The Planning Inspectorate
Yr Arolygiaeth Gynllunio

Penderfyniad ar yr Apêl

Ymchwiliad a gynhaliwyd ar 04-05/10/17
Ymweliad â safle a wnaed ar 05/10/17

gan Alwyn B Nixon BSc MRTPI

Arolygydd a benodir gan Weinidogion Cymru

Dyddiad: 11/12/2017

Appeal Decision

Inquiry Held on 04-05/10/17
Site visit made on 05/10/17

by Alwyn B Nixon BSc MRTPI

an Inspector appointed by the Welsh Ministers

Date: 11/12/2017

Appeal Ref: ENV/3172985

Site address: Nine Mile Point Industrial Estate, Cwmfelinfach, Caerphilly, NP11 7HZ

The Welsh Ministers have transferred the authority to decide this appeal to me as the appointed Inspector.

- The appeal is made under Section 15 of the Environmental Protection Act 1990 and Regulation 31 and Schedule 6 of the Environmental Permitting (England and Wales) Regulations 2016 against a refusal to grant an environmental permit.
- The appeal is made by Hazrem Environmental Ltd against the decision of Natural Resources Wales (NRW).
- The application Ref PAN-000061, received by NRW on 16 October 2015, was refused by notice dated 9 January 2017.
- The application was for an environmental permit to operate a waste recycling facility to produce solid recovered fuel and waste derived fuel.

Decision

1. The appeal is allowed.

Main Issue

2. The question to be resolved is whether or not an environmental permit should be granted and, if so, on what terms. The area of dispute concerns the impact of the facility on local air quality, specifically on nitrogen dioxide (NO_2) levels.

Background and procedural matters

3. I set out the sequence of events leading up to the inquiry in detail, since it provides relevant background to NRW's decision to refuse an environmental permit and its subsequent decision to withdraw its opposition to the grant of a permit after the appeal was lodged.

4. Hazrem Environmental Ltd submitted a planning application to Caerphilly County Borough Council on 18 September 2015, to develop a solid recovered fuel/refuse derived fuel (SRF/RDF) production facility (up to 100,000 tonnes per annum capacity) at Nine Mile Point Industrial Estate, Cwmfelinfach. Full planning permission was granted, subject to conditions, on 10 December 2015.

5. The Appellant submitted the permit application to Natural Resources Wales (NRW) on 16 October 2015. The application included an air quality assessment prepared by Air Quality Consultants (AQC)[1]. This predicted a maximum process contribution (PC) to short term and long term NO_2 of 6.6 µg/m^3 and 1.3 µg/m^3 respectively[2]. Since the predicted short term PC was only 3.3% of the relevant Air Quality Objective (AQO) of 200 µg/m^3, Hazrem considered no further assessment investigation was necessary. Since the predicted long term PC was above the screening criterion of 1% of the long term 40 µg/m^3 AQO, a more detailed assessment was undertaken, in accordance with guidance. This indicated that the predicted change against the baseline would be negligible.

6. NRW's Air Quality Modelling and Risk Assessment Team (AQMRAT) carried out further check modelling of the possible NO_x emission impacts on air quality in the locality. This noted that the applicant's submitted air quality impact assessment involved dispersion modelling from the proposed facility using ADMS 5.1. The submitted modelling considered only a small number of receptors in the immediate vicinity of the facility. It did not consider the potential valley effects on plume dispersion from the proposed facility. The submitted modelling used meteorological data from Rhoose, which did not reflect the topographical context of the application site.

7. The AQMRAT modelling used hourly sequential Met Office modelled data as predicted for the site location (considered to be the best available data in the absence of actual local measurements). It utilised the input parameters initially supplied by the applicant (ie NO_x emission concentration of 300 µg/m^3 and emission rate of 1.6g/s). Due to concerns raised by local residents that Hazrem's modelling did not take account of local climatological conditions prevalent at the site, the AQMRAT modelling additionally utilised the KLAM_21 cold air drainage model with local topography and land use to simulate nocturnal drainage winds and their effects on pollutant dispersion within the cold air layer inversion subsequently formed. Such effects are predicted at the appeal site location on up to 150 occasions (including up to about 110 nights) each year.

8. The February 2016 AQMRAT check modelling indicated that the potential effects of cold air layer inversion formation could significantly increase the maximum 99.79%ile of hourly NO_2 PCs at residential receptors to up to 152.6 µg/m^3, resulting in a maximum equivalent Predicted Environmental Concentration (PEC) of 180.5 µg/m^3. The corresponding long-term results obtained were a maximum of 7.4 µg/m^3 PC and 21.4 µg/m^3. The Air Quality Objective (AQO) for NO_2 was not predicted to be exceeded at any modelled receptors throughout the valley.

