IPPC LICENCE REVIEW APPLICATION

Irish Cement Limited
Limerick Cement Works
IPPC Licence Reg. No. P0029-02

RESPONSE TO THE ENVIRONMENTAL PROTECTION AGENCY’S SECOND REQUEST FOR FURTHER INFORMATION

March 2008
Irish Cement Limited
Platin
Drogheda
Co. Louth
1. **Confirm the grid reference co-ordinates provided on the site location map (D5373.40).**

   Provide a copy of correspondence with the Office of Environmental Enforcement that indicates that the area of the site proposed for exclusion from the scope of your existing licence is in a satisfactory state, that there is no risk to the environment and the Agency is satisfied that the requirements of Condition 14 have been met.

The grid reference coordinates provided on the site location map (D5373.40) have been confirmed. The site location map is included as Appendix I.

Correspondence with the Office of Environmental Enforcement is included as Appendix II. This confirms that the area of the site proposed for exclusion from the scope of the existing licence is in a satisfactory state, that there is no risk to the environment and the Agency is satisfied that the requirements of Condition 14 have been met.

As referred to in John Doheny’s letter of 28th February 2008, we are aware that we “need to apply to the EPA’s Office of Climate, Licensing and Resource Use to change the site boundary” (to the boundary as per Appendix I), and will consider this to be our application, unless we are informed otherwise by the Agency.
2. Having regard to the proposal to apply for planning permission for additional clinker storage capacity, confirm whether this proposal is for consideration under this review application. Where the proposal is for consideration, provide all relevant details including emission points and relevant planning documents.

The proposal to apply for planning permission for additional clinker and cement storage capacity is for consideration under this review application.

All relevant details including emission points and relevant planning documents are included as Appendix III.
3. Complete table F.1(i) for the SNCR. Confirm whether differential pressure across the bag filters is a control parameter for all on-site bag filters.

Table F.1(i) is completed for Kiln 6 below.

All bag filters are fitted with differential pressure gauges. Some are used for continuous monitoring, and others for periodic monitoring.
<table>
<thead>
<tr>
<th>Control 1 parameter</th>
<th>Equipment 2</th>
<th>Equipment maintenance</th>
<th>Equipment calibration</th>
<th>Equipment back-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electrostatic Precipitator</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kilovolts</td>
<td>Rectifiers</td>
<td>Checked at major overhauls</td>
<td>Not applicable</td>
<td>Spare parts holding</td>
</tr>
<tr>
<td>Milliamps</td>
<td>Rapping gear</td>
<td>Checked at major overhauls</td>
<td>Not applicable</td>
<td>Spare parts holding</td>
</tr>
<tr>
<td>Gas temperature</td>
<td>Screw conveyors</td>
<td>Checked at major overhauls</td>
<td>Not applicable</td>
<td>Spare parts holding</td>
</tr>
<tr>
<td></td>
<td>Conditioning tower</td>
<td>Checked at major overhauls</td>
<td>Not applicable</td>
<td>Spare parts holding</td>
</tr>
<tr>
<td></td>
<td>Water pumps</td>
<td>Checked at major overhauls</td>
<td>Not applicable</td>
<td>Spare parts holding</td>
</tr>
<tr>
<td></td>
<td>CO meters</td>
<td>Routine maintenance</td>
<td>Monthly test gas</td>
<td>Spare parts holding</td>
</tr>
<tr>
<td></td>
<td>O₂ meter</td>
<td>Routine maintenance</td>
<td>Monthly test gas</td>
<td>Spare parts holding</td>
</tr>
<tr>
<td><strong>Selective Non Catalytic Reduction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flow of ammonium hydroxide</td>
<td>Pump</td>
<td>Annual maintenance</td>
<td>Not applicable</td>
<td>Standby pump. Spare parts holding on-site.</td>
</tr>
<tr>
<td>Control parameter</td>
<td>Monitoring to be carried out</td>
<td>Monitoring equipment</td>
<td>Monitoring equipment calibration</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>----------------------------</td>
<td>----------------------</td>
<td>---------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Electrostatic Precipitator</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kilovolts</td>
<td>Continuous</td>
<td>kVolt meter</td>
<td>Manufacturer</td>
<td></td>
</tr>
<tr>
<td>Milliamps</td>
<td>Continuous</td>
<td>mAmp meter</td>
<td>Manufacturer</td>
<td></td>
</tr>
<tr>
<td>Gas temperature</td>
<td>Continuous</td>
<td>Thermocouple</td>
<td>In-house</td>
<td></td>
</tr>
<tr>
<td><strong>Selective Non Catalytic Reduction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flow of ammonium hydroxide</td>
<td>Flow rate</td>
<td>Total flowmeter</td>
<td>Annual maintenance check</td>
<td></td>
</tr>
<tr>
<td>Flow of ammonium hydroxide</td>
<td>Concentration of NOX in stack gases</td>
<td>On-line monitor</td>
<td>Annual</td>
<td></td>
</tr>
<tr>
<td>Concentration of ammonium hydroxide</td>
<td>Analysis certificate received from supplier.</td>
<td>None</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

