

Notice: Variation of Permit

This permit has been varied by the Scottish Environment Protection Agency (SEPA) in exercise of its powers under Regulation 46 of the Pollution Prevention and Control (Scotland) Regulations 2012 ("the Regulations"). The terms used in this notice, unless otherwise defined, have the same meaning as in the Regulations.

Permit Number:	PPC/A/1181922
Operator:	Westfield Energy Recovery Limited C/O Brockwell Energy Limited, Caledonian Exchange, 19a Canning Street, Edinburgh, EH3 8EG Company No: SC579887
Variation Number:	VAR 01
Effective Date of Variation:	25 May 2023
Details of Variation:	The permit is varied as specified in the Schedule attached.

Schedule

Permit number PPC/A/1181922 has been varied as follows:

1. In Schedule 1, in paragraph 1.1.4, sub-paragraph c) is deleted and is replaced by the following new sub-paragraph:

- c) a single line forward-acting air-cooled grate incinerator and associated combustion chamber for the incineration of waste at temperatures above 850°C with a 2 second residence time. The single line is capable of burning up to 250,000 tonnes per annum of non-hazardous residual refuse derived fuel (with nominal design capacity of approximately 230,850 tonnes per annum based on 8,100 hours operation and throughput of 28.5 tonnes per hour of waste with a net calorific value (NCV) of 10 MJ/Kg). The combustion temperature is supported by auxiliary firing of two gas-oil fired low NO_x burner(s). Primary air feed is drawn from the Waste Reception Area and fed via the underside of the grate; secondary air feed is injected above the flame body on the grate;

2. In Schedule 1, in paragraph 1.1.4, sub-paragraph e) to g) inclusive are deleted and are replaced by the following new sub-paragraphs:

- e) a high-efficiency condensing steam turbine for the generation of electrical energy and allowing heat export. At the nominal design case of 100% Maximum Continuous Rating (MCR), the electrical generator is capable of generating approximately:
 - (ii) 25.8 MWe exporting up to 23.1 MWe with no heat export; or,
 - (iii) 25.1 MWe and exporting up to 22.4 MWe with 20.0 MWth of maximum heat export (6MWth net heat export, based on 14 MWth heat return from heat customers).
- f) equipment for transfer, cooling, screening, and storage of bottom ash comprising the following:
 - (i) an ash pit through which the bottom ash falls to a water-filled discharger to cool the ash to 80 – 90°C;
 - (ii) a hydraulic ram which pushes the IBA out of the discharge outlet chute;
 - (iii) a vibrating conveyor with a screen to remove oversize objects;
 - (iv) transfer by conveyor belt to a dedicated ground-level storage bay in the bottom ash storage area inside a fully enclosed building prior to loading into trucks for transfer off-site; and,
 - (v) external coarse material container area for temporary storage of oversize objects collected from the bottom ash.
- g) two 120 tonne Air Pollution Control residues (APCr) silos which can be operated in sequence or in parallel. A portion is recycled back into flue

gas treatment reactor, and the remainder is discharged to the silos to be tankered off-site for treatment or disposal. The APCr silos' discharge point and transport vehicle are located inside a covered area with a dedicated drainage system which directs any run-off from the off-loading area to the bottom ash water tank;

3. In schedule 1, in paragraph 1.1.4, sub-paragraph i) is deleted and is replaced by the following new sub-paragraph:

- i) flue gas cleaning and conditioning comprising the following:
 - (i) Selective Non-Catalytic Reduction (SNCR) injection of ammonia solution into the combustion chamber and Flue Gas Recirculation (FGR) to control NOx emissions;
 - (ii) inside the flue gas treatment building a fabric bag filter for the removal of particulate matter and heavy metals, injection of powdered activated carbon (PAC) upstream of the fabric bag filter for abatement of dioxins/furans and other volatile organic compounds and heavy metals, and injection of hydrated lime at the same location for abatement of acid gases including sulphur dioxide; and
 - (iii) discharge to atmosphere via an induced draft fan and an external 80 metre stack;

4. In schedule 1, in paragraph 1.1.4, sub-paragraphs l) to o) inclusive are deleted and are replaced by the following new sub-paragraphs:

- l) a fan for extraction of odorous air and equipment for the abatement of odour emissions from the Waste Reception Area for periods when the incinerator is shut-down, this shall be known as the "Odour Extraction & Abatement System" or "OEAS". The OEAS discharges to atmosphere via a 47.2 metre stack;
- m) process effluent including reject stream from the reverse osmosis plant, boiler blow down, wastewater from cleaning and any bottom ash effluent is discharged into the bottom ash water tank for settlement. The effluent which collects in the tank is reused in the bottom ash quench with surplus effluent flowing back to the tank via the boiler hall pit. Excess effluent which cannot be recycled such as arisings from maintenance outages are sent off-site by tanker for treatment and disposal from the bottom ash water tank;
- n) standby gas-oil fired electrical generation ("the standby generator") to provide electrical power to the plant to allow a safe shutdown in the event of loss of generation or the grid supply, and load bank. The standby generator has a net rated thermal capacity of around 4.6 MW (Output 1.6 MWe); and,

- o) site utilities and services not described elsewhere in this Schedule including control systems for the operation of the Permitted installation; the air-cooled condenser to condense exhaust steam from the turbine for recirculation in the boiler; and compressed air systems.

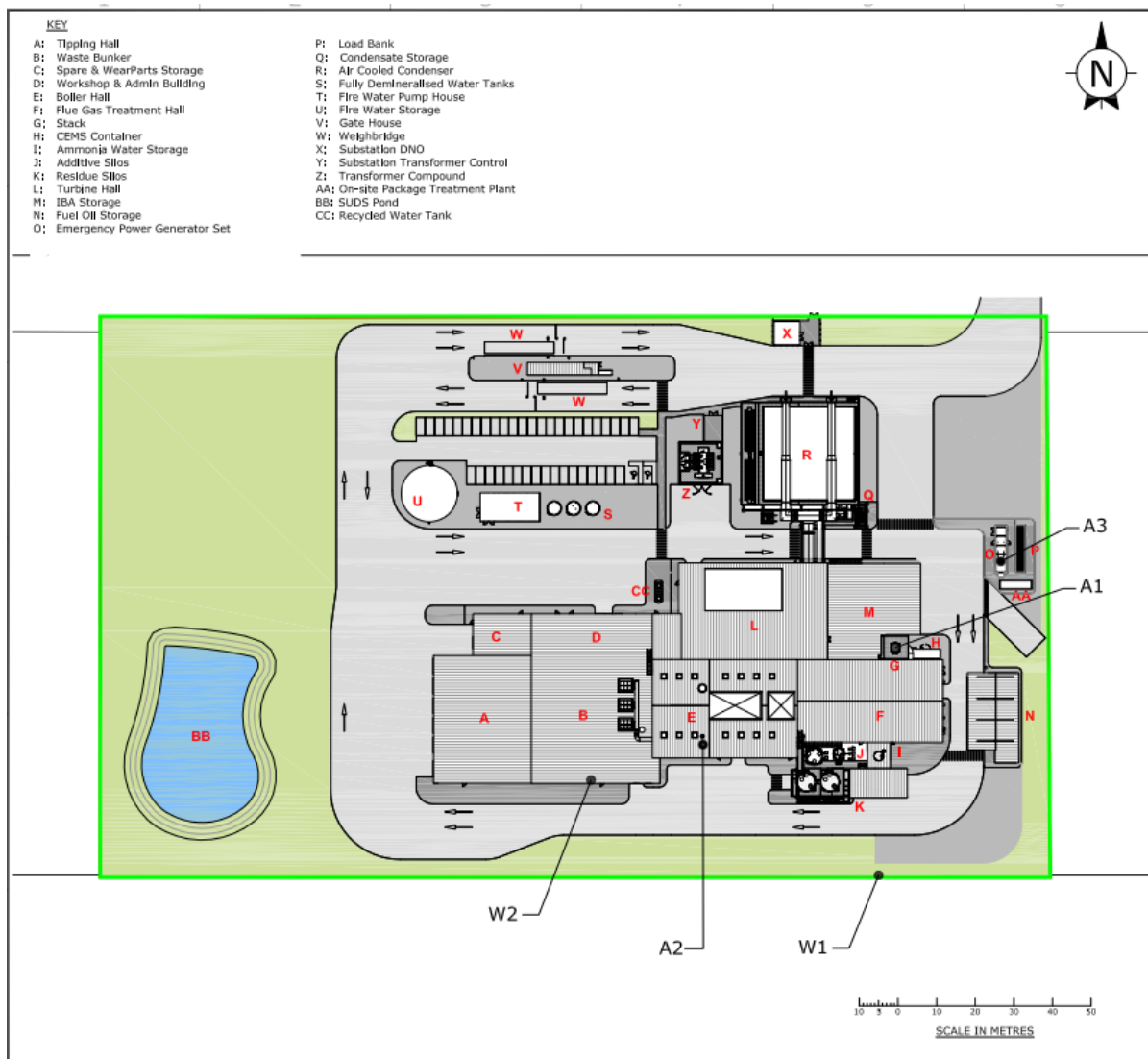
5. In Schedule 1, in paragraph 1.1.5, sub-paragraph a) is deleted and is replaced by the following new paragraph:

- a) A surface water collection and treatment system for uncontaminated surface water comprising the following:
 - (i) discharge to a Sustainable Urban Drainage System (SUDS) pond via a Class 1 bypass petrol interceptor into an outfall in the Lochty Burn (NGR NT 19911 98060);
 - (ii) penstock valve with facility for automatic remote operation to isolate discharge from the SUDS pond prior to discharge to the Lochty Burn in the event of an emergency;
 - (iii) abstraction from the SUDS pond for reuse in the bottom ash cooling system; and,
 - (iv) a separate rainwater harvesting system for reuse of clean surface from main building roof for use in site sanitary systems via a recycled water tank.

6. In Schedule 1, in paragraph 1.1.6, the text “Foul sewage treatment plant” is deleted and is replaced by the text “On-site package treatment plant”.

7. In Schedule 1, in 1.2, Figure 1 is deleted and is replaced by the following new Figure 1.

1.2 Figure 1 – Site Plan



KEY

— INSTALLATION BOUNDARY

A1 - ERF STACK

A2 - ODOUR EXTRACTION STACK

A3 - STANDBY GENERATOR

W1 - EMISSIONS OF UNCONTAMINATED RAINWATER

W2 - BOTTOM ASH WATER TANK

8. In Schedule 2, in Condition 2.8.25, the term “Decantation Wastewater Tank” is deleted and is replaced by the following new term “Bottom Ash Water Tank”.

9. In Schedule 2, the following new conditions are inserted after Condition 2.8.36:

- 2.8.37 The Initial Site Condition and Baseline Report shall be reviewed and updated as necessary to take into account the proposed changes to site layout, depth and storage associated with the revised design as described in the Application for variation received by SEPA on 22 October 2021. An addendum report to the Initial Site Condition and Baseline Report to take account of any changes which affect the Conceptual Site Model, statement of site condition and baseline shall be reported to SEPA no later than 31 July 2023.
- 2.8.38 No later than 31 July 2023, the Operator shall submit to SEPA for approval a report confirming the proposed final design for the water treatment and demineralisation plant. The report shall include as a minimum but not be restricted to:
- a) a full description of the proposed water treatment and demineralisation plant supported by appropriately annotated Process Instrumentation Diagram(s);
 - b) an updated and fully quantified water mass balance for the Permitted Installation; and
 - c) a written justification that the proposed final design represents Best Available Techniques based on the criteria in Schedule 3 of the Regulations. The BAT justification shall confirm and justify the basis for the design of the proposed plant, the provision of water metering and describe the techniques for the minimisation of water consumption and effluent arisings.

10. In Schedule 2, the following row in Table 2.1 is deleted:

Decantation tank drawing and technical details	2.8.25	Single report	As right	6 months prior to Commencement of Commissioning
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and is replaced by the following new row:

Bottom Ash Water Tank drawing and technical details	2.8.25	Single report	As right	6 months prior to Commencement of Commissioning
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11. In Schedule 2, the following row in Table 2.1 is deleted:

Plume visibility assessment	2.8.30	Single report	As right	6 months from date of Permit issue
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and is replaced by the following new row:

Plume visibility assessment	2.8.30	Single report	As right	Report received on 25/09/2021 and accepted.
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12. In Schedule 2, the following rows in Table 2.1 are inserted between the row for the reports required by Condition 2.8.36 and Condition 2.9.3 respectively:

Addendum to initial site condition and baseline report	2.8.37	Single report	As right	31 July 2023
Updated description and BAT justification of proposed techniques for water treatment, metering and minimising water use and effluent generation and quantified water mass balance,	2.8.38	Single report	As right	31 July 2023

13. In Schedule 2, the following rows are deleted from Table 2.2:

Total intermediate pressure steam generated	MWh
Total intermediate pressure steam generated (parasitic loading)	MWh
Total intermediate pressure steam generated (exported)	MWh
Total low pressure steam generated	MWh
Total low pressure steam generated (parasitic loading)	MWh
Total low pressure steam generated (exported)	MWh

