APPENDIX 5

Natural Resources Wales Consultation Response Dated 22nd June 2017. Ref: CAS-34276-Q3W1.

Ein cyf/Our ref: CAS-34276-Q3W1
Eich cyf/Your ref: 17/14587/FUL

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22 June 2017

Annwyl Syr/Madam / Dear Sir/Madam

Amended phase II development and operation of a sustainable waste resource recovery and energy production park, comprising the consolidation of the approved gasification yard and pyrolysis building into a 6,270.43 m2 gasification hall; an emissions stack measuring 45 m in height and 3.5 m in diameter; a 2,102.86 m2 fuel storage hall and a 378 m2 turbine hall for electricity generation; and a 4,824 m2 open service yard containing ancillary structures including air-cooled condensers for the gasification plant, ancillary fire water tanks and a fire pumphouse, effluent pumps, gas boosters, transformers and a standby diesel generator and fuel tank, with boundary landscape and planting (Additional information relating to the Environmental Statement received) at FIFTH AVENUE, HIRWAUN INDUSTRIAL ESTATE, HIRWAUN

Thank you for referring us to the additional information submitted in respect of the application above, which we received on 01 June 2017.

We have significant concerns with the proposed development as submitted. We recommend that you should only grant planning permission if the scheme can meet the following requirement. We would object if the scheme does not meet this requirement.

Requirement- Further information is required to demonstrate that emissions can be controlled to an acceptable level to demonstrate that there is no adverse effect on the integrity of the relevant Special Areas of Conservation (SAC).

We have reviewed the Shadow Habitat Regulations Assessment Stage 1 Screening Report, produced by Middlemarch Environmental, dated May 2017. We have also conducted a review of the Atmospheric Dispersion Modelling Assessment, produced by Envisage, dated May 2017, that has been used to inform the Screening Report. It should

be noted that although titled a Screening Report, it resembles a Shadow Appropriate Assessment.
Our comments are as follows:

Atmospheric Dispersion Modelling
As you are aware, the Screening Report includes three different sets of data for deposition of nutrient nitrogen and acid: 'Industrial Emissions Directive (IED) Limits Emissions Data'; 'IED Limits Emissions Data and Laxen and Marner Assessment'; and 'Long Term Realistic Emissions Data and Laxen and Marner Assessment'.

It is noted that for the purposes of the Screening Report, the 'Long Term Realistic…' data set has been selected for use in the consideration of potential adverse effects. At this stage, we are unable to comment on the suitability of the 'realistic' emission rate scenario used by the consultant, as it falls outside the scope of our model review for the planning application. However, if the Applicant is suggesting that the process would operate at emissions less than those in the IED, then relevant evidence should be submitted to justify this and to date none has been provided. It should be noted that as part of an EPR application, in order to be protective of both human health and the environment, we would expect impacts to be considered at the relevant emission limit value for each modelled pollutant unless the applicant is able to justify otherwise. Therefore, in the absence of any agreed justification for the use of 'realistic' emissions data, it is necessary to consider the worst case 'IED Limits' data in determination of this planning application, i.e. without applying what is being termed the *'…more realistic long-term emission levels from the process…'* (Screening Report, p.29).

Furthermore, in calculating the deposition data, a long term NO_2:NO_x ratio of 50% has been specified with reference to a report assessing air quality impacts on vegetation[1]. This report is not a peer reviewed study and we would therefore expect the submitted risk assessment worst case scenario to use a 70% conversion of NO_x to NO_2, unless a valid site specific justification is given for a lower conversion ratio.

In addition to the above, we have a number of other technical comments on the model, which the Applicant should address as part of any future submissions. These are contained in the attached Annex.

Summary – Worst Case IED Limits Emissions Data should be used, with a 70% conversion ratio of NO_2:NO_x.

Habitats Regulations Assessment
As you are aware, in consideration of air quality impacts, screening thresholds are used to determine whether the project in question is likely to have a significant effect on a European Site under Regulation 61 of the Conservation of Habitats and Species Regulations 2010. In terms of DEFRA / EA guidance, *Air Emissions Risk Assessment for your Environmental Permit (*https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit), a Process Contribution (PC) of >1% of the relevant Critical Load is deemed to result in Likely Significant Effects and if there is a Predicted

1 An Assessment of Possible Air Quality Impacts on Vegetation from Processes Set Out in the Bournemouth, Dorset and Poole Waste Local Plan. Prof. Duncan Laxen and Dr. Ben Marner; Air Quality Consultants Ltd. April 2005

Environmental Concentration (PEC) of >70% of the Critical Load, an adverse effect cannot be ruled out.

For NO_x, ammonia, SO_2, Cadmium & Thallium, Heavy metals, VOCs & PAHs, the IED Limits Emissions data indicates that the PC alone and in combination at all of the SACs can be regarded as not significant and therefore we offer no further comments on these emissions.

