerous different sites involving different people. An effective procedure would prevent that from occurring.

   Failures in relation to the MIC policy have included:

[1] P5 of 19 of pdf document under the heading Policy and procedures.

(i) Failure to ensure that ordered MIC materials are suitable for use in contact. Eg (para 99 case summary) the contractors at Diddington procured the incorrect product that was not identified)

(ii) Failure to ensure that installed/used MIC materials are suitable for use in contact.

(iii) An approval process that does not ensure that the Water Quality Risk Team member signing off the process is aware of all materials used

(iv) An approval process that does not ensure that the Water Quality Risk Team member signing off the process is aware of the installed location of MIC materials when approving a project.

6. Any policies and procedures, including the MIC policy, are the responsibility of AWSL to create and oversee. It is not the Regulator's role to approve, update or ensure compliance with any given policy. It is AWSL's responsibility to ensure that it is legally compliant and providing safe drinking water.

7. At paragraph 10 it is stated that *'AWSL had appropriate working procedures to operate within Regulation 31, including staff training, sampling, reservoir inspections, cleaning and maintenance operations.'* This statement does not address the specific facts set out in the prosecution case. At Kedington (para 83 case summary) there is no evidence of training for the Anglian Water risk scientists responsible for signing off materials, (para 99 Case summary) – inadequate or ineffective training of sub-contractors, (para 92 Case Summary) – [redacted] at Diddington incorrectly signed off an unapproved MIC product just days after he had been trained raising questions about the effectiveness of training. (para 66 Case summary) – the absence of training for people engaged at Pitsford or training after the work was completed. (Para 49 Case summary) Numerous key staff at Hannington were untrained at the time of their work.

8. At paragraph 18 it is stated *'Under the MIC procedure, the contractor partner was responsible for ensuring that the location within the scheme of each product was compliant with its approval and any IFU. As with Hannington, J N Bentley were responsible for populating the MIC Form, obtaining scientific sign-off from Anglian Water and installing the pipework.'* The legal and practical obligation is on AWSL to ensure that safe and

approved materials are used in contact with drinking water, whether installed by their own employees or contractors.

Specific Details - Kedington

9. At Para 28 BoP it states '*The appearance of the coating and powdering shown in photographs from May 2021, a year after the tank and pipework were taken out of supply, are not representative of the pipework as it would have been, in situ.*'

   It is accepted that the photographs were taken in May 2021 and approximately a year after the tank was taken out of supply. The exhibit SEV061 however clearly shows flaking paint (for example at exhibit pages 1030, 1035), but also flakes of paint on the walls (exhibit page 1040) showing that the paint was flaking while the tank was in use and that paint had become suspended in the drinking water.

   Mr [redacted] (statements page 36) indicated that when he inspected the tank on the 17th March 2020 there were no issues with the paint. When he inspected the tank on the 27th May 2021 '*It was during this inspection… that I noticed the paintwork had bubbled'. Later he stated 'I had never seen bubbling like this before. Paint flakes were on the floor and walls.*'

   It is clear from the presence of flakes of paint on the reservoir walls that the paint must have been flaking while in use, with flakes suspended in the drinking water.

10. At para 27 BofP it states 'The pipework was substituted without notification to Anglian Water and was not added to the form or assessed by a Risk Scientist.'

    In fact the change in specification was not only known to AWSL, but came as a result of their instructions through AWSL @one Alliance cost manager [redacted] (see Exhibits p 28 and 32.)

Specific Detail - Diddington

11. Para 18 od BofP *'J N Bentley were unaware that the manufacturers had altered the coating of the pipework.'* This statement has to be viewed within the context that there was an obvious difference in the paint colour (see photograph at para 90 of the case summary) and that the product purchased on the 24th November 2015 was not signed off by [redacted]

[redacted](AWSLs Strategic Supply Integration Scientist) until 27th July 2016 in contravention of policy that products are approved before purchase. When the product's use was approved it is within the context of Mr [redacted]'s statement in which he said '*However, I now understand that listed on the form there were lengths of pipework that were approved for carriage of water but were instead installed in a position of total immersion (which negates approval)'*

Specific detail – Hannington A

12. No representations.

Specific detail – Hannington B

13. At paragraph 17 of the basis of plea document it states *'The decision to maintain Hannington 1B in supply was taken by the Company on a careful assessment of the risks, shared with the Inspectorate.'* And *'The Inspectorate was made aware that Hannington 1B remained in supply in the 20 Day Report.'*

    The 20-day Hannington report (exhibit SEV008 at p360), provided to the DWI on 21st January 2022 (para 17 statements p68) says (at p383):

    'Hannington 1A remains out of supply until rectification of the pipework issues identified within this asset. It is not possible to remove Hannington 1A and 1B at the same time without introducing a high risk of loss of supply to our customers. The plan currently being progressed will include removal of some of the protruding pipework back to the wall of the tank with appropriate preparation and coating of any remaining surfaces in contact with water in full compliance with relevant Instructions for Use (IFU) documents. This work is being progressed as quickly as possible ensuring all health and safety aspects of working within a confined space are considered and addressed.

    When this work is complete in Hannington 1A this reservoir will be returned to supply following appropriate sampling and approval. Hannington 1B will then be removed from supply immediately to enable the appropriate remedial work on this reservoir. We

currently anticipate Hannington 1B will be removed from supply by the end of February 2022.'

Hannington 1B remained in supply until 24th January 2023. The remedial work was not progressed quickly. As set out in the 20-day report, the remedial works were capable of being rapidly implemented and were not. No explanation for the delay is supplied.

14. In relation to the question of disclosure to the DWI that Hannington 1B remained in supply and as to the supply of testing results, this issue is set out in [redacted]'s statement at paras 73-83 (pages 76-77 of statement bundle). In summary the chronology is that:

    (i) the DWI were notified in the 20-day report sent to the DWI in January 2022 that the Hannington B would be taken out of supply in February 2022.
    (ii) in September 2022 [redacted] was told by a whistleblower that Hannington 1B was 95% full.
    (iii) On the 21st October 2022 DWI were told *"Tank 1A is out of supply and 1B is in supply. Tank 1A is undergoing on- going remedial work; Tank 1B remains in supply until Tank 1A is returned to service."* (p1503 of exhibits)
    (iv) Trace organic sampling results that provided minimal information (see para 83 of [redacted]'s statement found at p77 statement and exhibit SEV020) were supplied on 21st October 2022.
    (v) On 4th November [redacted] requested more details from AWSL about the 'something to report' column in the trace organic results. The response demonstrates that the company were aware of low-level organic detections from the asset since January 2022. This was while the asset remained in supply and was subject to trace organics sampling.
    (vi) These results had not been communicated to the DWI until specifically requested in October 2021.

Specific Detail - Pitsford

15. Para 23 of the BoP document states: *'It is not accepted that Flexcrete products, listed on MIC Form 2790 and signed off by* [redacted]*, Anglian Water, had been misapplied in 2017. It is also not accepted that Acothane had been misapplied in September 2016, as listed on an earlier MIC Form 1796, also signed off by* [redacted]*, Anglian Water.'*

Mr [redacted] (witness statements p60) who worked on site at Pitsford gives clear evidence that not only were these products applied, but that he raised specific concerns with another contractor about the use of unapproved products. The signoff by [redacted] can be seen at p704 of Exh SEV043 (MIC 2790).

