

RESPONSE TO QUERIES AND COMMENTS RAISED DURING THE MÔR HAFREN BIO POWER LIMITED CONSULTATION AIR QUALITY ISSUES ADDRESSED BY ENVIRONMENTAL VISAGE LIMITED

Introduction

This brief report addresses the air quality and assessment related queries and comments raised in various responses to the consultation issued by the Planning Inspectorate, for Development of National Significance reference DNS/3236340. The application refers to the proposed Môr Hafren Bio Power Limited (MHBP) Energy Recovery Facility to be based off Newlands Road in Trowbridge.

The following consultation responses have been reviewed and are commented upon within this report:

DNS 3236340 Document Number	Respondent
000177	J. G. Cuffe
000186	Jon Alderman
000226	Natural Resources Wales
000254 and 000234	Residents Against the CF3 Incinerator
000243	Max Wallis
000248	David Prosser
000251	Cardiff Council

Consideration of and Response to the Queries and Comments Raised

Comments from DNS-3236340-000177 (J. G. Cuffe); 000243 (Max Wallis); 000248 (David Prosser)

Concerns are raised regarding emissions and cumulative impacts, and plume looping and grounding.

Environmental Visage Limited / MHBP Response

Firstly, references are made throughout the responses to other plant such as the Viridor Trident Park facility in Cardiff. It is noted here that it is not appropriate for us to comment on the operation of other plant and nothing in this response should be taken as such. Our response relates purely to the studies and proposed operation of the Môr Hafren facility.

Mr Wallis notes that *“incinerator plumes like Cardiff-Viridor’s are brought to ground nearby (few 100m) much more frequently than the 1-hour average plume used in models”* and, in relation to the uncertainty modelling used in the SAHSU epidemiology studies referred to by Mr Wallis, *“It relies on uncertain modelling of emission plumes at ground level (known to be very poor for short-term groundings, yet hourly and longer averages are used)”*.

Two points are noted:

Firstly, the hourly averages applied within the dispersion modelling exercise and air quality assessment relate directly to Air Quality Standard Objective Values, Ambient Air Directive Limit Values, Environmental Assessment Levels and / or other environmental standards specified by Government and the Regulator. For that reason, SO₂ levels are assessed over annual, 24-hourly, hourly and 15-minute periods, as these average reference values are stipulated for that pollutant. Despite higher, short-term concentrations potentially being experienced, the assessment for the protection of human health and the environment is often on an hourly or annual average basis, and it is for this reason that such assessment periods have been applied.

Secondly, the fact that the plume can impact, especially in short-term assessments relatively close to the stack is supported and indeed is stated clearly in the Air Quality Assessment e.g. in Section 3.2 Nitrogen Dioxide (NO₂), the final paragraph on page 16 (V6) states: *“The maximum reported values (annual average Process Contributions) are predicted by modelling to occur at a location about 400 metres to the north-east of the chimney of the ERF, and reduce significantly with distance from the site”*.

This paragraph has been updated in Version 7 of the report (now submitted). However, the fact remains that higher localised concentrations are identified throughout the text and are demonstrated by the isopleth diagrams.

Finally, Mr Wallis refers to 'coastal fumigation'. Section 2.7.6 of Version 7 of the Air Quality Assessment (now submitted), includes a sensitivity analysis for the impact of coastal effects. Whilst it is true that the ADMS Version 5.2 model can only run coastal influences in isolation of detailed terrain, surface roughness and buildings data, and nor can it include the influence of wind turbines within a coastal effects model, the impact of coastal influences has been assessed using the available tools. The results of the coastline modelling assessment suggested significantly lower Process Contributions than the models which accounted for comprehensive terrain and surface roughness variations, the presence of local buildings and the G24 Innovations Limited wind turbine. As such, the application of the coastline module was not carried forward in the full assessment, by way of presenting a worst-case assessment.

The issues raised by Mr Cuffe and Mr Prosser were of a similar vein and should also therefore be addressed by the responses above.