In respect of nutrient nitrogen and acid deposition, although (as explained above) the Screening Report does not include the data for Worst Case IED Limits Emissions Data, with a 70% conversion ratio of NO_2:NO_x, it is clear from the data that has been provided that the screening thresholds have been exceeded (in some cases by significant margins) for all three SACs that have been considered - Blaen Cynon SAC, Coedydd Nedd a Mellte SAC and Cwm Cadlan SAC. We therefore advise that an Appropriate Assessment of the project must be carried out, in accordance with Regulation 61 of the Conservation of Habitats and Species Regulations 2010, in relation to the three SACs, listed above.

Summary – With the information currently available, the project is likely to have a significant effect on the European Sites / SACs identified. In the determination of this application, your Authority must make an Appropriate Assessment of the implications for those sites in view of their conservation objectives.

Mitigation

The applicant has not submitted information on appropriate technical solutions that may be used to control emissions to an acceptable level. Instead, it is noted from the Screening Report, page 83, that the Applicant intends to provide mitigation, to be secured via a Deed of Variation to the s106 agreement that accompanied the previous planning permission, in order to enable *'…the local authorities to conclude that there would be no Likely Significant Effect...'* It should be noted that, as stated above, the fact that the PCs are >1% of the relevant critical load means that it is not possible to reach this conclusion in any case. Either the Applicant would need to provide mitigation (technical solutions) to reduce the PCs below the 1% screening threshold in order to conclude 'No Likely Significant Effect' or mitigation would be required to ensure that the resulting PECs do not give rise to adverse effects.

Mitigation measures are measures that avoid, cancel or reduce effects on a habitat or species feature. Sufficient information will need to be available at the time of the Appropriate Assessment to demonstrate beyond all reasonable scientific doubt that the measures proposed will counteract the effects of the project.

With respect to the proposal to use habitat management as mitigation, we note that the Applicant does not have any management control of any of the land within the SAC boundaries (much of the SACs are privately owned). Currently, no specific management measures are proposed by the applicant. Based on the information provided with the application, it is therefore not currently possible to demonstrate beyond all reasonable

scientific doubt that the project will not result in adverse effects on the integrity of the SACs.

We would highlight that it is unlikely to be possible in practice to find management measures that are suitable as mitigation. Since the publication of the Blaen Cynon Core Management Plan many of the measures identified to address the unfavourable condition of the marsh fritillary have been actioned. It is also not clear to us what management measures could mitigate the effects of the process contributions to the other SAC sites.

We would also note that if any management approaches were identified as suitable, they would also need to be secured for the lifetime of the operation of the development and may be needed for longer, if the effects of the project continue for longer, as may be the case with nutrient enrichment of soils.

Reducing the atmospheric Process Contribution to the SACs would appear the only realistic option to the avoidance of adverse effects to the integrity of the SACs.

Summary – the measures proposed by the Applicant by way of mitigation are not considered to be acceptable. To ensure that the proposals will not give rise to adverse effects on the SACs, further information should be submitted to demonstrate that technical solutions are available and will be utilised within the design to control emissions to an acceptable level.

Please note: the matters raised above will need to be addressed in respect of both the planning application and also the environmental permit application. For the avoidance of conflict between the two regimes, we have previously advised the Applicant to twin-track the planning application and the permit application for this development. Please note that an Environmental Permitting (England and Wales) Regulations 2016 (EPR) Permit application was submitted to NRW by the Applicant at the end of last month and we can confirm that the application has been duly made.

Other Matters

Our comments above only relate specifically to matters that are included on our checklist Natural Resources Wales and Planning Consultations (March 2015) which is published on our website at this link (checklist).

We have not considered potential effects on other matters and do not rule out the potential for the proposed development to affect other interests, including environmental interests of local importance. The applicant should be advised that, in addition to planning permission, it is their responsibility to ensure that they secure all other permits/consents relevant to their development.

If you have any further queries, please don't hesitate to contact us.

Yn gywir / Yours faithfully

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Ein diben yw sicrhau bod adnoddau naturiol Cymru yn cael eu cynnal, eu gwella a'u defnyddio yn gynaliadwy, yn awr ac yn y dyfodol.

Our purpose is to ensure that the natural resources of Wales are sustainably maintained, enhanced and used, now and in the future.

AQMRAT Reference: C236b_RP01

Project Title: Enviroparks Wales Ltd. (EWL), Hirwaun Industrial Estate, Aberdare – High level review of Addendum to Atmospheric Dispersion Modelling report submitted in support of pre-application (planning).

Response Date: 13th June 2017

1 Introduction

1.1 The South East Wales Development Planning Team requested that the Air Quality Modelling and Risk Assessment Team (AQMRAT) undertake a high level review of an addendum[1] to an Atmospheric Dispersion Modelling report[2] submitted as part of the statutory pre-application (planning) process for a proposed resource recovery and energy production plant at Hirwaun Industrial Estate, Aberdare.

