

Addressee only

Date: 18 March 2024

Chris Weston, CEO Thames Water Utilities Ltd
Email: chris.weston@thameswater.co.uk

Dear Chris

Implementation of the Industrial Emissions Directive

Further to my letter of 7 June 2023 I am writing to update you on the current position regarding the implementation of the Industrial Emissions Directive (IED) to help ensure you remain clear about your environmental permitting obligations.

The original deadline for compliance with the requirements of the IED was July 2015 but due to legal challenges implementation was delayed. This was resolved, and in April 2019 water and sewerage companies were informed of the need to obtain permits and comply with the standards detailed in the Waste Treatment Best Available Techniques (BAT) reference document (the BREF) by August 2022.

This deadline passed and to provide operators additional time to complete their implementation actions we initially extended the date to December 2024 and are now extending this deadline to 31 March 2025, providing consistency across the sector and additional time for planning and implementing necessary improvements. This means you will have had, a full six years to obtain permits and comply with the Waste Treatment BAT conclusions.

To ensure that those who have already received their permits are not disadvantaged we will provide the option of not complying in full with improvement conditions until 31 March 2025. Any interim deadlines contained within improvement conditions, typically for the submission of plans or proposals, will remain unchanged and we will expect you to meet these deadlines.

In September 2023 Defra set companies a deadline of 20 December 2023 to provide any additional information they judged necessary to support their permit applications. The team dealing with water company IED applications has recently been doubled in

size and these submissions are currently being assessed. Any minor deficiencies or clarifications in the applications will be dealt with by information notices, but major deficiencies will result in applications being returned as not being capable of determination or refused. In such instances the facility will be treated as unauthorised and referred to local operational teams to consider the most appropriate action consistent with our enforcement and sanctions policy.

Notwithstanding that you have been aware of the position since April 2019, it is apparent from the information submitted with permit applications that many facilities in the sector are yet to achieve the standards of operation required by the IED. Where this is the case, your permits will include improvement conditions that require compliance with best available techniques by 31 March 2025.

To help you to make the improvements necessary to achieve these standards we are giving advance notice of improvement conditions that we will use where appropriate to deliver the standards required. These conditions can be found in the appendix to this letter. There is already widespread knowledge of these conditions across the industry because they are being shared across Water UK groups such as the Waste and Recycling Network.

The permitting team will continue to process applications throughout the coming year. If you do not currently operate to the BAT standard or equivalent, you should be taking immediate steps to comply do so regardless of whether you have received your permit.

Despite the time that has elapsed we understand that some companies believe that they are unable to implement all the changes and complete the works required to comply with BAT by 31 March 2025. Should you find yourself in this position there is significant risk of enforcement action. In keeping with standard practice we have advised that you should look to document and provide evidence that you have taken all available measures to achieve compliance by the earliest possible date. We have described this as demonstrating 'best endeavours'.

I am sure you will understand that as the regulator we cannot fetter our discretion, putting forward mitigation does not ensure that you will avoid enforcement, but it can be taken into account when deciding the appropriate level of regulatory response. Demonstrating best endeavours requires you to strive to be compliant before the March 2025 deadline and to take all available measures to do so. You do not need to try to demonstrate you have used best endeavours before this deadline.

In any event I would encourage you to continue to work with our permitting team to enable them to issue you with permits, and with your local area team for any site-specific matters arising after the permit has been issued.

Yours sincerely

A handwritten signature in black ink, appearing to read 'G Collins', is centered within a light gray rectangular box.