Reference to the use of Acothane is also contained within 2016 e-mails (including [redacted] and by reference to MIC1796) – see for example exhibits p1583.

16. Regarding the flaking of paint from the pipes, the BoP (para 24) states *'No fair conclusions as to the manner of the application of coatings in September 2016 can be reached from the photograph taken of the pipework on 1 September 2022. The flaking shown is after the section had been removed from Storage Tank B for many months and is not representative of its appearance when in situ or when internal inspections of Storage Tank B took place.'* While it is accepted that the pipes were removed and photographed in September 2022, they were also photographed in March and May 2021. Exhibit SEV042 shows the flaking condition of the paint while in supply – see exhibits pages 675, 676, 681, 682 and 687.

17. Para 25 of the BoP states *'Storage Tank B was not 'rushed into supply' in 2016. Samples were taken as water was going into supply and a careful, risk based decision, was taken by senior operational staff to maintain supply to customers.'*
The statement of [redacted] is clear that he inspected storage tank B between 10pm and 3am (St p30). The MIC samples taken before putting the tank back into supply were taken at 11:15 am on the same day (SEV046 at page 933). This means the tank could not have been filled to a high level or have subsequently been left to stand for 16 hours at 70% full before samples were taken. The tanks would also need to be cleaned and disinfected following the inspection, before filling the tank. This is not in accordance with company procedures for materials in contact sampling and the results would be considered unrepresentative.

Sampling

18. At para 32 BofP it states '*Regulatory monitoring samples, internal monitoring samples and operational samples have been taken from each site, as well as regulatory samples at customer taps to ensure compliance with the relevant regulations at the point of consumption.'*

    This regulatory monitoring does not involve sampling for trace organics relevant to this prosecution.

19. At paragraph 34 BofP it states *'During the 412 hour period that Kedington was in supply, 44 regulatory monitoring samples, 4 internal monitoring samples and 24 operational samples were taken at the works. All sample results were satisfactory and below regulatory limits, with the exception of one sample on 11 May 2020 where a 'bad eggs' odour was detected.'*

    Of significant concern is that where enhanced chemical sampling did take place (as in the Kedington event) there was a sweet detection which may be associated with high concentrations of xylene (a main component of QD8 paint). The company samples from the paint detected high levels of xylenes. (see exhibits p1024 – Kedington raw water 11th May 2020 (Exh SEV059) and p303))

Soak Tests

20. At para 43 BofP it states *'The soak tests identified 68 chemicals, 15 chemicals with one or more long-term hazards and 31 chemicals with one or more short-term hazards. Some 22 chemicals were either not classified or there was no data available.'*

    These tests were carried out on unchlorinated water that may have affected the results.

Training

21. At para 53 BofP it states *'The fact that individuals had not completed all training provided did not contribute to the manner in which the MIC procedure was circumvented.'*

    Effective training, together with effective procedures, should have averted all the offences.

Risk of Harm

22. The submission of AWSL do not address the fact that the risk of harm is unknown.

The unknown risk arises principally because of the absence of adequate testing, together with the lack of knowledge around *long-term* exposure to chemicals and lack of knowledge of the effects of exposure to the specific mixtures of chemicals in use.

Some of the materials used have known hazardous properties.

The unknown risk arises through the use of unauthorised materials.

[redacted]
6 Pump Court
23rd December 2024

IN THE NORTHAMPTON CROWN

COURT BETWEEN

DRINKING WATER INSPECTORATE

-and-

ANGLIAN WATER SERVICES LIMITED

DEFENCE MITIGATION BUNDLE

IN THE NORTHAMPTON CROWN COURT

B E T W E E N

DRINKING WATER INSPECTORATE

-v-

ANGLIAN WATER SERVICES LIMITED

DEFENDANT'S SENTENCING NOTE and OUTLINE SUBMISSIONS ON THE DEFINITIVE GUIDELINE

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1. This document is structured with the object of assisting the Court in sentencing 5 offences relating to four Anglian Water sites. It accompanies the company's Basis of Plea, dated 4 November 2024, and should be read alongside that document. The facts set out in the Prosecution Case Summary are largely agreed but this document places the relevant facts in context and addresses culpability, any adverse effects or risk of harm and mitigation.

2. Anglian Water wishes, at the very outset of these submissions, to express its regret and sincere remorse for the unintentional use of non-approved products or substances for which it takes full responsibility.

3. Although it had appropriate policies and procedures governing compliance with Regulation 31, the company accepts that the systems were not effective on the occasions referred to in the charges. The company failed in the following respects:

    3.1. Management of changes and design development was not recorded sufficiently to identify when and why materials and designs were changed. Designers to highlight difference in pipework for conveyance and immersion to ensure a buyer can interpret the information properly;

    3.2. Control of Material in Contact ('MIC') responsibilities to ensure compliance was dependent more on an individual's knowledge and visibility of procured equipment / products to complete the MIC Form adequately;

    3.3. MIC review needed to be more frequently assessed as details were not often defined until mid-way through construction;

3.4. The Standard Material Notation Sheet for Pipework (e.g. **[EN09, p52]**) did not reference MIC requirements;

3.5. Delivery Assurance reference to MIC requirements and processes were complex to follow;

3.6. There was over reliance on individual competence rather than combined Assurance Processes and the assurance processes utilised during the delivery stages do not make direct reference to Regulation 31 requirements.

4. Four witness statements of [redacted], Dr [redacted] (x2) and [redacted] are provided herewith and outline Anglian Water's evidence in response to the Agency's allegations and Anglian Water's general approach to compliance with Regulation 31, Water Supply (Water Quality) Regulations 2016 ('the 2016 Regulations'). Dr [redacted]'s exhibits are referred to as '**RW****'.

5. References in bold and square brackets are to the Prosecution statement or exhibit bundle (**[**], p**]**).

@one Alliance Partners

6. Essentially, an Anglian Water scheme or works are delivered through Alliance Contracts. They are designed to create a collaborative working model which aligns the company's Alliance partners together to seek the best outcomes. Anglian Water has been at the forefront of developing collaborative relationships for over 15 years.

7. The company faces unique challenges in drinking water supply to ensure Anglian Water's customers' needs are met. These challenges are often complex in their nature and require skills and expertise beyond the company's normal day to day activities. There is a need to engage with specialist supply chain partners under Alliance Contracts. Partners, along with Anglian Water, act as stakeholders in the delivery of the contract and in this way provides alignment by, for example, using the measures that customers expect of Anglian Water as the performance regime in the contract.

