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Ms Grainne Oglesby
Administration Office,
Office of Environmental Sustainability.
Environmental Inspection Agency,
PO Box 3000,
Johnstown Castle Estate,
County Wexford.

14th March 2017

Re; Application for Waste Licence (W0211-01) Eras Eco Ltd, Foxhole, Youghal

Dear Ms Oglesby,

I refer to the Agency's letter dated the 16th December 2016 in accordance with Regulation 10(2)(b)(ii) of the EPA (Industrial Emissions) (Licensing) Regulations 2013. On behalf of Eras Eco Ltd I enclose one original and one hardcopy of the response. Also enclosed are two CD-ROM discs containing files of the application in searchable PDF format. The content of the electronic files is a true copy of the original application form and the supporting attachments.

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The requested information is set out herein.

1. *Provide in tabular format all monitoring results for effluent emissions at SE1 for the years 2014, 2015 and 2016.*

The tabulated results are in Attachment 1.

2. *Provide in tabular format all monitoring results for stormwater discharges at SW1 for the years 2014, 2015 and 2016.*

The tabulated results are in Attachment 2.

3. *Digestate is proposed for treatment in the on-site waste water treatment plant. Clarify why and under what circumstances this is necessary and why digestate has no beneficial use off-site.*

The reference to treatment in the on-site wastewater treatment plant in the application was incorrect. The digestate has a significant nutrient and soil enhancement value and is typically applied to agricultural lands, either as whole digestate or as a separated fibre.

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The spreading of digestate to land is controlled based on nutrient content and crop demand. This can result in digestate being transported greater distances to suitable land-banks, with associated increased transport and operational costs. In addition land application is restricted over the winter period, requiring the provision of significant storage capacity.

Therefore while it is intended to continue the land application of the digestate, it is proposed to provide the capability to dewater the digestate in a new centrifuge that will be located in Building 1. A specification for the unit is in Attachment 3. The centrifuge will not be continuously operated but will be used at times when there is pressure on digestate storage capacity.

The centrifuge will produce a fibre (typically 20% dry solids) and a separated liquor. The fibre will be a semi-solid "cake" and will be stored in a trailer inside Building 1. When full the trailer will be sent to the land application banks. The fibre is also suitable for composting and this option will be used in the periods when land application is restricted.

The liquor will be recirculated in the AD process; however following the commissioning of new Irish Water wastewater treatment plant serving Youghal, approval will be sought to discharge some liquor to the Irish Water foul sewer.

4. *In relation to the proposal to treat digestate in the waste water treatment plant, identify the following:*

- *the nature and characteristics of the digestate;*

  As referred to above, it is not proposed to treat the digestate in the on-site waste water treatment plant. Approval is sought to discharge the liquor generated by the dewatering of the digestate to the Irish Water wastewater treatment plant.

- *the treatment objectives in the waste water treatment plant (in terms of pollutant removal);*

  The treatment objectives are to meet the emission limit values that are set in the licence and ensure that the discharge does not currently have any discernible negative impact on water quality in the estuary or in the future on the Irish Water sewer and wastewater treatment plant.

- *the effect of digestate on the effluent quality from the waste water treatment plant*.

  The digestate will not be treated in the on-site waste water treatment plant. Approval is sought to discharge some of the dewatered liquor from the centrifuge to the Irish Water waste wastewater treatment plant. Following the commissioning of the centrifuge, Eras Eco will comprehensively characterise the nature of the liquor and assess the impact on the Irish Water wastewater treatment plant. Eras Eco will submit the results to the Agency and Irish Water for their prior approval, as required by current Condition 3.21.3 for the treatment of landfill leachate.

5. *Provide a detailed description of the wastewater treatment plant as built and currently (or as proposed to be) operated, its treatment stages and the objective of each stage.*

As it is not proposed to change the existing wastewater treatment plant, whose operation and performance is already regulated by the licence, a layout schematic of the plant was not included in the application. The plant was designed to treat condensate from the sludge drier, landfill leachate and wash water from the wheel wash.