Georgina Collins
Director, Regulated Industry

Appendix – Improvement Conditions

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
Improvement condition for secondary containment design		
ICX	<p>The operator shall submit a written ‘secondary containment implementation plan’ and shall obtain the Environment Agency’s written approval to it. The plan shall contain the finalised designs and an implementation schedule for the identified secondary containment systems proposed in the document [insert containment report title “xxxxxxxxxxx”, [date]]. The finalised design(s) and specifications shall be produced by appropriate competent individuals (qualified civil or structural engineer), in accordance with the risk assessment methodology detailed within CIRIA C736 (2014) guidance. The plan shall include but not be limited to the following components:</p> <p>An updated BAT assessment with specific regard to BAT 19 of the Waste Treatment BREF.</p> <p>An assessment of the suitability for providing containment when subjected to the dynamic and static loads caused by catastrophic tank failure.</p> <p>Finalised designs and specifications of the proposed secondary containment proposal completed by appropriate competent individuals.</p> <p>A program of works with timescales for the commissioning of the secondary containment systems to comply with CIRIA C736 (2014) guidance, or equivalent.</p> <p>An updated site and infrastructure plan.</p> <p>A preventative maintenance and inspection regime.</p> <p>The plan shall be implemented in accordance with the Environment Agency’s prior written approval.</p>	<p>DD/MM/YYYY [6 months of permit issue] or such other date as agreed in writing with the Environment Agency</p> <p>Implementation of all required and approved containment improvements must be completed by 31/03/2025.</p>
Improvement conditions for enclosure of tanks storing (or treating) sewage sludge (pre-AD) [Abatement proposed]		
ICX	<p>Drafting note: Where there are open tanks pre-primary digestion, BAT is to contain and abate these tanks. This IC should be implemented if OCU type and emissions points have been identified and</p>	<p>DD/MM/YYYY [6 months of permit issue] or such other date as agreed</p>

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
	<p>emissions and monitoring requirements have been updated as per the permit template requirements.</p> <p>The operator shall submit a written ‘enclosure and abatement plan’ and obtain the Environment Agency’s written approval to it.</p> <p>The plan shall contain the final designs and an implementation schedule for the installation of enclosures/covers and associated emission abatement systems in line with BAT 14 and BAT 53 for storage and treatment tanks pre-anaerobic digestion identified as [insert tank names], and emission points [insert OCU emission points] on the site plan in schedule 7.</p> <p>The report shall include evidence that the tank enclosures/covers will be designed and installed in accordance with guidance Biological waste treatment: appropriate measures for permitted facilities, and provide evidence to demonstrate why the OCUs will be effective and meet the requirements of BAT 53. The report shall include as a minimum:</p> <p>The final designs and an implementation schedule for the installation of enclosures/covers and associated abatement.</p> <p>Full investigation and characterisation of the waste gas streams emitted to points [insert OCU emission points].</p> <p>Evidence that the pollutants of the waste gas stream will be controlled and/or abated either by the abatement plant or by the proposed abatement systems.</p> <p>Abatement stack monitoring results (including but not limited to odour, ammonia, hydrogen chloride and total volatile organic chemicals).</p> <p>Abatement process monitoring results (including but not limited to odour, ammonia, hydrogen chloride and total volatile organic chemicals).</p>	<p>in writing with the Environment Agency</p> <p>Implementation of all required vessel cover improvements and abatement must be completed by 31/03/2025</p>

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
	<p>Details of air quality quantitative impact assessment including modelling and a proposal for site-specific “action levels” (including but not limited to odour, ammonia, hydrogen chloride and total volatile organic chemicals).</p> <p>Odour monitoring results at the site boundary.</p> <p>Records of odour complaints and odour related incidents.</p> <p>Recommendations for improvement including the replacement or upgrading of the abatement plant.</p> <p>The plan shall be implemented in accordance with the Environment Agency’s prior written approval.</p>	
Improvement conditions for enclosure of tanks undertaking AD		
ICX	<p>The operator shall submit a written ‘Primary anaerobic digestion vessel cover’ plan and obtain the Environment Agency’s written approval to it. The plan shall contain the final designs and an implementation schedule for the installation of covers for vessels undertaking anaerobic digestion in the [insert number and name of tanks]. The plan shall also contain a detailed description of the proposed gas utilisation plant, gas storage infrastructure for the biogas produced during anaerobic digestion, pressure relief valves and gas pipe-work. The plan shall include but not be limited to the following components:</p> <p>Evidence that the vessel covers, gas utilisation plant and ancillary equipment have been designed by appropriately qualified engineers.</p> <p>Evidence that the vessel covers, and gas utilisation plant will be designed and installed in accordance with guidance, Biological waste treatment: appropriate measures for permitted facilities.</p> <p>An updated Hazard and Operability Study (HAZOP) and DSEAR risk assessment.</p>	<p>DD/MM/YYYY or such other date as agreed in writing with the Environment Agency</p> <p>Implementation of all required vessel cover improvements must be completed by 31/03/2025</p>

