AVONMOUTH BC (13013)

IED PERMIT APPLICATION

PERMIT NO:

EPR/PP3734LK/C015

EPR/PP3734LK/V014

REQUEST FOR FURTHER INFORMATION

NOVEMBER 2025

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Introduction

This document answers the Request for Information received from the EA on 16/11/2025.

Attachments List

Avonmouth BC process description November 2025

PFDs

- WWSL Process Flow Diagram Sludge AD November 2025
- WWSL Process Flow Diagram Raw Sludge Activity November 2025
- WWEL Process Flow Diagram Food AD November 2025
- WWEL Process Flow Diagram Food Soup November 2025
- WWEL Process Flow Diagram Biogas Utilisation November 2025

Asset and Emission Plans Pack - Avonmouth BC Variation Pack_26-11-2025 (APPROVED)

C3 form

Avonmouth PP3437LK C3 Supporting Information November 2025

Avonmouth AERA - EA query November 2025

Residues Management Plan (TRTWP540)

Waste Management Plan (OPSP343)

Energy Management Plan (TRTWP573)

Avonmouth Energy Efficiency Plan (OPSP367)

Solenis Zetag 9248 FS MSDS

Avonmouth WWEL Renewable Energy Secondary Containment Report

Avonmouth Renewable Energy Odour Management Plan Version 4 November 2025 (IMS029)

Waste Treatment BAT Gap Analysis – Food Waste

Waste Management Plan – BFWRF (GENWMP353)

Waste Management Plan – Renewable Energy (GENWMP353A)

Energy Efficiency - Avonmouth Renewable Energy Site (GENWMP230a

List of Questions

<table>
<tr><td>Q 1</td><td>Payment</td></tr>
<tr><td></td><td>Provide payment of the additional £275 and forward on any remittance information/advice that may help us trace the payment through our internal systems.</td></tr>
<tr><td>Answer</td><td>As discussed in the EA/WW RFI meeting on 17/11/2025; as the head of works (HoW) activity does not take place in this permit, the current fees submitted meet the payment schedule outlined in the RFI. At this time, we have not paid any additional fee, but we are aware there could be future fees incurred, including the Reg61 fee.</td></tr>
<tr><td></td><td></td></tr>
<tr><td>Q 2</td><td>EWC</td></tr>
<tr><td></td><td>Provide separate EWC tables for each of the activities you wish to apply for:</td></tr>
<tr><td>Q 2a</td><td>The sludge AD activity – Note: you will need to limit these to the approved codes for sludge AD, if you do not wish to undertake co-digestion</td></tr>
<tr><td>Q 2b</td><td>The head of works (HoW) activity – Note: If you wish to include any additional codes not covered by the current SR 2008 No.19, you will need to submit a H1 assessment in line with our guidance Surface water pollution risk assessment for your environmental permit. Also note that Controlled Waste Regulation (CWR) would be excluded from the scope of the HoW EWC list.</td></tr>
<tr><td>Q 2c</td><td>The raw sludge dewatering activity – Note: This list should only reflect codes you would expect to use with the sludge AD operation as they utilise the same assets (however if processed in separate batches to the AD the activity may potentially benefit from a separate EWC table and throughput).</td></tr>
<tr><td>Q 2d</td><td>The food waste soup activity – Note: You may want to identify these codes as being the same as the food waste AD operation below as they use the same assets (however if processed in separate batches to the AD the activity may potentially benefit from a separate EWC table and throughput).</td></tr>
<tr><td>Answers</td><td></td></tr>
<tr><td>2a and 2c</td><td>Sludge AD and untreated (raw) sludge operations:
<table>
<tr><td>Waste Code</td><td>Waste description</td></tr>
<tr><td>19 02 06</td><td>sludges from physico/chemical treatment other than those mentioned in 19 02 05</td></tr>
<tr><td>19 08 05</td><td>sludges from treatment of urban waste water</td></tr>
</table></td></tr>
</table>

