

Our ref: JER9342

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Brighton, East Sussex BN1
6AH

Date: 08 April 2022

[REDACTED]
SEPA
Pentland Court
The Saltire Centre
Glenrothes
Fife
HY6 2DA

Dear [REDACTED]

Response to Duly Making Points

This letter provides a response to the points raised in the letter from SEPA dated 27 October 2021 regarding the application for variation to a Pollution Prevention and Control Permit at Viridor Dunbar Waste Services Ltd, Dunbar Energy Recovery Facility, Oxwellmains, Dunbar, East Lothian, EH42 1SW (PPC/A/1032878 CP01).

Please see the points raised by SEPA below in **bold** followed by a summary response and including a reference, where relevant to where any additional or updated information is provided within the update permit application. A full copy of the updated application is also provided.

- a) **A technical submission from the OEM [or their equivalent] should be provided to demonstrate that the incinerators will be able to operate at these rates whilst maintaining compliance with the requirements of the permit, within the capacity of the existing abatement systems and at the emission levels representing BAT for incinerators including those associated with BAT-AELs for existing plant specified in the Waste Incineration BAT Conclusions, or whether existing storage capacities for raw materials, waste and residues will be sufficient. This will require to include, but not be limited to, discussion on the effects on IBA quality including % TOC/ LOI, and impact on the 2 second residence time at 850°C requirement as it is anticipated that the flue gas volume will change [increase] and therefore the residence time in the qualifying zone will reduce. A need to re-validate the residence time through updated CFD modelling and/or on plant testing may be required with clear identification of what air flows are being assessed for what waste CV and what hourly waste throughout and confirmation that this is covered in the air quality assessment. This information is critical in providing the necessary evidence to demonstrate that the permitted activities will continue to meet BAT and comply with the requirements of the Permit, and that it will not prevent future compliance with BAT-AELs / BAT Conclusions in the Waste incineration BAT Conclusions without a derogation etc.**

A report from the BWV is included as Appendix G to the updated application which sets out the evaluation they completed to determine that the installed plant and equipment was capable of operating at the proposed levels. A further report is also included within Appendix G that sets out the results from validation testing conducted from 27th to 28th March 2019 at the proposed higher throughput, this includes emissions performance and confirmation that noise levels remain within guaranteed levels.

Updated CFD modelling has not been completed. It should be noted that increased flowrates do not necessarily lead to reduced residence time as at high flows there is greater turbulence and increased

pathlengths for gases circulating in the qualifying zone. Viridor would be happy to undertake re-validation tests during operation of the ERF at 105% MCR. This commitment is included within Section 2.3 of the updated supporting information document.

The effect on %TOC/LOI is discussed in section 3.10 of the updated supporting information document.

Section 4 of the of the updated supporting information document considers the proposals ability to meet BAT and potential implications for future compliance with waste incineration BAT conclusions.

- b) Clarification of the hourly throughput, CV, percentage MCR and annual capacity data is required – the information provided in Section 2.2 of the Supporting Information gives different annual capacities to the 390,000 tonnes per annum you have applied for. Stack flows covered in any updated CFD model and the AQA Update should be consistent with one another and the applied for increase in capacity and demonstrate the CV, % MCR and hourly throughput data. It should also cover ‘worst case’ operation and show how this differs to operation at nominal design rate. Finally, 9 MJ/Kg does not appear to specifically identified in the Firing Diagram.**

Please see section 2.2 of the supporting information for clarification of hourly throughput, CV, Percentage MCR and Annual Capacity. An updated firing diagram is provided in Appendix B including clarification of where waste with a CV of 9 MJ/kg sits within the operational envelop.

- c) Evidence of Management of Change having been carried out for the proposed variation to assess increased risks due to accidents, noise, odour, storage capacities becoming full quicker etc should be provided to demonstrate the conclusions in the supporting information.**

Management of change in respect of the above are detailed within the following sections of the updated application:

- Accidents - Section 3.6
- Noise - Section 3.8
- Odour - Section 3.7
- Storage capacities - Sections 3.9 and 3.10

- d) Details of the software changes referred to in the covering letter and non-technical summary, approval by the OEM [or their equivalent] and how this affects existing plant settings, interlocks etc. As above, this information is critical in providing the necessary evidence to demonstrate that the permitted activities will continue to meet BAT and comply with the requirements of the Permit.**

Section 2.3 of the updated application details the software changes.

- e) The impact of the changes on the steam plant and energy generation equipment etc should also be explained. It is unclear how Viridor/ the OEM have increased thermal capacity and this should be clearly explained and details of associated risk assessment etc provided. The variation should also provide updated energy recovery efficiency data for comparison with the guidelines in Annex 1 of SEPA’s Thermal Treatment of Waste Guidelines 2014, the relevant BAT-AEEL range in the Waste Incineration BAT Conclusions and the recent R1 assessment to demonstrate that energy will be managed efficiently at the increased rates etc. Given the additional electrical output will also be produced, the application should also confirm whether the connection into the grid is suitable for the additional load [or will it be upgraded, when] and whether the accompanying entry agreement will allow it? The information as submitted does not provide demonstration the recovery of energy will take place with a high level of energy efficiency.**

Section 2.5 of the updated application discusses the impact of the changes on the steam plant and energy generation equipment as well as the ability to export to the grid.