8. The Basis of Plea (para 8) refers to the selection of partners and continuing assurance checks. At the time, selecting MEICA[1] framework suppliers appointed for AMP6 was based on a range of requirements including technical competence and experience. The requirements to comply with Regulation 31 for all materials supplied are outlined during the tendering process within the Supply Proposal Confirmation ('SPC'). The following statement is included:

> All materials and equipment supplied, or any work undertaken that introduces any product, substance, or material in contact with treated or untreated water that is intended for potable use shall comply with the current relevant regulations and in particular Regulation 31. Anglian Water's particular requirements for compliance with Regulation 31 can be found at the following web address:
>
> (http://anglianwater.co.uk/_assets/media/StandardTC3_(including_REG_31_Requirements).pdf)

9. The requirements to comply with Regulation 31 are also included in the contract with the chosen supplier and the standard text is that set out in the SPC (**RW12**).

MIC Policies and procedures

10. Generally, a scheme or works is designed by external partners. Buyers from external contractors will produce an original material list from the design drawings, that are then populated onto the MIC Form by the contractor, assisted by the Anglian Water project manager. The list is then approved by the company's Risk Scientist. Responsibility for completion of the MIC Form and Regulation 31 compliance moved from the Water Quality Performance team to the newly formed Risk Science team in around April 2016 when the Water Quality team underwent a restructure.

11. The MIC policy and procedure is longstanding. Dr [redacted] provides policy documents from 2003 onwards as follows **(RW2 - 10)**:

- Procedures from 2003, 2006 and 2007 (revisions 1, 2 and 3)
- Policy Statement from 2006 (revision 7)
- Standards from 2007 (revision 6)
- Request for Approval Form from 2003 (revision 3)
- Technical Guidance which we introduced in 2005 (revision 1)
- Procedure from 2012 (revision 1)

[1] 'MEICA' - Mechanical Electrical Instrumentation Control and Automation.

- Policies and Standards from 2013 (revision 2)

12. Moreover, as set out in the Basis of Plea (para 6), the Inspectorate served a formal notice under Regulation 28, dated 11 June 2019, that required a review of the governance of Regulation 31 within Anglian Water (Steps (b) (ii) and (e) ii) **[SV090, p1531].** Those steps were completed by 30 September 2019 as required when a 24 page report was provided **[SEV089, p1532].** Anglian Water provided supporting documents to further detail and evidence the processes in place:

    - POSWSH Section 3; Policies and standards for materials and chemicals in contact with water
    - POSWSH Section 3; PSW-PRO-3.01 Materials in contact with water
    - POSWSH Section 3; PSW-PRO-3.02 Delivery and management of bulk and containerised chemicals (including fuel)
    - Supply chain framework; Chemical in contact assurance document 18/09/19
    - Supply chain framework; Chemical supplier Regulation 31 questionnaire (18 AW SPM Chemical quality assurance)
    - Supply chain framework; Material supplier Regulation 31 questionnaire
    - Industry development; Code of Practise for the application of specialist material to drinking water structures.

13. The review and supporting documents were evidently satisfactory as the requirements were all subject to formal completion by the Inspectorate.

14. As for Instructions for Use ('IFU'), in the case of every site with the exception of Pitsford, coatings were applied at the supplier's premises and therefore Anglian Water's procedures were not applicable as they are relevant to use of coatings supplied by partners at Anglian Water assets. The manufacturer / supplier of products must themselves obtain Regulation 31 approval for those products or substances they manufacture. Approval is assessed by the Inspectorate. In the case of Pitsford the Acothane coating was applied on site at Pitsford.

Site specific matters

Kedington

15. The company's factual basis is that the substitution of non-approved pipework for immersion in drinking water was made without notification to Anglian Water [Basis of Plea, para 27].

16. The position in relation to the substitution of pipework was as follows:

16.1. The request for a change from epoxy coated carbon steel to ductile iron for all above ground pipework, including contact tank pipework, was made to FLI Water on 17 July 2019 **[EN02, p28]**;

16.2. The drawing related to this request, WAT-06742-KEHRWW-IF-DET-5302 Rev 2C **[EN11, p54]** shows the above ground pipework (both internal and external to the tank) as ductile iron. The drawing refers to a material note WAT-06742-KEHRWW-SS-DET-5990 Rev1C that provides specification details for ductile iron pipework **(RW13)**. FLI Water states that they never received this material note;

16.3. FLI Water therefore used the material note that was in their possession, WAT-06742-GWRAWW-SS-DET-5990 **[EN09,** and duplicated **EN10, p52 and 53]**;

16.4. The information on both material notes is identical, including in relation to Carbon Steel pipework and Ductile Iron pipework;

16.5. FLI Water state that had the pipework remained unchanged then the details on the material note for the coating of Carbon Steel pipework was more prescriptive. FLI Water state that there was no reference to Regulation 31 compliance accompanying the request for a change in pipework;

16.6. However, drawing WAT-06742-KEHRWW-IF-DET-5302 Rev 2C **[EN11, p54]** that accompanied the request in July 2019 shows the pipework in the contact tank;

16.7. Anglian Water would have assumed that an experienced contractor in the water industry would comply with existing tender and contractual requirements that materials supplied as part of the project to be Regulation 31 approved for the intended purpose, in this case for immersion in water (even though the material itself was changed).

17. It is accepted that the change in material to ductile iron in 2019 was not updated on the scheme MIC Form and so this change bypassed the approval by the Risk Scientist. The requirement to comply with Regulation 31 on drawings and material notes has now been addressed following the lessons learned process:

17.1. The MIC Form template has been updated to identify the use of the material (e.g. conveyancing or immersion in water); and

17.2. Teams have been re-briefed (both Anglian Water and partner organisations) to reiterate that any changes to materials or products in contact with water must be added to the scheme MIC Form for approval by a Risk Scientist.

Diddington

18. There was a Project team walk through with [redacted], Anglian Water Project Manager and [redacted], Anglian Water Strategic Supply Integration Scientist to sign off the items on the MIC Forms. At the time it was considered a very thorough job by [redacted], Contracts Manager at JM Bentleys, an Alliance partner **[[redacted], p20]**. Despite the procedures in place, the difference in pipework for conveyance and immersion was not captured or identified.

Hannington

19. The ductile iron pipework that was installed, Electrofresh Plus, held WRAS and Regulation 31 approval for conveying drinking water. The outside of Electrofresh Plus has an epoxy coating (Electrocoat EP12) which also held WRAS approval (no.1305512) at the time of purchase and still holds active WRAS approval (no.1807507). Any water fitting that carries or receives drinking water must obtain WRAS approval. Therefore the pipework was approved for carrying water and for being in contact with water but was not approved for immersion in water.

20. In any event, the pipework was subsequently painted with Dacrylate at the manufacturers premises as set out in the Basis of Plea (para 3.8) and this change could not have been captured or identified by the company's policies and procedures in place.

Hannington 1A

21. The reasons for the perceived delay in carrying out emergency repairs to Hannington 1A is addressed by the witness statement of Mr [redacted]. Determining the correct engineering solution for the repair was complex. The technical aspects of the repair were the subject of comprehensive review.

22. In the meantime, the sampling and testing of water supplied from Hannington 1A prior to the repair of the inlet valve was in accordance with the MIC policy that allows for unusual incident situations **[SEV003d, p145]**:

> 20. The Water Quality Risk Team will verify the results and confirm whether the water quality associated with the asset is of an acceptable standard for use in public supply. In some instances retrospective samples may be the only option. If this is the case, it needs to be agreed in advance with the Water Quality Risk Team and sample results still need to be entered onto the MIC Form Part C.

