



Attachment N° A.1

NON-TECHNICAL SUMMARY IPPC LICENCE APPLICATION Licence Register Number P0487-06 REVIEW

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1.0 Introduction

This application for an Integrated Pollution, Prevention and Control (IPPC) Licence has been prepared in order to update and revise the existing IPPC Licence (Licence Register Number P0487-06) which was granted by the Environmental Protection Agency (EPA) in March 2012.

This IPPC Licence Review application is primarily being submitted in order to repeal the Air Overpressure limits at the nearest sensitive locations which were reduced by the EPA in the most recent IPPC Licence for the site - P0487-06 from 125dB(lin) max. peak to 120dB(lin) max. peak.

In addition, the licensee also seeks the following amendments:-

1. Increase the emission limit value for Total Organic Carbon from 10 mg/m³ to 40mg/Nm³ for emission point A2-01 for the co-incineration of waste in order to accommodate varying organic fractions within the raw materials and to bring the licence into line with TOC limits recently granted to another Republic of Ireland based cement producer.
2. Amend the storage volumes permitted for Liquid Recovered Fuel (LRF) in Condition 8.9(b) of P0487-06 from 20,000 litres to 150m³. The permitted use of LRF in P0487-06 is 20,000 tonnes per annum. This equates to a use of approximately 60 tonnes per day. Therefore, the permitted storage of 20 tonnes is inadequate.

The previous IPPC Review requested an increase the extent of the existing quarrying operations at the Lagan Cement manufacturing facility in Killaskillen, Co. Meath, the planning application for which required the preparation of an Environmental Impact Statement (EIS). The previous IPPC Review also broadened the range of alternative fuels used as part of Lagan Cement's sustainable fuel programme, including up to 20,000 tonnes of Liquid Recovered Fuels (LRF). The purpose of the sustainable fuel programme is to further reduce Lagan Cement's dependence on imported fossil fuels. Lagan Cement is currently licensed to use 95,000 tonnes of alternative fuels per annum and the most recent IPPC Licence review did not alter the volume of alternative fuels used on site. The complete list of European Waste Catalogue Codes permitted for use on site can be seen in detail in Attachment H.

This IPPC Licence review for the Lagan Cement manufacturing facility in Killaskillen, Co. Meath, has not required a planning application or the preparation of an Environmental Impact Statement (EIS).

2.0 Increase in the Emission Limit Value (ELV) for Total Organic Carbon (TOC)

The potential impact of a possible increase in the Emission Limit Value (ELV) for Total Organic Carbon (TOC) emissions from 10mg/m³ to 40mg/m³ from the cement plant has been reviewed in relation to the air quality impact.

In February 2010 when the application for permission to use Liquid Recovered Fuel (LRF) as an alternative fuel at the facility was being prepared a very comprehensive assessment of air quality impacts associated with the use of a range of fuels at the facility was completed. That assessment included a comprehensive evaluation of the potential impacts on air quality as a result of emissions from the proposed use of LRF and other additional EWC codes as alternative fuel sources in the cement kiln. The combined impacts of emissions from existing activities at the site were also considered in the assessment.

The dispersion modelling study demonstrated that the existing stack height of 125m for the cement kiln provides effective dispersion of all pollutants emitted from the facility under normal and maximum possible operating conditions. The results of the study demonstrated that there will be no adverse impacts on ambient air quality in the vicinity of the facility as a result of emissions from either existing or proposed activities at the site. The assessments were completed under the worst possible emissions scenarios, as well as typical emissions conditions, in order to assess the maximum potential impact on ambient air quality; the use of maximum possible emission conditions ensures that the impact assessments are reliable and may overestimate the actual projected impact of the development.

The results of this extensive study demonstrated that there will be no adverse impacts on ambient air quality in the vicinity of the facility, on local residences or on local agriculture as a result of emissions from either the existing or the proposed activities at the site. This included in respect of emissions to atmosphere of TOC. The modelling results have been compared with the air quality standard for environmentally significant organic compounds using the German TA Luft Technical Instructions on Air Quality Control. Even using this stringent assessment criterion, the predicted ambient TOC concentrations are very substantially lower than the relevant air quality limit value.

In terms of the assessment of the impact of an increase in the ELV for TOC from 10mg/m³ to 40mg/m³, the impact of such an increase can be extrapolated from the previous model results. A

fourfold increase in the emissions would see a corresponding fourfold increase in the predicted ground level concentrations. Even at this increased emission rate, the predicted ground level concentration, after taking account of the existing background, is very significantly lower than even the most stringent air quality standard.

In conclusion, the assessment has shown that there is no adverse impact associated with an increase in the ELV for TOC from 10 mg/m³ to 40mg/m³ and the change in predicted ground level air quality is insignificant and imperceptible relative to the existing situation.