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The design comprises a balance tank with an air diffuser, carbon and sand filters, lamella settlement unit, hypochlorite treatment and a sludge storage tank.

In November 2010, due to problems complying with the licence emission limit values (ELV) for pH, ammonia, BOD, COD and suspended solids, Eras Eco Ltd stopped operating the plant and upgraded it by providing pH adjustment, replacing the diffusers in the balance tank, installing a dissolved air floatation system, replacing the carbon and sand filter media and using harvested rainwater to backwash the filters. The upgrade design was approved in advance by the OEE. A schematic of the current plant layout is in Attachment 4.

6. *In relation to discharges and emissions to surface water, the arrangements as described in the licence application document are not fully clear. For example, the text of the application suggests that all discharges and emissions are carried by Irish Water sewer to surface water whereas drawing no. 15-193-02 (and the EIS) indicates that stormwater will discharge directly to the estuary. Also, drawing no. 15-193-02 appears to indicate that treated sanitary waste water will be discharged directly from the installation whereas the application documentation states that this treated effluent will be further treated in the process effluent waste water treatment plant. Provide a drawing or schematic diagram, accompanied by explanatory text as necessary, that clearly shows and illustrates the following:*

   - *all sources of stormwater and the route followed by stormwater through the installation's treatment and retention infrastructure, out to the storm sewer, foul sewer or drain and final discharge into the waterbody;*

     Rainwater run-off from roofs and non-waste storage paved areas is collected in the surface water drainage system that connects to two silt/ oil interceptors (Class 1) and a storm water retention tank.

     The run-off is reused on-site when possible (wheel wash, the bio-filter, cooling water for the dry product and to backwash the wastewater treatment plant filters) and the surplus water discharges to the Irish Water combined sewer via a non-return valve. The sewer outfalls to the estuary.

     Drawing No. 15-193-02 Rev A shows the stormwater drains, oil interceptors and retention tank, but the description of the discharge point omits reference to the discharge to the estuary via the Irish Water combined sewer. Drawing No. 15-193-02 Rev B states that the run-off discharges to the Irish Water sewer.

   - *all sources of process effluent (and treated sanitary effluent if relevant) flowing into the waste water treatment plant;*

     Wastewater generated at the installation comprises sanitary wastewater from the offices, condensate from the sludge drying unit and wash water from the vehicle wheel wash. The sanitary wastewater is treated in a proprietary treatment system (Puraflo ©) adjacent to the northern site boundary, before being discharged to the Irish Water combined sewer.

     The condensate and water from the wheel wash is treated in the on-site process wastewater treatment plant. Landfill leachate will also be treated in the plant following receipt of approval as required by Condition 3.21.3 of the current licence.

   - *the route followed by treated effluent from the waste water treatment plant to the Irish Water sewer and into the waterbody.*

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The treated effluent discharges to the Irish Water combined sewer that is to the north-east of the site. The sewer currently outfalls to the Estuary and details of the location are the information submitted by Cork County Council to the Agency as part of the application for Wastewater Discharge Authorisation (D0139-01).

7. *Table E.3(i) states that the sewage undertaker is Cork County Council. Clarify the ownership of all sewers or drains used to carry discharges or emissions from the installation.*

The sewerage undertaker is Irish Water.

8. *Drawing no. 15-193-03 provided in attachment E of the application shows emission point SE I positioned on or in the stormwater retention tank and SW1 on or near the puraflo waste water treatment plant. State if this is correct or provide an amended drawing.*

The locations of SE-1 and SW-1 are shown on Drawing No. 15-193-03 Rev B.

9. *Clarify the location(s) of SE1 and SW1 as discharge points (stated to be the same location) versus their notation and use as monitoring locations. Illustrate the respective locations on a drawing if necessary.*

SW-1 is the surface water monitoring location and SE-1 is the waste water monitoring location. The surface water and wastewater discharge points are shown on Drawing No. 15-193-02 Rev B.