This approach was followed. If any samples showed a deterioration in water quality further action would have been taken. The 20 Day Report for the Hannington event contains MIC sampling results from samples taken on 16 April 2016 and a routine sampling monitoring sample taken on 18 April 2016 during the 4 days of supply (Figure 5), **[SEV008, p368].** The Duty Manager's Log confirms that the MIC samples were taken on 16 April 2016 following discussion with the Duty Scientist. This was supplied to the Inspectorate in answer to requests for information on 16 September 2022 **[SEV082, p1501]** (Q7 and Q8).

Hannington 1B – remaining in supply

23. Hannington 1A was removed from supply on 15 December 2021 and inspected by Anglian Water on 20 December 2021. The Inspectorate were notified on 21 December 2021. The 3 Day Report, dated 24 December 2021 stated that Anglian Water were working on a plan to safely remove Hannington 1B from supply to allow inspection without a loss of supply **[SEV007, p359].** The 20 Day Report, dated 21 January 2022, states that Hannington 1A remains out of supply and it is not possible to remove Hannington 1A and 1B at the same time without introducing a high risk of loss of supply

to customers. When work was complete at Hannington 1A, that reservoir would be returned to service and Hannington 1B would then be removed to enable appropriate remedial work. Anglian Water anticipated that Hannington 1B would be removed from supply by the end of February 2022. Whilst in supply, enhanced weekly monitoring for trace organics was implemented **[SEV008, p383].**

24. On 23 February 2022, the Inspectorate made requests for further information as part of the investigation and asked for the trace organics sampling implemented '*6. …whilst assets remained in supply (Hannington)*. Results relating to February 2022 were provided on 9 March 2022 **[SEV015, p495].**

25. On 16 September 2022, the Inspectorate requested '*21. …an update on the status of the two tanks (in/out of supply) and remedial work*'. The Inspectorate were informed on 21 October 2022 that Hannington 1A remained out of supply, undergoing on-going remedial work and that 1B remained in supply. It was stated that Hannington 1B would remain in supply until Hannington 1A returned to service **[SEV082, p1503].**

26. In respect of paragraph 17 of the Basis of Plea, it is thought that informal updates verbally or otherwise were provided in the interim but no emails or similar have been found. However, throughout 2022, compliance samples were submitted to the Inspectorate on a monthly basis as required by the 2016 Regulations, including those taken by Anglian Water in respect of Hannington 1B throughout 2022. That data is provided by Dr [redacted] for completeness. The very fact that routine sampling continued confirmed that Hannington 1B remained in supply throughout 2022 as drinking water for supply was being sampled from it.

27. In fact, further information was provided on the same topic on 21 October 2022, when requested: '*6. Please provide the dates for both assets (both compartments) being in and out of supply (supported with level trends) since beginning of 2016*' **[SEV0082, p1500].** The Appendices provided clearly show Hannington 1A out of supply and Hannington 1B still in supply (see, also responses on 7 and 18 November 2022 **[SEV021, p513].** Hannington remained in supply until 24 January 2023.

28. It is wrong to suggest that the Inspectorate only became aware of Hannington 1B remaining in supply on 5 September 2022 when they had received evidence that it remained in supply on a monthly basis throughout 2022.

29. Finally, it was necessary to keep Hannington 1B in supply whilst Hannington 1A remained out of supply for the reasons given in the witness statement of [redacted]. In the absence of Hannington 1B, there would have been 41% reduction in storage capacity which introduces a significant loss of supply risk to over 850,000 customers supplied. In addition, due to the connectivity of pipework, the risk of depressurisation and air-entrapment would be significantly increased with both assets out of supply.

Approach to sentencing

30. The Food Safety and Hygiene Offences: Definitive Guideline is an arguably relevant sentencing guideline but there is no particular sentencing guideline which applies to this case. The Guideline is able to provide a framework for assessing 'seriousness' but ultimately, the Court's task is to assess culpability and harm or risk of harm.

Culpability

31. For offences where there is no requirement for the offender to have any level of intention, the Sentencing Council advises that recklessness, negligence, dishonesty, knowledge, understanding or foresight for the offence to be made out, the range of culpability **may** be inferred from the circumstances of the offence as follows[2]:

Highest level	Deliberate – intentional act or omission
⇓	Reckless – acted or failed to act regardless of the foreseeable risk
Lowest level	Negligent – failed to take steps to guard against the act or omission
	Low/no culpability – act or omission with none of the above features

32. The Court therefore has to make its own assessment of culpability based on the facts, which are largely not in dispute.

33. It is submitted on behalf of Anglian Water that culpability should be properly characterised as an example of 'negligent' offending. There was no intentional use of non-approved products on any scheme or project.

34. As for Hannington 1B, the decision to maintain supply was taken after a careful assessment of the risks. This cannot be characterised as a case of deliberately

[2] https://www.sentencingcouncil.org.uk/droppable/item/culpability/

introducing products or substances into water for supply. The risk to consumers of removing water from supply was properly assessed and balanced by the company against the remote risk to consumers from non-approved pipework or coatings.

35. It is regretted that the use of non-approved products and substances was not recognised at an earlier stage but this does not amount to a significant feature in the assessment of culpability where regulatory sampling revealed no cause for investigation.

36. The root cause of each of the offences are the failures admitted at paragraph 3 above. Appropriate policies and procedures were in place but the systems were not effective on the occasions referred to in the charges. This is not a case of Anglian Water running a risk or acting in a way that fell far short of the appropriate standards in the industry. No specific standards are prescribed by the 2016 Regulations.

37. It is submitted that this equates to 'medium' culpability for all offences by reference to the Food Safety and Hygiene Offences: Definitive Guideline. In essence, there was a failure to take reasonable care to put in place and enforce proper systems for avoiding commission of the offence.

Harm

38. The following matters are relevant.

39. There is no evidence of contaminated drinking water having reached consumers. No customer contacts were received in respect of drinking water complaints. This is not a case of supplying water that was unfit for human consumption under s.70 WIA 1991 during the period of the charges, a more serious offence.

40. The soak tests conducted on flakes of paint from all sites affected. Samples of drinking water were taken from all Public Water Supply Zones ('PWSZs') supplied. The sample results demonstrated that occasionally low level trace organic compounds were present in water supply zones but the levels were below operational SNARLs ('suggested no adverse response limits'), for example, below 20µg/l for xylene **[SEV003r, p298]**, below 1µg/l for Nonanal and below 10µg/l for Tridecene **[SEV008, p372]**.

41. It is not correct to make a comparison between the full amount of xylene and ethylbenzene obtained at 71.92µg/l from the soak test conducted on paint flakes from Kedington **[SEV060, p1026]** with the operational SNARL of 20 µg/l for xylene alone

(Prosecution Case Summary, paragraph 77). Firstly, the soak test was designed to extract as much organic material as possible for the purposes of Anglian Water's investigation. Secondly, the result represented total xylene and ethylbenzene and the operational SNARL of 20µg/l is not applicable.