2 Conclusions

2.1 The addendum report considered nutrient nitrogen and acid deposition at three SAC receptors only. Analysis of nutrient nitrogen and acid deposition at these receptors was carried out in accordance with the guidance detailed in AQTAG06[3]. Points raised in our report C236_RP01 have largely been addressed. Investigation of the suitability of meteorological data has not been addressed. We would expect the consultant to justify use of their data where the measurement location was not near the dispersion site and other sources of suitable Met data were available e.g. Met Office NWP or GSF.

2.2 The consultant's assumption of 50% conversion of NOx to NO_2 over the long term is not considered worse case at these receptors. We recommend assuming 100% NOx as NO_2 for screening purposes and 70% for worse case. Justification with site specific details (including source emission and background) will be required for any lower conversion ratio of NOx to NO2 to be used in the modelling risk assessment.

2.3 We are unable to comment on the suitability of a "realistic" emission rate scenario used by the consultant as it falls outside the scope of this report. If the applicant is suggesting that the process would operate at emissions less than those in the IED, then relevant evidence should be submitted and reflected in the permitting documents for future compliance check.

2.4 The addendum report did not consider impacts at ancient woodland sites.

3 Detailed Comments

3.1 Three SAC receptors points used in the modelling were selected at locations nearest the emission source.

[1] Amanda Owen, Environmental Visage Ltd., (February 2017) "Addendum to an Atmospheric Dispersion Modelling Assessment of Proposed Emissions from Enviroparks Wales Ltd., Hirwaun Industrial Estate, Aberdare" Report Issue No: Issue 2

[2] Amanda Owen, Environmental Visage Ltd., (January 2017) "Atmospheric Dispersion Modelling Assessment of Proposed Emissions from Enviroparks Wales Ltd., Hirwaun Industrial Estate, Aberdare" Report Issue No: Issue 1

[3] Habitats Directive (March 2014) Technical guidance on detailed modelling approach for an appropriate assessment for emissions to air.

3.2 Deposition velocities specific to habitat types as specified in AQTAG06 have been used at each receptor point considered except for NH_3. The submitted addendum report states that a single NH_3 deposition velocity of 0.02 $m.s^{-1}$ has been used for all vegetation types rather than the values specified in AQTAG06 of 0.02 $m.s^{-1}$ for grassland and 0.03 $m.s^{-1}$ for forested areas. It is the responsibility of the consultant to confirm that a suitable deposition velocity relative to the habitat type has been used in their calculations.

3.3 Although wet deposition of HCl was not modelled directly, estimating total deposition (wet & dry) as 3 $\times$ dry deposition is considered acceptable in this instance. Consideration of dry deposition only for nitrogen and sulphur meets the criteria specified in AQTAG06 as wet deposition of these species is not considered significant within the short range. Use of APIS to obtain suitable background and critical loads at receptors meets current requirements.

3.4 The addendum report specifies a long term NO_2:NOx ratio of 50% with reference to a report assessing air quality impacts on vegetation[4]. This report is not a peer reviewed study and we would therefore expect the submitted risk assessment worse case scenario to use a 70% conversion of NOx to NO_2, unless a valid site specific justification is given for a lower conversion ratio.

3.5 Worst case scenario assumes continuous emissions at the relevant pollutant ELVs specified in the IED for waste incineration plants and waste co-incineration plants. This may be considered a suitably precautionary approach.

3.6 Realistic emission concentrations of NOx, SO_2, NH_3 and HCl provided by the technology supplier remain speculative and assessment of their accuracy or suitability is outside the scope of this report. However, for a risk assessment to be considered protective of both human health and the environment, we would expect impacts to be considered at the relevant ELV for each modelled pollutant.

3.7 Other modelling parameters and assumptions remain the same as those detailed in the original Air Quality Risk Assessment report. Any identified issues would have been addressed in our report C236_WD01.

3.8 Calculation of nutrient nitrogen and acid deposition due to nitrogen (NO_2 & NH_3) and sulphur (SO_2) described in Section 4 of the submitted addendum report meet the criteria specified in AQTAG06. Treatment of HCl in combination with SO_2 for acid deposition follows methodology specified in AQTAG06 although details of the conversion factor used for acid deposition of HCl has not been included. However, details of all parameters used would only be required at the permitting stage where a complete audit of calculations may be required.

3.9 The addendum report confirms inclusion of in-combination impacts with external sources for nutrient nitrogen and acid deposition results.

3.10 Modelling results represent the worst case from five years of meteorological data and is considered an acceptable approach to determine the maximum impact at receptors although we would continue to recommend investigation into the suitability of the meteorological data used (see Section 2.1).

3.11 No reason has been provided in the addendum as to why consideration of impacts from nutrient nitrogen and acidification at ancient woodland sites has not been considered.

[4] An Assessment of Possible Air Quality Impacts on Vegetation from Processes Set Out in the Bournemouth, Dorset and Poole Waste Local Plan. Prof. Duncan Laxen and Dr. Ben Marner; Air Quality Consultants Ltd. April 2005