

This Report has been cleared for submission to the Board by Programme Manager, Marie O'Connor.

Signed: Gráinne Dgleisby Date: 16/01/2020



OFFICE OF ENVIRONMENTAL SUSTAINABILITY

INSPECTOR'S REPORT ON AN INDUSTRIAL EMISSIONS LICENCE REVIEW, LICENCE REGISTER NUMBER P0030-06

TO: DIRECTORS

FROM: Deirdre French

DATE: 16th January 2020

Licensee: Irish Cement Limited

CRO number: 9212 (status: normal)

Location/address: Platin Works, Platin, Co. Meath.

Application date: 11/12/2015

Classes of activity (under EPA Act 1992 as amended):

- 10.2 Production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other kilns with a production capacity exceeding 50 tonnes per day.
- 11.1 The recovery or disposal of waste in a facility, within the meaning of the Act of 1996, which facility is connected or associated with another activity specified in this Schedule in respect of which a licence or revised licence under Part IV is in force or in respect of which a licence under the said Part is or will be required.
- 11.3 Disposal or recovery of waste in waste incineration plants or in waste co-incineration plants -
 - (a) for non-hazardous waste with a capacity exceeding 3 tonnes per hour,
 - (b) for hazardous waste with a capacity exceeding 10 tonnes per day.
- 11.6 Temporary storage of hazardous waste, (other than waste referred to in paragraph 11.5) pending any of the activities referred to in paragraph 11.2, 11.3, 11.5 or 11.7 with a total capacity exceeding 50 tonnes, other than temporary storage, pending collection, on the site where the waste is generated.

<p>Categories of activity under IED (2010/75/EU):</p>	<p>3.1 Production of cement, lime and magnesium oxide: (a) production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other kilns with a production capacity exceeding 50 tonnes per day;</p> <p>5.2. Disposal or recovery of waste in waste incineration plants or in waste co-incineration plants: (a) for non-hazardous waste with a capacity exceeding 3 tonnes per hour; (b) for hazardous waste with a capacity exceeding 10 tonnes per day.</p> <p>5.5. Temporary storage of hazardous waste not covered under point 5.4 pending any of the activities listed in points 5.1, 5.2, 5.4 and 5.6 with a total capacity exceeding 50 tonnes, excluding temporary storage, pending collection, on the site where the waste is generated.</p> <p>European Directives/Regulations relevant to this assessment are listed in the appendix of this report.</p>
<p>Main CID:</p> <p>Main BREF Document:</p>	<p>Commission Implementing Decision for the production of cement, lime and magnesium oxide (2013/163/EU)</p> <p>Reference Document on Best Available Techniques in the Cement, Lime and Magnesium Oxide Manufacturing Industries.</p> <p>Any other relevant BREF documents/ CID(s)/ national BAT notes are listed in the appendix of this report</p>
<p>Activity description:</p>	<p>Irish Cement Ltd Platin (ICP) is an existing cement manufacturing installation. It was first granted a licence, register number P0030-01, by the EPA in January 1996. It is currently authorised to co-incinerate 120,000 tonnes of non-hazardous waste under licence register number P0030-05 granted in January 2018. The installation is adjacent to an active quarry where limestone (the primary raw material) is quarried.</p>
<p>Types of waste accepted:</p>	<p>List of Waste (LOW) codes are detailed in the Appendix 7 of this report.</p>
<p>Additional information received:</p>	<p>Yes - 06/04/2016, 15/06/2016, 26/10/2017, 17/09/2018, 19/11/2018, 12/03/2019, 16/07/2019, 25/11/2019</p>
<p>No of submissions received:</p>	<p>68</p>
<p>EIAR submitted: Yes 26/10/2017</p>	<p>NIS submitted: Yes 17/09/2018</p>
<p>Site visit: 19/07/2018</p>	<p>Site notice check: 08/01/2016</p>

1. Activity description

Irish Cement Limited operates two cement plants in Ireland — at Platin, Co. Meath and at Mungret, near Limerick City. This application relates solely to a review of the Industrial Emissions (IE) licence (P0030-05) granted in January 2018 in respect of Irish Cement's Platin installation which has been in operation at the location since 1972 and was first granted an EPA licence in 1996.

