



MEMO

Office of
Environmental
Sustainability

To: Board	Date: 26 February 2018
From: Orla Harrington	
Subject: Appeal of Air Pollution Act licence granted to Owens Quarry Products Limited, Tyfarnham & Down, Knockdrin, Mullingar, Co. Westmeath by Westmeath County Council.	
Appeal Registration No: E0004-01	

Recommendation: The Board are asked to **APPROVE** the decision recommended hereunder with respect to the appeals submitted to the Agency in relation to the Air Pollution Act licence granted to Owens Quarry Products Limited.

Background

Air Pollution Act (APA) licences are single media licences for certain industrial processes not included in the First Schedule of the EPA Act 1992 as amended, and are granted by local authorities under the Air Pollution Act 1987 as amended.

This APA licence relates to an existing asphalt plant located at Galmoylestown, in the townlands of Tyfarnham & Down, approximately 7.7km north of Mullingar, Co Westmeath. This site has been the subject of quarrying and associated operations in the past. Most recently, planning permission was granted on the 17 July 2017 (ref no: 16/6213) by Westmeath County Council (WCC) for the recommencement of processing along with retention of the existing asphalt plant, which replaced the asphalt plant previously granted permission under planning ref: 99/967 on the 12 July 2000. The site is 4.6 hectares (ha), out of a landholding of 60.7 ha within an existing limestone quarry site.

Third Party Appeals

The Agency received two third party appeals against the decision of Westmeath County Council to grant an APA licence (Ref: ENV/AE/2017-02) to Owens Quarry Products Limited for the operation of an asphalt plant. The Agency also received one first party submission on those appeals (see table below).

Type	Name	Date received
Third party appeals	Mr. Diarmuid O'Shea, Ballyhillogue, Mourneabbey, Mallow, Co. Cork, Mr. Richard King, Kilbrin, Buttevant, Co. Cork.	15 August 2017
First party submission on the above appeals	SLR Consulting Ireland acting on behalf of Owens Quarry Products Limited	27 September 2017

This report considers all the issues raised in the appeals and details are summarised below under topic headings, with the majority of issues raised relating to concerns regarding air emissions, noise and dust arising from the installation.

Those who raised the appeal are clearly identified under each topic and where relevant a few appeals are addressed under one heading. However, the original documents should be referred to at all times for greater detail and expansion of points.

A. Air emissions

According to Mr. Diarmuid O'Shea, plant commissioning is important to ensure that new plants are operated correctly and to demonstrate compliance with air limits set out in the licence. Otherwise there is no way of knowing if the emission can comply with air quality standards. Currently, the licence would allow the applicant to operate for a year before being required to submit an air emissions monitoring report. The appellant proposes that monitoring should be carried out on the exhaust stack once a month for twelve months, before being assessed by the Local Authority for compliance.

Mr O'Shea objects to the lack of continuous air emissions monitoring in the licence and states that asphalt plant emissions are required under the Air Pollution Act 1987 to be monitored on a continuous basis for particulates, the results of which should be reported regularly to the Local Authority. Mr. O'Shea understands that all asphalt plants in Ireland have continuous emission monitoring systems in place.

Mr O'Shea refers to condition 3.2 of the APA licence which states, *the concentration limits and volume flow limits for emissions to atmosphere of non-combustion gases specified in this licence shall be based on gas volumes under standard conditions of temperature 273K and pressure 101.3kPa (no correction for oxygen and or water content)*. Mr. O'Shea states that this is incorrect as asphalt plant emissions require normalisation for comparative purposes and emissions should be corrected for oxygen and moisture. The appellant references EPA guidance AG4 to substantiate this statement.

The appellant requires clarity on frequency of monitoring to air. Condition 4.2 of the APA licence refers to annual monitoring and *Schedule B (Recording and Reporting)* refers to quarterly monitoring of emissions to atmosphere. *Schedule A* of the licence, cites the limit for Particulates (as PM₁₀) as 50mg/Nm³. The appellant states that this is not correct as the legislation sets out the limit for total particulates and not PM₁₀ as stated.