Comments from DNS-3236340-000186 (Jon Alderman)

It is not clear whether the applicant has specifically considered the potential impact of the emissions of pollutants on the communities and residential properties of Rumney, Trowbridge, St Mellons, Peterstone, Marshfield and Castleton. Specific concerns were raised regarding the fact that the Health Impact Assessment provides no modelling results for the 20 primary and secondary schools in the surrounding area, along with other concerns about the chosen receptors.

Mr Alderman has questioned why Receptor Number 20 includes the old site for Eastern High secondary school when the site moved to a new location in January 2018.

Mr Alderman has applied 'Plume Plotter' to question the results of the detailed ADMS modelling reported in the Air Quality Assessment, considering that *"the plume or "blast zone" starts approximately 1.5km distance from the plant's stack and extends to over 4km distance from the plant's stack."*

Environmental Visage Limited / MHBP Response

A number of discrete sensitive receptors were identified which included the nearest of these identified areas and a selection of the schools in the vicinity (see diagram and list below, which were also included in the Air Quality Assessment, and note that these have been updated in Version 7 of the assessment). However, additionally, the use of the modelling grid enables contour plots to be produced which cover wider areas (4 km x 4 km) and show the levels of contributions in these areas, albeit in more general terms, rather than with detailed concentrations at specific points.

Figure 1 The Local Setting Showing the Location of the ERF Development Site

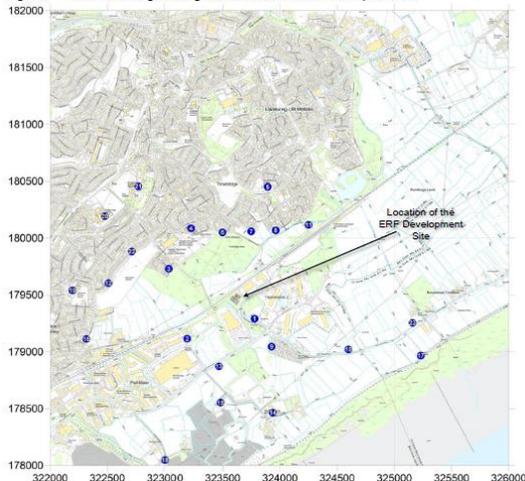


Table 6 Specific Receptors Included in Detailed Modelling

Receptor No.	X	Y	Distance from Site (m)	Receptor Name
1	323778	179291	259	Newlands Road, Trowbridge, Cardiff
2	323189	179114	572	Newton Road, Trowbridge, Cardiff
3	323037	179729	626	Valley View, Trowbridge, Cardiff
4	323223	180086	711	St John Lloyd R.C. Primary School, Brynbala Way, Trowbridge, Cardiff
5	323893	180450	995	Meadowlane Primary School, Plas y Biswall, Trowbridge, Cardiff
6	323498	180050	569	Trowbridge, Cardiff
7	323749	180058	579	Trowbridge, Cardiff
8	323962	180067	669	Matthysens Way, Trowbridge, Cardiff
9	323927	179045	546	Shire Newton, Wentloog Road, Trowbridge, Cardiff
10	324599	179021	1,090	Redland Property Services, Wentloog Road, Trowbridge, Cardiff
11	324250	180116	887	Trowbridge, Cardiff
12	322510	179603	1,112	Harris Avenue, Rumney, Cardiff
13	323467	178873	639	Wentloog Avenue, Trowbridge, Cardiff
14	323938	178465	1,078	Newton Road, Trowbridge, Cardiff
15	323481	178563	951	Newton Road, Trowbridge, Cardiff
16	322317	179112	1,355	Greenway Road, Rumney, Cardiff
17	325230	178966	1,697	Wentloog Road, Wentlooge, Peterstone Wentlooge, Newport
18	323004	178047	1,571	Rumney, Cardiff
19	322196	179540	1,422	Greenway Primary School, Llanstephan Road, Rumney, Cardiff
20	322478	180192	1,336	Eastern High School, Caer Castell Place, Rumney, Cardiff
21	322770	180455	1,281	Saint Iltyds Roman Catholic High School, Newport Road, Llanrumney, Cardiff
22	322714	179882	983	87 Harris Avenue, 87, Harris Avenue, Rumney, Cardiff
23	325158	179254	1,560	Wentloog Road, Wentlooge, Peterstone Wentlooge, Newport