1 List the operating parameters of the treatment / abatement system which control its function.
2 List the equipment necessary for the proper function of the abatement / treatment system.
3 List the monitoring of the control parameter to be carried out.

It is proposed to replace the electrostatic precipitator on Kiln 6/Rawmill by early 2009.
4. In the event of a fire, give details of the quantity and nature of firewater generated under worst case scenario and details as to the assimilative capacity of the pond to demonstrate that the impact would be low. Provide details of the shut-off system for Bunlicky pond to retain contaminated firewater.

In the event of a fire on-site, the potential arises for the firewater (i.e. the water used to extinguish the fire) to enter the site surface water drainage system. Potential contaminants identified are diesel oil, pet coke, aqueous ammonia and grinding aid.

The potential impact of contaminated firewater and the mitigation of any impact are addressed below.

Receiving Waters

The site surface water drainage system discharges to Bunlicky Pond. The Pond is divided by the proposed Southern Ring Road but the two parts of the Pond are hydraulically linked by culverts. Bunlicky Pond is normally isolated from the River Shannon. There are sluice valves on three pipes connecting the Pond with the river. Flap valves prevent inflow of river water from the Shannon.

Diesel oil

Diesel oil is categorised by risk phrase R52/53 i.e. it is harmful to aquatic organisms and may cause long term adverse effects in the aquatic environment. Due to its high flash point (56°C minimum), ignition of diesel oil is extremely unlikely. However, in the event of a fire in a building engulfing a diesel tank, the diesel oil containment might fail and the oil could burn. The resulting firewater could become contaminated. The worst credible event is a fire in the Central Control Building engulfing the adjacent diesel oil tank. The resulting firewater would enter the surface water system and flow to Bunlicky Pond.

Assuming that 7 m³ (the entire capacity of the diesel tank, approximately 5.9 t) of diesel oil enters the surface water drainage system, this would be diluted in the Pond, which has a capacity of approximately 2.5 million m³[1].

Further dilution will be achieved by the firewater itself and potentially by rainfall. This is addressed in detail in the Mitigation section below.

There is one existing oil interceptor and one proposed oil interceptor. There will be two absorbent booms and a containment boom. Therefore any diesel oil would be contained and in the unlikely event of non-containment the assimilative capacity of the Pond is sufficient.

Ammonia

Aqueous ammonia with a concentration of less than 25% w/w ammonia will be stored on-site in steel tanks. The tanks will be located within retention bunds with a capacity of 110% of the largest tank.

This material will be used for reducing emissions of nitrogen oxides to atmosphere in the kiln gases.

Ammonia solutions with a concentration of less than 25% are classified as “Corrosive” and carry the risk phrase R34.
Engulfment of the ammonia tank in fire is not credible due to its location. The ammonia is stored in a stainless steel, single-sheathed tank located beside the clinker silo. The tank is enclosed by a concrete bund, which is designed to maintain any spillage of up to 110% of the capacity of the tank. Therefore, in the event of total loss of containment, the bund will have sufficient capacity to retain the entire contents of the tank.

**Grinding aid**

Grinding aid is a liquid mixture of a number of materials, of which only two are classified as hazardous: 2.5-10% triethanolamine (CAS No 102-71-6) and 10-25% ethylene glycol (CAS No 107-21-1). Risk phrases are R36/38 (Irritating to eyes and skin) and R22 (Harmful if swallowed) respectively.

Assuming that 52m³ (the entire capacity of the diesel tank, approximately 5.9 t) of diesel oil enters the surface water drainage system, this would be diluted in the Pond, which has a capacity of approximately 2.5 million m³[1].