	19 06 06	digestate from anaerobic treatment of animal and vegetable waste
	19 12 12	wastes from mechanical treatment of wastes other than those mentioned in 19 12 11 (sewage sludge only)
	20 03 04	Septic tank sludge
2b	As discussed in the EA/WW RFI meeting on 17/11/2025; this permit application does not include any waste imports to the head of the works.	
2d	Food Waste AD and soup operations:	
	Maximum quantity	Annual throughput shall not exceed 70,000 tonnes
	Waste code	Description
	02	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing
	02 01	Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing
	02 01 01	Sludges from washing and cleaning – food processing waste, food washing waste
	02 01 02	Animal tissue waste – category 3 animal by-product (ABP) including blood, animal flesh, fish processing waste, fish carcasses, poultry waste
	02 01 03	Plant tissue waste – husks, cereal dust, waste animal feeds
	02 01 06	Animal faeces, urine and manure (including spoiled straw) only
	02 01 07	Wastes from forestry
	02 02	Wastes from the preparation and processing of meat, fish and other foods of animal origin
	02 02 01	Sludges from washing and cleaning – process water – food washing waste
	02 02 02	Animal tissue waste – Category 3 ABP including blood, animal flesh, fish processing waste, fish carcasses, poultry waste
	02 02 03	Materials unsuitable for consumption or processing – coffee, food processing waste, jam, kitchen waste, fruit, vegetable oil, tobacco, tea, vegetable waste – waste fat from processing of meat or fish
	02 02 04	Sludges from on-site effluent treatment
	02 03	Wastes from fruit, vegetables, cereals, edible oils, cocoa, coffee, tea and tobacco preparation and processing; conserve production; yeast and yeast extract production, molasses preparation and fermentation
	02 03 01	Sludges from washing, cleaning, peeling, centrifuging and separation – coffee, mushroom compost, food processing waste, food washing waste, tobacco
	02 03 04	Biodegradable materials unsuitable for consumption or processing (other than those containing dangerous substances)
	02 03 05	Effluent from the process referred to in sources of waste
	02 04	Wastes from sugar processing
	02 04 03	Sludges from on-site effluent treatment – biological sludge
	02 05	Wastes from the dairy products industry
	02 05 01	Biodegradable materials unsuitable for consumption or processing (other than those containing dangerous substances) - solid and liquid dairy products, milk, food processing wastes, yoghurt, whey

02 05 02	Sludges from on-site effluent treatment
02 06	Wastes from the baking and confectionary industry
02 06 01	Biodegradable materials unsuitable for consumption or processing (other than those containing dangerous substances) - food condemned, food processing wastes, biscuits, chocolate, yeast, bread, bakery waste
02 06 03	Sludges from on-site effluent treatment
02 07	Wastes from the production of alcoholic and non-alcoholic beverages (except coffee, tea and cocoa)
02 07 01	Wastes from washing, cleaning and mechanical reduction of raw materials – brewing waste, food processing waste, fermentation waste
02 07 02	Wastes from spirit distillation – spent grains, fruit and potato pulp – sludge from distilleries
02 07 04	Biodegradable materials unsuitable for consumption or processing (other than those containing dangerous substances) - brewing waste, food processing waste, fermentation waste, beer, alcoholic drinks, fruit juice
03	Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard
03 03	Wastes from pulp, paper and cardboard production and processing
03 03 10	Fibre rejects and sludges – paper pulp (de-inked only), paper fibre
03 03 11	Wastes not otherwise specified - sludges from on-site effluent treatment other than those mentioned in 03 03 10
04	Wastes from the leather, fur and textile industries
04 01	Wastes from the leather and fur industry
04 01 01	Fleshings and lime split wastes
04 02	Wastes from the textile industry
04 02 10	Organic matter from natural products (for example, grease, wax)
15	Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified
15 01	Packaging (including separately collected municipal packaging waste)
15 01 01	Paper and cardboard packaging – must confirm to BS EN 13432 – no manmade substances. Only as packaging containing organic waste
15 01 03	Wooden packaging – must conform to BS EN 13432. Only as packaging containing organic waste
15 01 05	Composite packaging – must conform to BS EN 13432. Only as packaging containing organic waste
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use
19 02	Wastes from physico/chemical treatments of waste (including dechromation, decyanidation, neutralisation)
19 02 10	Combustible wastes
19 05	Wastes from aerobic treatment of solid wastes
19 05 01	Non-composted fraction of municipal and similar wastes
19 05 02	Non-composted fraction of animal and vegetable waste
19 05 03	Off-specification compost from source segregated biodegradable waste
19 06	Wastes from anaerobic treatment of waste

