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Bwrdd Iechyd Prifysgol
Aneurin Bevan
University Health Board

Our Ref: A2EO397 Direct Line: 01633 435954 19th September 2016

Your Ref: PAN000061

Kevin Ashcroft
Permitting Officer
Natural Resources Wales
Wales Permitting Centre (Cardiff)
Cambria House
29 Newport Road
Cardiff
CF24 0TP

Dear Gill

**Environmental Permitting (England and Wales) Regulations 2010
Re: Application for a new bespoke Environmental Permit for Hazrem
Environmental Limited at Nine Mile Point Waste Transfer Facility,
Nine Mile Point Industrial Estate, Cwmfelinfach, Caerphilly, NP11
7HZ**

We welcome the opportunity to comment on Natural Resources Wales' updated air quality assessment accompanying this application. We have consulted with our colleagues at the Environmental Public Health Service (delivered collaboratively through Public Health Wales' Health Protection Team and Public Health England's Centre for Radiation, Chemical and Environmental Hazards Wales. Our assessment is based on actual or potential health risks from environmental exposures to emissions from the proposed operation. Any recommendations are for consideration by the Regulator and may be reflected in any permit conditions made (see rationale below).

Bwrdd Iechyd Prifysgol Aneurin Bevan

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Bwrdd Iechyd Prifysgol Aneurin Bevan yw enw gweithredol Bwrdd Iechyd Lleol Prifysgol Aneurin Bevan
Aneurin Bevan University Health Board is the operational name of Aneurin Bevan University Local Health Board

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In respect of the air quality element of the application, we note that public health concerns have been raised by the local population and we have been mindful of these in producing this response. The key concerns reported by the local population in relation to the applicant's submitted air quality assessment are:-

- Whether the nature of the valley topography been considered in the dispersion model.
- Whether meteorological data used represents weather experienced (i.e. temperature inversion) in this valley location.
- The impact upon workers in adjacent premises in terms of relevant air quality objectives (AQO's).
- To confirm that vehicle movements will not impact upon air quality and road safety.

In order to aid answers to these questions, the Regulator has provided additional air quality modelling by the Air Quality Modelling and Risk Assessment Team (AQMRAT).

Proposed Operations

Waste processing facility to process up to 100,000 tonnes of non-hazardous household, commercial and industrial wastes per annum. The facility is anticipated to accept more than 75 tonnes of waste per day. The waste will be treated to produce either Solid Recovered Fuel (SRF) or Refuse Derived Fuel (RDF) which will be baled and wrapped and exported off site for energy generation. Recyclable materials will be removed during the production of SRF and RDF. The applicant intends to control any odours by keeping the waste dry, using warm air generated via a gas burner. The drying air will be extracted via a particle filter into a gas fired thermal oxidiser to abate odours prior to release via the stack.

Overall Conclusion

In conclusion, whilst breaches of statutory Air Quality Objectives for Nitrogen Dioxide (NO₂) are not predicted we are concerned that the proposed operation will significantly add to the burden of air pollution, principally short-term NO₂ concentrations. Nitrogen dioxide is a non-threshold pollutant, which means there is no known 'safe' threshold of exposure.

There is now strong evidence from the new modelling data that the development will cause significant short-term local air quality deterioration within an area of deprivation, including vulnerable populations. The evidence of increasing air pollution concentrations and ill-health impacts is strong and any deterioration of local air quality is likely to have an adverse health and wellbeing impact. We would therefore recommend that the Regulator exercise caution in considering the granting of a Permit.

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Public Health Risk Assessment

Nitrogen dioxide can irritate the lungs and lower resistance to respiratory infections such as influenza. The World Health Organization (WHO, 2013) reported there are positive and statistically significant short-term associations of nitrogen dioxide (NO₂) with all-cause and cause-specific mortality

Having reviewed AQMRAT's report, the current, ambient concentrations of NO₂ in the valley are within both annual and hourly air quality objectives (AQOs). NO₂ concentrations close to the annual average air quality objective 40µg/m³ are found only at a local road-side location where existing traffic emissions the dominant source.

The AQMRAT report includes consideration of the effects of the local terrain, (including cold air layer inversion formation) which was not considered in the applicant's original air quality assessment. These revised findings, using a worst case scenario, show a significant increase in the hourly NO₂ process contributions (PCs) at residential receptors, ranging from 125.9 to 152.6µg/m³ (up to approximately 75% of the hourly Air Quality Objective of 200µg/m³). When taking into account existing ambient concentrations (Predicted Environmental Concentrations; PEC), the hourly NO₂ PECs at residential receptors range from 153.8 to 180.5µg/m³. The maximum short-term PEC equates to approximately 90% of the hourly Air Quality Objective of 200µg/m³.

The maximum long-term NO₂ PCs show an increase at residential receptors ranging from 5.4 to 7.4µg/m³. The maximum long-term PEC at residential receptors range from 19.4 to 21.4µg/m³. The maximum long-term PEC equates to approximately 53.5% of the annual AQO of 40µg/m³.

The highest short term concentrations of NO₂ are predicted at the adjacent industrial units but additional scrutiny of the modelling by NRW suggests that, plume grounding at this location was unlikely.

While an increase in HGV traffic serving the proposed facility at Nine Mile Point Industrial Estate may result in an increase in NO₂ along the B4251, modelling indicates that increases will likely be small and not result in an exceedance of the annual AQO based on 2014 diffusion tube data, with concentration increases ranging from 0.3 to 3.9% of the Objective. This assumes a worst case scenario in terms of increase in vehicle numbers and routes impacting all possible receptors along the B4251.

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Placing the modelled air quality impacts in a broader public health context is an important aspect given the local community concerns. The local area has a high deprivation status and, as such, the local population is more likely to have higher pre-existing rates of ill-health compared with elsewhere. Potentially, this renders local sensitive individuals and communities more susceptible to the effects of air pollution exposure and any increase in NO₂ concentrations could therefore exacerbate problems in such vulnerable populations.

We would recommend that any additional information obtained by the Regulator in relation to these comments should be sent to us for consideration. Such information could affect the comments made in this response.

Yours sincerely



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