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10. *Provide a comprehensive environmental assessment of the impact of the discharge of treated effluent (discharged via SE1) on water quality in the receiving water at the point of its discharge to the receiving water body. The assessment should consider the discharge of the treated effluent alone and cumulatively in combination with other relevant wastewaters discharged into the same water body.*

The treated process and sanitary wastewater effluent discharge to the Irish Water combined sewer that also conveys wastewater from the Youghal Agglomeration. The ELVs in the current licence were specified by Cork County Council, which was the sewerage undertaker at the time of the original licence application. The ELVs are designed to ensure that emissions from the installation will not cause pollution.

Eras Eco does not consider it is obliged to provide an environmental assessment of the impact of the combined discharge of all wastewaters into the Estuary, as the responsibility for this rests with Irish Water. Irish Water submits the results of the on-going monitoring and assessment of the combined discharge on the Estuary to the Agency and these are available on the Agency's website (WWDA D0139-01).

Air Dispersion Model Report

11. *The heading "Volumetric airflow rate (Nm^3/hr)" in tables 3.1 to 3.4 appears incorrect. Please clarify.*

The volumetric flow rate (Nm^3/hr) in the tables was a typographical error.

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12. *A concentration of <1000mg/Nm^3 is used for CO in table 3.1 whereas the existing licence limits CO emissions to 150mg/Nm^3. Please clarify the reason for the increase and whether an increased limit value is sought for authorisation.*

The value of 1000 mg/Nm^3 was used to examine the 'worst case' risk and authorisation for an increased limit value is not being sought.

13. A volume flow rate of 2,000Nm^3/hr is used in table 3.2 whereas table E.1(ii) of the application states the maximum flow rate is 1,500 Nm^3/hr. Please clarify and state what flowrate has actually been measured at the emission point.

The flow rate of 1,500Nm^3/hr in Table E.1(ii) is incorrect, the actual flow rate is 2,000m^3/hr. An amended Table E1(ii) for emission point A2 is in Attachment 5.

14. A volume flow rate of 29,980Nm^3/hour is used in table 3.3 whereas table E.1(ii) of the application states the maximum flow rate is 29,980Nm^3/day. Please clarify and state what flowrate has actually been measured at the emission point. The flow rate of 1,500Nm^3/hr in

The flow rate in Table E.1(ii) is incorrect, the actual flow rate is 29,980Nm^3/hr. An amended Table E1 (ii) for emission point A3 is in Attachment 6.

15. The Medium Combustion Plant Directive specifies a limit value for sulphur dioxide. Please revise the air dispersion model to take into consideration SO_2 emissions at A1 (sludge dryer boiler stack).

Although the Medium Combustion Plant Directive specifies a limit for SO_2, Footnote (1) to Table 1 in Part 1 of the Directive states that for existing combustion plants 'the value does not apply in the case of plants firing exclusively woody solid biomass". As the fuel used in the boiler is 100% wood chip, the ELV do not applied and in this context of modelling of SO_2 emissions are not required.

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16. The contour plots provided with the air dispersion model report show only the process contribution. Also the contour plots do not illustrate the process contribution values shown in table 4.1 of the report. Please explain these apparent discrepancies and in particular the lack of background concentration (and lack of illustration of total predicted ground level concentration including background) in the plots.

As referred to in Appendix 7 of the Odour Monitoring Ireland Air Dispersion Model Report, the contour plots are for illustration purposes only. The worst case data for the output of the dispersion model is presented in Table 4.1 and 4.2. These values are the worst case data (within the total screened area of the grid as stated in Section 4) at or beyond the facility boundary and allow defined comparison with the specified limits as shown in Tables 2.1 and 2.2. The baseline data used in conjunction with the process contributed values are in Table 2.3.

There are no discrepancies, as the plots are for illustration purposes only and are not to be used for assessment of compliance. OMI emphasises that the reader should always refer to Tables 4.1 and 4.2 and Sections 5.1 to 5.8 for clarity.

17. In relation to Scenario 15, state what is at the 'nearest sensitive receptor'?

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The worst case receptor in this instance is the weighbridge on the Youghal Waste Management Facility. A plot of the odour contours for 0.70, 1.0 and 1.50 OuE/m3 for the 98th percentile is in Attachment 7.

