Permitting Decisions- Bespoke Permit

We have decided to grant the permit for Thetford Waste Water Treatment and Transfer Station (WWTP) operated by Whites Recycling Ltd.

The permit number is EPR/PP3902LU.

Thetford Wastewater Treatment Plant is located at Brickfields Way, Thetford, Breckland, Norfolk. The site lies in a commercial area to the north of Thetford town centre and to the east of the A1066 which connects to the A11 (National Grid Reference TL 86728 84213). The surrounding area is predominantly a commercial and industrial setting, with agricultural land further to the north and residential areas and the town centre to the south. The closest designated site is the Breckland Forest which is a Special Area of Conservation (SAC), Special Protection Area (SPA) and Sites of Special Scientific Interest (SSSI) this is located over 1km west of the site.

The installation is a wastewater treatment plant (WwTP) that falls under Section 5.4 Part A(1)(a)(ii) of the Environmental Permitting (England and Wales) Regulations 2016 - Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment. The facility is engineered to treat liquid and sludgy wastes from food processing and manufacturing activities, prior to discharge to foul sewer under a trade effluent consent with Anglian Water PLC. The final receiving water for the treated effluent is the River Little Ouse approximately 861m south of the site. The facility is designed to treat approximately 400 m^3 of wastewater per day.

The processing building will allow internal delivery of the wastewater via road tankers. The building houses a rotary screener and a skip (that is used in storing the coarse screened material), a Dissolved Air Flotation (DAF) system, a sealed tank for the sludge and an odour control unit (carbon filter). The treatment units also include three bunded 225 m^3 tanks with secondary containment and reinforced concrete walls and floor that are located outside. The tanks are used for storing incoming raw effluent, screened wastewater and treated water. The clarified sub-natant liquid (after treatment in the DAF plant) is discharged to foul sewer under a trade effluent consent, and the remaining sludge is stored in a sealed tank prior to off-site disposal.

There are three-point source emissions from this facility. Emission to air from the odour control unit exhaust fan set, emission to foul sewer from the discharge of treated effluent and emission to surface water sewer for uncontaminated roof water.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document provides a record of the decision-making process. It:

- summarises the decision making process in the decision considerations section to show how the main relevant factors have been taken into account
- highlights key issues in the determination.

Unless the decision document specifies otherwise, we have accepted the applicant's proposals.

Read the permitting decisions in conjunction with the environmental permit.

Key issues of the decision

1. Waste Classification

The waste being treated is described as 'liquid food processing and manufacturing wastes' delivered in 90 to 95% water content. Based on this description and the treatment being physico-chemical treatment of waste, the best classification of the waste under the Waste Treatment BAT Conclusions is 'water-based liquid waste'. However, the operator argued that 'liquid biodegradable waste' is the best description of the waste being treated, as it is defined in the Waste Treatment BAT as 'waste of biological origin with a relatively high-water content (e.g., fat separator contents, organic sludges, catering waste).'

Water-based liquid waste is defined as 'waste consisting of aqueous liquids, acids/alkalis or pumpable sludges (e.g., emulsions, waste acids, aqueous marine waste) which is not liquid biodegradable waste'. As stated in Section 5.7.1 of the Waste Treatment BREF, under physico-chemical treatment of waste and sub-section on treatment of water-based liquid waste, the waste input types can be *'aqueous liquid wastes with high concentrations of biodegradable materials'.* This matches the type of waste the facility will be treating and confirms that water-based liquid waste is an appropriate description.

2. Treatment method

It is important to note, the operator has opted to use physico-chemical treatment method instead of biological treatment method even though the waste is biodegradable in nature. The operator requested their activity to be permitted as physico-chemical treatment of liquid biodegradable waste. However, with the inclusion of waste codes from chapter 16 and 19 in their List of Waste (LoW), the description of liquid biodegradable waste is not sufficient.

Therefore, the activity is permitted as physico-chemical treatment of water-based liquid waste after due consideration of the details in the Waste Treatment BAT Conclusions and relevant section of the Waste Treatment BREF.

3. Pre-operational and Improvement Conditions

Since the facility has not been constructed before the permit is issued**,** a pre-operational condition has been included to ensure the proposed facility is constructed to the standards specified in the Waste Treatment BAT Conclusions, the Non-hazardous and inert waste: appropriate measures for permitted facilities and the CIRIA report C736.