The locations of the specific receptors included in the Dioxin deposition modelling study, and therefore the Health Impact Assessment represent the ten modelled receptor locations with the highest Dioxin deposition rates. Therefore, all other modelled receptors would receive lower levels and a lesser impact would be experienced.

Applying the same calculations to the maximum modelled Dioxin concentration anywhere across the modelled 4 km x 4 km grid suggests a maximum potential exposure of 5.7 % of the tolerable daily intake (TDI) for adults and a potential exposure of 13.3 % of the TDI for children. These exposures increase to 8.5 % for adults and 19.9 % for children when assessing the combined contribution of Dioxins and PCBs. The location of this maximum modelled contribution occurs at a distance of approximately 400 m to the east of the proposed stack in the vicinity of an industrial / commercial site.

As the assessment calculates the contribution to the tolerable daily intake by assuming that the total dietary intake of eggs, chicken meat, milk, and fruit and vegetables is derived from produce grown at the specific location being assessed, the application of these figures almost certainly presents an over-estimate, whether modelling the point of maximum contribution, or specific receptors, as it is highly unlikely that any one location would facilitate an individual's total dietary intake. Exposure by inhalation alone, is often a more realistic assessment of individual exposure especially when considering exposure through attending educational or workplace establishments and these figures, which contribute to the TDI already calculated, are much less significant. The maximum modelled exposure by inhalation equate to 0.68 % of the TDI for adults and 0.85 % of the TDI for children. These figures include an estimated existing background figure, drawn from monitored data at key national network sites across the country.

With such low worst-case values calculated for the maximum point of exposure across the entire modelled grid, it is considered that both the Air Quality Assessment and the resultant Health Impact Assessment provide comprehensive and robust consideration of the impact on the local environment and human health receptors, despite not modelling every school or property in the vicinity as individual receptors.

With regard to the original modelling of Eastern High in a location which has been vacated, we note that, as shown by the respondent's own map, the old school site is still identified on national mapping and, due to a lack of local knowledge, it was not identified that the facility had moved. However, this does not change the fact that, only a selection of discrete receptors has been modelled, with the modelling grid providing information across the wider area, and this would include the new site for Eastern High. As the maximum Process Contributions across the entire modelled grid are screened as insignificant at either the initial or secondary assessment stage, it is not considered necessary to include every individual potentially sensitive property or location as a discrete receptor.

Contour plots show that the extent of pollutant contributions which cannot be screened as insignificant (using recognised assessment levels specified by the Regulator) extends to less than 2 km east and west. Any concerns that the chosen receptors are not appropriate have limited basis due to the detailed interrogation of the worst-case gridded data and the provision of contour plots within the Air Quality Assessment. As these all screen as insignificant at either the initial or secondary stage, the same would be true at any receptor in the modelled area, assessed against the same standard.

Finally, and with regard to the Plume Plotter tool used by Mr Alderman, this is understood to be based on AERMOD as developed by the US EPA. Plume Plotter uses the regulatory default options of AERMOD, and can incorporate information on terrain and buildings for example. It is understood to apply current weather conditions, rather than the detailed, five years' worth of meteorological data applied to the ADMS assessment and, according to Mr Alderman's assessment, suggests a maximum NO₂ concentration "*approximately 1.5km distance from the plant's stack and extends to over 4km distance from the plant's stack.*"

The data input into the Plume Plotter model applied have not been specified. However, the output presented suggests a maximum NO₂ Process Contribution across the area of 1.5 µg m⁻³. It is assumed here that this refers to an annual average concentration, although this is not specified.