Irish Cement Ltd Platin (hereafter referred to as ICP) is located on the R152 Drogheda-Duleek road, 3km from Drogheda and 2.5km from Duleek. It is adjacent to the site of the Indaver Ireland Ltd's incineration installation at Carranstown (IE licence register number W0167-03). The location is rural and the installation is surrounded primarily by agricultural land, although urban settlement is nearby. There are residential properties c.300 meters from the installation. Figure 1 shows the ICP installation and its surrounds.

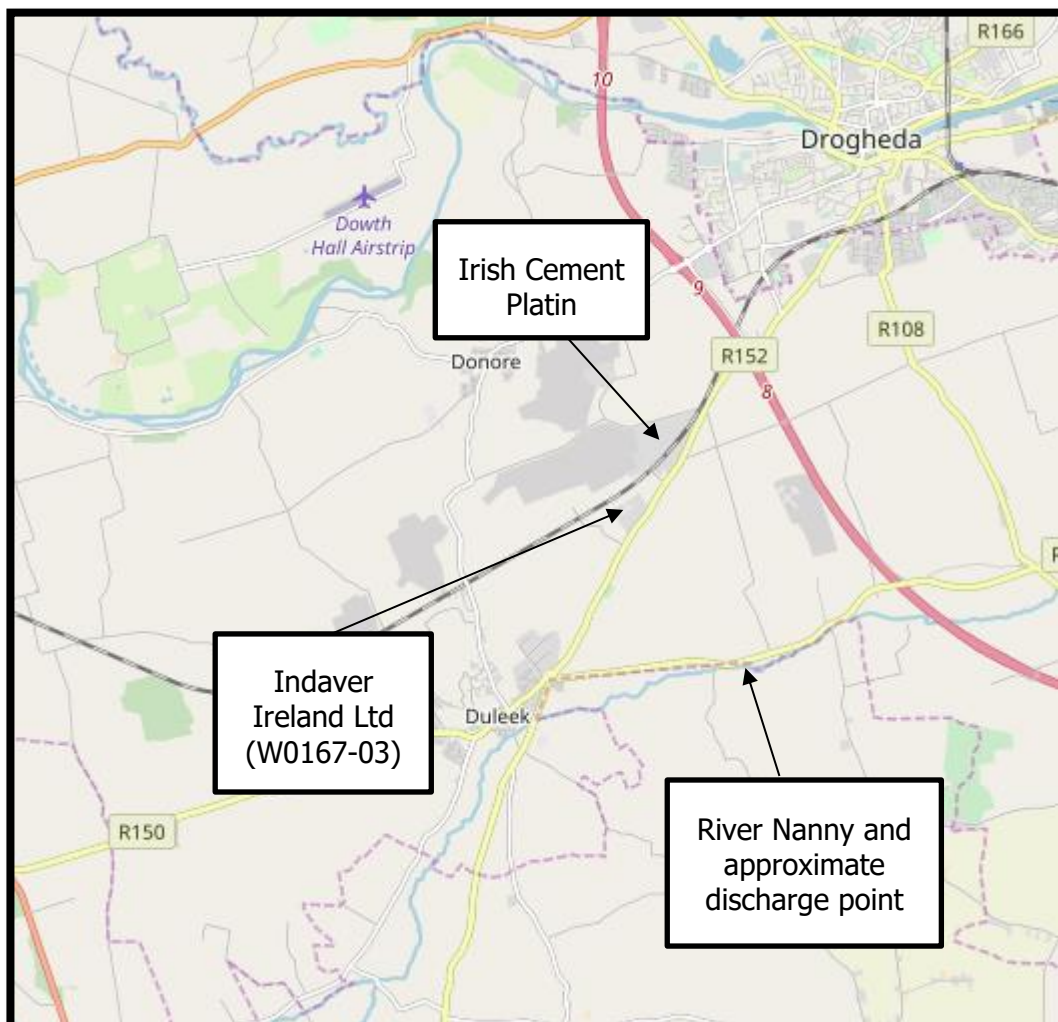


Figure 1: Location of Irish Cement Ltd Platin

Irish Cement's property at Platin covers an area of approximately 385 hectares, a small proportion of which is developed to date. The developments include the cement factory, the quarry and the overburden mound, all of which are subject to control under the existing IE licence (P0030-05).