9. Additional modelling was also undertaken by AQMRAT using ADMS 5.1 and KLAM_21 to investigate the short term NO_2 impact at the adjacent industrial units. ADMS (with Calm module) was used to study the impact of the facility under stable conditions with low boundary height (ie due to temperature inversion). The ADMS-predicted ground level concentrations of NO_2 remained below the AQO. KLAM_21 modelling predicted very high hourly mean NO_2 concentrations at industrial units immediately downstream of the proposed SRF/RDF facility when the stack was within the cold air layer. However, KLAM_21 assumes that after the emission the pollutant in the plume is uniformly distributed vertically throughout the cold air layer. In reality, the plume may not instantly be mixed vertically after release under stable conditions due to its momentum and buoyancy. A sensitivity analysis using ADMS under stable

[1] Appellant document bundle Tab 3

[2] For convenience and consistency, and notwithstanding the differing notation used by some parties, I refer to NO_x and NO_2 concentrations in µg/m^3 throughout this decision.

meteorological conditions suggested that plume grounding at the adjacent industrial units was unlikely.

10. NRW then decided that it was minded to approve the application, and on 8 June 2016 consulted on a draft environmental permit with conditions. Following this, on 16 August 2016 NRW issued a notice of request for more information, this time concerning aspects of the air emissions modelling. In short, further information was required to verify the assumption used in the air quality assessment for the facility that NO_x emissions from the site would be 300 µg/m^3, and to appropriately account for emissions from both the gas-fired burners and Regenerative Thermal Oxidiser (RTO) to be used in the facility. The Appellant provided additional information in response on 7 October 2016[3], including explanation that the assumed overall 300 µg/m^3 NO_x emission concentrations in the released air from the facility was based on deliberately conservative assumptions and providing information to support a more accurate estimate that the overall NO_x emission to air concentrations would be much lower. The information comprised:

    - A note from AQC (Air Quality Consulting) explaining that the figure used in the original modelling, being based on a NO_x emission from the gas-fired burner of 150 µg/m^3 combined with additional NO_x emissions of 150 µg/m^3 formed by gas combustion in the Regenerative Thermal Oxidiser (RTO) was deliberately conservative because the exhaust gas would be combined with a very high volume of low-NO_x process air from the driers, thus reducing the NO_x concentration in the released air;

    - The results of a stack emission monitoring report by ESG concerning a comparable, but slightly smaller, facility in Swindon showing NO_x emissions concentrations of 40 µg/m^3 with a calculated uncertainty of +/-3.3;

    - A letter from process designers and equipment suppliers Andritz Separation explaining why the Swindon facility was a valid comparison.

11. From subsequent correspondence it is evident that NRW did not consider that sufficient information had been provided to verify the applicant's new information, and so was minded to continue to base its assessment on the originally-submitted concentration levels. Hazrem provided more information on 21 November and 7 December 2016; however, NRW declined to take this information into account and stated that it would be proceeding to a decision based on the original NO_x emission assumptions. On 9 January 2017 NRW issued a notice of refusal of the application and an accompanying decision document.

12. The refusal followed advice by Public Health Wales and the Aneurin Bevan University Local Health Board (PHW/ABHB) dated 19 September 2016. PHW/ABHB noted that public health concerns had been raised by the local population, particularly in relation to the applicant's air quality assessment. It listed the key concerns raised as:

    - Whether the nature of the valley topography had been considered in the dispersion model;

    - Whether meteorological data used represents weather (i.e. temperature inversion) experienced in this valley location;

    - The impact upon workers in adjacent industrial premises in terms of relevant AQOs:

[3] Reproduced at Tab 8 of Appellant's document folder

- To confirm that vehicle movements will not impact upon air quality and road safety.

PHW/ABHB's response noted that AQMRAT had provided NRW with additional air quality modelling in order to aid answers to these questions.

13. PHW/ABHB accepted that breaches of Air Quality Objectives (AQOs) were not predicted. However, they noted that the findings of the AQMRAT report, using a worst case scenario, showed a significant increase in the hourly PCs at residential receptors, ranging from 125.9 to 152.6 μg/m^3 (up to about 75% of the hourly AQO of 200 μg/m^3). When taking into account existing ambient concentrations, the hourly NO_2 PECs at residential receptors range from 153.8 to 180.5 μg/m^3. The maximum short term PEC thus equates to about 90% of the 200 μg/m^3 hourly AQO.