	19 06 03	Liquor from anaerobic treatment of municipal waste
	19 06 04	Digestate from anaerobic treatment of source segregated biodegradable waste
	19 06 05	Liquor from anaerobic treatment of animal and vegetable waste
	19 06 06	Digestate from anaerobic treatment of animal and vegetable waste
	19 08	Wastes from waste water treatment plants not otherwise specified
	19 08 09	Grease and oil mixture from oil/water separation containing only edible oil and fats
	19 08 12	Sludges from industrial biological treatment
	20	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
	20 01	Separately collected fractions (except 15 01)
	20 01 01	Paper and cardboard – only as packaging containing organic waste
	20 01 08	Biodegradable kitchen and canteen waste
	20 01 25	Edible oil and fat
	20 01 38	Wood other than that mentioned in 20 01 37, and only where no non-biodegradable coating or preserving substance present – must conform to BS EN 13432
	20 02	Garden and park wastes (including cemetery waste)
	20 01 01	Biodegradable waste – animal faeces, manure, garden waste, green waste, horticultural waste, plant tissue, parks and garden waste, hedge and tree trimmings, grass cuttings and leafy materials
	20 03	Other municipal wastes
	20 03 01	Mixed municipal waste – separately collected biowastes
	20 03 02	Wastes from markets - markets – allowed only if source segregated biodegradable fractions eg. plant material, fruit and vegetables
Q 3	**Confirm that the dewatering of raw sludge activity is carried out in assets that are presently fully enclosed or within a building.**	
Answer	We can confirm that the centrifuges used for the untreated (raw) sludge dewatering activity are enclosed in containers.	
Q 4	**The use of Limpet Boxes (otherwise known as Bell Valves/ Bell Mouths). Confirm whether the digesters/tanks have attached Limpet Boxes (otherwise known as Bell Valves/ Bell Mouths) to assist with spill and fill. If they are present you will need to specify whether these assets represent an uncontrolled emission to air. In the case that these assets are open to air, you will need to update your asset plans and emission point plans to highlight their inclusion. For the purpose of determination, we consider the limpet boxes to represent separate assets to the digesters/tanks requiring their own emission points.**	
Answer	There are two relevant locations on site where limpet boxes are installed: 1. We confirm that the Avonmouth BC digesters do have limpet boxes and, as requested, we have updated the asset and emission point plans.	

	Asset and emission references used in these plans replace the existing emission points. 2. The Food Waste Digester Limpet Boxes are to be used as emergency overflows only and therefore are not active emissions. They have been captured in the asset and emissions plans as requested. This document is provided in response to the RFI. Our position is that limpet boxes are not point or channelled sources of emissions to air and therefore should not be recorded on asset and emission point plans. We do accept that limpet boxes represent a diffuse source of air emissions and will require abatement under BAT 14. However, we have concerns regarding inconsistency with the permitting approach being applied for limpet boxes, in particular for other water companies with limpet boxes that have not been included in their permits issued to date, and the overall aim to align water industry anaerobic digestion permits with other installation permits, including those in the wider Waste Treatment sector, which we also understand do not include limpet boxes in their permits. We would welcome further information on how limpet box abatement will be applied to existing Water Industry permits and how this will be regulated.
Q 5	**<u>Non-technical summary</u>**
	Provide a revised version the 'Avonmouth Bioresources Centre Process Description' document that includes a description of the separate raw sludge dewatering, food soup process and the Import of waste into the head of works operations.
Answer	Document entitled: Avonmouth BC process description November 2025 has been provided.
Q 6	**Process flow diagram.** **Provide revised process flow diagrams that clearly identify the five separate operations occurring with the permit in line with the information provided in Q5.**
Answer	Five documents are provided. • WWSL Process Flow Diagram Sludge AD November 2025 • WWSL Process Flow Diagram Raw Sludge Activity November 2025 • WWEL Process Flow Diagram Food AD November 2025 • WWEL Process Flow Diagram Food Soup November 2025 • WWEL Process Flow Diagram Biogas Utilisation November 2025
Q 7	**Secondary Containment Report**
	Provide a secondary containment report produced in line with CIRIA 736 Guidance that addresses the tanks/assets that form the Food Soup and Food Waste AD operations including the following aspects:
Answer	Revised WWEL Containment report attached: Avonmouth Renewable Energy Site Secondary Containment Report