18. Revise the air dispersion model report on foot of any changes in the model's conclusions in accordance with the items listed above.

While reviewing the information submitted with the application it was noted that the location of the emission point from the biofilter had been changed and the OEE was aware of this. It was also noted that an existing emission point (odour control unit on Building 1) was not included in the dispersal model. Due to space constraints the location of the emission point from the CHP plant will be slightly different. The air dispersion model report will be amended accordingly and the revised report will be submitted to the Agency by the 30th March 2017.

Emissions to Air and Odour complaints

19. State the rated thermal input value for the proposed CHP plant.

The rated thermal input value for the proposed CHP plant will be 1.7 MW

20. Identify the quantity and frequency of use of the following fuels in the steam-raising boiler: diesel and woodchip. State when and in what circumstances, other than start-up, diesel is used. It is noted that 328,068 litres of diesel is used annually. State where this is used.

Diesel is only used in the start up to raise the furnace temperature to approximately 400ºC. It is also used to fuel the loading shovel and forklift. The figure of 328,068 litres in Table G 1 (1) was a typographical error. The fuel usage in 2015 was 6,000 litres.

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21. State the characteristics and nature of the gaseous emissions from the condensate (cooling) tower and the waste water treatment plant. Provide evidence in the form of monitoring for key parameters before and after the biofilter that the biofilter removes the pollutants of concern in the gaseous emissions from the condensate (cooling) tower and the waste water treatment plant. Provide evidence that the biofilter is BAT for the treatment of these emissions. State what alternative treatment methods exist for removing the pollutants of concern in the gaseous emissions from the condensate (cooling) tower and the waste water treatment plant.

Details of the characteristics and nature of the gaseous emissions from the condensate cooling tower and waste water treatment plant were not provided in the review application, as the proposed changes will not result in any changes to the sludge drying operation and the operation of the on-site process wastewater treatment plant The Agency carried out a detailed assessment of the gaseous emissions when processing the original application and the review does not seek to change the treatment process. Condition 6.8.4 of the current licence stipulates that gaseous emissions from the cooling tower shall be treated in a biofilter.

Schedule C1.2 of the current licence requires biannual monitoring of the biofilters for ammonia, organics, hydrogen sulphide and amines and weekly monitoring for mercaptans. In 2008 after the biofilter was installed and again in 2010 Eras Eco Ltd conducted monitoring at the inlet and outlet from the biofilter for hydrogen sulphide, ammonia and mercaptans to determine the removal efficiency. The results are in Attachment 8.

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As referred to above, the biofilter was installed in 2008 and its design was approved in advance by the Agency. At the time the Reference Document on Best Available Techniques for the Waste Treatment Industries (2006)(BREF) had been adopted.

Section 4.6.10 of the BREF states that biofilters are applied for great volumes of exhaust gas streams which carry low organic loads in particular exhaust gases but which have intensive odours. They are applicable to all types of wastewater treatment plants and drying of sludge. The use of biofilters in the waste treatment industry is referenced in the Best Available Techniques (BAT) Reference Document for Waste Treatment Draft in Progress 2015.

22. *(a) Provide detailed information on the characteristics and nature of input gases for the proposed odour control unit (carbon filter) at A3.*

The odour control unit currently treats odorous air in the building and was installed at the request of the OEE to facilitate the lime stabilisation of sludge, storage of sludge prior to treatment and acceptance and transfer of mixed municipal solid waste (MSW).

Lime stabilisation has stopped and it is not planned to restart in the future. For commercial reasons it is no longer intended to accept residual MSW, but source separated food waste (brown bin) will be taken in and stored inside the building pending treatment in the AD plant.

(b) State how many air changes per hour in Building 1 will be provided by an extraction rate of 5,000Nm^3/hr and provide the calculation.

The extraction rate will be 30,000 Nm^3/hr and this will provide an average of one air change per hour. The building dimensions are 50m x 40m by 15m high (30,000m^3).