In any event, many products and substances that are approved under Regulation 31 contain compounds with similar hazard statements as xylene and QD8 Enamel Promatch, referred to by the Inspectorate. Dr [redacted] provides examples of data sheets for Regulation 31 approved products **(RW14)**. Information contained in these safety data sheets in terms of eye irritation, relate to the raw product application as described as first aid measures. As is stated on the Health and Safety Executive's ('HSE') website page (https://www.hse.gov.uk/chemical-classification/labelling-packaging/safety-data-sheets.htm) on Safety Data Sheets:

"Safety Data Sheets (SDS) are required by the UK REACH Regulation.

SDS are important documents in the safe supply, handling and use of chemicals. They help ensure that those who use chemicals in the workplace use them safely without risk of harm to users or the environment..."

42. The Prosecution state that Anglian Water has not carried out any long-term exposure assessment or an assessment of the possible effects of multiple contaminants. Dr [redacted], Consultant Toxicologist, conducted a risk assessment for all chemicals that were classified as hazardous to human health following long-term exposure, such as those classified for mutagenicity, carcinogenicity, reproductive and developmental toxicity and specific target organ toxicity following repeated exposure (Task 'a iii' risk assessment) **[SEV074, p1206]**.

43. Dr [redacted]'s expert evidence is that based on the Hazard Quotients ('HQs') presented, the Hazard Index ('HI') for PWSZs downstream were as follows:

43.1. 0.52 for Pitsford WTW;
43.2. 0.52 for Hannington Reservoir 1A, and
43.3. 0.70 for Hannington Reservoirs 1B.

44. As all of the HQs and the HI are less than 1, long-term effects, including mixture effects, were highly unlikely. The HI approach is conservative as the Health Based Guideline Values used are based on a variety of toxicological effects **[SEV074, p1216].**

45. Finally, **all** expert toxicologists in this case agree that the concentrations were highly unlikely or unlikely to present an appreciable risk to health.

46. Within the Food Safety and Hygiene Offences: Definitive Guideline, the 'Harm' categories are defined this way:

Category 1

- Serious adverse effect(s) on individual(s) and/or having a widespread impact
- High risk of an adverse effect on individual(s) including where supply was to groups that are vulnerable

Category 2

- Adverse effect on individual(s) (not amounting to Category 1)
- Medium risk of an adverse effect on individual(s) or low risk of serious adverse effect
- Regulator and/or legitimate industry substantially undermined by offender's activities
- Relevant authorities unable to trace products in order to investigate risks to health, or are otherwise inhibited in identifying or addressing risks to health
- Consumer misled regarding food's compliance with religious or personal beliefs

Category 3

- Low risk of an adverse effect on individual(s) Public misled about the specific food consumed, but little or no risk of actual adverse effect on individual(s)

47. In this case, there was no adverse effects on individuals. Based on the expert toxicologist evidence there was no high or medium risk of an adverse effect on individuals of at any level of seriousness.

48. Based on the agreement of the expert toxicologists on both sides, the offences in this case are therefore best characterised by 'Category 3' harm.

Financial circumstances

49. Anglian Water's turnover was approximately £1.39bn in 2023. A summary of the company's financial information is provided in the Defence Sentencing Bundle. It is

accepted that Anglian Water can properly be described as a 'very large organisation', however, importantly it does not automatically follow the court should sentence outside the 'large' organisation range; the Guideline makes clear that such movement outside the range should take place only in those cases where it is "necessary…to achieve a proportionate sentence".

50. The submission on behalf of Anglian Water is that the court should adopt the approach set out by the then Lord Chief Justice in the Practice Note in *Whirlpool Appliances Ltd v R* [2018] 1 WLR 1811. In that regard the Court first decides the initial culpability and harm category and identify the appropriate range for a Large Company.

51. The court should then make an initial consideration of whether the starting point should be adjusted upwards to take account of the turnover of the Company, i.e. that it is a Very Large Organisation with a turnover of approximately £1.39bn: As Lord Burnett CJ set out in *Whirlpool Appliances Ltd*:

> 33. Each of the category ranges in which the turnover limits are identified is designed to accommodate organisations with turnovers at both ends of the range. The language of the Guideline suggests that the category ranges identified for large organisations are designed to cater for turnovers which "exceed" £50m, indeed "greatly exceed" £50m. These first two examples do not fall within the definition of a very large organisation at all. Most organisations with a turnover which "very greatly exceeds £50m" will be treated as very large organisations. But even then the Guideline retains flexibility to meet the individual circumstances by suggesting that it "may", not will, be necessary to move outside the range. The language of the Guideline suggests that a very large organisation is likely to have a turnover of multiples of £50m but we would not wish to create an artificial boundary. The turnover of the defendant was of the order of £700m. Although the judge did not say in terms that the defendant was therefore a very large organisation within the language of the Guideline it is clear to us that it must be; and indeed that must have been the view of the judge. It was therefore permissible to move outside the appropriate range in order to achieve a proportionate sentence.
>
> 34 Having determined that an organisation is very large, the calculation of a fine through the structure of the Guideline does not at this stage dictate an arithmetic approach to turnover. There is no linear approach. That much is clear from the conclusion endorsed by this court in R v Tata Steel UK Ltd where a turnover of £4 billion, as opposed to £50m, led to a step change of one harm category rather than extravagant multiples.

52. It is submitted that on the facts of this case, the Court is not required to reflect the VLO status of the company by making a step change in harm category. Instead, in the circumstances of this, the Court is able to move upwards within, the relevant category

range, rather than move outside, in order to impose a proportionate penalty based on turnover.

Starting point and category range

53. A case of medium culpability, harm Category 3 involving a Large Organisation has a starting point under the Guideline of £35,000 and a category range of £20,000 to £100,000.

Previous enforcement history

54. It is accepted that Anglian Water has previous convictions for environmental offences but they are not centrally relevant to the current offences under Regulation 31. In so far as they are previous convictions, the Court is asked to take into account:

54.1. The history of regulatory interventions must be considered in the context of the nature of the company's undertaking, i.e. its very undertaking involves the constant management of sites that operate 24 hours a day, subject to permit conditions. Such an undertaking is rightly to be considered at high risk, by its very nature, of regulatory breach;

54.2. Anglian Water do not minimise the fact or number of convictions, but reliance is placed on the observations of Sweeney J in *Thames Water Utilities Limited* [2010] EWCA Crim 202 (applying the decision in *R v Anglian Water Services Limited* [2003] EWCA Crim 2243 in which the Appellant's then 65 convictions over the previous 12 years were described by Scott Baker LJ as 'not of great significance when seen in the light of the ambit of the appellant's operation').

55. The company's previous convictions for drinking water matters as set out at paragraph 116 of the Case Summary are accepted. They are many years ago and demonstrates the company's commitment to protecting customer supplies.

Aggravating and mitigating features

Aggravating factors

56. Save for the issue of previous convictions, it is submitted that there are none.

57. The Prosecution alleges some potential for unspecified financial gain. There is no evidence of this. Anglian Water has acted throughout with its Regulation 31 obligations at the forefront of its thinking and has invested in its longstanding MIC policies and procedures. The events were not commercially motivated and there was no economic benefit in the use of approved products where approval was negated by the location of their use.