Irrespective of whether or not one may consider a tool which is based on a comprehensive model (AERMOD) but which does not fully employ all of the features provided by that model to be more or less accurate than the comprehensive ADMS 5.2 modelling applied by Environmental Visage Limited in our detailed assessment, the maximum calculated NO₂ PC equates to approximately 3.75 % of the annual average AQS for NO₂. Whilst this contribution cannot be screened as insignificant at the initial stage assessment, it is lower than that predicted in the Air Quality Assessment provided and, when applying a maximum background concentration of approximately 11 (based on the DEFRA background mapping for 2021, including the 2019 calibration factor – see Section 2.7.5 of Version 7 of the Air Quality Assessment for details), the Predicted Environmental Concentration of approximately 12.5 µg m⁻³ as an annual average equates to approximately 31 % of the AQS and is screened at the second stage of the assessment. The results at the identified human health receptor locations were lower than this maximum figure and therefore are also naturally screened as insignificant.

Comments from DNS-3236340-000226 Natural Resources Wales (NRW)

NRW queried the use of a surface roughness factor of 0.2 and note that this may be too low.

NRW also queried some of the Critical Levels and Critical Loads applied within the assessment, specifically when considering the impact of Sulphur Dioxide on the Severn Estuary, proposing that a Critical Level of 10 rather than 20 µg m⁻³ would be most appropriate, and concerning the deposition of nutrient Nitrogen to the Gwent Levels, requesting assessment against a Critical Load of 10 kgN/ha/year.

NRW noted generally that some of the Critical Load ranges originally applied were lower at a number of receptors.

Environmental Visage Limited / MHPB Response

Firstly, it is recognised and accepted that the appropriate definition of surface roughness is important when preparing a dispersion model. It is also noted that there is now the ability to apply spatially variable surface roughness files into the ADMS model. Version 7 of the Air Quality Assessment therefore applies both variable surface roughness and terrain files when modelling the local area around the proposed Môr Hafren Bio Power Limited facility, and will therefore take accurate account of the terrain and land use features in the area. This can be especially important when features such as estuaries or coastlines are located in the vicinity.

Although spatially variable files were applied when modelling across a 4 km x 4 km grid and for local receptors, the files are limited in size and hence the use of these tools over a larger area naturally results in a lower sensitivity. As such, the files were not incorporated when modelling across an 8 km x 8 km grid or when considering the extended sensitive receptor list for the cumulative assessments.

However, prior to running the model with these files, a sensitivity analysis was undertaken and confirmed that the actual impact of incorporating the specific data was limited. Furthermore, an assessment of the land use classifications across the 4 km x 4 km grid confirmed that the most frequently recorded surface roughness from a total of 40,000 roughness points, was 0.2 m. Therefore, whether running the model with a single or spatially variable surface roughness figures, it is concluded that the inputs to the modelling as reported in Version 7 of the report is comprehensive and appropriate.

In preparing Version 7 of the Air Quality Assessment, the APIS website has been reviewed, as Critical Levels and Loads can change over time. The current stated assessment levels have been applied and, as requested by NRW, the lower Critical Levels and Loads proposed for key sensitive ecological receptors have been applied in Sections 6 and 7 of Version 7 of the Air Quality Assessment.

Further comments from DNS-3236340-000226 Natural Resources Wales (NRW)

NRW noted that no information has been provided in the Air Quality Assessment on the derivation of estimated likely emissions and emission concentrations during abatement failure, and no assessment of the impact of emissions of Ammonia had been made in the original reports.

NRW also make reference to a statement regarding the SSSI mainly being covered by the assessment of the SAC; *'with the exception of the rocky platforms but these are probably not present within 2km of the site'*. However, this latter point and quotation is not recognised within the Air Quality Assessment and hence no response can be provided here.