(c) State the source of extracted air from the AD plant and the basis for this design flow parameter (<15,000Nm^3/hr).

The feed hopper, which is an integral part of the AD plant, will be located inside Building 1. It had been intended to construct an internal wall dividing the building into two, with the residual mixed MSW processing in one section and the feed hopper in the second. The volume of each section would be 15,000m^3. However as it is no longer intended to accept and process residual mixed MSW the internal dividing wall is not required.

(d) State why gas will need to be extracted from the AD plant for treatment.

Gas will not be extracted from the AD plant for treatment in the odour control unit. The gas will be treated to remove impurities before it is either used in the CHP plant or exported to the national grid.

(e) *State why the carbon filter at A3 will be required for the treatment of air from Building 2 and the sludge drying process (currently served by a biofilter at A2) and how and when it will be determined whether this is necessary.*

The reference to the treatment of odorous air from the sludge drying plant was a typographical error.

(f) State how many air changes per hour will be provided by the design extraction rate (<15,000Nm^3/hr) for Building 2 and provide the calculation.

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Building 2 is used for sludge drying and the air is extracted from the building for treatment in the existing biofilters. As it is not proposed to change the operation of the biofilter, design extraction rates were not provided in the application.

23. It is noted that odour complaints were received in 2014 and 2015. Describe the source of the odour nuisance and how the complaints were resolved. Identify all actual and potential sources of odour nuisance at the installation (existing and proposed). State how these sources are isolated to prevent odour nuisance or the recurrence of odour nuisance.

The odour complaints were associated with the emissions from the biofilter. The duct work had become corroded and the emission point which was at a relatively low level. The corrective actions included the replacement of the ducting and extending it to and up the southern elevation of Building 2 to a level where the emission point is above the roof height. This was completed in 2015 and resulted in a reduction in the number of complaints.

In 2016 three complaints were received (15th and 16th March and 8th June) and all were investigated. The potential source of the March complaints were opening the doors of building for the acceptance of woodchip. The investigation of the June complaint did not identify any source other than the potential loss of negative air pressure in the building after the doors were opened to take a delivery of sludge.

The existing sources of odours at the site are the sludge storage in Building 1; the sludge acceptance and drying in Building 2 and the on-site wastewater treatment plant. The proposed changes will include additional potential odour sources comprising the reception of sludges in Building 1 and the operation of the anaerobic digesters.

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The existing odour controls comprise

- processing all wastes inside the buildings.
- the extraction of odorous air from Building 1 and treatment in the odour control unit.
- The extraction of the odorous air from the drier and the sludge reception bin in Building 2 and from the on-site wastewater treatment plant and treatment in the biofilter.

Waste Acceptance and Treatment Activities

24. Elaborate on the detail of the waste treatment activities that are proposed to be carried out under the classes of activity listed in Annex II (Recovery Operations) of the Waste Framework Directive, namely R1, R3, R4, R5, RI1, R12, R13.

R1 covers the biogas used in the CHP; and the potential to manufacture refuse derived fuel and solid recovered fuel at the installation at some stage in the future.

R3 covers operation of the anaerobic digestion plant.

R4 and R5 cover the recovery of metals and inorganic material from the waste.

R11 covers future options to send waste recovered at the installation to other licensed facilities.

R12 covers the sludge drying and the shredding of the timber waste.

R13 covers the storage of the fibre and digestate from the AD plant and the dried sludge.

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25. Clarify whether any waste is or is proposed to be accepted at the installation for the purposes of treatment for disposal or storage pending disposal elsewhere. In particular, clarify the matter through identification of:

- *any relevant waste disposal activities in Class 11 of the First Schedule of the EPA Act 1992 as amended, and*
- *any relevant waste disposal operations in Annex I of the Waste Framework Directive.*

The proposed acceptance and treatment of landfill leachate would appear to be relevant in the context of this question. Also potentially relevant in this context are the entries in table H.3(i) that refer to mixed municipal waste, mixed C&D waste and treated sludges (no quantities quoted) that are all dispatched for deposit on land (D1 and D2).