Summary Mitigation

58. The company's commitment to drinking water safety was demonstrated through the early recognition that there may have been a link between the asset delivery route of the initial sites found with non-approved products. There was an urgent program of inspections initiated.

59. Anglian Water notified the Inspectorate as soon as it became aware of the issues as they were discovered in relation to each site. There was full acceptance of responsibility.

60. The company cooperation with the investigation. Multiple detailed requests for information were voluntarily provided and any follow-up questions responded to within the stipulated deadline or within a timescale agreed with the Inspectorate.

61. As for an apparent lack of transparency concerning the results of soak testing for trace organics, the testing was not an accredited or an approved method and was conducted by Anglian Water's own laboratory. The company would only normally share results in 3 Day or 20 Day reports that are not obtained via an accredited methodology either at their own laboratory or at an outside facility. The soak tests were part of Anglian Water's urgent investigation into all sites concerned and were conducted to provide early information on the likely risks to consumers.

62. All sites were subject to an immediate 'lesson learned' review in 2021 led by senior managers, resulting in site-based and wider recommendations **[SEV088, p1522]**. These were used to inform the development of the Materials in Contact Improvement Programme ('MIC Programme') referred to by Dr [redacted].

63. To ensure that this does not happen again, Anglian Water has applied the lessons learned across the company, including the training of its staff and partners with

responsibility for Regulation 31 compliance. Anglian Water now leads the industry in Regulation 31 compliance as set out by Dr [redacted].

Proportionality and other factors

64. The Guideline reflects the usual principles of sentencing in term of checking whether a proposed fine based on turnover is proportionate or whether there are other matters that warrant an adjustment of the fine.

65. In the circumstances of this case there is no reasonable or no substantial requirement to impose a fine in excess of the applicable range for a Large Company for each offence, so as to bring home to the management and shareholders the need to secure regulatory compliance.

66. In this respect, in light of the matters set out in Mr [redacted]'s witness statement, the Court can be assured that the management and shareholders of Anglian Water are already fully cognisant of the importance of the company's responsibilities with regards drinking water and Regulation 31.

Credit for Plea

67. In addition to the downward adjustment to reflect mitigating features referred to above, Anglian Water seeks full credit for its earyl guilty plea.

[redacted]

31 January 2025

Six Pump Court
Temple
LONDON
EC4Y 7AR

WITNESS STATEMENT

(Criminal Procedure Rules r 16; Criminal Justice Act 1967 s9)

STATEMENT OF [redacted]

Age of witness (if over 18, enter "over 18"): Over 18

This statement consisting of 5 pages each signed by me is true to the best of my knowledge and belief and I make it knowing that if it is tendered in evidence, I shall be liable to prosecution if I have wilfully stated in it anything that I know to be false or do not believe to be true.

Signed: [redacted] Date: 30/01/25

I am the Head of Water Quality at Anglian Water Services. I have been in the position since November 2023. [redacted] joining Anglian Water in June 2019 as Regional Manager for Integrated Operations Solutions ('IOS').

Following identification of possible Regulation 31 issues at Kedington WTW, Anglian Water immediately re-briefed awareness concerning the roles and responsibilities relating to Materials in Contact with drinking water. This re-briefing was refreshed during August and September 2021. I exhibit the Powerpoint presentation for a toolbox talk from August 2021 that was developed in response to the situation at Keddington as **RW1**.

Following the event at Kedington, Diddington, Hannington and Pitsford WTWs during November and December 2021, it was recognised that further improvements to our processes were required. This led to the preparation and launch of the Materials in Contact Improvement Programme across January and February 2022 (the 'MIC Programme').

Signed: [redacted] Date: 30/01/2025

To ensure full focus, the MIC Programme was developed as a strategic business wide change programme, sponsored by the Executive Committee of the Board. The resource allocated included a Programme Manager, three Project Managers, a change resource and a dedicated Subject Matter Expert who were moved onto the programme full-time. Progress on the programme is reported to the Water Quality and Environment Compliance Group ('WQECG'), chaired by the Director of Quality and Environment, and attended by the Director of Water and Head of Water Quality. To date nearly £2 million has been spent on the programme, including £1.2million for the digital set up costs and Programme management at approximately £650,000 to 2024. The key objectives of the MIC Programme are:

- Ensuring end-to-end Regulation 31 requirements, from design through to installation, supporting a 'right first-time' approach. A fully embedded digital system has been developed to support our people, focusing on three key areas:

  (1) 'Design and Engineering Standards'
  (2) 'Procurement and Logistics'
  (3) 'Process Review, Delivery Assurance and Compliance'

- Enabling workstreams to support delivery of the programme to focus on:

  (4) 'Digital Opportunities'
  (5) 'Training and Competency'
  (6) 'Communications'

Specific areas of improvement that have been identified and have already been embarked upon as part of by the MIC Programme are:

1. **Design standards -** all relevant Minimum Asset Standards ('MAS') have been evaluated, clarified and updated to provide clarity as to what is required for MIC / IFU compliance. In addition, all standard reference to drawings and design guides have been amended to reflect accurate terminology and references for MIC / IFU compliance assurance. The manual of Water Distribution was amended to ensure direct delivery from developers is also compliant. To support this update, all technical teams received training including those appointed to make the declaration as part of the MIC record process.

Signed: [redacted] Date: 30/01/2025

2. **Procurement** – We have worked with our Procurement Teams to review and strengthen all our contracts for both goods and services, emphasising Materials in Contact compliance, requesting evidence at the point of award, i.e. at the same time suppliers are confirmed or awarded a contract from the framework. We have also used this opportunity to educate suppliers further on the level of information we require and most importantly, when it is to be provided.

   Anglian Water acts in partnership with external businesses such as Mott MacDonald Bentley ('MMB'), MWH Treatment, Barhale and Skanska. These alliances act as a team within an Anglian Water Department e.g. @ONE alliance or embedded alliances. These actions have taken place both within Anglian Water and its alliance partners.

3. **Logistics –** our Logistics Centre is used as a central control point and distribution hub for products and materials to be sent to our sites. This enables the business to have control over these products. Anglian Water have spent £750,000 on building a new warehouse through 2022/23 with annual operating costs of £1.8m since developing and expanding the capability of the Centre in 2020. The Inspectorate provided positive feedback on the facility following a visit on 6th November 2024.

   All staff in the Logistics centre have been trained in Materials in Contact obligations, and they have visibility of the Materials Catalogue. The Catalogue itself provides a background list of products that are available on the Digital app (see below). These have been specifically designed and created to include relevant information, such as expiry dates of approvals that are essential to ensuring compliance with Regulation 31. Furthermore, staff will be able to use the Catalogue to confirm that products and items are stored in accordance with Instructions for Use or where an approval has expired enable staff to place those items in quarantine. The catalogue will enable staff to understand when items might be nearing the expiry of approval so procurement decisions can be effectively challenged, storage requirements checked and begin to reduce stock levels in advance. Logistics staff have also implemented a 'red tag' process assigned to items where approval expires or lapses so they are clearly marked as "not to be used".