14. On other matters, PHW/ABHB noted that the modelled maximum long-term NO_2 PCs showed an increase at residential receptors ranging from 5.4 to 7.4 μg/m^3, and a maximum long-term PEC at residential receptors ranging from 19.4 to 21.4 μg/m^3. The maximum long-term PEC equates to approximately 53.5% of the annual AQO of 40 μg/m^3. PHW/ABHB noted that the modelling predicted the highest short-term concentrations of NO_2 at the adjacent industrial units, but that additional scrutiny of the modelling by NRW suggested that plume grounding at this location was unlikely. As regards any increase in HGV traffic arising from the facility, PHW/ABHB concluded that whilst this may result in an increase in NO_2 along the B4251 corridor, modelling indicates that increases would probably be small and would not result in an exceedance of the AQO based on 2014 diffusion tube data, with concentration increases ranging from 0.3% to 3.9% of the AQO. Again, this assumes a worst case scenario in terms of increase in vehicle numbers and routes impacting all possible receptors along the B4251.

15. In conclusion, PHW/ABHB expressed concern that the proposed operation would add significantly to the burden of air pollution, principally short-term NO_2 concentrations. They noted that NO_2 is a non-threshold pollutant, meaning that there is no known "safe" threshold of exposure. PHW/ABHB considered that the new modelling data constituted strong evidence that the development would cause significant short-term local air quality deterioration within an area of deprivation, including vulnerable populations. It went on to say that 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 well-being impact. PHW/ABHB therefore recommended that NRW exercise caution in considering the granting of a permit.

16. The reason given by NRW for refusing the permit was cited as *"the short term impact of Nitrogen Dioxide (NO_2). The evidence of increasing air pollution and ill health effects is strong and any deterioration of local air quality is likely to have an adverse health and wellbeing impact to a deprived community."*

17. In support of its stated reason for refusal, NRW stated[4] "*Although we have not predicted any exceedances of statutory AQOs for NO_2, following additional consultation with PHW, as a result of the effects of the local topography and climate conditions considered in the additional modelling carried out by NRW, it became apparent that the predicted short term NO_2 emissions resulting from the proposed facility could have a localised detrimental effect on human health in the vicinity. PHW have advised that the evidence of increasing air pollution and ill health effects is strong and any*

[4] See page 23 of NRW Decision Document

deterioration of local air quality is likely to have an adverse health impact in the context of this proposal."

18. NRW went on to say *"Furthermore we have not been able to verify the assumptions used by the applicant in relation to claimed lower NO_2 emissions as the plant manufacturer was not able to supply published technical data relating to emissions. We would reasonably expect a manufacturer to know the performance of a plant that they manufacture. We therefore requested calculations used to support their assumptions which were not provided."*

19. The Appellant lodged the appeal on 30 March 2017; the appeal was accepted and validated on 5 May 2017. The Grounds of Appeal[5] took issue with NRW's refusal to accept as valid the additional information provided by Hazrem prior to the determination of the application and NRW's decision to determine the application on the basis of worst case assumptions that were clearly not supported by the available evidence. In summary, the Appellant submitted that NRW had been wrong to continue to rely on the 300 µg/m^3 NO_x emission figure, and that the Appellant's revised much lower figure was far more accurate for the purposes of dispersion modelling. Furthermore, the Appellant asserted that NRW had been wrong to ignore the additional information submitted on 21 November and 7 December 2016 that further supported the Appellant's case. Given that NRW only raised its concerns about NO_x emissions some 10 months after the application had been made, it was only fair and reasonable to give the applicant time to respond. Extending the process and properly considering the evidence may have avoided the need for an appeal altogether.

20. The Grounds of Appeal also addressed other matters raised by NRW in its decision, including an element of confusion arising from the wording of NRW's Section 5 request for further information dated 16 August 2016, but pointing out that the relevant information was in any event contained within the response provided on 7 October 2016. At the point of making its decision, NRW had all the information it needed to calculate mass release of oxides of nitrogen from the stack for use in the dispersion modelling exercise, and NRW had been wrong to conclude otherwise.

21. Finally, and following on from the above, the Grounds of Appeal maintained that NRW, in the light of the clear empirical benchmark evidence demonstrating that the facility would be capable of achieving NO_x emissions from the stack at concentrations significantly below 100 µg/m^3, should have granted a permit subject to a condition specifying an appropriate emission limit value, based on the empirical measurements from the comparable facility and the appellant's submissions about the NO_x emission levels that could be achieved.