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An updated Heat Plan has been completed and provides an updated assessment against SEPAs Thermal Treatment of Waste Guidelines and updated R1 calculation. This document forms Appendix E of the updated application.

f) The applicability of Schedule 1A to the PPC regulations setting out the Energy Efficiency Directive requirements should also be reviewed to confirm whether it applies or not.

Energy Efficiency Directive requirements are triggered for new plant or those subject to substantial refurbishment. No replacement plant or new plant is required for this variation and therefore the requirements for substantial refurbishment are not met and therefore the requirements of Article 14 of the Energy Efficiency Directive are not triggered.

g) From a noise point of view there will be a significant increase in vehicle movements (e.g. 65,000t/a = an additional 2,600 vehicle movements per year [25t/vehicle]) – will this extend the hours/days when vehicles are accepted?. More thermal input = more steam, have potential issues with noise - steam venting, bypass, higher turbine speeds, higher fan speeds on the air-cooled condensers etc been considered from a noise point of view? Evidence to demonstrate how risks have been assessed and the outcome should be provided in your application. Have you assessed the impact of these changes on the current noise profile for the site? A copy of your noise assessment for the proposed changes should be provided with your application

Section 3.8 of the updated application considers the impact the variation may have on noise from the ERF including noise from deliveries. The change in vehicle movements are presented in Appendix H and confirmation that existing noise guarantees can be met, as measured during plant trials at 105% MCR are presented in Appendix G.

h) The proposed increase in capacity will lead to a significant increase in vehicle movements of waste, raw materials and residues including process effluent. This will therefore change your existing risk assessments for vehicle-related accidents / incidents such as spills due to increased frequency. In addition, any breakdown or issues with deliveries could lead to enforced shutdowns e.g. if maximum storage capacities are reached, or you run out of raw materials for abatement for example. On this basis the statement in Section 3.6 that “an update to the accident management plan shall not be required as a result of this proposed variation” is not credible and if correct suggests a failing in your procedures covering Management of Change, risk assessment etc. Further information is therefore required to confirm how such risks will be assessed and mitigated is therefore required in order for the application to be considered valid.

As above the change in vehicle movements are presented in Appendix H. Section 3.6 discusses accident management at the site.

i) Application Form A

- (i) Question A1.1 You have ticked that you are applying for a transfer rather than a variation.**
- (ii) Question A1.2 Name of installation listed as ‘Dunbar Energy from Waste Facility’ but the site is known as ‘Dunbar Energy Recovery Facility’ or ‘Dunbar ERF’.**
- (iii) Question A3.5 Email address and telephone number not supplied for Viridor Dunbar Waste Services Limited – this is required for service of documents to registered company address.**
- (iv) Question A3.5. Appendix 1 certificates of Incorporation for Viridor Dunbar Waste Services Limited do not appear to have been received. Variation Appendix 1 is a Firing Diagram.**
- (v) Question A3.6 Ultimate Holding Company - Registered Company number and date of formation has not been included for Viridor Energy Limited.**

The above points have been addressed in the updated version of Application Form A and Application Form A Appendix 1.

j) Application Form C -

- (i) Question C1.2. The Non-Technical Summary does not include all of the aspects relevant to this application for variation and should be updated taking into account the various aspects identified in this letter.**

A revised Non-Technical Summary is provided with the updated supporting information document.

- (ii) **Question C2.1 Management. The response that there has been 'no change' is not credible and further information should be provided as detailed above and covering aspects such as risk assessment, changes to preventative maintenance frequencies, training etc. In addition, we would expect the stock management system for incoming wastes and residues will have to be adjusted to suit the new operation as will the systems to manage other materials including availability of lime/PAC, raw water etc. There would also have to be effective systems to stop waste acceptance once the bunker is full or residue storage is full particularly given current HGV driver shortages.**

Section 2.4, 2.5 and 3.6 of the updated supporting information document addresses these points. Although there is an increase in waste throughput the impact on the number of deliveries is small including a very minor effect on raw materials. There are currently no supply issues and the proposed changes will not significantly affect this, on this basis supply issues are not considered a significant risk.

Increased waste delivered would correspond to increased waste feed to the plant meaning on average there would be a no net change in the volumes of waste stored. As explained in the updated the updated supporting information document the increase in waste deliveries will be negligible and therefore it is expected that sufficient HGV drivers would be available. The largest increase in deliveries is associated with waste and in the unlikely event that there were insufficient drivers available then the plant could, if necessary operate on lower waste throughputs.

- (iii) **Question C2.3. See sub-paragraph a), b) and d) above. The 'No change' response is not considered credible.**

Please see our responses to sub-paragraph a), b) and d) above.