Further dilution will be achieved by the firewater itself and potentially by rainfall. This is addressed in detail in the Mitigation section below.

Localised spillage containment will be used to prevent grinding aid draining to the Pond. The grinding aid tank is double skinned plastic. In addition to the existing double-skin of the tank, a leak detection system is due to be fitted. Grinding aid would be prevented from entering the sewage or surface water systems by the use of the in-situ mobile spill kit which includes an absorbent boom.

**Pet Coke**

No environmental studies on petroleum coke have been published in the open scientific literature.

Petroleum coke is a solid, composed of carbon and other high molecular weight and water insoluble materials. Some metals are present but usually at very low concentrations [3]. The concentrations of these metals are quite variable depending upon the source of the coke. Although there is no direct evidence on the leachability of components from petroleum coke, a study [3] has been conducted on the leachability and ecotoxicity of coal gasifier solid waste, a similar material. Extraction of this material in the form of bottom ash was accomplished with either distilled water or the US EPA EP toxicity extraction procedure. The concentrations of metals in the extract were all at levels considered "non hazardous" by US EPA (RCRA) standards.

It is concluded that a fire involving pet coke would not result in contamination of the receiving waters, i.e. Bunlucky Pond.

**Mitigation by dilution, absorption and containment**

In addition to dilution by the 2.5 million m³ volumetric capacity of the Pond, further dilution will be achieved by the firewater itself and potentially by rainfall.

Diesel oil or grinding aid released during a fire would be diluted by fire suppression water dispensed by the Fire Brigade. In the event of a large fire Limerick Fire Brigade estimates that 5 pumps would be in attendance. Each pump carries 400 gallons (1,818 litres) of water. In
addition it is likely that a tanker would attend carrying 3,000 gallons (13,638 litres). This water would be used very quickly in the event of a large fire. On-site fire hydrants would then be used. The amount of water that would be used depends on the type of incident, what is on fire, the duration, and whether the officer in charge decides to use hydraulic platforms as water towers etc.

The biggest user of water would be the hydraulic platform and there could be 2 on-site at a major incident. Therefore, an estimate of the greatest volume of water that would be used would be based on two hydraulic platforms delivering a maximum of 4,000 litres/minute/platform for 2 hours i.e. 960 m³.

In addition to fire suppression water, rainfall falling on the site impermeable area or on the Bunlicky Pond catchment would further dilute the contaminants. The EPA (Draft) Guidance Note to Industry on Requirements for the Establishment of Fire Water Retention Facilities (1995) recommends that firewater run-off during a fire be based on the 24-hour event with a return period of 20 years, or 50 mm, whichever is greater. Rainfall data provided by Met Eireann shows that the 24 hour rainfall event for a 20 year return period for Easting: 153400 Northing: 154700 is 63.9 mm.

The hardstanding area of the site is approximately 429,000 m². Assuming a runoff coefficient of 1 (i.e. that all rainwater falling on this area goes to the surface water drainage system), the volume of rainwater going to Bunlicky Pond from hardstanding areas is calculated as follows: 63.9 mm x 429,000 m² = 27,413 m³.

The site grassy/vegetated area that drains to Bunlicky Pond is approximately 645,000 m². Assuming a runoff coefficient of 0.7 (i.e. 70% of rainwater falling on this area would drain to Bunlicky Pond), the volume of rainwater going to Bunlicky Pond from grassy/vegetated areas is calculated as follows: 63.9 mm x 645,000 m² x 0.7 = 28,851 m³.

Therefore, the total rainwater volume flowing to Bunlicky Pond over 24 hours would be 27,413 m³ + 28,851 m³ = 56,264 m³.

<table>
<thead>
<tr>
<th>Material</th>
<th>Volume (m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel oil</td>
<td>7</td>
</tr>
<tr>
<td>Grinding aid</td>
<td>52</td>
</tr>
<tr>
<td>Pond</td>
<td>2,500,000</td>
</tr>
<tr>
<td>Fire tenders, etc</td>
<td>22.6</td>
</tr>
<tr>
<td>Hydraulic platforms</td>
<td>960</td>
</tr>
<tr>
<td>Rainwater</td>
<td>56,264</td>
</tr>
<tr>
<td><strong>Total Water</strong></td>
<td><strong>2,557,247</strong></td>
</tr>
</tbody>
</table>

In addition to the assimilative capacity of Bunlicky Pond, which has been demonstrated above, a system of absorbent and containment booms is proposed.