22. The Grounds of Appeal also noted that the comments of PHW/ABHB on the application did not go so far as to recommend that NRW should refuse the application. Rather, these recommended that NRW *"exercise caution in considering the grant of a permit"*, and added that *"any recommendations are for consideration by the Regulator and may be reflected in any permit conditions made"*.

23. On the basis of the above, the Grounds of Appeal contended that NRW's decision was both disproportionate and wrong.

24. The Appellant submitted new information with the appeal comprising a technical specifications document produced by Andritz Separation[6], the manufacturer of the

[5] Reproduced at Tab 2 of Appellant's document folder
[6] Reproduced at Tab 12 of Appellant's document folder

drum dryer and RTO that will be used at the proposed facility. This document clarifies the process emissions limits and includes a performance guarantee that NO_x emissions would not exceed 65 µg/m^3 (normal operations, half-hourly average). This supporting information allowed NRW to verify a lower emissions level, as previously claimed by the Appellant. It responds to the request for further information made by NRW at the application stage, and directly addresses the reason why a permit was not granted. It does not amend the application proposal.

25. As a result of this information, NRW instructed the AQMRAT to carry out further dispersion modelling based on the emission limit of 80 µg/m^3 indicated by the Appellant. AQMRAT produced a new report, dated 25 May 2017[7], which was sent to PHW/ABHB with a covering letter containing tables summarising the modelling results for the receptor locations with the highest predicted impacts[8].

26. PHW/ABHB replied on 9 June 2017[9]. The response noted that the revised dispersion modelling indicated that the short-term Process Contribution (PC) had fallen and was within the short-term air quality objective for NO_2 at nearby residential receptors. The letter queried how the revised emission limits had come about and stated that any uncertainty in the modelling would be cause for concern. However, the response went on to note that, based on the worst-case scenario (i.e. plant operating at the maximum cited operating mode), the short term PC is now predicted to be 32% of the short-term NO_2 AQO. When taking into account the existing background concentration, the resulting PEC is now 46% of the AQO. PHW/ABHB stated that as the PEC is within the health based AQO, the Health Board has no grounds for objection. However, it sought reassurance that the revised emission limit and model outputs are representative of proposed operations, given that the risk assessment relies upon these. Finally, in the event of a permit being granted it recommended the implementation of a robust monitoring regime in order to validate predicted emissions upon local air quality.

27. NRW accordingly reviewed its position and concluded that had the additional emissions information been available at the time of determination and PHW/ABHB's position been as now stated, it would not have refused the permit. Its decision was based upon much higher, "worst case scenario", emissions figures because data that satisfied NRW that emissions would be lower was not available. NRW is satisfied that the new data shows much lower emissions. It now considers that an environmental permit should be granted, in the form provided in its submissions to the Inquiry.

28. In the light of its altered position NRW did not present any evidence to the Inquiry in support of its decision to refuse permission. However, it did attend the Inquiry in order to clarify its position. It confirmed its view that the draft permit conditions are robust and appropriate and address all environmental concerns. It also confirmed the scope of the environmental permitting regime, including the relevance or otherwise of NO_x emissions from vehicular movements associated with the facility[10].

29. However, notwithstanding NRW's decision not to contest the appeal, many local residents remain opposed to the proposal. At the Inquiry the they were primarily represented by Lower Sirhowy Valley Residents' Group (LSVRG), who were accorded Rule 6 Party status in the appeal process.

[7] Appendix 4 of NRW Statement of Case
[8] Appendix 5 of NRW Statement of Case
[9] Appendix 6 of NRW Statement of Case
[10] Doc 1

Reasons

30. Although the LSVRG Statement of Case contained a wide range of grounds of objection and assertions, by the time of the Inquiry the focus of the LSVRG case had narrowed considerably. The Statement of Common Ground between the Appellant and LSVRG confirms that the latter's position is that the environmental permit should be refused on the grounds that the combined impacts of the process emissions and the proposed facility's traffic emissions will exacerbate the existing poor air quality in Wattsville, and that this is likely to adversely affect the health of the local population. LSVRG contends that NRW and PHW/ABHB have failed to consider adequately the damaging long-term effects of NO_2 emission.

31. The Appellant's position is that the permit should be granted in the form now proposed by NRW. The impact of the emissions from the installation itself is not significant. Traffic emissions do not fall within the environmental permitting regime, but even if these are taken into account, it is said that the overall contribution is not significant.