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<p>An assessment of gas storage capacity and gas utilisation capacity including proposals for additional gas utilisation plant.</p> <p>A program of works with timescales for the commissioning of the vessel covers, gas utilisation infrastructure and ancillary equipment.</p> <p>The plan shall be implemented in accordance with the Environment Agency's prior written approval.</p>	
Improvement conditions for enclosure of tanks storing (or treating) stable and unstable digestate		
ICXa	<p>Drafting note: where there are open tanks post primary digestion, it's possible that the digestate produced and stored in these tanks are producing biogas and emitting to atmosphere. We understand that most WaSC sites treat waste for a limited period which is less than the typical residence times for anaerobic digestion. This means that the digestate produced and stored in the open tanks could still be producing biogas. If the applicant has not provided evidence to show that the digestate is stable, then they will need to prove this. This is to inform whether the digestate storage should be enclosed and connected to the site gas management infrastructure or is suitable for standard waste storage requirements in an enclosed tank with air discharged by a suitable abatement system. Include for any open tanks. This IC is a mechanism to determine the type of enclosure required, not a mechanism to justify the tanks remaining open.</p> <p>The operator shall submit a written report, with supporting evidence, on the stability of digestate stored within the [insert name of existing open tank(s)] tank[s] and obtain the Environment Agency's written approval to it. The report shall assess whether an effective digestion process has taken place within the anaerobic digestion tanks and whether biogas emissions from post digestion storage or treatment are minimised. The report shall</p>	<p>DD/MM/YYYY</p> <p>[6 months of permit issue] or such other date as agreed in writing with the Environment Agency</p> <p>Implementation of all required vessel cover improvements must be completed by 31/03/2025</p>

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
	<p>assess digester stability and the potential for biogas production. The report shall include but not be limited to:</p> <p>An assessment of residual biogas potential in accordance with the OFW004-005 [N6] methodology specified by BSI PAS 110: Producing Quality Anaerobic Digestate or an equivalent methodology for assessing residual biogas potential of the digestate stored within the [insert name of existing open tank(s)] tanks(s).</p> <p>An assessment of the stability of the digestion process in the [insert name of anaerobic digester tanks], to be undertaken in accordance with BAT 38 of the Waste Treatment BREF. The assessment shall be supported by process monitoring data recorded using an automatic and/or manual monitoring system (and sampling of the digester feed) [replace automatic with manual if they do not use a SCADA system] for the following parameters over a period of one month:</p> <ul style="list-style-type: none"> pH and alkalinity of the digester feed digester operating temperature hydraulic loading rate organic loading rate volatile fatty acids concentration ammonia liquid and foam levels in the digester 	
ICXb	<p>Unless the report approved under [ICXa] concludes that the digestion process is stable and the digestate has minimal potential for biogas production, the operator shall submit a written 'anaerobic digestion vessel cover' plan and obtain the Environment Agency's written approval to it. The plan shall contain the final designs and an implementation schedule for the installation of covers for vessels undertaking anaerobic digestion and storing or treatment of unstable digestate [insert name of tank/vessel(s)]. The plan shall also contain a detailed description of the proposed gas utilisation plant, gas storage infrastructure for the biogas</p>	<p>DD/MM/YYYY</p> <p>[6 months of the Environment Agency's written approval of [ICXa] or such other date as agreed in writing with the Environment Agency</p>