Following a site inspection by Bercar Environmental Ltd., it is proposed to install two 3 metre absorbent booms at each of the surface water outfalls to the Pond in order to absorb spills of any contaminating substance. In addition, a permanent 30 metre containment boom, 25 cm in height will be installed on the Pond.

**Shutoff System for Bunlicky Pond**

With regard to the shut-off system for Bunlicky Pond, both sides of the Pond that is divided by the proposed Limerick Southern Ring Road will be hydraulically linked by culverts. There are sluice valves on the outlet from Bunlicky Pond to the Shannon. These are not relevant in
this context as the assimilative capacity of the lake is deemed to be sufficient mitigation in the event of contaminated firewater entering Bunlikely Pond.

**References**


2. CONCAWE (1996) *Gas oils (diesel fuels/heating oils)* product dossier no. 95/107

3. CONCAWE (1993) Petroleum coke product dossier no. 93/105
5. Having regard to landfilling and waste types, confirm and clarify the EWC codes and types of waste to be deposited in the on-site landfill.

Following a review of the European Waste Catalogue and discussions with the Agency, Irish Cement Limited proposes to restrict wastes landfilled to the following materials as defined in the Catalogue:

**10 13 Waste from manufacture of cement....**

**10 13 01**

Waste preparation mixture before thermal processing (specifically – wet/off spec raw meal which cannot be recycled).

**10 13 04**

Wastes from calcination and hydration of lime (specifically – off spec clinker and kiln coating which cannot be recycled).

**10 13 06**

Particulates and dust (general dust arisings which cannot be recycled)

**10 13 13**

Solid wastes from gas treatment other than those mentioned in 10 13 12 (specifically filter dust and cooling tower dust which cannot be recycled)

**16 11 Waste linings and refractories**

16 11 06 linings from non metallurgical processes other than those mentioned in 16 11 05

**17 Construction and demolition waste**

**17 01 01**

Concrete

**17 01 02**

Bricks

**17 01 07**

Mixture of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06

**17 05 Soil....**

17 05 04
Soil and stones other than those mentioned in 17 05 03

Note: Every effort is made at Limerick to recycle materials arising in the process.
6. **Give details of the frequency and duration of kiln start-up and shutdown per year and the implications of these events for the assessment provided in relation to compliance with air quality standards.**

Data on kiln stoppages for the last three years are shown in Table 6.1.

In 2007, there were 37 kiln stops, of which 13 lasted less than 2 hours, 15 lasted between 2 and 24 hours, and 9 lasted more than 24 hours. The kiln was stopped for a total of 821 hours. The mean duration of kiln stops was 22 hours.

During the three years from 2005 to 2007, there were 100 kiln stops, of which 36 lasted less than 2 hours, 46 lasted between 2 and 24 hours, and 18 lasted more than 24 hours. The kiln was stopped for a total of 2601 hours. The mean duration of kiln stops was 26 hours.

**Table 6.1 Kiln stops 2007 to 2005**

<table>
<thead>
<tr>
<th></th>
<th>&lt;2hrs</th>
<th>2-24hrs</th>
<th>&gt;24hrs</th>
<th>All kiln stops</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>Hours</td>
<td>9</td>
<td>130</td>
<td>682</td>
</tr>
<tr>
<td>2007</td>
<td>Kiln stops</td>
<td>13</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>2007</td>
<td>Mean duration (hours)</td>
<td>0.7</td>
<td>8.7</td>
<td>75.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Hours</th>
<th>Kiln stops</th>
<th>Mean duration (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>11</td>
<td>13</td>
<td>0.9</td>
</tr>
<tr>
<td>2006</td>
<td>219</td>
<td>22</td>
<td>10.0</td>
</tr>
<tr>
<td>2006</td>
<td>640</td>
<td>4</td>
<td>160.1</td>
</tr>
<tr>
<td>2006</td>
<td>871</td>
<td>39</td>
<td>22.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Hours</th>
<th>Kiln stops</th>
<th>Mean duration (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>7</td>
<td>10</td>
<td>0.7</td>
</tr>
<tr>
<td>2005</td>
<td>79</td>
<td>9</td>
<td>8.7</td>
</tr>
<tr>
<td>2005</td>
<td>824</td>
<td>5</td>
<td>164.7</td>
</tr>
<tr>
<td>2005</td>
<td>909</td>
<td>24</td>
<td>37.9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2005 to 2007 (Total)</th>
<th>Hours</th>
<th>Kiln stops</th>
<th>Mean duration (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours</td>
<td>28</td>
<td>36</td>
<td>9</td>
</tr>
<tr>
<td>Kiln stops</td>
<td>428</td>
<td>46</td>
<td>143</td>
</tr>
<tr>
<td>Mean duration (hours)</td>
<td>2145</td>
<td>18</td>
<td>715</td>
</tr>
<tr>
<td></td>
<td>2601</td>
<td>33</td>
<td>119.2</td>
</tr>
</tbody>
</table>