Environmental Visage Limited / MHBP Response

Môr Hafren Bio Power Limited confirms that, in applying to NRW for an Environmental Permit, full consideration will be made of the potential short-term and limited duration increases which may be experienced during other than normal operating conditions, such as abatement failures. It is noted that such emissions will, as per the normal operational conditions, be strictly regulated by NRW to the specific emission limit values and emission periods specified in the Industrial Emissions Directive and the supporting literature on Best Available Techniques (BAT).

Emissions of Ammonia can result from 'Ammonia-slip' from abatement technologies and the BAT-Conclusions document published in December 2019 now specifies a Best Available Techniques-Associated Emission Level (BAT-AEL) for Ammonia. Section 3.12 in Version 7 of the Air Quality Assessment therefore includes full consideration of the potential for Ammonia contributions to air, and Section 6 of the report considers the impact of Ammonia on nutrient Nitrogen and acid deposition rates.

Comments from DNS-3236340-000254 Residents against the CF3 Incinerator A response to Môr Hafren Air Quality Assessment

The incinerator operator will not be able to maintain the ERF in a "fully compliant" mode at all times. There will be times, e.g. start-up, and when the incinerator is not working at maximum output, due to variations in the feedstock calorific value, it will be non-compliant. We seek clarification on whether the assessment takes these scenarios, i.e. "not fully compliant" into consideration?

Environmental Visage Limited / MHBP Response

MHBP commits to compliance with the Industrial Emissions Directive (IED) and will require an Environmental Permit (EP) to operate which will be issued and enforced by Natural Resources Wales. The (EP) will specify the conditions to be met, and ultimately refer to the emission limit values and other provisions specified for waste incineration plant within the IED.

The response from Residents against the CF3 Incinerator questions the ability to remain "fully compliant" with the requirements of the IED and refers to start-up and other periods when normal operation is not achievable. However, the IED does consider such instances and in Chapter IV, Article 46 refers to the control of emissions and includes provision for the temporary and limited exceedance of normal emission limit values. Additionally, specific operating conditions required by the IED (and therefore Environmental Permitting) insist that incineration plant are *"designed, equipped, built and operated in such a way that the gas resulting from the incineration of waste is raised, after the last injection of combustion air, in a controlled and homogeneous fashion and even under the most unfavourable conditions, to a temperature of at least 850 °C for at least two seconds."* As such, the plant will, by design, ensure appropriate fuel feed and combustion, even under the most unfavourable conditions.

As required by the IED, the EP will specify emission limit values for polluting substances but will also specify *"measures relating to conditions other than normal operating conditions such as start-up and shut-down operations, leaks, malfunctions, momentary stoppages and definitive cessation of operations"*. Information on the emissions during such other than normal operating conditions will therefore be provided within the Environmental Permit application. However, fundamentally, and with such conditions recognised within the IED and the Environmental Permitting regime, the Môr Hafren ERF will be designed and operated in such a way as to be fully compliant with the IED.

Further comment from DNS-3236340-000254 Residents against the CF3 Incinerator A response to Môr Hafren Air Quality Assessment

An assessment based on the Industrial Emissions Directive's pollution requirements, not yet assessed as "fit for purpose" or aligned with the emerging Welsh Government's Clean Air policy and strategic direction, raises questions on the assessment's robustness.

Environmental Visage Limited / MHBP Response

MHBP is committed to working to all current and future regulatory requirements as they arise. It is not possible for the developer to determine what future policy will hold, although it is unlikely that Welsh policy will be significantly more stringent than that across the rest of the UK, which currently has its base in the European Industrial Emissions Directive, and the application of Best Available Techniques (BAT). The assessment that has been undertaken at this time confirms alignment with the regulatory requirements currently in place, and the implementation of BAT through the Environmental Permitting regime, and is therefore appropriate. Should more stringent requirements be identified and implemented in future, MHBP will be required to meet those requirements and an assessment as to how compliance can and will be achieved will be prepared at that point.