ICP is located within the catchment of the River Nanny to the south to which a surface water discharge is made.

Over 130 people are directly employed at the ICP installation and additionally supports an estimated 700 indirect jobs. It operates on a 24/7 basis.

ICP was first granted a licence by the Agency in January 1996. A reviewed licence was granted in October 1997 and has since been reviewed a number of times (see Table 1 below). The cement plant has been using non-hazardous waste as alternative fuels for co-incineration since 2011. The current licence (P0030-05) allows for the acceptance of 120,000 tonnes per annum of waste for co-incineration in Kiln 3.

The range of wastes authorised in the existing licence for co-incineration include:

- solid recovered fuel (SRF);
- meat and bone meal;
- chipped tyres.

The following table sets out the licence history since the issuing of the original licence for ICP P0030-01:

Table 1: Review and amendment of licence history

Licence	Details	Date
P0030-01	Granted Integrated Pollution Control (IPC) licence for the production of cement	30 January 1996
P0030-02	Licence was reviewed to permit the installation of new electrostatic precipitator and new emission point.	23 October 1997
P0030-03	A review of the licence was required to incorporate the installation of a new kiln (Kiln 3) and associated plant.	10 June 2008
P0030-04	Licence was reviewed to permit the acceptance of three types of non-hazardous waste for use as alternative fuel in kiln 3.	31 January 2011
P0030-04 Technical Amendment (A)	To amend the maximum quantities of specific wastes and waste acceptance for co-incineration in kiln 3.	01 March 2013

P0030-04 IE Amendment	IE Amendment to bring the licence into conformity with the Industrial Emissions Directive (IED) (2010/75/EC).	19 December 2013
P0030-04 Technical Amendment (B)	Technical Amendment to Schedule A of the current licence to allow for the acceptance of all classes of meat and bone meal.	09 May 2014
P0030-04 Technical Amendment (C)	Technical Amendment to permit the installation of a granulated blast-furnace slag (GBS) dryer.	28 January 2016
P0030-05 BAT Conclusion Review Note 1	A review of the licence initiated by the Agency for the purposes of updating the licence to ensure compliance with CID 2013/163/EU.	29 January 2018

Note 1: The IE licence application which is being assessed as part of this licence review was originally assigned the register number P0030-05. However, on 18/01/2017 the Agency initiated a review to bring the licence (P0030-04) into compliance with the legal requirements of the European Commission Implementing Decision on Best Available Techniques (BAT) conclusions for the production of cement (2013/163/EU). The licence register number assigned to the BAT review was P0030-05. Therefore, the IE licence review application that was previously assigned P0030-05 was then assigned a new register number P0030-06.

2. Process Description

Cement is produced at the installation in a regulated process that includes continuous monitoring, quality control and testing throughout all stages of the process. Cement is the key ingredient in the manufacture of concrete. The cement process involves several stages as set out below:

Preparation: Limestone, which is the main raw material in the cement process, is extracted from the adjoining quarry by blasting. Clay overburden (also from the quarry) together with shale and small quantities of bauxite and iron ore are also used as raw materials in the process. The raw materials are crushed, ground and homogenised in a quality controlled and tested manner to produce a blend called raw meal.

Clinker Production: The raw meal is fed into the kiln pre-heater tower and rotary kiln. Fuels are directly introduced and combusted at flame temperatures exceeding 2,000°C in order to melt the raw meal. These temperatures ensure the total combustion of fuels and drive a chemical transformation (known as calcination) that converts the raw meal to clinker at a temperature of 1,450°C. Hot gas from the kiln mixes directly with the incoming raw meal, preheating it as it approaches the kiln, and then the gas exits through a cooling tower and bag filter prior to discharge via the kiln stack.

Finishing and Dispatch: Once cooled, the clinker is stored prior to blending and milling to produce cement. The cement is dispatched in bags or in bulk containers.

The following diagram (Figure 2) taken from the *BREF document for the Production of Cement, Lime and Magnesium Oxide* demonstrates the cement production process from quarrying to the final processing of cement for dispatch. The diagram

demonstrates a process fuelled by petcoke. In the case of ICP both waste and petcoke are introduced into the process at this point.