An improvement programme was also included to ensure that the predicted pollutants in the wastewater that are discharged to sewer can be sampled and monitored for 6 months to confirm the actual pollutants discharged and ensure they have no significant or adverse impact on the final receiving waters.

4. Noise assessment

Noise Impact Assessment (NIA) was submitted, but this is not required based on the result our internal Quantitative Noise Screening Tool (QNST) which indicates that both NIA and Noise Management Plan (NMP) are not required. We have not assessed or considered the NIA in the determination of this application.

Decision considerations

Confidential information

A claim for commercial or industrial confidentiality has not been made.

The decision was taken in accordance with our guidance on confidentiality.

Identifying confidential information

We have not identified information provided as part of the application that we consider to be confidential.

The decision was taken in accordance with our guidance on confidentiality.

Consultation

The consultation requirements were identified in accordance with the Environmental Permitting (England and Wales) Regulations (2016) and our public participation statement.

The application was publicised on the GOV.UK website.

We consulted the following organisations:

- Natural England
- Local Authority Environmental Protection Department
- Local Sewerage Undertaker
- Health and Safety Executive
- Animal and Plant Health Agency

The comments and our responses are summarised in the consultation responses section.

Operator

We are satisfied that the applicant (now the operator) is the person who will have control over the operation of the facility after the grant of the permit.

The decision was taken in accordance with our guidance on legal operator for environmental permits.

The regulated facility

We considered the extent and nature of the facility at the site in accordance with RGN2 ‘Understanding the meaning of regulated facility’, Appendix 2 of RGN2

‘Defining the scope of the installation’, Appendix 1 of RGN 2 ‘Interpretation of Schedule 1’.

The extent of the facility is defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.

The site

The operator has provided plans which we consider to be satisfactory.

These show the extent of the site of the facility including the discharge points. Discharge to foul sewer and air emissions via an exhaust stack.

The plan is included in the permit.

Site condition report

The operator has provided a description of the condition of the site, which we consider is satisfactory. The decision was taken in accordance with our guidance on site condition reports and baseline reporting under the Industrial Emissions Directive.

Nature conservation, landscape, heritage and protected species and habitat designations

We have checked the location of the application to assess if it is within the screening distances, we consider relevant for impacts on nature conservation, landscape, heritage and protected species and habitat designations. The application is within our screening distances for these designations.

We have assessed the application and its potential to affect sites of nature conservation, landscape, heritage and protected species and habitat designations identified in the nature conservation screening report as part of the permitting process.

We consider that the application will not affect any site of nature conservation, landscape and heritage, and/or protected species or habitats identified.

The H1 assessment provided by the applicant for their discharge to foul sewer screened out as insignificant for the potential pollutants in the effluent. The assessment was conducted in line with our guidance on risk assessing discharges to surface water (Surface water pollution risk assessment for your environmental permit - GOV.UK (www.gov.uk)). The potential pollutants considered include metals (copper, iron, lead and zinc); these were assessed at the maximum possible concentrations by assuming that the site is operating 100% of the year. The predicted maximum concentrations for iron and lead screened out after adding the sewage treatment factors and dilution available in

the receiving waters (River Little Ouse). The process contribution (PC) for iron and lead were less than 4% of the environmental quality standards (EQS). The predicted environmental concentration (PEC) of the two remaining pollutants copper and zinc were less than 10% of the EQS. This proposed discharge will not lead to any deterioration of the chemical status of the river; therefore, this activity is considered to have insignificant effect on any of the features of the Breckland SAC and SPA which have habitats that are functionally linked to the river.

The only point source emissions to air are those associated with odorous compounds from the waste reception building. Odour is a potential nuisance to the closer human receptors and is managed in line with BAT Conclusions for the waste sector. This includes an odour abatement system to protect human receptors and comply with our guidance. Given the nature of the permitted characteristics and the fact that there is no mitigation required for the habitats, and by considering the distance from the site to the nearest parts of the SAC (1711m) and SPA (965m); we have concluded that there is no mechanism or pathway for an impact.

We have not consulted Natural England.

The decision was taken in accordance with our guidance.

Environmental risk

We have reviewed the operator's assessment of the environmental risk from the facility.

The operator’s risk assessment is satisfactory.

Operating techniques

The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.