If leachate is accepted it will be treated in the on-site wastewater treatment plant before discharge to the foul sewer for further treatment in the Irish Water wastewater treatment plant serving the Youghal Agglomeration. The treatment of urban waste water is not classified as a waste activity in Annex 1 of the Waste Framework Directive.

It is not intended to accept any residual mixed MSW at the facility for the purpose of treatment for disposal or storage pending disposal. 'Brown bin' waste will be accepted for treatment and to cover the non-recoverable/non-recyclables inadvertently place in the 'brown bin' these materials will be sent to engineered landfill for disposal, which is Class D5 in Annex 1 of the Waste Framework Directive.

A revised Table H3(i) is in Attachment No. 9.

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26. In order to capture an accurate overall picture of activities (existing and proposed) at the installation, provide by way of reference to each of the treatment processes the following information:

- *the name of each treatment process,*
- *an appropriate 'D or `R' code for each process,*
- *the capacity of each process (per hour or per day; tonnes or m^3 for storage operations),*
- *the proposed maximum throughput of each process (same units as capacity),*
- *the List of Waste codes to be applied to each of the processes,*
- *a description of the outputs from each of the processes,*
- *the classification (waste or not waste) of each of the outputs including List of Waste code, the onward fate of each of the outputs.*

The treatment processes to be addressed here should include:

- *anaerobic digestion,*
- *sludge drying,*
- *leachate treatment,*
- *yeast and permeate drying,*
- *waste wood shredding,*
- *waste wood combustion,*
- *municipal waste processing,*
- *waste storage (various types and locations), and*
- *other processes as may be identified by you but not listed here.*

The only additional waste treatment process will be the AD plant and the digestate centrifuge. There will be no change to the other processes authorised under the current licence. As the yeast and whey permeates will not be classified as a waste, the drying will not constitute a waste treatment process. The requested information is in Attachment No. 10.

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27. Provide evidence to demonstrate there is sufficient storage and treatment capacity at the installation for the quantities of waste proposed in each building and/or treatment process.

The current licence authorises the acceptance of 110,000 tonnes of solid and sludge waste annually, including 70,000 tonnes of C&I waste, 30,000 tonnes of sludge and 10,000 tonnes of leachate, which is 45,000 tonnes more than the proposed amount (65,000 tonnes).

The two new anaerobic digesters will have a combined capacity of 4,416m^3 and the new digestate storage tank will be 500m^3. The six storage tanks that will be located inside Building 1 will each have a capacity of 100m^3. In addition there will be 2 No. 25m^3 pasteuriser tanks inside Building 1. The sludge storage tank in Building 2 has a capacity of 50m^3, while the capacity of the hopper is 30m^3.

28. State the maximum quantity of waste that is proposed to be stored at the installation at any one time.

Assuming that the tanks referenced in the answer to query No.27 above are full and that there is 250 tonnes of sludge stored in Building 1, the maximum quantity of waste on-site at any one time will be 5,896 tonnes.

29. *Item 20 of the Non-Technical Summary refers to a waste solvent treatment process. Please clarify this in the context of section E.1.B that states that no solvents will be accepted as waste or used at the installation.*

The reference to the waste solvent treatment process in the non-technical summary was a typographical error. A revised non-technical summary accompanies this response.

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30. Clarify the basis for stating that the spent yeast and whey permeate drying processes are not waste processes. Clarify what emissions will be generated from the drying process and how these emissions will be managed at the installation and whether there will be a unique emission point or points arising from the processes. Characterise any such emissions and carry out an environmental assessment of their potential impact.

The yeast slurries and whey permeates that may be accepted at the facility are by products of the brewing and dairying industry respectively. In 2012, Diageo (P301-04) notified the Agency that a number of the materials generated as part of the brewing / production process met the requirements of Article 27 of the European Communities (Waste Directives) Regulations 2011, which included surplus yeast destined for use as animal feed. Diageo submitted determinations of by-product status for the yeast, which was accepted by the Agency (Art 27-0013).

