

Non-Technical Summary

1.1 Introduction

The Non-technical summary has been written to support an application for a new bespoke Environmental Permit for Cliff Quay Sludge Treatment Centre (STC) (the “site”) by Anglian Water (AWS) (“the Operator”). In order to satisfy the requirements of the Environmental Permitting Regulations (EPR) 2016, the Operator must apply to the Environment Agency for a new Environmental Permit to consolidate the two existing waste operation permits.

1.2 Overview of the site and activities

Cliff Quay Water Recycling Centre (WRC) and Sludge Treatment Centre (STC) is located Cliff Quay Waste Water Treatment Works, Raeburn Road, Suffolk, IP3 0ET (NGR: TM 17249 41816). The WRC is operated under the Urban Wastewater Treatment Regulations (UWWTR) and has a standalone Water Discharge Activity Environmental Permit, which will remain an independent permitted activity. The STC operation is a non-hazardous waste activity which is currently carried out under a bespoke waste operation permit (EPR/LP3593VN). The waste activity comprises of imports, physio-chemical and anaerobic digestion (AD) treatment, and the storage of waste, all for recovery purposes. The STC handles waste derived from the wastewater treatment process indigenously produced on-site and imported wastes. The site undertakes AD of sewage sludge from the on-site WRC and will continue this operation under a new bespoke Industrial Emissions Directive (IED) installation permit.

The Combined Heat and Power plant is also currently permitted under a waste operation permit (EPR/CP3938HL). Electricity and heat for the site are primarily provided by the combustion of biogas generated from the 2 spark ignition CHP engines (2.8MWth each) and combustion of biogas in two composite boilers (1.9MWth each) from receipt of materials to dispatch of products and waste, and by dual fuel (biogas and gas oil) steam raising boiler providing steam to the biological hydrolysis process (HPH) plant.

AWS are applying for a variation to the existing STC waste operation permit and consolidate with the CHP waste operation permit. This will form a Bespoke Installation Permit for the STC waste activity, as a joint Environment Agency and Department for Environment, Food and Rural Affairs (DEFRA) decision has been made that AD treatment facilities at WRCs and STCs are covered by the Industrial Emissions Directive and should no longer operate as separate waste activities.

The primary permitted installation activity will be the AD treatment activity. The AD activity will treat indigenously produced sludges and imported sludges. Permitted Directly Associated Activities (DAAs) will be the physio-chemical treatment of sludges; the storage of sludges and cake from AD activity; the storage of biogas derived from the AD treatment of waste and the combustion of biogas in an on-site Combined Heat and Power plant (CHP). In the event the CHP cannot run in an emergency or due to operational issues, biogas will be combusted via an on-site flare stack and boiler system. Several assets were added in a permit variation in 2012, one of which was the AMTREAT plant, a biological process, treating over 50 tonnes per day. Structures associated with the enhanced treatment processes comprising of biological hydrolysis pre-treatment of sludge and anaerobic sludge digestion were also added in the 2012 variation, and the site plan was amended accordingly.

As part of this permit variation and consolidation, AWS wishes to add 3 new EWC waste codes to allow for cake to be imported onto site for treatment and/or storage before deployment to land. These codes are 19 02 06 “sludges from physico/chemical treatment other than those mentioned in 19 02 05” and 19 06 06 “digestate from anaerobic treatment of animal and vegetable waste”. 16 10 02 also needs to be added to allow for tankered imports of domestic wastes, alongside 20 03 04 which is already on the existing permit. The full list of EWC waste accepted at Cliff Quay, and to be included on the permit, are listed in Appendix A.

The IED permit will include:

- 1 x Imported & Primary sludge tank
- 1 x Cake reception building, bunker and storage silo
- 1 x Blending tank
- 1 x HpH Process, comprising of;
 - 1 x Heating Tank
 - 2 x Pasteurisers
 - 1 x Hydrolysis Tank
- 2 x Digestors
- 1 x Gas Holder
- 1 x Post Digestion Tank
- 1 x Gas oil tank for boiler
- 1 x RO Plant Salt Storage
- 1 x Waste Oil Tanks in CHP engines
- 2 x CHP engines
- 1 x Anoxic Tank
- 1 x AMTREAT Plant
- 1 x Poly Make up Silo
- 3 x Centrifuges (Duty/Duty/Standby) (final product dewatering)
- 2 x Composite dual fuel steam raising boilers
- 1 x Biogas burner (flare stack)

The following are outputs from the process:

- Cake (dewatered post digestion sludge) - stored in cake bays before being shipped for use as a soil conditioner.
- Bio-gas - stored in an existing gas holder, and is then either:
 - – Burnt in CHPs, for use on site with surplus exported to the grid
 - – Burnt in the fired steam boiler
 - – Flared in the waste biogas burner.