

MVV Environment Baldovie Ltd

# Energy from Waste Combined Heat and Power Facility, Forties Road, Dundee

Pollution Prevention and Control (PPC) Permit Application  
Non-Technical Summary (NTS)

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## 1 Introduction

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- 1.1.1 This NTS is part of a suite of documents submitted in support of MVV Environment Baldovie (MEB) Limited's, a sister company of MVV Environmental Services, application to vary Permit PPC/A/1003157 under the Pollution Prevention and Control (Scotland) Regulations 2012 (PPC Regulations).
- 1.1.2 This NTS introduces the permit variation documents and provides an overview of reasons for the variation request and the parallel operations.
- 1.1.3 The application to vary Permit PPC/A/1003157 has been prepared following the guidance set out in applicant meeting of the 13<sup>th</sup> June 2019 to discuss this proposal, and in SEPA's subsequent Scoping Opinion response dated 15<sup>th</sup> July 2019. In addition, further advice from SEPA was provided on 29<sup>th</sup> January 2020.

## 2 Reason for permit variation

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- 2.1.1 Under the current PPC permit (PPC/A/1003157 VN05), issued 28<sup>th</sup> February 2019), the new EfW CHP facility was to replace the existing EfW facility in 2020 with minimal operational overlap between the facilities. The permit allows both facilities to operate on an overlapping site with shared use of some equipment, however, the two facilities cannot burn waste at the same time.
- 2.1.2 Before MEB took over ownership of the existing EfW facilities in 2017, the company had limited access to the facility and, therefore, limited information on the performance of the existing plant. They were, however, aware that the site technology, i.e. the use of fluidised bed technology, was not best suited for EfW and that the site had issues meeting the requirements of PPC/A/1003157. MEB, therefore, planned for the worst-case scenario of operations at the existing EfW facility ending in March 2020, when it was anticipated that the new EfW CHP facility would be operational.
- 2.1.3 Since acquiring the existing EfW facility in 2017, MEB has made a number of improvements and is confident that the life of the existing EfW facility can be extended on a commercial basis for up to 10 years. MEB is, therefore, seeking permission to vary PPC Permit PPC/A/1003157 to allow for the operation of the two facilities, in parallel, for a period of up to 10 years from April 2020.
- 2.1.4 The Waste (Scotland) Regulations 2012 set out a number of provisions to help Scotland move toward the objectives and targets set out in the Scotland's Zero Waste Plan. Under the regulations, biodegradable municipal waste going to landfill was to be banned from 1 January 2021, however, the Scottish Government announced in September 2019 that this will be deferred to 2025.
- 2.1.5 MEB is aware that there is a shortage of facilities in Scotland to meet this strategy without exporting waste to England or mainland Europe. The proposal for parallel operations is being submitted, in addition to bringing economic benefits, in order

to assist meeting a shortfall thought to be likely when the landfill ban on biodegradable waste comes into force.

## 3 Supporting Documentation

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**3.1.1** In order to make the application to vary PPC/A/1003157, the following application forms and accompanying documentation have been provided:

- PPC Application Forms A, C and F;
- This Non-Technical Summary (NTS);
- Supporting Statement;
- Updated Air Quality Assessment (AQA);
- Updated Habitats Regulations Appraisal (HRA);
- Noise Assessment;
- Heat and Power Plan (H&PP);
- Emissions and Impact Assessment Report – H1;
- SEPA response to the EIA scoping opinion request;
- DCC letter confirming valid planning application;
- Confirmation of the Application fee made to SEPA;
- Sampling Plan; and
- Correspondence from Scottish Water confirming that they have capacity to take the trade effluent and domestic type effluent discharges from the two facilities operating in parallel.

**3.1.2** As agreed with SEPA on 29<sup>th</sup> January 2020, an update to the existing Best Available Techniques (BAT) Assessment in line with the publication of the new BAT Reference (BRef) document on 4<sup>th</sup> December 2019 is not required for this application to vary PPC/A/1003157. However, MEB is aware that a review will be required for the facility in the future.

## 4 Related Applications

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**4.1.1** Planning Permission 16/00916/FULM for the construction of the new EfW CHP facility was approved on 24<sup>th</sup> March 2017. Under Condition 17 of 16/00916/FULM *“the new energy from waste combined heat and power plant, shall not incinerate waste at the same time as the existing waste incinerator (DERL) facility”*. As such, an application under Section 42 of the Town and Country Planning (Scotland) Act 1997 (as amended) for permission to vary Condition 17 of Planning Permission 16/00916/FUL to allow for parallel

operations was submitted to Dundee City Council (DCC) on 29<sup>th</sup> November 2019 (reference: 19/00922/FULM). This application is currently undergoing review.