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
	<p>produced during anaerobic digestion, pressure relief valves and gas pipe-work. The plan shall include but not be limited to the following components: Evidence that the vessel covers, gas utilisation plant and ancillary equipment have been designed by appropriately qualified engineers. Evidence that the vessel covers, and gas utilisation plant will be designed and installed in accordance with guidance, Biological waste treatment: appropriate measures for permitted facilities. An updated Hazard and Operability Study (HAZOP) and DSEAR risk assessment. An assessment of gas storage capacity and gas utilisation capacity including proposals for additional gas utilisation plant. A program of works with timescales for the commissioning of the vessel cover(s), gas utilisation infrastructure and ancillary equipment.</p> <p>The plan shall be implemented in accordance with the Environment Agency’s prior written approval.</p>	<p>Implementation of all required vessel cover improvements must be completed by 31/03/2025</p>
ICXc	<p>Should the report approved under [ICXa] conclude that the digestion process is stable and the digestate has minimal potential for biogas production, the operator shall submit a written ‘waste water and digestate storage enclosure plan’ and obtain the Environment Agency’s written approval to it. The plan shall contain the final designs and an implementation schedule for the installation of enclosures/covers (and associated waste gas abatement systems) for waste water/stable digestate storage tanks identified as: [insert name of tank/vessel(s)].</p> <p>The report shall include evidence that the tank [and lagoon] enclosures/covers will be designed and installed in accordance with guidance, Biological waste treatment: appropriate measures for permitted facilities.</p>	<p>DD/MM/YYYY [6 months of the Environment Agency’s written approval of [ICXa] or such other date as agreed in writing with the Environment Agency</p> <p>Implementation of all required vessel cover improvements must be</p>

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	The plan shall be implemented in accordance with the Environment Agency's prior written approval.	completed by 31/03/2025
Improvement conditions for primary containment tanks		
ICX	<p>The operator shall submit a written 'primary containment plan' and shall obtain the Environment Agency's written approval to it. The plan shall contain the results of an inspection and program of works undertaken by an appropriately qualified engineer and shall assess the extent, design specification and condition of primary containment systems (including associated pipework) where polluting liquids and solids are being stored, treated, and/or handled.</p> <p>The plan shall include, but not be limited to:</p> <p>An assessment of the physical condition of all primary containment systems (storage and treatment vessels and associated pipework) using a Written Scheme of Examination and their suitability for providing primary containment when subjected to dynamic and static loads.</p> <p>A program of works with timescales for the implementation of individual improvement measures necessary to demonstrate that the primary containment is fit for purpose or alternative appropriate measures to ensure all polluting materials will be contained on site.</p> <p>A preventative maintenance and inspection regime.</p> <p>The plan shall be implemented in accordance with the Environment Agency's written approval.</p>	DD/MM/YYYY [12 months of permit issue] or such other date as agreed in writing with the Environment Agency.
Improvement conditions for operational storage buffer capacity		
ICX	The operator shall submit a written "waste water and digestate buffer storage plan" and shall obtain the	DD/MM/YYYY [6 months of

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
	<p>Environment Agency’s written approval to it. The plan shall contain the results of a review of the current storage of waste water and digestate produced from site operations. The review shall propose and describe site contingency arrangements to provide appropriate storage capacity or other appropriate measures to prevent or minimise emissions of waste water or digestate being discharged off site during any occasions when the receiving wastewater treatment works is in storm overflow operating conditions.</p> <p>The storage plan shall include but not be limited to: Proposals for additional storage capacity with secondary containment within the site boundary for wastewater and/or other digestate during any occasions when the receiving wastewater treatment works is in storm overflow operating conditions. Procedures to cease discharges during these conditions. Calculation of a reasonable contingency capacity of waste water and/or other digestate during any occasions when the receiving wastewater treatment works is in storm overflow operating conditions. A description and design specification of the buffer storage infrastructure and secondary containment measures. The design shall be completed by an appropriately qualified engineer and secondary containment shall be designed in line with CIRIA C736. A program of works with timescales for the implementation and construction of the buffer storage. A preventative maintenance and inspection regime.</p> <p>The plan shall be implemented in accordance with the Environment Agency’s prior written approval.</p>	<p>permit issue] or such other date as agreed in writing with the Environment Agency</p> <p>Implementation of all required containment improvements must be completed by 31/03/2025</p>
<p>Improvement conditions for establishing an inventory of liquid waste water discharged from anaerobic digestion and associated activities (ARX – ARX) [include activities which are relevant to the AD activity]</p>		