14. , the following row is inserted in Table 2.2:

Hot Water or steam (exported)	MWh
Hot Water or steam (parasitic loading)	MWh

15. In Schedule 3, in Condition 3.1.7 sub-paragraph b) is deleted and is replaced by the following new sub-paragraph:

- b) an assessment comparing the findings of the measurements required by Condition 3.1.7 a) with the Noise Assessment provided in Section 2.4.6 and Appendix C of the PPC Application, the Noise Impact Assessment Ref. JAA-HZI-505150471_1.0 provided in Appendix E of the Further Information Response dated 29 April 2022, and any subsequent pre-construction noise submissions including the report required by Condition 2.8.17. The noise sensitive receptors shall be agreed in writing with SEPA in advance.

16. In Schedule 3, Condition 3.2.15 is deleted and is replaced by the following new Condition:

- 3.2.15 No later than 4 months after First Operation the Operator shall report the results of the modelling exercise required by Condition 3.2.14 to SEPA

17. In Schedule 4, Conditions 4.2.1 and 4.2.2 are deleted and are replaced by the following new Conditions:

- 4.2.1 The maximum quantity of waste stored at the Permitted Installation (including waste awaiting dispatch elsewhere) shall not exceed 4,690 Tonnes of which 3780 Tonnes is storage in the waste bunker, 670 Te is IBA storage and 240 Te is APCr storage. In the event that the maximum capacity of the storage facilities is reached, no further waste shall be accepted at the Permitted Installation until storage capacity becomes available.
- 4.2.2 The aggregate amount of the wastes specified in Condition 4.1.1 that may be incinerated in the Permitted Installation shall not exceed 250,000 Tonnes in any one calendar year and shall not exceed 32.6 Tonnes in any hour.

18. In Schedule 5, Condition 5.3.3 sub-paragraphs h) and i) are deleted and are replaced with the following new sub-paragraphs:

- h) there is a stoppage, disturbance or failure of an abatement device that is likely to result in any emission limit value specified in this Permit being exceeded; or,
- i) there is a loss of electrical power to the incineration process, or to any of its safety systems.

19. In Schedule 6, in Condition 6.5.1 and Condition 6.5.2, the following text is deleted “with the SEPA” and is replaced with the following new text: “in writing with SEPA”.

20. In Schedule 6, Table 6.1 is deleted and is replaced by the following new Table 6.1:

Table 6.1: Emission Points Details

Required by Condition 6.1.1

Emission point ref. / location on site plan	A1	A2
Emission Source	EfW Stack	Odour Stack
Stack Height (m)	80	47.2
Diameter (m)	2.0	1.25
NGR	NT 19933, 98136	NT 19883, 98111

21. In Schedule 7, Condition 7.4.1 sub-paragraph c) and d) are deleted and are replaced by the following new sub-paragraphs:

- c) the volumetric flow-rate of the effluents being sampled and the measuring techniques employed; and
- d) any deviations from the methods specified in Table 7.2.

22. In Schedule 7, Condition 7.5.8 is deleted and is replaced by the following new Condition:

- 7.5.8 All containers being used to store any liquid chemicals or fuels shall be located in a bund. The minimum capacity of any bund shall be at least 110% of the capacity of the largest container stored within it, or 25% of the total capacity of all containers within the bund, whichever is greater. In the event of any containers being connected to one another, they shall be treated as one container.

23. In Schedule 7, Table 7.1 and Table 7.2 are deleted, and are replaced by the following new Tables:

Table 7.1: Emissions to Water/ Sewer ELVs

Required by Condition 7.1.4

Source of Emission	Emission number point / Location on site plan	W1	W2
	Emission source	SUDS pond	Bottom Ash Water Tank
	Destination	Lochty Burn	Tankered off-site for third party treatment/ disposal
	NGR	NT 19911, 98060	NT 19854, 98103
Monitoring Details	Sampling location	Sampling chamber on discharge line downstream of SUDS pond	Samples taken direct from bottom ash water tank
Limits For Parameters From Emission Source	Basis of limit value	Emission Limit Value (ELV) (mg/l)	ELV (mg/l)
	Flow	Less than or equal to 11 litres/second	-
	Emissions	To comply with General Binding Rules 10 & 11 as specified within The Water Environment (Controlled Activities) (Scotland) Regulations) 2011	-

