Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Headquarters, PO Box 3000
Johnstown Castle Estate
County Wexford, Ireland
Y35 W821

Ceanncheathrú, Bosca Poist 3000
Eastát Chaisleán Bhaile Sheáin
Contae Loch Garman, Éire
Y35 W821

T: +353 53 9160600
F: +353 53 9160699
E: info@epa.ie
W: www.epa.ie

LoCall: 1890 33 55 99

Ms Rosario Brennan
Mr Michael Brennan
[redacted]

23rd November 2020 Reg. No. E0007-01 PA Reg. Ref: AP13/20

Re: Appeal - Licence for the operation of an asphalt plant to John Madden and Sons Limited at Tonroe, Ardrahan, County Galway

Dear Ms Brennan & Mr Brennan,

I refer to previous correspondence in relation to the above mentioned matter.

Enclosed is copy of other appeal received in relation to the planning authority's decision. Any submission or observation you wish to make in relation to this appeal should be made in writing to the Agency **within one month** of the date of this letter. The Agency cannot consider comments that are outside the scope of the matter in question.

If no submission or observation is received before the end of the specified period, the Agency will proceed to determine the appeal without further notice to you, in accordance with Section 133 of the Planning and Development Act 2000.

Please quote the above EPA appeal reference number in any further correspondence.

Yours sincerely,

Dorota Richards

Dorota Richards
Programme Officer,
Office of Environmental Sustainability.

Encl.

tms environment ltd

Specialists in laboratory analysis, monitoring and environmentdl consultancy

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1994 - 2015

TMS Environment Ltd
53 Broomhill Drive
Tallaght
Dublin 24

Phone: +353-1-4626710
Fax: +353-1-4626714
Web: www.tmsenv.ie

Environmental Protection Agency,
PO Box 3000,
Johnstown Castle Estate,
Co Wexford,
Y35 W821

11 November 2020

Re: Appeal against the granting of an air emission licence by Galway County Council to John Madden and Sons Ltd. for the operation of an asphalt plant at Tonroe, Ardrahan, Co Galway – Air Emission Licence Ref: AP13/20

To Whom It May Concern:

TMS Environment Ltd. (TMS) have been requested by our client, Lagan Materials Ltd., to appeal the decision made by Galway County Council (GCC) on the 20th of October 2020 to grant an Air Emission Licence (AEL) to John Madden and Sons Ltd. for the operation of an asphalt plant at Tonroe, Ardrahan, Co Galway.

The grounds of this appeal are summarised as follows:

1. A significant error was made in the Screening Air Model Assessment Report which resulted in Galway County Council making a decision based on incorrect information;
2. The operation of this asphalt plant will result in uncontrolled emissions that will breach the Air Quality Standards; and
3. Failure to complete an Appropriate Assessment Screening which would have demonstrated that a full Appropriate Assessment was required for the proposed development.

Environmental Protection Agency
13 NOV 2020

Background to this Appeal

TMS received the full AEL application file from GCC on the 18th of April 2020 and following review of this file made a formal submission to GCC on the 7th of May 2020 outlining our concerns regarding the failure to screen for the requirement for an Appropriate Assessment and highlighting errors in the Screening Air Model Assessment Report submitted as part of the application.

TMS made three further submissions to GCC, on the 26th of May 2020, the 27th of July 2020 and the 26th of August 2020 outlining deficiencies in the AEL application submitted to GCC and requesting GCC to halt consideration of the AEL application until a fully satisfactory AEL application was submitted by the applicant.

GCC granted the AEL to John Madden and Sons Ltd. on the 20th of October 2020 without any request for further information or clarification of the issues raised in the above referenced TMS submissions.

The full grounds of this appeal are set out in detail below.

1. **A significant error was made in the Screening Air Model Assessment Report which resulted in Galway County Council making a decision based on incorrect information & the operation of this asphalt plant will result in uncontrolled emissions that will breach the Air Quality Standards**

A Screening Air Model Assessment Report was provided as part of this application. This report set out to "*ensure that the air emissions from the Asphalt Batching Plant, based on the proposed licence limit values, would not lead to levels of pollutants which would exceed the air quality guideline values*".