Signed: [redacted] Date: 30/01/2025

4. **MIC Procedure** – the procedure has now been updated to improve legibility and to ensure it captures the changes that have been introduced during the MIC programme so far. The procedure also sets out audit requirements, providing improved guidance to managers on the nature of a robust MIC audit commensurate with Regulations 31 obligations.

5. **The Digital App** - This allows trained staff to populate a list of products digitally for works on drinking water assets for approval. This has replaced the previous Excel-based 'MIC Form'. If the material for use is already in the Catalogue, the item can be selected in the App and included. Procurement and purchasing as part of the project follows as the required Regulation 31 compatibility and approval checks will have already been completed for that product and maintained. If the item is not in the Catalogue, then a separate process is carried out within the App where staff must collect and complete the required Regulation 31 details before proceeding to procurement and approval for purchase.

   For specific projects the App provides a function whereby items approved, but not ultimately installed as part of the project, can be tracked and checked. This requires staff to confirm whether it was a contingency item or complete the required application information if the item was used.

   Where an item is utilised, the intended use is recorded as part of the installation information detail. The project can only be closed in the App after all necessary sample results have passed and all lines have been completed reflecting the MIC Form.

6. **Radio-Frequency Identification ('RFID')** - RFID uses electromagnetic fields to automatically identify and track specialised tags attached to items and objects. A trial is underway using RFID tags by the @One alliance to track Materials in Contact approved materials from purchase through to installation and capital scheme completion handover. The information contained in the tag relates back to the App and contains all the relevant certification, approval and Instructions for Use information. The RFID tags is a useful technology that supports our MIC Programme objectives.

Governance

Anglian Water have sought to drive further focus on Materials in Contact by embedding within the business a 'MIC Steering Group' to independently review queries raised regarding Materials in

Signed: [redacted] Date: 30/01/2025

Contact obligations. The Group brings together a range subject matter experts, to review each query raised and allows for delegated authority to approve their use.

To enable active management and compliance monitoring, a suite of reports and performance metrics are being finalised and implemented to support effective improvement in the use of products in contact with drinking water. As part of regular reviews, weekly and monthly meetings that drive focus and action on Water Quality compliance are undertaken by WQECG (referred to previously) and the Compliance Monitoring Group ('CMG'). Both meetings are attended by the Director of Water Services and the Head of Water Quality. The WQECG is chaired by the Director of Quality and Environment and the CMG chaired by Head of Water Quality. The aim is for the active management suite of reports to be utilised during these meetings to identify the need for action where there are any deteriorations in the process raised. The reports will also be used to identify and showcase good practice within the business. A description of the reports that will be used are set out below:

Training and competency – All training modules have been reviewed and updated to increase understanding around accountability and responsibility. Modules have been created on the digital App - how to use the various sections and why they are required and important. The modules are

Signed: [redacted] Date: 30/01/2025

focused on being simple and engaging for people that work in both the office and field environment and includes Senior Water Leader videos to confirm the underlying importance, accountability and responsibility Anglian Water possess across the business to maintain compliance.

Industry leadership

Through the MIC Programme it was identified early on that leadership on Materials in Contact across the Industry was required. Anglian Water took ownership of that task, setting up and leading a National Conference with contributions from across the water industry. This included industry representatives from water quality, compliance, procurement, design and installation teams, alongside suppliers and contractors. This was held in London 20 April 2023. The Inspectorate were also invited to the conference. The Conference took the form of talks and interactive workshops on topics such as a central repository for Instructions for Use ("IFU"), small surface area 'myth buster', speeding up approval processes, incentivising supplier participation in Regulation 31 approvals and standardising Instructions For Use templates across the water industry.

Since this event, Anglian Water have been leading and chairing the quarterly Regulation 31 industry Working Group, The Inspectorate are also invited and participate. Furthermore, Anglian Water have led the development of industry training with the Energy Utility Services Register ('EUSR') to provide a more robust training package for those working in the industry that undertake work covered by Regulation 31.

Finally, following the work across the MIC programme an independent central team has undertaken an audit of the programme outcomes, confirming the impact of the initiatives implemented through the programme to date.

Signed: [redacted] Date: 30/01/2025

WITNESS STATEMENT

(Criminal Procedure Rules r 16; Criminal Justice Act 1967 s9)

STATEMENT OF [redacted]

Age of witness (if over 18, enter "over 18"): Over 18

This statement consisting of 2 pages each signed by me is true to the best of my knowledge and belief and I make it knowing that if it is tendered in evidence, I shall be liable to prosecution if I have wilfully stated in it anything that I know to be false or do not believe to be true.

Signed: [redacted] Date: 31/01/25

I am the Head of Water Quality at Anglian Water Services. I have been in the position since November 2023. [redacted] joining Anglian Water in June 2019 as Regional Manager for Integrated Operations Solutions ('IOS').

I am making this statement in addition to my original statement outlining the steps we have taken to rectify the issues that are the subject of this prosecution.

It is noted in paragraph 4 of the Prosecution's Response to Basis of Plea that reference is made to [redacted] being unable to locate any Materials in Contact policies prior to the 2018 versions. Further investigation of the company's records have been undertaken and I exhibit the following historic versions or relevant policies:

- **RW2** – 2003 Methodology for Materials and Chemicals in Contact with Water
- **RW3** - 2006 Methodology for Materials and Chemicals in Contact with Water
- **RW4** - 2007 Methodology for Materials and Chemicals in Contact with Water
- **RW5** – 2006 Policy Statement (revision 7)

Signed: [redacted] Date: 31/01/25

- **RW6** – 2007 Standards for Materials and Chemicals in Contact with Water (revision 6)
- **RW7** - Request for Approval Form from 2003 (revision 3)
- **RW8** - Technical Guidance introduced in 2005 (revision 1)

I also exhibit more recent versions:

- **RW9** - Policies and Standards from 2013 (revision 2)
- **RW10** - Procedure from 2012 (revision 1)

I also note the Inspectorate has stated that Anglian Water failed to inform them of delays in taking Hannington 1B out of supply. We submit monthly returns to the Inspectorate outlining readings for various parameters, which as compliance samples confirm the reservoir remained into supply. As you will see from exhibit **RW11** samples from Hannington 1B were submitted to the inspectorate throughout 2022.

Furthermore, I also exhibit **RW12** a Supplier Proposal Confirmation containing the usual specification that all materials and any work undertaken shall comply with the current relevant regulations and in particular Regulation 31.

I exhibit as **RW13**, the material note WAT-06742-KEHRWW-SS-DET-5990 Rev1C that provides specification details for the ductile iron pipework for the Kedington scheme.

Finally, I exhibit as **RW14**, example data sheets of Regulation 31 approved products or substances that have similar hazard characteristics as the substances referred to by the DWI (QD8 Enamel Promatch and Xylene). Both 'Teknolevel FS' and 'Sikagard-62' are irritant to the eyes, skin or both, according to technical data or material safety data sheets.