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
ICXa	<p>The operator shall submit a sampling programme in relation to waste water streams and shall obtain the Environment Agency's written approval to it. The sampling programme shall be designed to fully characterise the waste waters discharged to [insert name of WwTW] wastewater treatment works (WwTW) from emission points [insert emission point references e.g. S1, S2, SX] in (table S3.3 of this permit).</p> <p>The programme shall include but not be limited to a methodology for a minimum of one 24-hour flow proportional sample a month, for each emission point, for a period of 12 months. The programme shall detail the sampling methods/standards used. Sampling methods shall be in accordance with BAT conclusion 20 of the Waste Treatment BREF. The programme shall include the National Grid Reference (NGR) of the sampling point(s) location(s).</p> <p>The programme shall establish the characteristics of the liquid waste water streams and shall include as a minimum for each emission point: Average values and variability of flow, pH, temperature and conductivity. Average concentration and load values of all relevant substances and their variability. Data on bioeliminability.</p> <p>The programme shall sample for all relevant substances and must include: Hydrocarbon oil index (HOI) (mg/l) Free cyanide (CN-) (mg/l) Adsorbable organically bound halogens (AOX) (mg/l) Metals and metalloids; arsenic (expressed as As), cadmium (expressed as Cd), chromium (expressed as Cr), hexavalent chromium (expressed as Cr(VI)), copper (expressed as Cu), lead (expressed as Pb), nickel (expressed as Ni), mercury (expressed as Hg), zinc (expressed as Zn) (µg/l)</p>	<p>Within 2 months of issue of this permit</p>

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
	<p>The operator shall submit the collected monitoring data in writing to the Environment Agency according to agreed reporting periods.</p> <p>The sampling programme shall be produced in accordance with Environment Agency guidance:</p> <p>Specific substances and priority hazardous substances – Surface water pollution risk for your environmental permit Surface water pollution risk assessment for your environmental permit - GOV.UK (www.gov.uk).</p> <p>Monitoring discharges to water: guidance on selecting a monitoring approach Monitoring discharges to water: guidance on selecting a monitoring approach - GOV.UK (www.gov.uk)</p> <p>The monitoring programme shall be carried out and the monitoring data submitted in accordance with the Environment Agency’s written approval.</p>	
<p>Improvement conditions for indirect discharges to water discharged from anaerobic digestion and associated activities (ARX – ARX) [include activities which are relevant to the AD activity]</p>		
ICXb	<p>The operator shall submit a report for approval by the Environment Agency, following completion of the sampling programme approved under ICXa. The report shall include but not be limited to; a summary of the sample results, a completed H1 risk assessment(s) and modelling outputs where appropriate.</p> <p>The operator shall provide conclusions on whether the waste waters discharged from [insert emission point references e.g. S1, S2, SX] will have any adverse impact on the receiving waters once discharged from [insert name of WwTW]. An assessment shall be made against the parameters specified in the relevant environmental standards as specified within Environment Agency guidance as follows:</p>	<p>Within 12 months of the Environment Agency’s written approval of the sampling programme submitted under ICXa or such other date as agreed in writing with the Environment Agency</p>

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<p>Specific substances and priority hazardous substances – Surface water pollution risk for your environmental permit Surface water pollution risk assessment for your environmental permit - GOV.UK (www.gov.uk).</p> <p>Sanitary substances – H1 annex D2: assessment of sanitary and other pollutants in surface water discharges 1076_14 H1 Annex D2 - Assessment of sanitary and other pollutants within Surface Water Discharges (publishing.service.gov.uk)</p> <p>The report shall include any proposals and/or additional measures required to prevent or minimise any significant emissions from the installation along with timescales for implementation.</p>	
ICXc	The operator shall implement any improvements identified within the report approved under ICXb in accordance with the Environment Agency’s written approval and provide written confirmation to the Environment Agency that the improvements have been completed.	Within 12 months of the report in relation to ICXb being approved by the Environment Agency or such other date as agreed in writing with the Environment Agency
Improvement conditions for biogas upgrading plant		
ICX	The operator shall carry out a monitoring study to verify the assumptions made in the application in relation to the releases of pollutants to air. The study shall include the monitoring of point source releases to air from the biogas upgrading plant emission point xx during normal operation, having regard to the Environment Agency technical guidance, Monitoring stack emissions: environmental permits and to MCERTS standards. As a minimum, two separate	DD/MM/YYYY [6 months of permit issue] or such other date as agreed in writing with the Environment Agency