- (iv) **Question 2.7. The response provided in Section 3.10 in the Supporting Information does not provide adequate demonstration that these aspects have been properly considered to or BAT justified for the measures to be taken for the prevention, preparation for re-use, recycling and recovery of residues including process effluent produced by the operation of the installation.**

Section 3.10 of the updated supporting information document provides this detail. Given the wastes accepted at the facility are not changing the nature of residues will remain similar and consequently the fate of these residues will also no change. Of note bottom ash generation is currently substantially lower than that expected when the facility was permitted. Following this change the quantities are expected to remain below the amounts on which the original permit was issued. Process effluent generated by the facility have fallen with a significant number of valves being replaced in the last arranged process shutdown maintenance period. Also changes have been made to use more process water through the site further reducing effluent generation with a view to bringing figures in line with those previously stated.

- (v) **Question C2.8. See sub-paragraph e) and f) above regarding energy. The response provided in Section 3.11 in the Supporting Information does not provide adequate demonstration that these aspects have been properly considered or BAT justified.**

Section 3.12 and Section 4 of the updated supporting information document provides this detail.

- (vi) **Question C2.9. See sub-paragraph h) above regarding accident risk. The response provided in Section 3.6 in the Supporting Information does not provide adequate demonstration that this aspect has been properly considered or BAT justified.**

Section 3.6 (Accident Management) of the updated supporting information document provides this detail.

- (vii) **Question C2.10.** See sub-paragraph g) above regarding noise. The response provided in Section 3.8 in the Supporting Information does not provide adequate demonstration that these aspects have been properly considered or BAT justified.

Section 3.8 (Noise) of the updated supporting information document provides this detail.

- (viii) **Question C4.1:**

- Whilst you have included an Air Quality Assessment Report in Appendix 2 to the variation application; this is a very brief document which refers back to the previous assessment from 2014 – a standalone document should be provided for the current Application for Variation with all of the information normally required in an Air Dispersion Modelling report as detailed in Annex E of H1 <https://www.sepa.org.uk/media/61377/ippc-h1-environmental-assessment-and-appraisal-of-bat-updated-july-2003.pdf>. The document which it is noted is dated 23 April 2019 and may therefore be out of date, omits various aspects including:
- whether air flows modelled are representative of 22.26 tph at nominal design capacity based on 9 MJ/Kg (is this 100% MCR?) which is not identified in the Firing Diagram, the maximum 25.09 tph for 8.5 MJ/Kg representative of mechanical overload (110% MCR?), or something else.
- Other aspects omitted include cumulative impact assessment with emissions from Tarmac Cement Works, justification of ambient data used and consideration of environmental monitoring data, detailed contour plots, tabulated results for all human sensitive receptors and results from AERMOD and ADMS for each year of Met Data assessed. Other aspects may also be required to be considered. It is therefore recommended that in advance of resubmitting your application, the detailed requirements for the updated AQA Report are discussed and/ or a Method Statement for undertaking the Dispersion Modelling and associated reporting is submitted to SEPA for approval.
- No Human Health Risk Assessment has been submitted to address the increased emissions associated with the increase in capacity. This is a requirement for a valid application and should include a plan to identify the location of planning permission granted for any new developments since the initial application in comparison to the location of identified sensitive receptors to determine whether or not additional receptors should be included. This document is referred to in paragraph 3.1.5 but has not been included in the application.

An updated air quality assessment has been carried out as per the methodology agreed with SEPA and is included as Appendix B to the updated application. Similarly, a Human Health Risk Assessment (HHRA) is provided in Appendix 4, following the methodology agreed with SEPA.

A discussion on the flowrates modelled is provided in Section 3.1 of the updated supporting information document.

- (ix) **Question C7.2** Viridor should demonstrate that the current planning approvals do not require to be amended due to any proposed changes including increased traffic as appropriate planning must be in place before any variation could be issued.

The existing planning permission will accommodate the proposed changes without amendment. See section 1.5 of the updated supporting information and Appendix F.

- (x) **Question C7.4** Under Technical Competence you have ticked that the specified waste management activities covered by the WAMITAB (Waste Management Industry Training Advisory Board) award scheme. However, during discussions on the Permit transfer last December, when [REDACTED] was assessing technical competence, [REDACTED] stated that “Viridor assess technical competence through our internal Competence Management System (CMS).” If this is correct, please update your responses to C7.4, C7.5 and C7.6 accordingly.

We confirm that Viridor assesses technical competence via their own internal CMS. The response to question C7.4, C7.5 and C7.6 have been updated to reflect this.

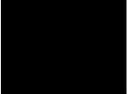
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k) Application Form F

- (i) **Question F2 you have not ticked that you are applying for a substantial (i.e. as confirmed by fee and response to question C1.4 on Form C). Please correct.**
Question F1 has been amended to reflect a variation that is a substantial variation. Question F2 has not been answered as it applies only to applications for a new permit.
- (ii) **Question F3 and F4 – you have completed F4 (Non-substantial variation) instead of F3 (Substantial variation), please correct.**

The same information previously provided for question F4 is now presented in question F3.

Yours sincerely,
for RPS Consulting Services Ltd



Technical Director