General operating techniques

We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and we consider them to represent appropriate techniques for the facility.

The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.

The operating techniques are in line with the Waste Treatment BAT Conclusions, Non-hazardous and inert waste: appropriate measures for permitted facilities, and control and monitor emissions for your environmental permit.

Operating techniques for emissions that screen out as insignificant.

Emissions of metals (copper, iron, lead and zinc) in the effluent discharge have been screened out as insignificant, and so we agree that the applicant's proposed techniques are Best Available Techniques (BAT) for the installation.

We consider that the emission limits included in the installation permit reflect the BAT for the sector.

Odour management

We have reviewed the odour management plan (OMP) in accordance with our guidance on odour management.

The OMP initially submitted was considerably updated based on a Schedule 5 notice which require the operator to provide detailed information on the odour control system, control measures, process monitoring, trigger levels for the proposed abatement system and odour sources.

We consider that the odour management plan is satisfactory, and we approve this plan.

We have approved the odour management plan as we consider it to be appropriate measures based on information available to us at the current time. The applicant should not take our approval of this plan to mean that the measures in the plan are considered to cover every circumstance throughout the life of the permit.

The applicant should keep the plans under constant review and revise them annually or if necessary, sooner if there have been complaints arising from operations on site or if circumstances change. This is in accordance with our guidance 'Control and monitor emissions for your environmental permit'.

The plan has been incorporated into the operating techniques S1.2.

Raw materials

We have specified limits and controls on the use of raw materials and fuels.

The raw materials used for pH control, coagulation and flocculation are listed in Table S2.1 and stored in individual 5 m^3 bunded vessels located inside the ventilated main building on an impermeable surface, which is sufficient. The storage requirements in the safety data sheets (SDS) submitted by the operator specify the raw materials should be kept in containers tightly closed in a dry, cool and well-ventilated place.

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	**Specification**
Caustic (Neutralac)	45% lime
Sulphuric Acid	50% sulphuric acid
Coagulant	40% Ferric sulphate
Flocculant	Aquatreat

Waste types

We have specified the permitted waste types, descriptions and quantities, which can be accepted at the regulated facility.

We are satisfied that the operator can accept these wastes for the following reasons:

- they are suitable for the proposed activities
- the proposed infrastructure is appropriate; and
- the environmental risk assessment is acceptable.

We have excluded the following waste for the following reason**:**

19 01 99 - *19 01 Wastes from incineration or pyrolysis* this has been removed because it is not classified as a water-based liquid waste based on the origin/source of the waste code.

The operator used this waste code to represent compost leachate. However, compost leachate is better suited to 19 05 99 – wastes not otherwise specified under *19 05 Wastes from anaerobic treatment of solid wastes.*

We accepted the following waste for the following reason:

19 05 99 – *19 05 Wastes from aerobic treatment of solid wastes* has been accepted with a description restriction because it better represents compost leachate. The addition of EWC code **19 05 99** with the restriction of '*compost leachate from composting of green waste only'.*

Pre-operational conditions

Based on the information in the application, we consider that we need to include pre-operational conditions.

Since the facility has not been constructed before the permit is issued, the operator shall provide a written commissioning plan including timescales for

completion for approval by the Environment Agency. It is to ensure that the facility is constructed to the standards required by the Waste Treatment BAT and the appropriate measures outlined in the Non-hazardous and inert waste: appropriate measures for permitted facilities and CIRIA report C736.

Once constructed, the operator is required to submit a construction quality assurance (CQA) validation report. The CQA must be signed off by an appropriately qualified person.

Improvement programme

Based on the information on the application, we consider that we need to include an improvement programme.

We have included an improvement programme to ensure that the predicted pollutants in the wastewater that are discharged to sewer can be sampled and monitored for 6 months to confirm the actual pollutants discharged and ensure they have no significant or adverse impact on the final receiving waters.

The sampling and monitoring programme shall be carried out at a frequency of a minimum of two samples a month and must total a minimum of 12 samples overall. The sampling and monitoring programme must be in line with the Environment Agency guidance https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit and at standards outlined in Table S3.2 of the permit.