3.0 Air Overpressure Limits

This IPPC Licence Review application is primarily being submitted in order to repeal the Air Overpressure limits at the nearest sensitive locations which were reduced by the EPA in the most recent IPPC Licence for the site - P0487-06 from 125dB(lin) max. peak to 120dB(lin) max. peak.

The recommendation of the EPA Technical Committee to reduce Air Overpressure Limits to 120 dB(lin) max peak at the nearest noise sensitive location outlines a significant change from the draft licence 487-06 and the licence conditions pertaining to the quarrying operations at the Lagan Cement facility in Kinnegad, Co. Westmeath, for the previous 5 licences, which outlined a limit of 125 dB(lin) max peak. It would appear that the technical committee did not take into account actual AOP measurements, taken on behalf of Lagan Cement, over an almost 10 year period, which shows 100% compliance with 125dB, but with a significant number of excursions above 120dB. The Lagan Cement facility already operates to limits of 8 mm/s and 125 dB(Lin) for blasting which occurs typically on average every 2-3 weeks in the limestone quarry and once per annum in the shale quarry. This is a rigorous standard, already more stringent than all of their competitors. Lagan Cement presently inform all nearby sensitive residential properties in writing in advance of quarry blasts and also sound a warning siren prior to blasting. Similar installations to the Lagan Cement quarry at Kinnegad, Co. Westmeath have either an air over pressure limit of 125 dB (lin) maximum peak or no relevant limit at all.

A summary review of worldwide limits reveals a wide range of formal limits, ranging from 115 dB (lin). max. peak (with 5% exceedence permitted to 120 dBL) in some operations in Australia, to 133 dB (lin). max. peak in the USA. It is reported that in certain cases a guideline limit of 120 dB (lin). max. peak has been applied in many blasting operations in Australia, the USA, Canada and the United

Kingdom and conformance with this guideline limit has been successful in reducing complaints to an acceptable level. However, the Australian, US and Canadian limits are unlikely to be directly comparable to the Irish scenario due to the vastness of these countries and the remoteness of many such quarries from residential properties. Also, more importantly the typical climatic conditions experienced in Ireland differs very significantly from that which tends to prevail in countries such as Australia, the US and Canada.

Weather conditions, such as high humidity, rainfall, or the presence of cloud cover, can cause the levels of overpressure to seem more severe than there would be on a day when the humidity is low and there is lack of cloud cover. Overall, it can be summarised that air overpressure levels are higher during blasting episodes when weather conditions include the following:

- significant temperature inversions
- foggy or hazy conditions with little or no wind
- still, cloudy days with a low cloud ceiling
- Low cloud ceiling, strong breeze / wind blowing directly towards sensitive receiver

The blasting at the Lagan Cement quarry is most likely to be conducted during weather conditions which are representative of one or more of the weather conditions outlined above. Therefore, it is very difficult for Lagan Cement to meet more onerous licence conditions when such weather conditions are so prevalent and existing air overpressure levels are already typically in excess of the recently revised lower limit but in accordance with the former limit value of 125 dB (lin) max. peak.

Lagan Cement has been highly proactive in employing a variety of measures, which constitute BAT, towards mitigating the vibration and AOP issues associated with blasting. This is evidenced by their strong compliance history to date. However, it is important to note that climatic conditions may negate mitigation measures taken. It is also important to note that Lagan Cement is of the view that no further measures can be reasonably taken to further mitigate AOP.

It is widely reported that the susceptibility of individuals to vibration varies from person to person depending on factors such as age, health and, to a large extent, previous exposure. It is also widely reported that it is usually the case that adverse comments are less likely once a neighbour has become accustomed to the perceived effects of blasting and the resident is regularly informed of progress updates and warnings with regard to blasting. This is presently undertaken by Lagan Cement Ltd. with a blasting conducted as a single event every 2-3 weeks with regards to which residents are notified in writing and a warning siren is sounded in advance of blasts.



4.0 Conclusions

A comprehensive assessment of potential environmental impacts of the increase in the extent of the existing quarrying operations at the Lagan Cement manufacturing facility and the use of alternative fuels has been carried out as part of the ongoing review of Lagan Cement Ltd. IPPC Licences since 2001. The most recent IPPC Licence review application involving the extension of the quarrying activities and the use of Liquid Recovered Fuels as an alternative fuel source at the cement facility has shown that there will be no adverse impacts on the environment as a result of the proposed developments at the Lagan Cement Ltd facility.

As part of this application, the nature and quantities of emissions from quarrying and cement manufacture at the installation into all environmental media have been considered. It has been shown that the existing mitigation measures and the proposed techniques for preventing and/or reducing emissions from the plant will ensure that Lagan Cement Ltd are capable of and will fully comply with the legal requirements of the Waste Incineration Directive, the Animal By-Product Regulations and any other relevant legal requirements.

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