A Screening Air Model Assessment Report is essential for an AEL application because the Local Authority is obliged to ensure that the air quality in and around a site is not being compromised and that the requirements of the Air Quality Standard Regulations (SI No 180 of 2011) which define acceptable levels of named substances in ambient air in accordance with EU Directives are met. In particular, levels of sulphur dioxide (SO_2), nitrogen oxides (NO_x) and carbon monoxide (CO) are of concern as these combustion gases have the potential to adversely impact upon the nearest sensitive receptors.

The AEL application is required to contain sufficient information on the asphalt plant emissions to allow the Local Authority to properly assess the potential impacts of the plant on surrounding sensitive receptors against the statutory Air Quality Standards.

The Screening Air Model Assessment Report references the potential pollutants of concern and also the Air Quality Standards required to be met for the emissions to air from the asphalt plant. *Table 2 "Process Emission Details"* of the Screening Air Model Assessment Report outlines the input data used in the screening model to estimate the level of pollutants emitted to air from the asphalt plant. The volume flow used in the Screening Air Model Assessment Report is reported as 70,000 Nm^3/hr; however, the proposed asphalt plant has a maximum volume flow output of 78,285 m^3/hr.

The use of the lower figure for volume flow in the Screening Air Model Assessment Report will result in an under-estimation of the concentration of the pollutants in the emissions stream. The actual concentrations of the pollutants in the emissions stream are likely to be approximately 12% higher for the worst-case than the figures reported.

The most significant error in the Screening Air Model Assessment Report is the use of the incorrect emission concentration levels to represent the worst-case scenario for the asphalt plant. *Table 3 "Air Emission Rates from Permitted Asphalt Batching Plant at Tonroe Quarry in Ardrahan, Co. Galway Under Worst-Case Conditions"* of the Screening Air Model Assessment Report presents the predicted emission rate for each parameter based on the purported worst-case emission concentration. This Table is presented below for reference.

Parameter	Worst-Case Emission Concentration (mg/Nm^3)	Emission Rate (g/s)
NO_2	200	3.89
CO	850	16.53
TSP (PM_{10}) Note 1	20	0.39
SO_2	100	1.94

Note 1 For the purposes of this modelling assessment it has been assumed that 100% of TSP emissions are of the size fraction PM_{10}

Table 3 Air Emission Rates From Permitted Asphalt Batching Plant at Tonroe Quarry in Ardrahan, Co. Galway Under Worst-Case Conditions.

The worst-case emission concentrations used as the input data for the Screening Model have been significantly under-represented for SO_2, NO_2 and dust. Indeed the Screening Air Model Assessment Report does not "*ensure that the air emissions from the Asphalt Batching Plant, based on the proposed licence limit values, would not lead to levels of pollutants which*

would exceed the air quality guideline values" because the correct licence limit values have not been used in the screening model. Significantly lower emission limit values have been used for SO_2, NO_x and dust in the Screening Air Model Assessment Report. The impact of this is significant and is discussed in detail below.

The Environmental Protection Agency (EPA) publication entitled *Environmental Management in the Extractive Industry (Non-Scheduled Minerals) (2006)* sets out recommended emission limit values for emissions to air from asphalt plants regulated under the Air Pollution Act, as follows:

Sulphur dioxide (SO_2):	500mg/Nm^3
Nitrogen oxides (NO_x):	450mg/Nm^3
Dust:	50mg/Nm^3

The above limits are also the emission limit values prescribed in the AEL as granted by GCC on the 20th of October 2020 and therefore it is clear that the correct figures for the worst-case assessment are the figures presented in the AEL as granted by GCC which are consistent with the EPA emission limit values.

It is clear from the above that the worst-case SO_2 emissions used in the Screening Air Model Assessment Report are understated by a factor of 5, the worst-case NO_x emissions used are understated by a factor of 2.5 and the worst-case dust emissions used are understated by a factor of 2.5.

Furthermore, in our professional opinion, which is based on our extensive experience with the operation of asphalt plants, it is not possible to maintain SO_2 emissions to air below 100mg/m^3 and NO_x emissions to air below 200mg/m^3 when using oil to fuel an asphalt plant. The figures used in the Screening Air Model Assessment Report to represent the worst-case emission concentrations are certainly not the worst-case emission concentrations and are in fact likely to be exceeded on a very regular basis. Therefore, it is our professional opinion that the Screening Air Model Assessment Report has significantly underestimated the actual worst-case emissions to air from the asphalt plant and has used figures to represent the worst-case that are not possible to maintain in an asphalt plant when burning oil.