Signed: [redacted] Date: 31/01/25

WITNESS STATEMENT

(Criminal Procedure Rules r 16; Criminal Justice Act 1967 s9)

STATEMENT OF [redacted]

Age of witness (if over 18, enter "over 18"): Over 18

This statement consisting of 3 pages is true to the best of my knowledge and belief and I make it knowing that if it is tendered in evidence, I shall be liable to prosecution if I have wilfully stated in it anything that I know to be false or do not believe to be true.

Signed: [redacted] Date: 31st January 2025

1. I am the Chief Engineer for Anglian Water Services Ltd. [redacted] joining the water industry 35 years ago. I have worked within construction design and delivery in this period in Technical / Design Manager / Project Manager and Framework Manager roles. I led design in Anglian Water's delivery partner @one Alliance for 15 years before joining Anglian Water as Chief Engineer 4 years ago.

2. In this statement I will address the reasons for the delay in returning Hanington 1A back into supply, and how this impacted our ability to take Hannington 1B out of supply in order to carry out the required remedial work in this tank.

3. To begin with it is worth noting that this was not something we had encountered before. Initially when it was discovered that the pipework was only approved for transit, not immersion, the first consideration was to remove it fully from the reservoir.

Signed: [redacted] Date: 31 January 2025

4. Detailed searches into the past construction revealed that the addition of these pipes through what was an ageing asset, had previously exposed it to risk of settlement and cracking by removal of the soil burden from the reservoir wall. Furthermore, the pipework had been connected into the wall and assembled to a deep-laid pipe, making removal difficult on what was an operational main. As such alternate provisions had to be made.

5. The first decision was to overcoat the pipe with the approved Acothane DW Coating. The first attempt was considered not suitable as we could not shot blast the pipe to achieve SA2.5 surface preparation, putting us in breach of the Instructions For Use ('IFU'). This was repeated using an alternate approach using a bristle brush device following exhaustive investigation with the IFU holders. Latterly, when completing the records it was realised that as calibration certification verification of humidity and temperature could not be assured, there again was a risk of non-compliance with the IFU. To avoid failing on the applied coating system, an alternative approach was considered.

6. The final approach was to cut back the extended pipe to flush with the internal reservoir wall and over-plate with an approved stainless closure. The mechanism was tested using a mock-up which was created at an alternate site to prove the methodology, again taking time to both procure, build and rehearse. This plate was sealed with an approved cementitious material. Unfortunately although this method was fine on one installation, the other over-spanned a movement / over-banding joint, requiring assurance that the correct interplay between materials was afforded to stay compliant with the IFU and revised bolting. This required consultation with manufacturers, further lengthening the process.

7. During this protracted period each action was extensively considered, reviewed, risk assessed, installed, inspected at each stage, reported, recorded and signed off. All this before we tested and switched to the adjacent cell. We had to get this absolutely correct with no conceivable risk as we would have no recourse to reverse the outage.

Signed: [redacted] Date: 31 January 2025

8. It was unfortunately necessary to keep Hannington 1B in supply whilst 1A remained offline. This would have resulted in a 41% reduction in storage capacity at this site which introduces a significant loss of supply risk to over 850,000 customers supplied by this strategic asset. In addition, due to the connectivity of pipework on site the risk of depressurisation and air-entrapment would be significantly increased with both assets out of supply together, further jeopardising supply.

Signed: [redacted] Date: 31 January 2025

WITNESS STATEMENT

(Criminal Procedure Rules r 16; Criminal Justice Act 1967 s9)

STATEMENT OF [redacted]

Age of witness (if over 18, enter "over 18"): Over 18

This statement consisting of 7 pages each signed by me is true to the best of my knowledge and belief and I make it knowing that if it is tendered in evidence, I shall be liable to prosecution if I have wilfully stated in it anything that I know to be false or do not believe to be true.

Signed:  Date: 29 January 2025

I am the Chief Executive of Anglian Water Group and have been in the position since August 2024. [redacted]

[redacted]

[redacted]

Firstly, although the use of non-approved products outlined in this prosecution took place prior to my arrival at Anglian Water, I would like to express my regret in relation to these breaches. No use of non-approved products is acceptable.

Since joining the business, I have continued to focus on our operational efforts with a view to achieving a material improvement in performance. In particular, I have tasked the business with achieving key objectives by 31 March 2025, including maintaining a clear focus on Materials in Contact and the

Signed: [redacted] Date: 29 January 2025

storage point programme. Materials in Contact has been a business focus for three years prior to me joining and I have reinforced the importance of this through my Executive Committee. The Operational Director of Water has been leading on the Materials in Contact programme and engagement across the Water Business Stream. I have ensured Materials in Contact remains a focus by including this in monthly updates as part of the formal governance process through my Executive Committee.

These recent initiatives build on work that was already in train prior to my arrival. As an executive team we have ringfenced an additional £50 million for our water storage programme. This level of investment will not only secure water supplies for 2024/25, but add to the resources behind the Materials in Contact initiative that will continue to ensure that wholesome water is provided to customers where civil engineering and construction work is undertaken at our assets.

There is already evidence that our lead measures on water quality are having a positive impact. In 2023 we had:

- A Compliance Risk Index (CRI) of 3.573 against an industry average of 4.892
- Our Compliance standard was 99.98% against an industry average of 99.97%
- Customer complaints on acceptability were 0.86/1000 population against an Industry average 1.07/1000 population. The graph below shows our Water Quality Contacts performance since 2011.

These are all indicative of our focus to continually improve and invest in our water assets and network.

Anglian Water: Our region in context

Signed: [redacted]

Date: 29 January 2025

Anglian Water is the largest water and water recycling company in England and Wales by geographic area. We provide services to almost seven million people, from the East of England to Hartlepool. Every day we supply around 1.2 billion litres of drinking water to around 5 million customers, via 140 water treatment works and over 39,000 kilometres of water mains. We have the second-highest number of water storage points in the industry.

Our customer research repeatedly tells us that their main priority is the delivery of safe, reliable drinking water. This is our top priority, and we work hard to ensure our water meets the high standards we and our customers expect. Alongside supplying clean drinking water, the water side of our business covers abstraction of raw water, storage of potable water, the distribution of water to customers through our network of supply pipes and finding and fixing leaks.

Our Purpose is to bring environmental and social prosperity to the region we serve through our commitment to Love Every Drop. Delivering on our Purpose is becoming increasingly challenging. We manage water resources in a region that is water scarce, vulnerable to climate change, has many precious environmental sites to protect, a fast-growing population and a sizeable agricultural economy that relies on water to feed the nation.

The East of England is home to 15% of England's population and four of the fastest-growing cities in the past decade; Cambridge, Peterborough, Milton Keynes and Norwich. Businesses in the region are also water intensive, with 15% of all water taken from the environment used for non-household supply. The region is commonly referred to as 'Britain's breadbasket' because of its contribution to food production. Furthermore, our operations play a vital part in maintaining the level of river flows and their ecological health.

Despite rapid growth, the amount of water we have available to put into supply is the same as it was back in 1989. This is testament to our focus on building resilience over the years. This includes improving water network connectivity, community water efficiency campaigns, achieving sector-leading leakage levels, and delivering on our ambitious smart metering programme with over 1 million smart meters installed to date.

The progress we have made to date

Signed 

Date: 29 January 2025