The air quality modelling assessment that has been carried out and reported on in the application and the response to the request for further information dated 29 August 2007 is conservative. The assessment assumes the worst-case operating conditions, which include continuous operation at maximum emissions throughout the year.

- Kiln shutdowns were not taken into account in the assessment. As a result of kiln shutdowns no kiln emissions occur for 10% of the year. Because the duration of kiln start-ups is much less than kiln downtime, the impact of higher emissions during start-up is more than balanced by the absence of emissions during downtime. Hence, the modelling overstates the long term average ground level concentrations. It also overstates percentile hourly and daily average ground level concentrations.

- The modelling assumes that the plant continuously operates up to its licensed emission limit values. Monitoring results show that these emission rates are
significantly below the limits in the licence. Therefore the assessment overestimates the long term and short term ground level concentrations.

The air quality modelling assessment that has been carried out and reported on in the application and the response to the request for further information dated 29 August 2007 showed that emissions do not result in breach of ambient air quality standards. Kiln shutdowns do not change this conclusion.
7. In addition to the above please also provide an updated non-technical summary to reflect the information provided in your reply.
Non - Technical Summary

Further to the Application for a Review of IPC Licence Number P0029-02 submitted to the EPA in July 2007 and further to the Response to the EPA’s Request for Further Information submitted to the EPA in November 2007, the EPA issued a second Request for Further Information on 11th December 2007. It was agreed in consultation with the EPA that a response would be submitted by mid February 2008. It was subsequently agreed in consultation with the EPA that a response would be submitted once issues relating to the site boundary had been clarified with the EPA’s Office of Environmental Enforcement (as per Appendix II).

The request related to 6 points. A detailed response to each has been prepared by Arup Consulting Engineers and Irish Cement Limited.

The issues raised and the responses to each can be summarised as follows:

**Site information**
The site boundary has been confirmed, to the satisfaction of the Agency’s Office of Environmental Enforcement. (1)
The proposed clinker and cement silos are to be considered. (2)

**NO\textsubscript{x} abatement**
Further information has been provided on the SNCR. (3)

**Firewater run-off**
The firewater assessment has been expanded after consultation with the Limerick Fire Brigade and contaminant containment consultants. (4)

**Landfilling**
Waste types and codes have been confirmed. (5)

**Air quality modelling**
Kiln stoppage details have been provided and the implications for air quality have been assessed. (6)
APPENDICES

Appendix I  Figure 1 Site location map

Appendix II  Correspondence with the Office of Environmental Enforcement

Appendix III  Relevant details of planning permission for additional clinker and cement storage capacity
Appendix I

Figure 1 Site location map
Appendix II

Correspondence with the Office of Environmental Enforcement
Mr Brendan Russell  
Environmental Manager  
Irish Cement Limited  
Castlemungret  
County Limerick  

28 February 2008  

Our Ref: P0029-01/ap20jd  

Re: Lands To Be Excluded From Revised Licence  

Dear Mr Russell,  

The Agency has reviewed your correspondence dated 04 February and 19 February 2008, received on 12 & 20 February respectively, in relation to lands to be excluded from the scope of Licence Reg. No. P0029-01.  

The Agency notes the contents of the letter from Arup Consulting Engineers, Ref D5373/43/CL/JS, which was enclosed with your letter of 19 February 2008. The letter states that the lands proposed for exclusion are undisturbed, have not been used for cement manufacture, have no historical pollution incidents, and have no environmental liabilities.  