We have used the data generated by the Screening Air Model Assessment Report itself to estimate the likely actual worst-case emissions to air from the asphalt plant by replacing the worst-case emissions concentrations erroneously used in the Screening Assessment Report with those concentrations as permitted in the AEL as per EPA Guidance.

Table 5 in the Screening Air Model Assessment Report (presented below for reference) shows the short-term predicted ground level concentration for the various parameters. For the purposes of generating an approximation of the corrected short-term ground level concentrations we have multiplied the Short-term Process Contribution figure by a factor of 5 for SO_x and a factor of 2.5 for NO_2 and PM_{10} (as outlined earlier, these parameters have been underestimated by these factors). It is considered that this revised figure will still underestimate the actual emission as the volume flow figure used in the model is approximately 12% less than the maximum volume flow output that the asphalt plant is capable of generating. We have prepared **"Table 5 Updated"** below which shows the estimated short-term ground level concentrations at the worst-case location using the AEL limits as the worst-case, by multiplying each parameter by the appropriate factor.

Parameter	Mass Emission (g/sec)	Background Concentration (µg/m³) Note 1	Short-term Process Contribution (µg/m³)	Short-term Predicted Environmental Concentration (µg/m³)	Short-term Environmental Assessment Level (µg/m³)
NO_2 – Hourly	3.89	26.9	106.80	133.70	200
CO – 8-Hour	16.53	500	1037.12	1537.12	10,000
PM_{10} – Daily	0.39	17.7	16.27	33.97	50
SO_2 – Hourly	1.94	9.8	135.57	145.37	350
SO_2 – Daily	1.94	5.7	81.34	87.04	125

Note 1 Background values based on guidance issued in Air Dispersion Modelling from Industrial Installations Guidance Note (AG4)

Table 5 Predicted Short-Term Ground Level Concentrations at the Worst-Case Location

Parameter	Background Concentration (ug/m³)	Short-term Process Contribution (ug/m³)	Short-term Predicted Environmental Concentration (ug/m³)	Short-term Environmental; Assessment Level (ug/m³)
NO_2 Hourly	26.9	267	**294**	200
PM_{10} Daily	17.7	41	**59**	50
SO_2 Hourly	9.8	678	**688**	350
SO_2 Daily	5.7	407	**412**	125

Table 5 Updated **Revised predicted short-term ground level concentrations at worst-case location**

It is clear from **"Table 5 Updated"** above that the Air Quality Standards will be breached at the worst-case location for all three parameters presented. In fact, the prescribed daily limit for SO_2 emissions (125ug/m³) will be breached by in excess of 300% (412ug/m³). This clearly

demonstrates that a very significant problem exists with the proposed operation of an asphalt plant at this location.

The proposed asphalt plant is located in very close proximity to two Natura 2000 sites. The Castletaylor Complex SAC (Site Code 00242) is located c. 195m north of the asphalt plant and the Ardrahan Grassland SAC (Site Code 002244), is located c. 620m south of the asphalt plant.

The data generated by the Screening Air Model Assessment Report has been used to estimate the likely worst-case emission level concentrations from the asphalt plant at the above referenced Natura 2000 sites by replacing the worst-case emission concentrations used in the Screening Air Model Assessment Report with the actual worst-case concentrations as permitted in the granted AEL and as per EPA Guidance.

Table 7 from the Screening Air Model Assessment Report (presented below for reference) shows the maximum predicted annual mean concentration for the various parameters within the two Natura 2000 sites. For the purposes of generating an approximation of the corrected annual average concentrations we have multiplied the Annual Average PC figure in Table 7 of the Screening Air Model Assessment Report by a factor of 5 for SO_2 and a factor of 2.5 for NO_2 (for the reasons outlined earlier) **"Table 7 Updated"** below shows the estimated short-term ground level concentrations at the Natura 2000 sites using the above described methodology.