Emission Limits

Emission Limit Values (ELVs) and equivalent parameters or technical measures based on the Waste Treatment Best Available Techniques (BAT) for treatment process for water-based liquid waste have been added for the following substances:

- Hydrocarbon oil index (HOI)
- Free cyanide (CN-)
- Adsorbable organically bound halogens (AOX)
- Arsenic (expressed as As)
- Cadmium (expressed as Cd)
- Chromium (expressed as Cr)
- Copper (expressed as Cu)
- Lead (expressed as Pb)
- Nickel (expressed as Ni)
- Zinc (expressed as Zn)
- Mercury (expressed as Hg)
- Hexavalent chromium (expressed as Cr(VI))

Iron, a potential pollutant listed in the H1 assessment, screened out and is not

listed in Table S3.2 in the permit because it is not included in the Waste Treatment BAT Table 6.2 for indirect discharges to receiving waters and has no limits set.

In the trade effluent consent with Anglian Water plc, the limit for zinc is 1.0 mg/l, but Waste Treatment BAT AEL states a zinc limit up to 2.0 mg/l for treatment of water-based liquid waste. The limit of 2.0 mg/l has been written in the permit.

With the proposed treatment being physico-chemical treatment of water-based liquid waste, the following three substances will be used to monitor the odour concentration: Ammonia (NH_3),hydrogen sulphide (H_2S) and total volatile organic carbon (TVOC). This is in reference to BAT 53 and BAT 8 in the Waste Treatment BAT conclusions. The odour management plan also proposed to monitor hydrogen sulphide (H_2S), ammonia and VOC in Section 3.11 Odour Abatement System.

Monitoring

We have decided that monitoring should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified.

We made these decisions in accordance with Waste Treatment BAT Table 6.2 and BAT 53 emissions to air for treatment of water-based liquid waste.

Based on the information in the application we are satisfied that the operator's techniques, personnel and equipment have either MCERTS certification or MCERTS accreditation as appropriate.

Reporting

We have specified reporting in the permit.

We made these decisions in accordance with the Waste Treatment BAT Conclusions and Non-hazardous and inert waste: appropriate measures for permitted facilities.

Management System

We are not aware of any reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.

The decision was taken in accordance with the guidance on operator competence and how to develop a management system for environmental permits.

We only review a summary of the management system during determination. The applicant submitted their full management system. We have therefore only reviewed the summary points.

A full review of the management system is undertaken during compliance checks.

Technical Competence

Technical competence is required for activities permitted.

The operator is a member of the CIWM/WAMITAB scheme**.**

We are satisfied that the operator is technically competent.

Previous performance

We have assessed operator competence. There is no known reason to consider the applicant will not comply with the permit conditions.

No relevant convictions were found. The operator satisfies the criteria in our guidance on operator competence.

Financial competence

There is no known reason to consider that the operator will not be financially able to comply with the permit conditions.

Growth duty

We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to grant this permit.

Paragraph 1.3 of the guidance says:

“The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation.”

We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections.

We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution.

This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.

Consultation Responses

The following summarises the responses to consultation with other organisations, our notice on GOV.UK for the public and the way in which we have considered these in the determination process.

Responses from organisations listed in the consultation section:

Response received from Anglian Water Services Ltd.

Brief summary of issues raised: The water company made the below comments and shared the agreed trade effluent consent they have with the operator.

- Trade Effluent – This site currently has a consent to discharge trade effluent. The consent defines the permitted flows and concentrations and applies other conditions relating to the discharge of trade effluent to our foul sewer prior to being treated at our Thetford Water Recycling Centre. Subject to compliance with the consent, and timely notification of any proposed changes which may impact on the quality and/or quantity of trade effluent being discharged, we have no concerns.
- Groundwater resources – Following an assessment by our Water Resources Team, and whilst we do have a number of abstractions in the Thetford area, we believe the risk from this site to be extremely low. However, our expectation is that the Environment Agency will impose any conditions necessary within the permit in order to fully protect the underlying aquifer.
- Surface water resources – There are no surface water assets/abstractions in the area, so no perceived risk.
- Biodiversity – Whilst our Thetford Water Recycling Centre has value in the context of biodiversity, we do not believe there to be any risk posed by this site assuming it is operating in compliance with all regulatory requirements. However, should the Environment Agency deem there to be a risk then our expectation is that this is mitigated by way of permit conditions.

Summary of actions taken: we have taken the comments above into consideration and have included appropriate limits in the permit for discharge to sewer to ensure that the receiving waters are adequately protected.