32. The scope of the regulatory role under the environmental permitting regime is contained in the Environmental Permitting (England and Wales) Regulations 2016 (EPR). The Regulations require that certain "regulated activities" must be controlled by permit. The activity in question here is an "installation", which is defined at Schedule 1. "Installation" covers a stationary technical unit where one or more activities are carried on, and any other location on the same site (my emphasis) where other directly associated activities are carried on. Traffic movement outside of the site does not constitute an activity on the site. Furthermore, for EPR purposes only emissions from sources in the installation are regulated. Emissions from traffic outside of the installation do not count for EPR permitting purposes.

33. Since the traffic movements to and from the site are external to the installation their emissions are not within the scope of the EPR. NRW, as the regulator in the first instance, thus has no powers in relation to them for permitting purposes. When determining an appeal in respect of a NRW decision, as here, I have the same powers as the regulator had when making the decision.

34. The traffic-associated air pollution effects arising from proposed development is properly a matter for the local planning authority to examine when considering whether to grant planning permission. Welsh Government planning guidance, for instance in Technical Advice Note 21: Waste, makes clear that the principal material considerations for the local planning authority relating to transport and access associated with waste management facilities include traffic associated air pollution[11]. It advises that planning permission should be refused if the impact of traffic on local communities (including atmospheric emissions from heavy goods vehicles (HGVs)) is unacceptable and this cannot be satisfactorily addressed.

35. Caerphilly CBC, as the relevant local planning authority, duly considered the application for planning permission for the development, and granted full planning permission subject to various conditions on 10 December 2015. Whilst it is now suggested by some opponents of the development that the matter of atmospheric emissions from HGVs was not adequately examined by the planning authority when considering the planning application, the legality of that decision was not challenged. Consideration of the environmental permit is not an opportunity to revisit the grant of planning permission; nor would it be appropriate to determine this appeal on the basis of considerations which do not properly fall within the scope of the EPR.

[11] TAN 21 Waste, Annex C, section 14 Transport and Access

36. Turning to the relevant AQOs, it is agreed that the applicable NO_2 limit values are:

    - Short term (1- hour mean): 200 μg/m^3 (not to be exceeded 18 times per year).
    - Long term (Annual mean): 40 μg/m^3.

    The statutory AQOs are based on World Health Organisation air quality guidelines which have been developed to achieve air quality that protects human health.

37. Whilst there are local concerns about the particular implications of the topography of the locality and the temperature inversion conditions which frequently occur, these local characteristics have been taken into account in the AQMRAT emissions dispersion modelling. The methodology and results of the most recent dispersion modelling, undertaken for NRW by AQMRAT (25 May 2017 report), are not contested by LSVRG or its expert witness Dr Holman. Although another objector, Dr Platt, criticised the absence of independent peer review, the latest AQMRAT report represents independent dispersion modelling by the appropriate regulatory body of the Appellant's proposed facility, using established modelling processes and specification data supplied directly by the manufacturer and accompanied by a NO_x emission level guarantee. No evidence has been submitted which leads me to conclude that the data and modelling results are unreliable.

38. The basis of NRW's decision on 9 January 2017 to refuse a permit concerned the short term impact of NO_2 resulting from the installation. The decision was based on the PHW/ABHB concern that, whilst breaches of the short term AQO were not predicted, there would be significant hourly average NO_2 PCs at residential receptors, ranging from 125.9 to 152.6 μg/m^3. When taking into account existing ambient concentrations the hourly NO_2 PECs at residential receptors would range from 153.8 to 180.5 μg/m^3, equating to about 90% of the 200 μg/m^3 hourly AQO.

39. However, it is now plain that the AQMRAT modelling at the time of the application, on which the PHW/ABHB comments of September 2016 and NRW's refusal in January 2017 were based, used an unduly cautious figure of 300 μg/m^3 for the assumed NO_x emissions concentrations released to air from the proposed installation. The much lower figure of 80 μg/m^3 now presented by the Appellant is corroborated by the manufacturer's technical specification. NRW has accepted this new figure and fresh AQMRAT modelling has been carried out. NRW, PHW/ABHB and LSVRG do not challenge the new modelling results, and on the evidence I consider that the May 2017 AQMRAT predictions are robust and reliable.

40. The May 2017 AMQRAT report modelled NO_2 impacts from the proposed facility at 23 receptor points at the revised emission limit value of 80 μg/m^3. Impacts were modelled for two scenarios, representing minimum and maximum operating load conditions. The check modelling was based on the assumption that, for each scenario, the RTO is operating continuously over the entire year at the associated emission rates of NO_x/NO_2. The results predict that, even applying a worst-case scenario of operating at maximum load throughout, the maximum short term PC (Process Contribution) at the modelled receptor points would range between 52.9 and 64.1 μg/m^3 (no more than 32% of the short term objective). The maximum long term PC would range between 2.4 and 3.3 μg/m^3 (up to 8%) of the long term objective. As regards the PEC (predicted environmental concentration), the maximum short term impact at modelled receptors would be between 80.8 and 92.0 μg/m^3 (no more than 46% of the short term objective). The maximum predicted long term PEC was 37.3 μg/m^3 (93% of the long term objective). This result was obtained at 80 Islwyn Road

Wattsville. The corresponding PC at this receptor location was 0.16 μg/m^3, less than 1% of the long term objective.