Comments from DNS-3236340-000234 Residents against the CF3 Incinerator A response to Môr Hafren Air Quality Assessment - Addendum

In an addendum to their initial response, Residents Against the CF3 Incinerator also noted that there were multiple sources of information in the public domain regarding the wind turbine at G24 Innovations Limited, and it is unclear which turbine type was actually installed, although it appears the reference to a GE Energy 2.5 MWe turbine is incorrect.

The response also queried the reliance of a sensitivity assessment, reporting the influence of wind turbine data only to emissions of Nitrogen Dioxide, which reported the most significant contributions during the modelling, and concern that only the impact at Receptor Number 3 has been included in the modelling report.

Environmental Visage Limited / MHBP Response

The results in the AQA show that the long-term Process Contribution of Nitrogen Dioxide cannot immediately be screened as insignificant, albeit the Predicted Environmental Concentration screens at the secondary assessment level. Most other species, including PM₁₀ and PM_{2.5} screen immediately and contribute very little to the background levels. Hence NO₂ is referred to as the most significant species and is used to demonstrate the impact of the wind turbine in the sensitivity check, the results of which do not change the fundamental conclusions of the wider model.

On-line checks have however confirmed that there is indeed confusion regarding the wind turbine planned for and ultimately installed at the G24 Innovations Limited site. Environmental Visage Limited has confirmed, evidenced through a video available on 'YouTube' (<https://www.youtube.com/watch?v=MRiKFHX5G9Q>) that the unit installed at the site was actually an Enercon E-82 unit.

As such the following data has been included into the modelling assessment (see Version 7 now submitted) and, with the exception of the Coastal Influences sensitivity check which cannot model wind turbines concurrently with that module, all results throughout the model have included and reported the influence of the wind turbine, assuming that the turbine is available for operation 365 days of the year, in suitable wind conditions.

Wind Turbine Specification	Power: 2,300 kW
Hub Height: 79.0 m	Rotor Diameter: 82.0 m
Tip Height: 120.0 m	Wind Speed: 2.5 – 34.0 m/s

As per the sensitivity analysis provided in the original assessment, the results of modelling which include the updated wind turbine data do not fundamentally change the conclusions of the model nor the Air Quality Assessment.

With regard to the reporting of results from Receptor Number 3 only in the previous versions of the report and similar to our response to queries raised in DNS-3236340-000186, the maximum Process Contributions across the entire modelled grid were clearly screened as insignificant in Section 8 of the Air Quality Assessment (previously submitted versions). As such it is not considered necessary to include every individual potentially sensitive property or location as a discrete receptor, as any other location within the modelled grid will be lower than the maximum reported figures and the resultant impact will also screen as insignificant.

Comments from DNS-323634-000251 Cardiff Council Local Impacts Report

Due to the Predicted Environmental Concentrations of nutrient Nitrogen deposition being reported as exceeding the Critical Load at some sensitive ecological receptors, the Shared Regulatory Services Officer (SRS (Air Quality)) considers that the applicant needs to review and provide further understanding for the impacted areas, and suggested that an ecologist should assess the impacted areas and make a conclusion.

Consider updating the meteorological data used (from 2012 – 2016 to current) to confirm whether more recent data significantly impact on or presents more conservative results.

The modelling of cumulative impacts (Trident Park) was noted, and reference is made to other nearby facilities including Celsa Steel's Section Mill Steelworks, Rover Way and Tremorfa Meltshop. Liaison with Cardiff Council was proposed to agree the scope of any additional cumulative assessment.

Environmental Visage Limited / MHBP Response

An updated Air Quality Assessment has now been provided (Version 7). This continues to include consideration of nutrient Nitrogen deposition at sensitive ecological receptors, and the detailed results have been made available to the team ecologist to assess the impacted areas, provide further understanding of the likely impact on these sensitive sites and draw a conclusion.