Finally, Mr O'Shea states that there are no hours of operation proposed for the asphalt plant.

First party submission

The applicant states that *Schedule B (Recording and Reporting)* of the APA licence sets out a requirement for quarterly monitoring of emissions to atmosphere. In addition, *Schedule B* requires an Annual Environmental Report (AER) to be submitted on the 31 March each year, which will include a summary report of emissions to atmosphere for the preceding year. The applicant proposes that an initial round of monitoring of emissions to air be carried out at the time of commissioning the plant for operation and will submit results to Westmeath County Council.

The applicant accepts the requirements set out under *Schedule A* of the licence when it comes to air emission monitoring. There is no continuous monitoring requirement, however the applicant proposes to carry out continuous monitoring if it is required by the licence.

The applicant acknowledges the difference in monitoring frequency quoted in condition 4.2 versus *Schedule B* and proposes to apply the stricter of the two, quarterly monitoring of air emissions from the stack. The applicant agrees that the reference to the limit set for particulates (as PM₁₀) under *Schedule A* is incorrect and refers to the Air Quality Standards 2011, which states that particulate matter refers to both PM_{2.5} and PM₁₀.

The applicant considers that operating hours are a planning requirement and is covered under planning permission ref no 16/6213. The applicant acknowledges that it is not a requirement under the air emissions licence and confirms that operating hours will be 07:00 to 20:00 Monday to Friday and 07:00 to 16:00 hours on Saturdays, with no operation on Sundays or public holidays.

Consideration of the appeal:

The asphalt plant is a semi-mobile plant, located in the north-eastern part of the site. Processing begins when the aggregate is hauled from storage piles and placed into steel bins. The material is metered from the bins onto a conveyer belt which feeds the material into the rotary dryer (fired by a burner using diesel), where the aggregate is heated and dried to reduce moisture content before being mixed with bitumen. The entire aggregate handling system is enclosed and vented to air via an emission point referred to as the 'exhaust stack'. Emissions consist of water (steam is evaporated from the aggregate), particulates, NOx and SOx.

The EPA publication entitled *Environmental Management in the Extractive Industry (Non-Scheduled Minerals) (2006)*, recommends the following emission limit values (ELVs) for emissions to air arising from asphalt plants regulated under the Air Pollution Act, 1987; Sulphur dioxide 500 mg/Nm³, Nitrogen oxide 450 mg/Nm³ and Dust 50 mg/Nm³. A stricter ELV of 350mg/Nm³ for both NOx and SOx is set under *Schedule A* of the APA licence. It is noted that quarterly monitoring of the exhaust stack is to be carried out, as detailed under *Schedule B (Recording and Reporting)* of the licence after which monitoring frequency may be amended under condition 8.2. I recommend the revision of condition 4.2 of the licence to reflect quarterly monitoring of the 'exhaust stack'. Condition 5 (notification) of the licence requires the licensee to notify Westmeath County Council if any emission does not comply with the requirements of the licence and must include steps taken by the licensee to minimise emissions and avoid recurrence. It is noted that there is a continuous monitoring system in place at the exhaust stack for particulates and abatement provided on this exhaust is by means of a bag filter.

There is no historical monitoring data available for this exhaust stack. However, the applicant carried out air dispersion modelling, in accordance with EPA Guidance AG4¹, to predict the maximum ground level concentrations of NOx, SOx and particulates, and the predicted levels were then compared with the National Air Quality Standards, S.I. No. 180 of 2011. The model used was the atmospheric dispersion modelling system, version 5.1, February 2016 (ADMS5). The modelling input specified a period of production; Monday to Friday during the hours from 07:00- 20:00 and on Saturday from 07:00 – 16:00 and took the approach of maximum emissions (as specified under *Schedule A*) during these hours. The quarry site is in a rural location and is classified as Zone D². Background levels were taken from the 2014 EPA Air Quality Report for rural monitoring location at Kilkitt near Ballybay, Co. Monaghan (60km to the north east of the site). Complex terrain data and worst case climatic conditions were also incorporated into the model assessment. The results of the dispersion model for the plant operation indicate no breaches of the relevant air quality standards for the protection of human health and vegetation, beyond the site boundary of the asphalt plant. The Agency considers that emissions from the exhaust stack should be restricted to those modelled as there has been no assessment by the applicant of the impact of maximum emissions discharging on a continuous basis. The hours of operation provided by the applicant and modelled by the applicant should be reflected in the APA licence.