Parameter	Mass Emission (g/sec)	Background Concentration ($\mu g/m^3$) Note 1	Annual Average PC ($\mu g/m^3$)	Annual Average PEC ($\mu g/m^3$)	Annual Ambient EAL ($\mu g/m^3$)
Castletaylor Complex SAC & pNHA - NO_2	3.89	6	7.05	13.05	30
Castletaylor Complex SAC & pNHA - SO_2	1.94	3	9.88	12.88	20
Ardrahan Grassland SAC - NO_2	3.89	6	3.83	9.83	30
Ardrahan Grassland SAC - SO_2	1.94	3	6.37	9.37	20

Note 1 Background values based on guidance issued in Air Dispersion Modelling from Industrial Installations Guidance Note (AG4)

Table 7 Maximum Predicted Annual Mean Concentrations Within Designated Sites

Parameter	Background Concentration (ug/m^3)	Annual Average PC (ug/m^3)	Annual Average PEC (ug/m^3)	Annual Ambient EAL (ug/m^3)
Castletaylor SAC NO_2	6	17.6	**23.6**	30
Castletaylor SAC SO_2	3	49.4	**52.4**	20
Ardrahan SAC NO_2	6	9.6	**15.6**	30
Ardrahan SAC SO_2	3	31.9	**34.9**	20

Table 7 Updated Revised predicted annual mean concentrations within the Natura 2000 Sites

It is clear from **"Table 7 Updated"** above that the Air Quality Standards for SO_2 will be breached very significantly at both Natura 2000 sites (Castletaylor SAC and Ardrahan SAC). The critical annual mean concentration value for SO_2 for the Protection of Ecosystems is $20ug/m^3$. The estimated annual mean value for SO_2 at the Castletaylor SAC is $52.4ug/m^3$ which equates to 262% of the Limit Value whilst the estimated annual mean value for SO_2 at the Ardrahan SAC is $34.9ug/m^3$ which equates to 175% of the Limit Value. It is clear that the Air Quality Standards will be significantly breached at both of the SAC sites. Consequently, it is considered highly probable that the particularly delicate ecosystems at these European sites will be adversely impacted by the operation of the proposed asphalt plant.

2. Failure to complete an Appropriate Assessment Screening which would have shown that a full Appropriate Assessment was required for the proposed development

Under the terms of the Habitats Directive, it is a legal requirement to consider if an Appropriate Assessment is required to be carried out for a particular plan or project. Appropriate Assessments are carried out to ensure the protection of Natura 2000 sites and their conservation objectives when considering whether to authorise or adopt a plan or project. Natura 2000 sites in Ireland are European sites, including Special Protection Areas (SPAs), and Special Areas of Conservation (SACs). The obligation to undertake appropriate assessment derives from article 6(3) and 6(4) of the Habitats Directive.

As outlined above, there are two Natura 2000 sites within the zone of influence of the proposed asphalt plant. The Castletaylor Complex SAC is located c. 195m north of the asphalt plant and the Ardrahan Grassland SAC is located c. 620m south of the asphalt plant. As the SACs are located in such close proximity to the asphalt plant, they require special

consideration and indeed strict mitigation measures are required for any activity that has the potential to give rise to significant environmental impacts upon them. It is therefore considered essential that an Appropriate Assessment screening be completed as part of the AEL application process.

The AEL application files for the proposed asphalt plant contain no reference to the completion of an Appropriate Assessment or an Appropriate Assessment Screening Report to determine whether such an assessment is required.

We are of the opinion that an Appropriate Assessment Screening will confirm that a full Appropriate Assessment is required for this project as it has been demonstrated that the likely worst-case emissions from the asphalt plant will exceed the Air Quality Standards for the protection of ecosystems at each of the two SACs. Consequently, a significant procedural issue exists in respect of compliance with the relevant regulatory requirements for this site.

In conclusion, on behalf of our client, Lagan Materials Ltd, we object to the granting of the AEL to John Madden and Sons Ltd. and appeal the decision made by Galway County Council on the following grounds:

1. A significant error was made in the Screening Air Model Assessment Report which resulted in Galway County Council making a decision based on incorrect information;
2. The operation of this asphalt plant will result in uncontrolled emissions that will breach the Air Quality Standards; and
3. Failure to complete an Appropriate Assessment Screening which would have demonstrated that a full Appropriate Assessment was required for the proposed development

The appeal fee of €60 is enclosed as per requirements.

Yours sincerely,

Tom Ryan

Senior Consultant
TMS Environment Ltd.