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<p>monitoring campaigns in a year shall be completed (one monitoring survey six months following commissioning of the biogas upgrading plant).</p> <p>The pollutants to be monitored shall include: Total volatile organic compounds. Hydrogen sulphide.</p>	
ICX	<p>Following the completion of ICX [insert correct IC number], the operator shall undertake an emissions impact assessment of point source releases to air from point xx, using the information obtained through the emissions monitoring. The emissions impact assessment report and all associated monitoring reports and assessments shall be submitted in writing to the Environment Agency for review.</p> <p>The emissions impact assessment shall, as a minimum, include: Reports showing details of the monitoring undertaken and the results obtained. Results of the assessment of long and short-term impacts from the emissions in accordance with Environment Agency Guidance – Air emissions risk assessment for your environmental permit. A completed H1 assessment software tool.</p> <p>If the H1 assessment shows potential long or short-term impacts from the emissions, the operator shall propose an action plan to reduce the impacts of the substances identified.</p>	DD/MM/YYYY [6 months of permit issue] or such other date as agreed in writing with the Environment Agency
Improvement condition to address methane slip emissions from gas engines burning biogas		
ICX	<p>The operator shall establish a site-specific leak detection and repair (LDAR) programme to detect and mitigate the release of volatile organic compounds, including methane from diffuse sources. The plan shall include but not be limited to a diffuse emissions source inventory and associated</p>	Within 6 months of issue of this permit or as agreed in writing with the

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	monitoring arrangements. The plan shall be submitted to the Environment Agency for approval.	Environment Agency
ICX	The operator shall establish the methane emissions in the exhaust gas from engines burning biogas and compare these to the manufacturer's specification agreed in writing with the Environment Agency. The operator shall, as part of the methane leak detection and repair (LDAR) programme, develop proposals to assess the potential for methane slip and take corrective actions as soon as practicable where emissions above the manufacturer's specification are identified.	<p>Within 12 months of the Environment Agency's written approval of the LDAR programme submitted under ICX or such other date as agreed in writing with the Environment Agency [use above text if inserting IC for a new LDAR programme]</p> <p>Within 12 months of issue of this permit or as agreed in writing with the Environment Agency</p>
Improvement condition for review of effectiveness of abatement plant		
ICX	The operator shall carry out a review of the abatement plant [include names of abatement plant and emission point] on site, to determine whether the measures have been effective and adequate to prevent and where not possible minimise emissions	DD/MM/YYYY [6 months of permit issue] or such other date as agreed in writing with

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<p>released to air including but not limited to odour and ammonia.</p> <p>The operator shall submit a written report to the Environment Agency following this review for assessment and approval.</p> <p>The report shall include but not be limited to the following aspects:</p> <p>Full investigation and characterisation of the waste gas streams.</p> <p>Evidence that the pollutants of the waste gas stream will be controlled and/or abated either by the abatement plant or by the proposed abatement systems.</p> <p>Abatement stack monitoring results (including but not limited to odour and ammonia).</p> <p>Abatement process monitoring results (including but not limited to odour and ammonia).</p> <p>Details of air quality quantitative impact assessment including modelling and a proposal for site-specific “action levels” (including but not limited to odour concentration, hydrogen sulphide and ammonia).</p> <p>Odour monitoring results at the site boundary.</p> <p>Records of odour complaints and odour related incidents.</p> <p>Recommendations for improvement including the replacement or upgrading of the abatement plant.</p> <p>Timescales for implementation of improvements to the abatement plant.</p> <p>The operator shall implement the improvements in line with the timescales as approved by the Environment Agency.</p>	the Environment Agency
Improvement condition for establishing an inventory of liquid waste water discharged from the Head of works waste operation/installation activity (ARX) [include activities which are relevant to the HoW activity]		
ICXa	The operator shall submit a sampling programme in relation to waste water streams and shall obtain the Environment Agency’s written approval to it. The sampling programme shall be designed to fully characterise the waste waters discharged to [insert	Within 2 months of issue of this permit