The appellant, Mr. O'Shea, considers that the emission from the 'exhaust stack' should be corrected for oxygen and moisture and consequently objects to condition 3.2 in the licence. It is noted that the applicant did not provide any comment on this section of the appeal.

¹ EPA Air Dispersion Modelling from Industrial Installations Guidance Note (AG4)

² Zone D: Represents rural Ireland but also includes towns with a population of less than 15,000.

Condition 3.2 refers to an emission to atmosphere of non-combustion gases. However, it is noted that the only emission to atmosphere specified in the licence is from a combustion source labelled 'exhaust stack'. The exhaust gas as discussed above, is from a diesel burner used to dry the aggregate in a rotary dryer. The rotary dryer works by tumbling material in a rotating drum in the presence of a hot gas stream, made up of a mixture of air and combustion gases, ultimately discharging to air via a bag filter. The combustion plant (diesel burner) and the hot air stream are an integral part of the aggregate drying process, and the air stream is not for dilution purposes, therefore exempt from the requirement to apply a reference O₂ %. It is noted that, Article 4(3) of the *European Union (Medium Combustion Plants) Regulations S.I No. 595 of 2017*, lists several exclusions from the regulations including *combustion plants in which the gaseous products of combustion are used for direct heating, drying or any other treatment of objects or Materials*. The MCP regulations do not cover industrial dryers where there is direct contact between the combustion waste gases and the materials processed or produced (such as the aggregate in the dryer). I recommend the revision of condition 3.2 to ensure emissions from the stack are expressed on a dry gas basis so that variations in the moisture content of the exhaust gas do not affect the assessment of the emissions. In conclusion, air dispersion modelling has demonstrated that the predicted concentrations do not exceed the relevant air quality standards, and are in accordance with the relevant guidance on emissions from the extractive industry.

The Agency agrees that the reference to particulates (as PM₁₀) under *Schedule A* is incorrect and refers to the Air Quality Standards 2011, which states that particulate matter means PM_{2.5} and PM₁₀. The reference to PM₁₀ will be removed from the Schedule. Finally, it is noted that continuous monitoring of particulates on asphalt emissions is not a requirement under the Air Pollution Act, 1987.

Recommendation

Having considered the relevant points of appeal from Mr. O'Shea, with respect to plant commissioning, air emissions and hours of operation, I recommend that the following changes be made to the licence:

Insert the following conditions and schedules:

2. Management of the Activity

Insert condition 2.5 after condition 2.4 in the licence to read as follows:

2.5. The asphalt plant shall not operate outside the hours of 7:00am to 20:00pm Monday to Friday inclusive and 7:00am to 16:00pm on Saturdays. There shall be no operation on Sundays or public holidays.

3. Interpretation

Amend condition 3.2 as follows:

3.2 The concentration and volume flow limits for emissions to atmosphere specified in this licence shall be based on gas volumes under standard conditions of under standard conditions of Temperature 273K, Pressure 101.3 kPa, **dry gas** (no correction for oxygen content)

4. Emissions to Atmosphere

Amend condition 4.2 as follows:

4.2. **Quarterly** monitoring and analyses of emissions shall be carried out for the parameters specified in Schedule A (Emissions to Atmosphere) (unless frequency and/or scope of monitoring have been amended in accordance with condition 8.2)

Schedule A (Emissions to Atmosphere)

Amend Schedule A (Emissions to Atmosphere) to remove reference to PM₁₀:

Emission Point: Exhaust Stack
Source: Dust Collection Unit
Location: Adjacent to dust collection unit
(ITM Grid Ref: E642 680.4, N761 571.9)
Volume to be emitted: Maximum in any one day: 338,000Nm³
Maximum rate per hour: 26,00Nm³
Minimum discharge height: 22.7 m above ground

Parameter	Emission Limit Value (mg/Nm ³)
SO ₂	350
Nitrogen oxides as (NO ₂)	350
Particulates	50

B. Noise

Mr. O'Shea states that there are several noise sensitive receptors located near the asphalt plant. The licence requires monitoring from one noise sensitive location (NSL), labelled N1, which he considers inadequate, as there is already elevated background noise at this location due to passing traffic. Mr O'Shea considers that sensitive receptors to the west and south of the site, with the potential to be impacted by noise, are not catered for in the licence. The appellant also notes that there is no frequency of noise monitoring in the licence and the proposed noise limits should reflect internationally recognised noise intervals of 07:00am to 19:00pm for daytime activities.

Mr O'Shea proposes that the licence is amended to account for quarterly noise monitoring, at a minimum of four NSLs, to represent a full geographical spread around the asphalt plant. The appellant considers that the noise limits should be changed to 55dB L_{Aeq,1hr} from 7.00am to 19.00pm Monday to Friday and 7.00am to 16.00pm on Saturdays and 45dB L_{Aeq,1hr} at any other permitted times of operation. Mr. O'Shea states that noise monitoring should be carried out at the commissioning stage to demonstrate that these limits can be met.

Mr. Richard King states that the licence is flawed and does not address noise issues adequately.

First Party Submission:

The applicant states that there is 1 house within 250m of the plant which belongs to the applicant. There is 1 additional residence between 250 and 500m and this is the site of the current noise monitoring location (N1 (north)). Between 500m and 1km, there is a further 7 residences dispersed in various directions around the site. There are 9 residences in total within a 1km radius of the site. The applicant does not consider this a significant number of receptors.

According to the applicant there is no elevated background noise at N1, as there is little or no passing traffic, with the closest regional road located over 4km to the southeast, while the N4 national route is 2.1km to the southwest. The applicant refers to a map entitled **Figure PC-1 Rev1** in condition 4 (a) of planning permission ref no: 16/6213, which includes two additional noise monitoring locations, N2(east) and N3(south) and proposes to include these NSLs in the monitoring plan.

All noise limits are set in accordance with the EPA guidance, *Environmental Management Guidelines, Environmental Management in the Extractive Industry (Non-Scheduled Minerals) (2006)*. This guidance states that "in relation to quarry developments and ancillary activities, it

is recommended that noise from the activities on site shall not exceed the following noise ELVs at the nearest noise sensitive receptor:

Day time: 08:00 – 20:00 h

LAeq (1hr) = 55 dBA

Night-time: 20:00 – 08:00 h

LAeq (1h) = 45 dBA".

The applicant states that previous noise monitoring carried out on site in support of the planning application (ref no:16/6213) demonstrated compliance with these limits.

Consideration of the appeal:

The most recent planning permission (ref no 16/6213) issued by WCC on the 17 July 2017, related to the retention of an asphalt plant which replaced an existing one granted planning permission (ref.no: 99/967) on the 12 July 2000.

The applicant did state in the submission that previous noise monitoring carried out in support of planning permissions demonstrated that noise limits as set out in the Agency's extractive industry guidance note can be met. This guidance specifies noise limits of 55/45 dB(A) for day and night time at noise sensitive locations (NSLs), in line with limits set under condition 6.1 of the licence. In consideration of this appeal, it was noted that the documents forwarded by WCC did not contain a noise impact assessment.

It is noted that WCC only refer to one noise monitoring location (N1) in *Schedule C (Noise and Dust Monitoring)* and condition 6.1 of the licence. The N1 NSL only deals with the north side of the plant. The applicant proposes the inclusion of two other NSLs (as detailed in the map **Figure PC-1 Rev1**), labelled N2 (east) and N3 (south) all located outside the boundary of the site at sensitive receptors, within 1km of the site. Further noise sensitive locations may arise and in that case the applicant will be required to keep to the specified noise limits regardless of the distance of any new NSL from the plant (condition 6).

