WASTE WATER SERVICES	PROCEDURE
Date Modified: October 2021	Version: 01
Energy Management plan	

A. INTRODUCTION

This document is an Energy Management Plan for South West Water (SWW), which is required as part of the Environmental Permit application for Hayle Waste Water Treatment Works (WWTW), Station approach, St Erth, Hayle, TR27 6LA (the Site).

This Energy Management Plan (EnMP) is provided in response to Environment Agency (EA) application form Part B3, Questions 6a and 6b. These Questions require the following information:

- Description of the basic measures for improving energy efficiency; and
- Breakdown of any changes to the energy the activities use and/or create.

This EnMP has also been prepared to demonstrate how SWW complies with the Industrial Emissions Directive 2010/75/EU (IED). The EnMP will therefore address appropriate Best Available Technique (BAT) conclusions, as referenced in the Commission Implementing Decision (EU) 2018/1147 of 10 August 2018 establishing BAT conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council.

This EnMP considers the following BAT conclusions to relate directly to energy:

BAT Conclusion 11

"BAT 11 is to monitor the annual consumption of water, energy and raw materials as well as the annual generation of residues and waste water, with a frequency of at least once per year."

BAT Conclusion 23

*"In order to use energy efficiently, BAT is to use both of the techniques given below." (see Reproduced **Table 1**)*

Table 1: BAT 23

Technique		Description
a.	Energy efficiency plan	An energy efficiency plan entails defining and calculating the specific energy consumption of the activity (or activities), setting key performance indicators on an annual basis (for example, specific energy consumption expressed in kWh/tonne of waste processed) and planning periodic improvement targets and related actions. The plan is adapted to the specificities of the waste treatment in terms of process(es) carried out, waste stream(s) treated, etc.
b.	Energy balance record	An energy balance record provides a breakdown of the energy consumption and generation (including exportation) by the type of source (i.e. electricity, gas, conventional liquid fuels, conventional solid fuels, and waste). This includes: (i) information on energy consumption in terms of delivered energy; (ii) information on energy exported from the installation; (iii) energy flow information (e.g. Sankey diagrams or energy balances) showing how the energy is used throughout the process.

		The energy balance record is adapted to the specificities of the waste treatment in terms of process(es) carried out, waste stream(s) treated, etc.

1.1. Review Process

Version	Date	Revised By	Reviewed By	Amendment Details
01	Oct 2021	A Martins	P Duncan	Version 1

B. CONTENTS

C. ENERGY MANAGEMENT

SWW have an Energy Team whose focus is to manage energy usage at the various SWW water and waste water sites (which includes Hayle WWTW). SWW uses a system called NEMESIS that continuously monitors the energy consumption and generation. Energy management objectives and targets are documented and reviewed on a regular basis. Functional and individual site energy targets are set within NEMESIS at the beginning of each financial year and reported on a monthly (and annual) basis on NEMESIS.

A daily report recording any individual sites that have exceeded the set deviation the previous day is automatically emailed detailing the name of the site, the date, deviation duration and manager for this site. The report is monitored daily by the SWW Energy Account Co-ordinator. The site manager will be requested to provide feedback detailing why the issue has occurred and what actions will be taken. Persistently reoccurrences are monitored by the Energy Team who will offer potential assistance in rectifying persistent deviations.

A spreadsheet log maintained by the SWW Energy Accounts team keeps track of all trend deviations that have occurred throughout the year, detailing site name, date, duration, site manager response/reason, date email was sent to site, date followed up, any further investigations or site visits needed, and the resulting corrective action.

The Energy Team also review and predict energy consumption and generation based on the past, present and forecasted energy use. This monthly data is presented annually for the Managements Review Meeting and every 5 years for the Periodic Review meeting. Any relevant variables affecting significant energy use are reviewed monthly and include the impacts of weather, breakdowns, maintenance, new and additional treatment processes and equipment etc. The associated energy consumption and generation performance against annual forecast targets are reported on each month. Objectives and Targets are set for the business for each 5-year AMP period and are reported annually at the Management Review Meeting, with the objective of highlighting basic measures for improving energy efficiency.

It is considered that the use of the NEMESIS system meets the requirements of BAT conclusion 11 and 23, and question 6a and b from EA Part B3.