Whey permeates are already being used to manufacture products such as alcohol and research as identified that drying the permeate facilitates the making of animal nutrition additives. Only whey permeates that have been accepted by the Agency as being by-products will be accepted at the installation. Given the quality control requirements the drying will be carryout in a new building, which will require planning permission. The exhaust from the new drier will be ducted to existing stack and details will be submitted to the Agency by way of an SEW.

31. Section B.3A of the application states that chapter IV of the Industrial Emissions Directive is not relevant. The application refers to the use of waste wood and recovered waste wood as fuel at the installation. Please clarify how and whether this waste wood is exempted from the requirements of

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chapter IV of the Directive and from the European Union (Waste Incineration Plants and Waste Co-Incineration Plants) Regulations 2013. Provide relevant technical information to justify any exemption.

The use of the waste wood as a fuel in the boiler is regulated by Condition 8.14 of the current licence. Condition 8.14.2 stipulates that 'Wood waste, with the exception of wood waste which may contain halogenated organic compounds or heavy metals as a result of treatment with wood-preservatives or coating, and with the exception in particular of such wood waste originating from construction and demolition waste, may be used as fuel for the sludge dryer boiler'.

Condition 8.14.3 of the current licence required Eras Eco, prior to the commencement of the operation of the Sludge Dryer Boiler, to establish detailed written procedures for the acceptance and handling on site of waste wood for use as a fuel. A copy of the Procedure is in Attachment 11.

32. Explain the basis for the sludge dryer operating 24 hours a day, and not least in the context of this being a change to existing operations. State the need for 24-hour operation and whether the operation is automatic or will require staff to be in attendance.

The sludge dryer currently operates 24 hours a day and it is not proposed to change the operational hours.

Documents and Drawings

*33. Section **D.1** of the application refers to Drawing No. 12659-tek02-01. State the location of this drawing in the application documents or provide a copy of the drawing.*

The reference to Drawing No. 12659-tek02-01 is a typographical error and it should have been to Drawing No. 15-193-02 Rev A.

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34. Attachment B.2 refers to 4 drawings, only two of which were included in the attachment. Provide copies of the omitted drawings.

The Proposed Site Layout and Emission Point Drawings were not included in Attachment B2, but were in Attachment E3 and Attachment E1 respectively. Revised Site Services (Drawing No. 15-193-02 Rev B), Emission Points (Drawing No. 15-193-03 Rev D and Monitoring Points (Drawing No. 15-193-04 Rev D) are included in this response.

35. *Table E.1(ii) of the application is incomplete for emission point A4. Please complete and submit*.

Table E1(ii) for emission point A4 is in Attachment 12. When completing the Table, it was noted that Table E(iii) for emission point 4 did not include full details and the revised Table is in Attachment 13.

36. Table E.3(b) is incomplete and the column headed "Date" has incongruous data. Please revise the table and resubmit.

The available results of the monitoring of the emission to sewer are in Attachment 1, and to avoid confusion Table E 3(b) has not been amended.

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37. *Provide a larger version of drawing no. 15-193-02 at a scale where the readability of the text is improved.*

Drawing 15-193-02 Rev B is included in this response.

Environmental Impact Statement

38. State whether the EIS (dated December 2010) provided with the licence review application is the same EIS that was provided to Cork County Council as part of planning application 114123 and used by An Bord Pleanala in consideration of appeal ***P*** *L04.239166.*

The EIS dated December 2010 was provided to Cork County Council as part of planning application 114123 and used by An Bord Pleanala in consideration of appeal PL04.239166.

Appropriate Assessment

39. *The NIS suggests that improvements will be realised in the quality of discharged wastewater due to mixing/dilution with high quality treated wastewater from the proposed AquaCritox process. Given that the latter process is not now proposed for development, state how the lack of availability of this dilution influence* ***will*** *amend the conclusions of the Natura Impact Statement and the overall assessment of the installation's impact on the adjacent SAC and SPA. If appropriate, provide an updated NIS that reflects the proposals being presented to the Agency as part of the licence review application.*

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The quality of the discharged wastewater would have been improved by mixing/dilution with the treated wastewater from the AquaCritox process meaning the discharge will contain lower levels of pollutants than present, and any potential impacts upon aquatic fauna and winter waterfowl in the Blackwater Estuary SAC and SPA would consequently be less than at present.