It is considered appropriate to include these additional NSLs along with specified frequency in order to ensure that the applicant meets the standards it has itself proposed for the asphalt plant. It is proposed that the noise monitoring will be weekly at all NSLs for the first month and quarterly thereafter. The applicant states that the operation of the plant can comply with a night time noise limit of 45dB and daytime limit of 55dB as set out in the EPA Guidance. Condition 6 will be revised to reflect this. *Schedule C (Noise and Dust Monitoring)* can be deleted as all noise and dust requirements will be sufficiently dealt with, subject to amendments recommended, under condition 6 and 7 of the licence.

Recommendation:

Noise limits have been applied, as per EPA Guidance *Environmental Management in the Extractive Industry (Non-Scheduled Minerals) 2006*. Having considered the points of the appeal with respect to NSLs and monitoring frequency, I recommend the following changes are made to the licence.

Insert the following terms, conditions and schedules.

Glossary of Terms

Daytime: 08:00 hours to 20:00 hours

Night-time: 20:00 hours to 08:00 hours.

Noise-sensitive location (NSL): Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other installation or area of high amenity which for its proper enjoyment requires the absence of noise.

Amend condition 6.1 (Noise) and insert condition 6.2 as follows:

6. Noise

6.1 Noise from the plant shall not give rise to sound pressure levels measured at noise sensitive locations in the vicinity of the plant which exceed the following limit values:

- (i) Day time: 08:00 – 20:00 h
LAeq (1hr) = 55 dBA
- (ii) Night-time: 20:00 – 08:00 h
LAeq (1h) = 45 dBA.

An appropriate correction shall be applied in the case of tonal or impulsive components in the measurements of noise.

6.2 The licensee shall carry out noise monitoring at the noise sensitive locations in the vicinity of the plant. This monitoring shall be undertaken weekly for the first four weeks of operation of the plant, and quarterly thereafter, and shall be undertaken in accordance with methodology specified in the 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)' as published by the Agency.

Delete *Schedule C (Noise and Dust Monitoring)*



C. Dust

Mr. O'Shea considers that there will be a significant dust nuisance associated with the operation of the plant. While Mr. O'Shea has no objection to the frequency of monitoring, he does consider that the dust monitoring locations do not fully cover the dispersion range of the asphalt plant emissions. There are no dust monitoring locations for the south of the plant, which the appellant considers is the direction of the most prominent wind direction.

Mr. Richard King states that the operation of an asphalt plant will result in dust problems in the local area.

First Party Submission:

The applicant states that Mr O'Shea has only considered the conditions in the air emissions licence and not the requirements imposed on the site under planning. The applicant proposes to include two additional dust monitoring locations (D4 and D5) to the existing location. The applicant proposes to carry out dust monitoring on locations marked D1 to D5 (as per **Figure PC-1 Rev1**).

Consideration of the appeal:

Quarry activities are sources of dust/particulate emissions mainly through processing and movement of aggregates and vehicles. Condition 7.1 of the licence includes a limit of 350mg/m²/day for dust deposition and *Schedule A* specifies an ELV of 50mg/Nm³ for particulates. Both limits are in line with the EPA publication entitled *Environmental Management in the Extractive Industry (Non-Scheduled Minerals) (2006)*.

Further to the applicant's proposal, I recommend amending condition 7.1 to include additional dust monitoring locations (D1-D5 inclusive), as outlined in the map entitled Figure PC-1 Rev1.

Amend condition 7.1 as follows:

7.1 Dust levels shall be monitored every month from April to September (inclusive) at dust deposition monitoring locations D1, D2, D3, **D4, D5 (as shown on Environmental Monitoring Plan Figure PC-1 Rev1, dated February 2017)** and dust levels shall not exceed

350mg/m²/day (30-day composite sample) as measured using the Bergerhoff Method. The results shall be submitted to the Licensing Authority within one month of the end of the period being reported on. On the basis of results submitted over time, the Licensing Authority may review the frequency of monitoring.