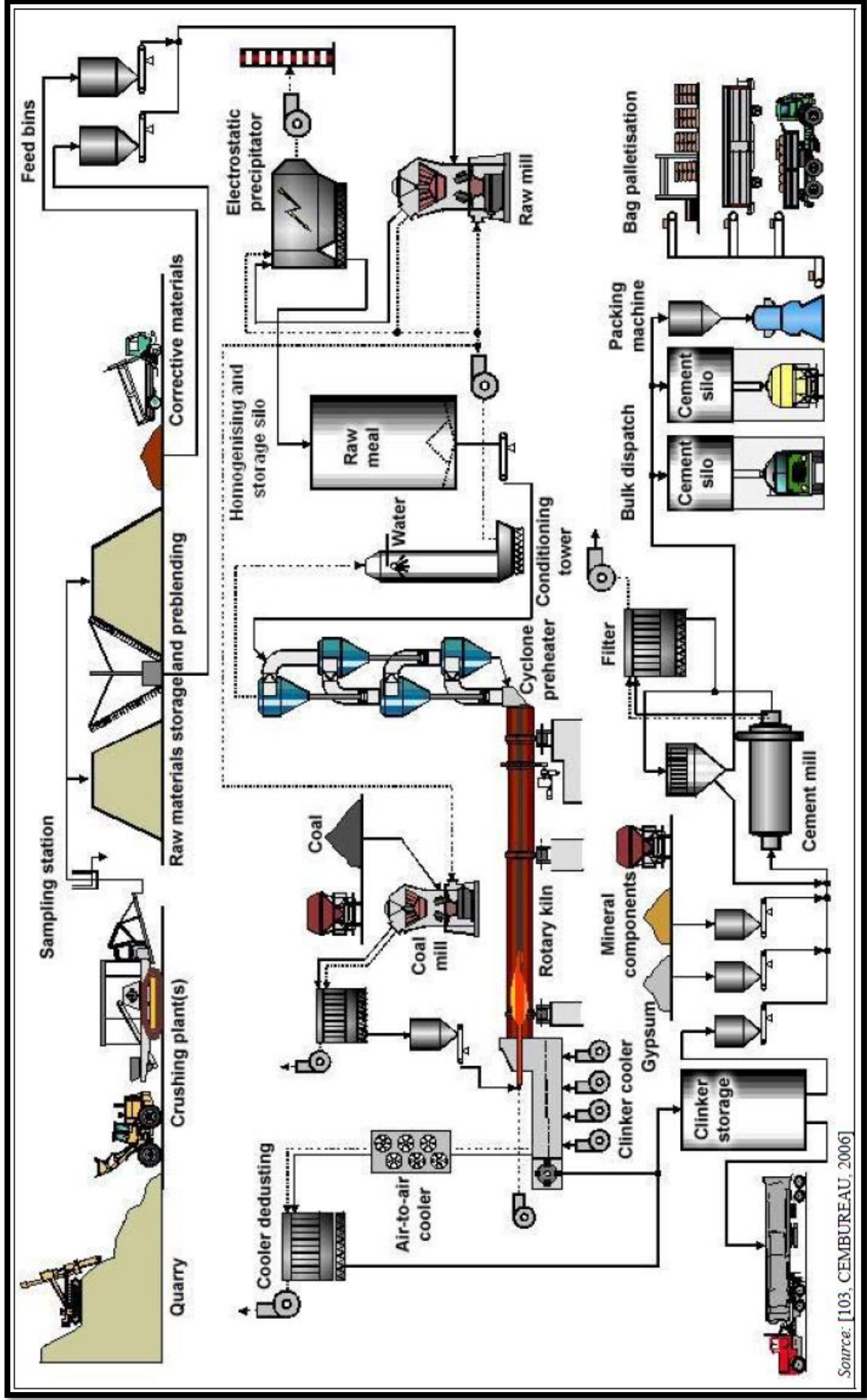


Figure 2: Cement Production Process (taken from the BREF document for the Production of Cement, Lime and Magnesium Oxide, 2013)

3. Scope of Review

Under the existing licence P0030-05 ICP are authorised to co-incinerate 120,000 of non-hazardous waste. In April 2018, ICP was granted planning permission by An Bord Pleanála (ABP) for the combustion of up to 465,000 tonnes of wastes for alternative fuels/ raw materials, of which 50,000 tonnes is hazardous waste (planning reference 17.PA0050). ICP had applied for a 600,000 tonnes but ABP granted 465,000 tonnes in order to comply with the policies of the Eastern-Midlands Region Waste Management Plan 2015 – 2021.