Following review of the documents submitted, and my site visit on 26 February, I am to advise you that the proposed new site boundary as indicated on map Ref D5373.40, dated February 2008, is approved by the Agency. The Office of Environmental Enforcement is satisfied that the lands proposed for exclusion from the scope of Licence Reg. No. P0029-01 are in a satisfactory state, that there is no risk to the environment, and that the Requirements of Condition 14 of Technical Amendment A of Licence Reg. No. P0029-01, are met. As you are aware, you need to apply to the EPA’s Office of Climate, Licensing and Resource Use to change the site boundary.  

Please quote the above reference in future correspondence in relation to this matter.  

Yours sincerely,  

[Signature]  
John Doheny  
Inspector  
Office of Environmental Enforcement
Mr. John Doheny,  
Inspector,  
Office of Environmental Enforcement,  
Environmental Protection Agency,  
Regional Inspectorate,  
Inniscarra,  
Co. Cork.  

19th Feb. 2008  

Dear Mr. Doheny,  

Re: Limerick Cement Works Licence Review.  

As discussed please find enclosed our consultant’s report regarding the lands to be excluded from the new reviewed Licence.  

We trust that this is to your satisfaction, and should you have any queries, please do not hesitate to contact me.  

Yours sincerely,  

Brendan Russell,  
Environment Manager.
Dear John,

D 5373/40 Irish Cement Limited Limerick IPC License Review Response to Second EPA RFI
Site area proposed for exclusion from licensed activity

Further to your discussions with Irish Cement Limited, our opinion on the proposed exclusion of a portion of the site from the licensed activity is set out below. The proposed revised site boundary is shown in the enclosed figure.

In June 2007 a Closure, Restoration and Aftercare Management Plan (CRAMP) was prepared for the Limerick Works in accordance with Technical Amendment A to IPC Licence Reg. No. P0029-01. It is stipulated in the CRAMP that it will be considered to have been successfully implemented if no environmental liabilities remain at the site.

The area proposed for exclusion from the licensed activity is heretofore undisturbed. It has not been used for cement manufacture. There are no historical pollution incidents or environmental liabilities associated with the area. Therefore, the requirements of the CRAMP are met for the area.

Furthermore, it is not necessary to decommission, render safe or remove for disposal/recovery, any soil, subsoils, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution from the area of the site to be excluded from the licensed activity. Therefore, the area in question may be excluded from the licensed activity without contravention of Condition 14 of Technical Amendment A to the IPC Licence.
Yours sincerely
for
Arup Consulting Engineers

Colm Leahy

Encl.
Mr. John Doheny,
Inspector,
Office of Environmental Enforcement,
Environmental Protection Agency,
Regional Inspectorate,
Inniscarra,
Co. Cork.

4th Feb. 2008

Re: Limerick Cement Works - IPPC Licence Review (Existing Licence - F0029) - Proposed Site Boundary

Dear Mr. Doheny,

We are currently finalising a Submission to the Agency in respect of a second request for further information in relation to our Application for a Review of our Licence.

We shall be grateful for your assistance in finalising an issue relating to the proposed boundary of the licenced site.

Following discussions with the Agency and our Environmental Consultants, and the receipt of a Proposal to apply for Planning Permission for landscaping works around the LSR Tunnel approach road from the contractor on the Project, we are now proposing the following in relation to the site boundary:

- We propose to include the full lake (excluding the Tunnel approach road) in the site area. We suggest now that including the total lake is an appropriate pragmatic option considering the settling effects of the lake and the fact that sluice gates to the Shannon are on the eastern side of the Tunnel approach road.

The lands being excluded have not featured in the activities of the site and have never been modified in any way by site activities. The contractor working on the LSR Tunnel Project is preparing to submit a Planning Application for landscaping of some areas of this land and we do not envisage these excluded lands as having any future relevance to activities on the site.

Our Environmental Consultants, Arup Consulting Engineers, will be including a statement in our Submission endorsing the fact that full compliance with existing Licence conditions will be maintained if our proposal is implemented.