41. Based on these results, PHW/ABHB has stated that it has no grounds for objection. As regards the qualifying remarks also made by PHW/ABHB in its response, it is clear that the reduced emission limit is indeed simply an updated figure that more accurately reflects the anticipated process emissions. Should a permit be granted, actual emission levels would be monitored and regulated as a matter of course via the terms of the permit.

42. I note that PHW/ABHB also remarks that, notwithstanding the much lower PCs now predicted, the PC remains substantial. It notes that there is no ambient concentration of NO_2 below which there are no adverse health effects from exposure, and that any additional burden on local NO_2 concentrations should be kept to a minimum. PHW/ABHB draws particular attention to this in relation to the 80 Islwyn Road location where the PEC is 93% of the long term NO_2 AQO, but also explicitly recognises that the PC in this location is negligible.

43. It is clear that NRW's original concern, relating to the short term NO_2 impact of the facility, has been allayed by the new modelling carried out and the updated response of PHW/ABHB. Nonetheless the local community continues to express strong opposition to the facility, based on its concerns about the possible effects on air quality. These views have been very largely collectively represented by LSVRG.

44. LSVRG's case and evidence focusses on the long-term NO_2 impacts of the proposal on the local community. It rests heavily on the air quality monitoring results for 80 Islwyn Road, Wattsville, where 2016 data shows an existing 38.9 μg/m^3 annual mean NO_2 concentration. This is close to the long term AQO of 40 μg/m^3. LSVRG argue that although the Hazrem PC would add only some 0.2 μg/m^3 to this figure, traffic emissions associated with the facility should also be taken into account. It is contended that this would add a further 1.6 μg/m^3 to the annual mean concentration, thus taking it higher than the long term AQO. LSVRG further argue that in any event, in circumstances where the existing AQO is so close to being exceeded and the health of the local community is demonstrably vulnerable, as evidenced by local index of multiple deprivation data, any development that would worsen existing NO_2 concentrations in the locality should be regarded as unacceptable.

45. However, these arguments do not succeed for a number of reasons. First, the receptor point at 80 Islwyn Road has particular characteristics which make it highly untypical. The existing annual mean NO_2 concentration is much higher here than at other monitoring points, and this is the only location where there is evidence that the AQO is close to being breached. It is plain that the high annual mean NO_2 concentration in this location is due to the particular "canyon" effect arising from the alignment and proximity to passing vehicles of properties on the southerly side of the B4251 at this location, resulting in NO_2 emissions from vehicles dispersing less freely than elsewhere. There is no evidence to indicate that similar physical conditions such as to produce similarly high NO_2 concentrations exist in any other location in the area; and during my inspection of the locality I did not observe any comparable circumstances along the B4251 corridor. At the 80 Islwyn Road monitoring location itself I observed that only 3 or 4 properties shared the particular relationship with the carriageway that gives rise to the peculiarly high annual mean NO_2 concentration at this point.

46. From the evidence I conclude that it is only in this one specific location that existing annual mean NO_2 concentrations are likely to be close to the long term AQO. Other monitoring locations close by on Islwyn Road show much lower annual mean NO_2

concentrations. Moreover, the monitored locations are located along the B4251, the main road corridor through the valley, where traffic emissions are by far the largest contributor to NO_2 levels. Ambient NO_2 concentrations are likely to be much lower in locations not immediately adjacent to the B4251.

47. Second, it is plain from the regulatory framework that emissions from traffic movements to and from the proposed installation should not form part of the emissions to air assessment undertaken to determine whether or not an environmental permit should be granted. Traffic movement outside of the site does not constitute an activity on the site. Furthermore, for EPR purposes only emissions from sources in the installation are regulated. Emissions from traffic outside of the installation therefore do not count for EPR permitting purposes.

48. The traffic impacts of proposed new development, including effects on air quality, are material planning considerations to be taken into account by the local planning authority in deciding whether to grant planning permission. It is apparent that the local planning authority considered the issue of traffic generation in relation to air quality impacts, and that information was duly provided by the applicant on this matter[12]. Planning permission was subsequently granted, and the decision was not challenged by any party. It would not be appropriate to refuse to grant an environmental permit on the basis of considerations that lie outside the scope of the environmental permitting regime and are properly matters for the planning regime to consider.