Appropriate Assessment

The existing asphalt plant is located within a quarry site in a rural location, 7.7km north of Mullingar, Co. Westmeath. The surrounding landscape is mainly agricultural, with Lough Derravaragh to the north and Lough Owel to the south of the quarry.

The proposed emissions from the plant include the following:

- Fugitive dust emissions from aggregate storage and transportation.
- Bitumen fumes through the vent pipes on the bitumen storage tanks.
- Air emissions of NO_x, SO_x and particulates from the exhaust stack.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activity, individually or in combination with other plans or projects is likely to have a significant effect on any European Site. In this context, particular attention was paid to the European sites at Scragh Bog SAC (site code: 000692), Lough Owel SAC (site code: 000688), Lough Owel SPA (site code: 004047), Lough Derravaragh (site code: 004043). The qualifying interests and conservation objectives for these European Sites are listed in Appendix 1.

The activity is not directly connected with or necessary to the management of any European Sites and the Agency considered, for the reasons set out below, that it can be excluded, on the basis of objective scientific information, that the activity, individually or in combination with other plans or projects, will have a significant effect on any European sites and accordingly determined that an Appropriate Assessment of the activity was not required.

This determination was made considering the scale and nature of emissions to air from the asphalt plant, and their distance to terrestrial habitats. Air dispersion modelling demonstrates that, at the boundary of the asphalt plant site, emissions from the activity will not result in ground level concentrations which exceed the relevant air quality standards for the protection of vegetation and the environment; thereby indicating that the impact from the resultant ground level concentrations at the European sites would be negligible.

Recommendation

It is recommended that the Agency, in accordance with section 34 of the Air Pollution Act 1987 as amended, direct Westmeath County Council to grant the licence (reference number ENV/AE/2017-02) under the Air Pollution Act 1987 to Owens Quarry Products Limited, for atmospheric emissions at a site located at Tyfarnham & Down, Knockdrin, Mullingar, Co. Westmeath.

Orla Harrington
Inspector ELP

Appendix 1

Appropriate Assessment

This table lists the European Sites assessed, their associated qualifying interests and conservation objectives.

European Site (site code)	Distance/ Direction from site of asphalt plant	Qualifying Interests (* denotes a priority habitat)	Conservation Objectives
Scragh Bog SAC (site code: 000692)	2km south west	Transition mires and quaking bogs, Alkaline fens, Slender Green Feather-moss	As per NPWS (2016) Conservation Objectives for Scragh Bog SAC [000692] Version 5.0. Department of Arts, Heritage, Rural and Gaeltacht Affairs (dated 15/08/2016)
Lough Owel SAC (site code: 000688)	2.5km south west	Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp., Transition mires and quaking bogs, Alkaline fens, <i>Austropotamobius pallipes</i> (White-clawed Crayfish)	As per NPWS (2016) Conservation Objectives for Lough Owel SAC [000688] Version 5.0. Department of Arts, Heritage, Rural and Gaeltacht Affairs (dated 15/08/2016)
Lough Owel SPA (site code: 004047)	2.5km south west	Shoveler (<i>Anas clypeata</i>), Coot (<i>Fulica atra</i>), Wetland and Waterbirds	As per NPWS (2016) Conservation Objectives for Lough Owel SPA [004047] Version 5.0. Department of Arts, Heritage, Rural and Gaeltacht Affairs (dated 15/08/2016)
Lough Derravarragh SPA (site code: 004043)	3.3km north east	Whooper Swan (<i>Cygnus cygnus</i>), Pochard (<i>Aythya ferina</i>), Tufted Duck (<i>Aythya fuligula</i>), Coot (<i>Fulica atra</i>) Wetland and Waterbirds	As per NPWS (2016) Conservation Objectives for Lough Derravarragh SPA [004043] Version 5.0. Department of Arts, Heritage, Rural and Gaeltacht Affairs (dated 15/08/2016)