However such improvement is not required to ensure the discharge from the on-site WWTP meets the ELVs specified in the current licence, which are intended to ensure that the discharge does not give rise to pollution. The mitigation measures listed in the NIS include monitoring of the discharge to confirm the ELVs are achieved and 'ensure that the discharge does not have impacts upon fauna in the designated sites'. The NIS also takes into consideration the intention to divert the discharge from the estuary to the municipal foul sewer. The absence of the AquaCritox process will not amend the conclusions of the NIS and an update is not required.

Financial Provision

40. The table in section D.2.2 of the application has been ***completed*** *incorrectly in that there is no unit cost provided for the disposal of waste* ***and no total closure*** *cost provided. Also the correlation between tonnes and cubic metres is not evident. Please revise the table and resubmit.*

The revised Table D.2.2 is in Attachment 14. The unit disposal cost was inadvertently entered in the cubic meters column. Unit costs (cost per tonne) are provided but there is no column in the Table in the application form for the aggregate cost of each waste type. An additional column has been added to the revised table and the total closure cost provided. It should be noted that the costs in Table D2.2.2 only relate to the removal of the wastes on site at the time of the closure and do not include all closure costs. These will be provided in the Closure, Restoration and Aftercare Management Plan.

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41. Provide a fully-costed Closure, Restoration and Aftercare Management Plan and an Environmental Liabilities Risk Assessment that reflect the activities at the installation proposed for licensing in this licence review.

The Closure, Restoration and Aftercare Management Plan and the Environmental Liabilities Risk Assessment are being prepared and will be submitted to the Agency by the 30th March 2017.

Baseline Report

42. *The baseline report in Attachment 1.4 of the application appears incomplete. Please provide a complete baseline report that meets the requirements of Regulation 9(2)(n) of the Regulations.*

The Baseline Report was an early draft mistakenly included in the application error. The final report is in Attachment 15.

In addition to the above please also provide an updated non-technical summary to reflect the information provided in your reply.

An updated Non-Technical Summary is in Attachment 16.

Yours Sincerely,

Jim O' Callaghan

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Emission Point Ref. Nº:	A4
Source of Emission:	CHP Plant
Location:	Adjacent to Digester Tank
Grid Ref. (12 digit, 6E,6N):	209623,79732
Vent Details Diameter: Height above Ground(m):	 0.65m 19m
Date of commencement:	

Characteristics of Emission:

(i) Volume to be emitted:			
Average/day	Nm^3/d	Maximum/day	6,200Nm^3/d
Maximum rate/hour	Nm^3/h	Min efflux velocity	18.8$m.sec^{-1}$
(ii) Other factors			
Temperature	ºC(max)	ºC(min)	723K(avg)
For Combustion Sources: Volume terms expressed as : ☐ wet. ☐ dry. _____$\%O_2$			

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(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included):* When CHP plant operational

Periods of Emission (avg)	_____min/hr _____hr/day _____day/yr

TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission (1 table per emission point)

Emission Point Reference Number: A4

Parameter	Prior to treatment(1)				Brief description of treatment	As discharged(1)					
	mg/Nm^3		kg/h			mg/Nm^3		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
Carbon Monoxide						1400		8.67		76,033	
Oxides of Nitrogen						500		1.80		15,768	
Sulphur Dioxide						500		1.80		15,768	
Total Particulates						140		0.87		7,600	
Hydrogen Chloride						50		0.31		2,712	
Hydrogen Fluoride						5		0.031		271.2	
TOC (Methane)						1000		6.19		54,241	
Total Non Methane (VOC)						75		0.45		3,910	
Hydrogen Sulphide						5		0.031		271.2	

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1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0ºC,101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.