49. Based on the AMQRAT modelling, the PC from the proposed facility (excluding traffic) would add 0.16 $\mu g/m^3$ to the annual mean PEC at the 80 Islwyn Road receptor location. This change equals 0.4% of the AQO. Guidance produced by Environmental Protection UK and the Institute of Air Quality Management (January 2017), whilst directed at those involved in the land use planning and development control process, describes changes of less than 0.5% of the AQO as negligible, irrespective of how close the existing ambient annual mean concentration is to the AQO. Where the background annual mean concentration at a receptor is 75% of less of the AQO (i.e. 30 $\mu g/m^3$ or below), then a change of up to 5% (5.4% rounded) to the annual mean PEC would also be regarded as negligible. This reflects that at exposures less than 75% of the long term AQO, the degree of harm from a given increase is likely to be much lower. I also note that, notwithstanding that there is no prescribed level of NO_2 in the atmosphere below which the concentration is regarded as safe, the adopted AQO limit values have been developed to achieve air quality that protects human health.

50. From the foregoing I conclude that the predicted increases in annual mean concentrations of NO_2 arising from emissions to air from the proposed facility would not give rise to any significant adverse health effects for the local population.

51. In reaching this conclusion I recognise that there are significant numbers within the local population who are especially vulnerable in health terms, including the elderly, the young and those with respiratory conditions. Index of multiple deprivation data ranks the Ynysddu 1 Ward as one of the locations of highest deprivation in Wales. However, air quality protection measures are produced in the knowledge that particular groups within a population will have particular health vulnerabilities. Consequently this consideration does not alter my overall judgement that the predicted air quality impacts of the installation are acceptable.

[12] Doc 10

52. I understand that many local residents remain concerned about the possible air impacts, particularly given the temperature inversion conditions that frequently affect the valley. However, I am satisfied that the AMQRAT air dispersion modelling of May 2017 is robust, is based on reliable data and adequately takes into account the particular climatic conditions in the locality. Whilst some objectors will no doubt continue not to trust the scientific assessments that have been carried out, these provide a robust body of evidence which demonstrates convincingly that the proposed facility is able to operate satisfactorily in this location without significant harm to the health of the surrounding population. The evidence demonstrates conclusively that an environmental permit should be granted; conditions attached to such a permit will require that the facility operates within prescribed limits.

53. I recognise that there are concerns about air quality along parts of the B4251 road corridor through the valley, particularly at the location of the monitoring station at 80 Islwyn Road, Wattsville. The road configuration and relationship to it of adjacent buildings at this point results in NO_2 concentrations approaching the long term AQO limit value. However, even if emissions from traffic, particularly HGV traffic, generated by the proposed facility were a matter to be taken into account in determining whether an environmental permit should be granted, on the available evidence I do not consider that this matter would alter my overall decision.

54. LSVRG maintain that traffic emissions from the proposed Hazrem facility would contribute an additional 1.6 $\mu g/m^3$ to the annual mean NO_2 concentration at 80 Islwyn Road. This figure is taken from NRW modelling undertaken in August 2016[13]. However, this modelling assumed that every HGV journey to and from the facility would travel via Islwyn Road Wattsville. This is at odds with the traffic distribution assessment carried out at the planning application stage, which indicated that vehicle import movements to the facility are likely to be split roughly 50/50 from east and west directions, although movements concerning exported materials will primarily travel east, through Wattsville. The modelling also assumed a significantly higher total number of HGV movements than is indicated by the planning application transport assessment. Applying a 50/50 east/west split to HGV import movements and assuming a 100% easterly direction for export movements results in a 42% reduction in the number of additional HGVs passing along Islwyn Road. Furthermore, in the modelling no conversion factor is applied to the NO_x emissions from these additional HGVs to derive the likely resultant NO_2 concentrations. Applying these two corrections, the actual likely contribution at 80 Islwyn Road of HGV emissions from the facility would be in the range 0.18 – 0.56 $\mu g/m^3$ (not 0.8 – 1.6 $\mu g/m^3$ as modelled by NRW)[14].

55. In my view this significantly undermines the contention that HGV movements associated with the proposed facility would push the annual mean concentration of NO_2 at 80 Islwyn Road beyond the long term AQO level. I also bear in mind that, should the Hazrem proposal not go ahead, the site at Nine Mile Point Industrial Estate is in any event likely at some point to be developed for an alternative industrial or storage and distribution purpose, which would itself generate associated HGV movements along the B4251.