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
	<p>name of WwTW] wastewater treatment works (WwTW) from emission point SX [insert emission point references e.g. S1, S2, SX] in (table S3.3 of the permit).</p> <p>The programme should include but not be limited to a methodology for a minimum of one 24-hour flow proportional sample a month, for the emission point, for a period of 12 months. The programme shall detail the sampling methods/standards used. Sampling methods shall be in accordance with guidance, Non-hazardous and inert waste: appropriate measures for permitted facilities https://www.gov.uk/guidance/non-hazardous-and-inert-waste-appropriate-measures-for-permitted-facilities.</p> <p>The programme shall include the National Grid Reference (NGR) of the sampling point(s) location(s).</p> <p>The programme shall establish the characteristics of the liquid waste water streams and shall include as a minimum for each emission point:</p> <p>Average values and variability of flow, pH, temperature and conductivity. Average concentration and load values of all relevant substances and their variability. Data on bioeliminability.</p> <p>The operator shall submit the collected monitoring data in writing to the Environment Agency according to agreed reporting periods.</p> <p>The sampling programme shall be produced in line with Environment Agency guidance:</p> <p>Specific substances and priority hazardous substances – Surface water pollution risk for your environmental permit Surface water pollution risk</p>	

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	<p>assessment for your environmental permit - GOV.UK (www.gov.uk).</p> <p>Monitoring discharges to water: guidance on selecting a monitoring approach Monitoring discharges to water: guidance on selecting a monitoring approach - GOV.UK (www.gov.uk)</p> <p>The monitoring programme shall be carried out and the monitoring data submitted in accordance with the Environment Agency's written approval.</p>	
Improvement conditions for indirect discharges to water discharged from the Head of works waste operation/installation activity (ARX) [include activities which are relevant to the HoW activity]		
ICXb	<p>The operator shall submit a report for audit and approval by the Environment Agency, following completion of the sampling programme referred to in ICXa. The report shall include but not be limited to; a summary of the sample results, a completed H1 risk assessment(s) and modelling outputs where appropriate.</p> <p>The operator shall provide conclusions on whether the waste waters discharged [to/from] [insert emission point references e.g. S1, S2, SX] will have any adverse impact on the receiving waters once discharged from [insert name of WwTW]. An assessment shall be made against the parameters specified in the relevant environmental standards as specified within our guidance as follows:</p> <p>Specific substances and priority hazardous substances – Surface water pollution risk for your environmental permit Surface water pollution risk assessment for your environmental permit - GOV.UK (www.gov.uk).</p> <p>Sanitary substances – H1 annex D2: assessment of sanitary and other pollutants in surface water discharges 1076_14 H1 Annex D2 - Assessment of sanitary and other pollutants within Surface Water Discharges (publishing.service.gov.uk).</p> <p>The report shall include any proposals and/or additional measures required to prevent or minimise</p>	<p>Within 12 months of the Environment Agency's written approval of the sampling programme submitted under ICXa or such other date as agreed in writing with the Environment Agency</p>

Table S1.3 Improvement programme requirements		
Reference	Requirement	Date
	any significant emissions from the installation along with timescales for implementation.	
ICXc	The operator shall implement the improvements identified within the report approved under ICXb in accordance with the Environment Agency's written approval and provide written confirmation to the Environment Agency that the improvements have been completed.	Within 6 months of the report in relation to ICXb being submitted to the Environment Agency or such other date as agreed in writing with the Environment Agency