Table 7.2: Emissions to Water Monitoring RequirementsRequired by Condition 7.1.6

Emission Point	Parameter	Monitoring frequency	Monitoring device type	Monitoring standard or method
W1	pH (pH Units)	Continuous from the date of the first introduction of chemicals, fuels or other raw materials or wastes at the Permitted Installation.	Instantaneous analyser	Latest standard from EA 'Monitoring discharges to water: CEN and ISO monitoring methods' document, or as otherwise agreed in writing with SEPA.
W1	Temperature (°C)	Continuous from the date of the first introduction of chemicals, fuels or other raw materials or wastes at the Permitted Installation.	Instantaneous analyser	Latest standard from EA 'Monitoring discharges to water: CEN and ISO monitoring methods' document, or as otherwise agreed in writing with SEPA.
W1	Flow (m ³ /day & l/s)	Continuous from the date of the first introduction of chemicals, fuels or other raw materials or wastes at the Permitted Installation	Flow meter	Latest standard from EA 'Monitoring discharges to water: CEN and ISO monitoring methods' document, or as otherwise agreed in writing with SEPA.
W1	Conductivity (uS/cm)	Weekly from the date of the first introduction of chemicals, fuels or other raw materials or wastes at the Permitted Installation and during First Year of Operation then as agreed in writing with SEPA	Flow proportional composite sample over 24 hours	Latest standard from EA 'Monitoring discharges to water: CEN and ISO monitoring methods' document, or as otherwise agreed in writing with SEPA.
W1	Total suspended solids (mg/l)	Weekly from the date of the first introduction of chemicals, fuels or other raw materials or wastes at the Permitted Installation and during First Year of Operation then as agreed in writing with SEPA	Flow proportional composite sample over 24 hours	Latest standard from EA 'Monitoring discharges to water: CEN and ISO monitoring methods' document, or as otherwise agreed in writing with SEPA.
W1	Visible Oil (presence/absence)	Weekly from the date of the first introduction of chemicals, fuels or other raw materials or wastes at the Permitted Installation and during First Year of Operation and then as agreed in writing with SEPA	Visual check on SUDS pond and W1	Visual check
W2	As required to complete the WM3 Assessment for effluent from W2 as agreed in writing with SEPA in response to Condition 2.8.27.			

Note: All analysis shall be undertaken on unfiltered samples.

24. In Schedule 7, in Table 7.3 and Table 7.4 are deleted and are replaced by the following new Tables:

Table 7.3 – Groundwater Monitoring Requirements

Relevant hazardous substance	Location and activity	Frequency
Ammonia	Tank storage area and area of direct feed into boiler system	At least once every 5 years
Chemical Oxygen Demand	Storage areas and water treatment plant area, waste bunker area, boiler hall pit and bottom ash water tank area	At least once every 5 years
Calcium Hydroxide	Silos storage area and area of direct feed into the flue gas treatment system	At least once every 5 years
Sodium Hydroxide, Hydrochloric acid, Sulphuric acid	IBC/Carboy storage area and water treatment plant area	At least once every 5 years
pH	Storage areas and water treatment plant area, waste bunker area, boiler hall pit and bottom ash water tank area	At least once every 5 years
Total Petroleum Hydrocarbon Criteria Working Group (TPH CWG) aliphatic and aromatic split	Tank storage area and area of direct feed into boiler system	At least once every 5 years
Heavy metals, PAH USEPA 16	APCr silo area, IBA ground level storage bay, waste bunker area, boiler hall pit and bottom ash water tank area	At least once every 5 years

Table 7.4 – Soil Monitoring Requirements

Relevant hazardous substance	Location and activity	Frequency
Ammonia	Tank storage area and area of direct feed into boiler system	At least once every 10 years
Calcium Hydroxide	Silos storage area and area of direct feed into the flue gas treatment system	At least once every 10 years
Sodium Hydroxide, Hydrochloric acid, Sulphuric acid	IBC/Carboy storage area and water treatment plant area	At least once every 10 years
pH	Storage areas, water treatment plant area, waste bunker area, boiler hall pit and bottom ash water tank area	At least once every 10 years
TPH CWG aliphatic and aromatic split	Tank storage area and area of direct feed into boiler system	At least once every 10 years
Heavy metals, PAH USEPA 16	APCr silo area, IBA ground level storage bay, waste bunker area, boiler hall pit and bottom ash water tank area	At least once every 10 years