56. Moreover, it is plain that the overwhelming contributor to the NO_2 concentration issue at 80 Islwyn Road is existing traffic. Measures can be undertaken where justified, via air quality management provisions, to reduce traffic emissions in this location. Vehicle

[13] Report ref. C177B_RP02
[14] Inquiry doc 12

emissions legislation will also ensure through time that NO_x emissions from HGVs are significantly lowered.

57. For all of these reasons I do not find the submissions made concerning air quality along the B4251, and in particular at 80 Islwyn Road, to be matters of sufficient weight to refuse an environmental permit for the proposed Hazrem facility.

58. I have taken into account all other matters raised. I am mindful of the requirements of the Well-being of Future Generations (Wales) Act 2015 concerning sustainable development and the well-being goals, including those relating to health, cohesive communities and a resilient and prosperous Wales. I am satisfied that overall my decision that a permit should be granted in the terms given is consistent with the Act's objectives. The proposed facility will contribute to the transition to a low carbon and climate resilient society and to sustainable economic development and employment, whilst maintaining potential impacts on health within an acceptably low level of significance. I have also borne in mind the other legislative requirements and government guidance drawn to my attention, but find nothing of such significance as to disturb my decision.

59. I have considered the terms on which NRW considers that an environmental permit should be granted, including the conditions which ought to be applied. In so doing I have had regard to the guiding principles for the imposition of conditions, including that they should be necessary and reasonable, clear, legally sound and enforceable. The Appellant raised no issues with the content of the permit as put forward by NRW and I consider that in such form the permit would provide a clear framework for the operation of the facility within the stipulated parameters. I am satisfied that the permit as drafted would enable NRW as the appropriate regulatory body to monitor the facility and ensure compliance with its terms as necessary.

60. Although some changes and additional or different requirements were suggested on behalf of local residents I do not consider these necessary or justified. Further, detailed specification of the apparatus and equipment is not necessary; the permit as proposed sets appropriate operating requirements and emission limits and requires that these are met, and that is sufficient. It would not be reasonable or necessary to the grant of a permit to impose conditions requiring the Appellant to place material on a website not within its control, to consult with local residents over detailed operating techniques or to require the operator to install monitoring equipment within the community. Agreement of detailed operating techniques is a matter for NRW as the statutory regulator. In the light of the evidence and emissions modelling that has been carried out I am satisfied that the 80 $\mu g/m^3$ limit specified in Table S3.1 is appropriate in this case and that the monitoring periods specified in S3.1 and S4.1 are adequate.

Overall Conclusion

61. For all of the reasons given above, and having taken into account all matters raised, the appeal succeeds.

Alwyn B Nixon

Inspector

APPEARANCES

FOR NATURAL RESOURCES WALES (NRW):

Roger Tunstall, Solicitor	NRW Legal Team

FOR THE APPELLANT:

William Upton, of Counsel	Instructed by Burges Salmon LLP
He called	
Laurence Caird	AQC (Air Quality Consulting)

FOR LOWER SIRHOWY VALLEY RESIDENTS GROUP (LSVRG):

Howard Leithead, of Counsel

He called

Dr Claire Holman

INTERESTED PERSONS:

Paul Mitchell	For Rhianon Passmore AM
Chris Nial	
Jan Jones	(former local County Council Member)
Dr David Platt	
Cllr John Ridgewell	Local County Council Member

DOCUMENTS SUBMITTED DURING THE INQUIRY

1 Position statement by NRW
2 Opening statement for Appellant
3 Opening statement for LSVRG
4 Submission for Rhianon Passmore AM
5 Statement from Michael Sheen
6 Statement of Jan Jones
7 Statement of Dr David Platt
8 Supplementary material to Cllr Ridgewell's oral statement

9 Extract from Welsh Index of Multiple Deprivation for Ynysddu 1, submitted by Apellant

10 Traffic impact data provided at planning application stage by Enzygo, submitted by Appellant

11 Gov.uk guidance: Air emissions risk assessment for your environmental permit, submitted by Appellant

12 AQC Technical note on air quality impacts on road traffic in Wattsville, submitted by Appellant

13 Letter from Caerphilly CBC to NRW dated 4 October 2016, submitted by LSVRG

14 Note summarising NO_2 modelling results for Cwmfelinfach Primary School, submitted jointly by Appellant and LSVRG

15 LSVRG comments on draft permit conditions

16 Closing submissions for LSVRG

17 Closing submissions for Appellant