Q 8	**Confirm the throughput for the following activities:**
Q 8 a	**The Food Soup operation**
Q 8 b	**The import of waste to the head of works**
Q 8 c	**The raw sludge dewatering activity**
Q 8 d	**The existing food waste AD operation (this may be shared with Food Soup operation if only one activity is operated at once and they share an EWC table)**
Q 8 e	**The sludge AD operation**
Answer	
8a	Food Soup operation = 70,000 wet tonnes
8b	As discussed in the EA/WW RFI meeting on 17/11/2025; this permit application does not include any waste imports to the head of the works.
8c	Untreated (raw) sludge dewatering = 290,000 wet tonnes
8d	Existing food waste AD operation = 70,000 wet tonnes
8e	Sludge AD operation = 2,850,000 wet tonnes. This figure includes imports and indigenous sludge produced by the adjoining WRC. This is a maximum figure of unthickened sludge entering the IED permitted area.
Q 9	**Provide a completed and up to date version of Form C3**
Answer	See completed C3 form and the Avonmouth C3 supporting information document.
Q 10	**Air Emission Risk Assessment . Provide the oxygen and moisture parameters used in the normalised volumetric flow calculations.**
Answer	AERA report has been revised by our consultant and is attached. Document title: Avonmouth AERA - EA query November 2025
Q 11	**Residues management plan. Provide a copy of your residues management plan**
Answer	Document titles: • Residues Management Plan (TRTWP540) • Waste Management Plan – BFWRF (GENWMP353) • Waste Management Plan – Renewable Energy (GENWMP353A)
Q 12	**Raw Materials inventory and water usage-** **Provide a document that details a raw materials inventory and outline the sites water usage as well as a description of the raw material usage efficiency techniques You may include this in your residues management plan if you so wish.**
Answer	Document titles: • Avonmouth BC waste management plan (OPSP343) • Waste Management Plan – BFWRF (GENWMP353) • Waste Management Plan – Renewable Energy (GENWMP353A)
Q 13	**Energy usage/efficiency techniques and Waste minimisation review**

	Provide a document that provides an energy usage/efficiency techniques and describes the measures used to maintain these. In addition, we require a detailed copy of your waste minimisation review. You may include these elements in your residues management plan if you so wish.
Answer	Document titles: • Avonmouth Energy Efficiency Plan (OPSP367) • Energy Efficiency - Avonmouth Renewable Energy Site (GENWMP230)
Q 14	**Legal Entity**
Q 14 a	**Confirm whether Wessex Water Services Limited are the official legal entity, carry out the day to day running of the site and hold ultimate responsibility for the entire site subject to the application.**
Q 14 b	**Or** **Confirm that the legal entity for the site (as per the aspects mentioned above) is shared between Wessex Water Service Limited and Wessex Water Enterprises Limited. If the latter is correct and both operators <u>currently</u> represent the official legal entities, you will be required to submit a partial transfer application before the 31st January 2026.**
Answer	The Legal entity for the site is shared between Wessex Water Services Limited and Wessex Water Enterprises Limited. A partial transfer application will be submitted before the 31/01/2026 as advised during the EA/WW meeting held on 17/11/2025.
Q 15	**Mothballed activities**
	Confirm the following questions relating to the currently mothballed activities:
Q 15 a	**What on site assets are used for the raw sludge dewatering activity and are these shared with the Sludge AD operation?**
Q 15 b	**What on site assets are used for the food soup activity and are these shared with the food waste AD operation?**
Q 15 c	**Confirm that the raw sludge dewatering and the food soup activities are being undertaken due to the current AD operations being mothballed.**
Q 15 d	**Confirm whether these activities can only be operated independently of the respective AD operations they are being substituted for.**
Answer	15a. Please see Process Flow Diagram and Process Description. The assets used for storing and physical treatment of the untreated (raw) sludge dewatering activity may be the same assets used for the sludge AD treatment process. Whilst there are typically dedicated centrifuges for the dewatering of untreated (raw) sludge and treated (digested) sludge, there may be occasions where the centrifuges will process the other waste type. On these occasions, the wastes will be kept separate and WWSL will follow Clean-down procedure (swapping sludge assets between treated and raw sludge waste types) TRTWP567. Untreated (raw) and treated (digested) sludge will never be dewatered together. 15b.

	See Process Flow Diagrams and Process Description. The assets used for the food soup are the same assets as used for food waste AD. 15c. Food soup activities are being undertaken as a contingency measure and are carried out during times of maintenance and operational outages of the food waste AD plant. The food waste AD plant is not mothballed, but it is not currently operational whilst maintenance is undertaken. 15d. These activities will only be operated independently of the respective AD operations they are being substituted for.
Q 16	**Shared process assets and segregation**
	Provide confirmation that sludge waste (raw and digestate) and food waste (raw and digestate) are kept segregated across the entire process including all pipeline and assets. The only shared assets permissible between food waste AD and sludge AD would be gas pipelines and combustion/biogas assets. Also confirm that the digestates from the two AD processes are not blended or mixed together either within the permit boundary or outside the permit boundary as part of any other permitted activities carried out on site.
Answer	We confirm that sludge waste (raw and digestate) and food waste (raw and digestate) are kept segregated across the entire process including all pipeline and assets. The only shared assets are gas pipelines and biogas assets and biogas consumers. We have a series of demarcation diagrams available. The digestates from the two AD processes are never blended or mixed together, either within the permit boundary or outside the permit boundary.