- 4.1.2** An Environmental Statement (ES) update was submitted in support of Planning Application 19/00922/FULM. As per the SEPA's response to the Environmental Impact Assessment (EIA) scoping opinion request<sup>1</sup>, a complete reissue of the ES in support of planning application 16/00916/FULM was prepared with the relevant sections updated to assess the parallel operations. As agreed with DCC and SEPA, the ES and all supporting documents, were updated to assess parallel operations only, with no revisions made to the construction impact assessment. All updates to the ES were highlighted in yellow with all removed text shown with a strike through.
- 4.1.3** The updated AQA and updated HRA, which accompany this application to vary PPC/A/1003157, were also submitted as part of the ES update for Planning Application 19/00922/FULM and, therefore, all changes to assess parallel operations are highlighted as described above.
- 4.1.4** Having completed the EIA, MEB have concluded that there will be no significant adverse environmental impacts as a result of parallel operations.

## 5 Summary of Parallel Operations

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- 5.1.1** This section outlines the details of the parallel operations of the existing EfW facility (Lines 1 and 2) and the new EfW CHP facility (Line 3).
- 5.1.2** Waste will continue to come to the existing EfW facilities from within a sustainable catchment area at gate fees that can sustain the proper operation of Lines 1 and 2, (the existing EfW facility), in addition to Line 3 (the new EfW CHP facility). The two facilities will be independent, however they will share some plant such as weighbridges and fire water tank. At the end of their operational life (now estimated at 2030), the majority of Lines 1 and 2 will be demolished, however, the shared equipment will be retained for the continued operation of Line 3.
- 5.1.3** Full details of energy consumption, waste streams, raw materials etc. are provided in the Emissions and Impact Assessment report which accompanies this PPC variation application.
- 5.1.4** Changes in atmospheric emissions and noise are expected due to the parallel operations. As outlined above, an updated AQA and HRA have been included as part of this assessment. The AQA includes a Human Health Risk Assessment (HHRA) of the parallel operations. The HHRA was undertaken in 2017 and the cumulative assessment of both facilities operating in parallel was reviewed and the conclusions remain valid. A noise assessment of the parallel operations has also been undertaken. Unlike the AQA and HRA, the noise assessment was a

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<sup>1</sup> Received 15<sup>th</sup> July 2019 and issued formally as part of the DCC's scoping opinion (issued 19<sup>th</sup> September 2019)

standalone assessment of the parallel operations only, not an update of the previous assessment.

- 5.1.5** There will be a marginal increase in resource use as a result of the parallel operations. There will be no change in water abstraction from the Dightly as Line 3 will have air cooled condensers and use small quantities of towns water to top up evaporation.
- 5.1.6** Under Paragraph 4.2.2 of the current PPC Permit (PPC/A/1003157 VN05) the aggregate amounts of waste incinerated is a maximum of 150,000 tonnes from the existing EfW facility or 153,216 tonnes from the new EfW CHP facility, with minimal overlap. Therefore, parallel operations would effectively double waste incineration capacity at the site to 303,216 tonnes
- 5.1.7** The maximum quantity of waste stored will be 5,022 tonnes, which is not an increase from the current permitted allowance of 5,025 tonnes as outlined in Paragraph 4.2.1 of the current permit (PPC/A/1003157 VN05).
- 5.1.8** Bulky waste will no longer be delivered to the adjoining site for pre-treatment. Instead, bulky waste from DCC will be segregated when it is collected at the source by DCC operatives to remove items such as larger household electrical items. It will then be delivered to the Line 3 Tipping Hall where it will be tipped directly into the bunker and fed into the furnace along with residual household waste where the feed chute and moving grate will be able to accommodate the larger items.
- 5.1.9** All municipal waste delivered to the site will have been segregated via kerbside recycling in accordance with the agreements between DCC and Angus Council and SEPA. Commercial and industrial waste will be delivered in bulk from waste transfer stations and recycling centres in accordance with commercial contracts which require the waste to have been segregated at source and, in accordance with the Waste (Scotland) Regulations.
- 5.1.10** There will be no change to the pre-treatment of waste on the site. Waste for Lines 1 and 2 will still be pre-treated by being processed in the hammer mill and shredded in order to prepare it for burning in the fluidised bed. It was not proposed to pre-treat waste for Line 3 as this facility can accept waste which is of larger size. Municipal deliveries and tonnage will not change from those covered under the current permit (PPC/A/1003157 VN05) unless MEB win new contracts from other local authorities in addition to Dundee and Angus Councils. There will be additional deliveries of Commercial and Industrial waste to support the parallel operations. Deliveries will therefore increase and this is covered in the Transport Assessment (TA) submitted under Planning Application 19/00922/FULM.
- 5.1.11** Total waste volumes produced by the facilities, as detailed in the Emissions and Impact Assessment Report, are provided in Table 1.