Bridget
A.M. O'Leary
Chairman
K. McDonnell
Managing Director
C.A. Berrill, J.J. Corbett, R.M. Cusine
D. Crowley, B. Leonard, S. Lynch
A. MacCraith, J. McKeown, H. Merna
J.B. Nolan, J.J. Rose, J.J. O'Nally
Registered in Dublin Number 8112
Rosscor, Office
Pitch Ballymun Co. Dublin

Consent of copyright owner required for any other use.
EPA Export 26-07-2013:00:11:22
We shall be very grateful if you could confirm that this is acceptable to you, as we have been asked to include a statement in our Submission from the Office of Environmental Enforcement indicating that all is in order. (Specifically, we have been asked to 'provide a copy of correspondence with the Office of Environmental Enforcement that indicates that the area of the site proposed for exclusion from the scope of your existing Licence is in a satisfactory state, that there is no risk to the environment and that the Agency is satisfied that the requirements of Condition 14 have been met')

We are enclosing a copy of a map indicating the new boundary. Please note that we will exclude the LSRR through the lake in the final map submitted.

Many thanks for your assistance in this matter.

Yours sincerely,

[Signature]
Brendan Russell,
Environmental Manager.
Appendix III

Relevant details of planning permission for additional clinker and cement storage capacity

1. Please find enclosed the planning application and EIS, which are each provided both on CD and as hard copy.

2. IPPC Application Form Annex I Tables
### TABLE E.1(iv): EMISSIONS TO ATMOSPHERE - Minor atmospheric emissions

<table>
<thead>
<tr>
<th>Emission point Ref Numbers</th>
<th>Description</th>
<th>Material</th>
<th>Emission details</th>
<th>Abatement system employed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>mg/Nm³ (2)</td>
<td>kg/h.</td>
</tr>
<tr>
<td>A3-58 Top of clinker silo</td>
<td>Clinker</td>
<td>50</td>
<td>0.69</td>
<td>4918.32</td>
</tr>
<tr>
<td>A3-59 Extraction tunnel 1</td>
<td>Clinker</td>
<td>50</td>
<td>0.375</td>
<td>2673</td>
</tr>
<tr>
<td>A3-60 Extraction tunnel 1</td>
<td>Clinker</td>
<td>50</td>
<td>0.375</td>
<td>2673</td>
</tr>
<tr>
<td>A3-61 Discharge point to 65111 (at old silo)</td>
<td>Clinker</td>
<td>50</td>
<td>0.375</td>
<td>2673</td>
</tr>
<tr>
<td>A3-62 Silo 12 filling</td>
<td>Cement</td>
<td>50</td>
<td>0.39</td>
<td>2779.92</td>
</tr>
<tr>
<td>A3-63 Truck loading</td>
<td>Cement</td>
<td>50</td>
<td>0.081</td>
<td>577.368</td>
</tr>
</tbody>
</table>

### TABLE F.2(i) : EMISSIONS MONITORING AND SAMPLING POINTS

(Emissions to Atmosphere, Minor Emission Points)

<table>
<thead>
<tr>
<th>Emission Point Reference No.</th>
<th>Description</th>
<th>Parameter</th>
<th>Monitoring frequency</th>
<th>Accessibility of sampling point</th>
<th>Sampling method</th>
<th>Analysis method / technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>A3-58 Top of clinker silo</td>
<td>Stack plume</td>
<td>Monthly</td>
<td>Adequate</td>
<td>Visual observation</td>
<td>Is plume visible?</td>
<td></td>
</tr>
<tr>
<td>A3-59 Extraction tunnel 1</td>
<td>Stack plume</td>
<td>Monthly</td>
<td>Adequate</td>
<td>Visual observation</td>
<td>Is plume visible?</td>
<td></td>
</tr>
<tr>
<td>A3-60 Extraction tunnel 1</td>
<td>Stack plume</td>
<td>Monthly</td>
<td>Adequate</td>
<td>Visual observation</td>
<td>Is plume visible?</td>
<td></td>
</tr>
<tr>
<td>A3-61 Discharge point to 65111 (at old silo)</td>
<td>Stack plume</td>
<td>Monthly</td>
<td>Adequate</td>
<td>Visual observation</td>
<td>Is plume visible?</td>
<td></td>
</tr>
<tr>
<td>A3-62 Silo 12 filling</td>
<td>Stack plume</td>
<td>Monthly</td>
<td>Adequate</td>
<td>Visual observation</td>
<td>Is plume visible?</td>
<td></td>
</tr>
<tr>
<td>A3-63 Truck loading</td>
<td>Stack plume</td>
<td>Monthly</td>
<td>Adequate</td>
<td>Visual observation</td>
<td>Is plume visible?</td>
<td></td>
</tr>
</tbody>
</table>