Although updating the meteorological data is unlikely to have any significant effect on the results this has been done in the updated assessment, with meteorological conditions for 2015 – 2019 now applied. Results confirm that there is no significant difference in the results and indeed the meteorological data from 2015 still returns the maximum annual average concentrations from the five-years data which has been modelled. 2018 does provide the maximum shorter-term concentrations, but again, results across the five-years of modelled data are of a similar order.

The initial assessment considered potential cumulative impacts from the Viridor Limited Energy from Waste (EfW) facility at Trident Park, Cardiff Bay, approximately 5.4 km to the south west of the development site. However, as this site has been operational for several years contributions from this source will already be included in the background data applied in the model and the same is true for other existing operations such as Celsa Steel Sections Mill, Tremorfa Melt Shop, and the Welsh Water Anaerobic Digestion Facility. As such, the revised cumulative assessment has only included new facilities, or those where changes are proposed and which may have an impact in combination with the contributions from the Môr Hafren ERF.

Liaison with Cardiff Council proposed consideration of the following additional sites:

- Planning Reference 20/01279/MJR – Land at Rover Way – S73 to vary time limit of outline planning permission 17/02130/MJR for, amongst other things, 9.5 MW biomass facility;
- Planning Reference 20/01626/MNR – Replacement Chimneys to Boiler Room;
- Planning Reference 20/0748 – Uskmoth Power Station (within Newport Council's boundary).

Accordingly these sites have been included as potential cumulative contributions, within Version 7 of the Air Quality Assessment.

Further comments from DNS-323634-000251 Cardiff Council Local Impacts Report

With regard to transport emissions, it is noted that the Assessment of the Impact of Traffic Emissions examines transport contributions as NO_x and makes the assumption that NO_x levels equate to NO₂ levels for the assessment of human health impacts. Cardiff Council interpret this to mean that the various forms of the pollutant are not assessed and no form of verification procedure has therefore been undertaken to ascertain the levels of NO₂ projected at human health receptors.

SRS (Air Quality) would also expect any available traffic count data to be utilised. Once this traffic data is incorporated a baseline year can be modelled and verified.

Environmental Visage Limited / MHBP Response

The Assessment of the Impact of Traffic Emissions states that (highlight added) *“as NO_x oxidises over time in the environment to NO₂, and in order to provide a worst-case assessment, the long-term (annual average) Process Contributions of NO_x from vehicle movements are assumed to equate to NO₂ in the assessment of human health impacts as well as for the ecological assessments, with only the short-term (hourly average) NO₂ results being applied directly.”* The predicted levels of NO_x at the sensitive receptors are easily screened. Levels of NO₂ form a portion of the overall NO_x release and would, in effect be lower than any NO_x contribution until such time as complete oxidation is achieved. Therefore, there is no requirement to undertake any further assessment as a worst-case has already been reported, through the assumption that all NO_x is present as NO₂.

Short-term levels of NO₂ have reported the specific NO₂ contribution, as there is limited oxidation time available when considering an hourly averaging period.

With regard to the incorporation of vehicle count data and similar to comments made above on the incorporation of background / cumulative effects, the available backgrounds already included in the assessment will account for existing traffic data, albeit not perhaps at the roadside. This should be suitable when modelling most sensitive receptors which, in this instance, are not generally located immediately at the roadside. The alternative is to model the existing traffic flows (if available) and discount the background (to avoid double counting). However, in doing so, one also removes existing Process Contributions from industrial sources for example, and so the resultant Predicted Environmental Concentration is either low (modelled data including existing traffic only) or high (modelled data including existing traffic plus the background). It is also necessary to include a background into the ADMS Roads model in order to run the chemistry module which calculates both primary and secondary NO₂ at the roadside. Hence, the existing traffic data is discounted and the background air quality data is included, showing the contribution of the project to the existing levels. If traffic routes were to pass through a high-risk area (such as an AQMA), one could apply the measured roadside background, although these, as in this case, are usually already elevated and at unacceptable (> 70 %) levels.

In summary, no further data is considered to be required or necessary to support the Assessment of the Impact of Traffic Emissions.