Table 1: Waste Inventory (source: Emissions and Impact Assessment Report)

Number	Waste Stream	Mass tonne/yr	Category of Waste	Disposal/Recovery Option
e.g.	ETP sludge		non-hazardous	
1	Incinerator Bottom Ash (Line 3)	26,400	other non-hazardous	Other Recycling (R3;R4;R5;R11 and R12)
2	APCR (Line 3)	3,850	hazardous	Landfill (D5)
3	Recovered Metals (ferrous) (Lines 1&2)	293	inert	Other Recycling (R3;R4;R5;R11 and R12)
4	Process Water (Line 3)	2,250	other non-hazardous	Biological and Physico-chemical treatment
5	Rejected waste (unquantified)	0	other non-hazardous	Landfill (D5)
6	Recovered Metals (non-ferrous) (Lines 1&2)	196	inert	Other Recycling (R3;R4;R5;R11 and R12)
7	Incinerator Bottom Ash (Lines 1&2)	14,491	other non-hazardous	Other Recycling (R3;R4;R5;R11 and R12)
8	APCR (Lines 1&2)	2,788	hazardous	Landfill (D5)
9	Cyclone Ash (Lines 1&2)	5,434	inert	Other Recycling (R3;R4;R5;R11 and R12)
10	Process Effluent (Lines 1&2)	207,367	other non-hazardous	Biological and Physico-chemical treatment

**5.1.12** MEB have had discussions with Scottish Water, who have confirmed that they have the capacity to take the trade effluent and domestic effluent discharges and surface water from the two plants operating in parallel. Correspondence from Scottish Water has been included as part of this application to vary PPC/A/1003157.

**5.1.13** The current CEMS will be retained in Lines 1 and 2 and no other changes to the operation of each facility will occur.

## 6 Potential Impacts

### 6.1 Air Quality Assessment (AQA) Update

**6.1.1** The effects on air quality of emissions from the proposed parallel operation of both the existing and EfW CHP facilities were found to be not significant with respect to both human and ecological receptors.

**6.1.2** All concentrations resulting from emissions from the existing EfW facility and the EfW CHP facility are below the relevant standards, with the exception of hexavalent chromium, whereby the assumed background concentrations (taken from a UK-wide metals data review as requested by SEPA) already exceed the relevant standards by 313%. For all other pollutants assessed, the impact on air quality is not considered to be significant.

**6.1.3** The impact of the parallel operations on odour nuisance was also found to be not significant under normal operational conditions and under standard maintenance conditions.

### 6.2 Human Health Risk Assessment (HHRA)

**6.2.1** The AQA includes a Human Health Risk Assessment (HHRA) which considered the effects of human exposure from emissions to air from the EfW CHP facility, including a cumulative impact assessment of both the existing EfW and new EfW CHP facilities operating in parallel. The cumulative impact assessment concluded that the maximally exposed individual is not subject to a significant carcinogenic



risk or non-carcinogenic hazard, arising from exposures via both inhalation and the ingestion of foods.

- 6.2.2** The HHRA (undertaken in 2017 as part Planning Application 16/00916/FULM) was reviewed as part of the parallel operations assessment and no updates were required.

## **6.3 Habitats Regulations Appraisal (HRA) Update**

- 6.3.1** The HRA update comprised an update to the results of the HRA screening and Appropriate Assessment exercise undertaken as part of the ES for 16/00916/FULM.

- 6.3.2** The HRA concluded that predicted impacts in terms of airborne pollution emissions are not considered to be significant, either alone or in-combination with other Projects.

## **6.4 Noise Assessment**

- 6.4.1** The noise assessment concluded that parallel operations are not considered to cause significant adverse impact and, as such, additional noise mitigation measures are not required.

## **7 Sampling Plan**

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- 7.1.1** As discussed with SEPA on 29<sup>th</sup> January 2020, further to the HHRA study, a sampling plan has been requested in order to demonstrate that there are no significant impacts from metals, dioxins and furans at nearby sensitive receptor locations. The preference is for monitoring to begin before the new facility comes online to provide background data without the potential effect of the new facility emissions.
- 7.1.2** MEB's current proposal is to undertake soil sampling for metals along with dioxins and furans. The sampling plan is included as part of this application to vary PPC/A/1003157. This includes updates to address SEPA's comments on the draft sampling plan, received on 30 March 2020.