ICP is currently authorised (in the existing licence, P0030-05) for class 10.2, 11.1 and 11.3(a) activities under the EPA Act 1992 as amended. The licensee seeks to include classes 11.3(b) and 11.6 in the review licence to accommodate the disposal/recovery and storage of hazardous waste at the installation.

This licence review primarily concerns ICP's proposal to increase the annual quantity of waste acceptance to 465,000 tonnes and the introduction of hazardous waste for combustion as a fuel in the cement factory. ICP propose to increase the use of wastes for alternative fuels to replace over 85% of the petcoke at the site. ICP are proposing to extend the range of wastes as well as the quantity for both kiln 2 and 3 at the installation.

As well as using waste as alternative fuels ICP are also proposing to replace a proportion of raw materials needed for the cement manufacturing process with waste. These wastes proposed to be used as alternative raw materials are included in the proposed list of wastes in Appendix 7 of this report.

The following table outlines all the changes being proposed by the licensee in this licence review.

Table 2: Proposed changes for licence review

Proposed change	Details/comment
Increased use of waste and the introduction of hazardous waste as alternative fuels and alternative raw materials	<i>The licensee has proposed an increased use of waste as alternative fuels and raw materials up to a combined total of 465,000 tonnes per annum. The licensee also proposes to introduce new waste types, including hazardous waste, for acceptance at the installation for co-incineration.</i>
Increase the volumetric gas flow rates	<i>The licensee has proposed an increase in the volumetric gas flow rates from Kiln 2, Kiln 3 and Cement Mill 1.</i>
New storage areas to accommodate the new materials	<i>The licensee has proposed new storage areas to accommodate new materials on site.</i>

Proposed change	Details/comment
Regularise the storage of Flue Dust Portland Cement (FDPC) and other by-products and waste materials	<i>The licensee is proposing to provide storage for Flue Dust Portland Cement (FDPC) and other by-products and waste materials.</i>
Reduction of Monitoring Frequency	<i>The licensee is seeking to reduce the monitoring frequency of the following:</i> <ul style="list-style-type: none"> • <i>for BOD at SW3 from weekly to monthly;</i> • <i>for conductivity at SW4 to monthly;</i> • <i>for air emissions points, beginning with the emission point reference number 'A3', from once every 2 years to once every 3 years.</i>
Emission points	<i>The licensee is seeking to include new air emission points in the reviewed licence.</i>
Waste Heat Recovery Unit	<i>The licensee is seeking to install a waste heat recovery unit on Kiln 3.</i>

3.1 Increased use of waste including the introduction of hazardous waste for alternative fuels and alternative raw materials

As previously discussed, ICP propose to increase the use of wastes including the introduction of hazardous waste for alternative fuels to replace over 85% of the petcoke at the site. They are proposing to accept 465,000 tonnes of waste (including 50,000 of hazardous waste) for use as alternative fuels/ raw materials at the installation (of which 120,000 tonnes was authorised under the existing licence P0030-05). ICP have applied for authorisation to accept a large number of new non-hazardous and hazardous List of Waste (LoW) codes – 109 in total, bringing the total waste types to be accepted to 112 – as set out in Appendix 7 of this report below. The proposed quantities and description of the wastes to be accepted are included in Appendices 6 and 7 of this report, respectively. The LoW codes includes codes for use as alternative fuels and raw materials. To date the licensee has co-incinerated waste in Kiln 3 only. The licensee is now proposing to co-incinerate non-hazardous and hazardous waste in both Kiln 2 and Kiln 3. The LoW codes proposed are consistent with waste types accepted for co-incineration in cement kilns throughout Ireland and the EU. ICP have summarised the proposed waste materials to be accepted at the installation into the following categories:

1. Fine solids
2. Coarse solids
3. Pumpable fluids (e.g. solvents, distillation residues, etc)
4. 'Free flowing' solids (e.g. secondary liquid fuels, waste oils, sludge, etc)
5. Alternative Raw Materials (e.g. Alum filter cake, soils and stones, etc)

Table H.2 of the application breaks down the various proposed LoW codes into these 5 categories. ICP are proposing 26 LoW codes in the fine solids category. These codes are all non-hazardous and contain waste types including solid recovered fuel (SRF), chipped timber, shredding plastics, etc. There are 17 LoW codes proposed in the coarse solids category, 10 are hazardous and 7 are non-hazardous. These waste types consist of shredded wood, rubber, dry filter cakes, etc. There are 35 LoW codes proposed in the pumpable fluids category, 29 are hazardous and 6 are non-hazardous. These waste types include solvents, distillation residues, etc. There are 5 LoW codes proposed in the free flowing solids category, 1 is hazardous and 4 are non-hazardous. These waste types include waste liquid fuels, waste oils, sludge, etc. Finally, there are 31 LoW codes proposed in the alternative raw materials category, 9 are hazardous and 22 are non-hazardous. These waste types include alum filter cake, soils and stones, etc. ICP are also proposing to accept end-of-life tyres in whole form which do not fall into any of the five categories above.

The total of the 5 categories (including end-of-life whole tyres) equates to 115 LoWs (compared to the 112 LoWs proposed) as ICP are proposing to accept end-of-life tyres in a coarse solid, fine solid and whole tyres form and sludges in a free flowing solids form and as an alternative raw material.

The List of Waste (LoW) codes proposed for acceptance for co-incineration and as raw material substitutes are listed in Appendices 6 and 7 of this report.

Waste Acceptance

There will be no processing of waste at the installation. The wastes will be delivered by means of a licensed haulier in accordance with European and National legislation. The preparation of the waste will be carried out by the suppliers before arriving at the installation. In relation to transport of waste, Condition 8 of the RD states that waste shall only be accepted if delivered in appropriate sealed, leakproof, covered containers. This will be particularly important for hazardous wastes of liquid form.

Condition 8 of the RD sets out strict requirements in relation to waste acceptance at the installation. Each waste type accepted at the installation, including both non-hazardous and hazardous waste, shall be subject to a technical specification agreed between the licensee and the supplier. The technical specification shall set out the criteria to be met in order that combustion of the material will not lead to failure to comply with the conditions of this licence. It shall have regard to any published or, as appropriate, draft Irish or international standard relevant to the supply of that material and any departure from such a standard shall be with the agreement of the Agency. The technical specification shall also conform to relevant best available techniques in Commission Implementation Decision 2013/163/EU for the production of cement, lime and magnesium oxide.

Condition 8 of the RD also sets out requirements in relation to periodic technical testing/analysis by the licensee to verify compliance with the technical specification. Any unsuitable waste shall be immediately quarantined and removed from the installation within 48 hours as set out in that condition.

Waste Handling

Fine solids (26 non-hazardous LoW codes), typically sized 10-50mm, will be unloaded in an enclosed docking station. Fine solids will be fed from the bunkers to the kiln process by drag chain which feeds the material to a small intermediate hopper on the kiln system, which in turn feeds the material into dosing feeders. The material is then pneumatically conveyed to the main burner and calciner.

Coarse solids (17 LoW codes, 10 hazardous and 7 non-hazardous), typically sized 30-120mm, will be delivered to site and off-loaded from trucks into bunkers inside enclosed halls and then transferred to the kiln feeding system using screw feeders or overhead cranes.

Free flowing solids (5 LoW codes, 1 hazardous and 4 non-hazardous) will be unloaded via a sealed pneumatic system. These materials will be transported inside enclosed transfer lines to the burners into the kilns.

Pumpable fluids (35 LoW codes, 29 hazardous and 6 non-hazardous), whether hazardous and non-hazardous, will be unloaded pneumatically by a sealed, banded automatic tank system. Pumpable fluids will be stored in tanks in a banded enclosure. Earthing systems, flame detection and inert blanketing of the tanks will be put in place. These fluids will be delivered to the kiln in an enclosed system by pumps which are capable of handling viscous or high-density fluids. Condition 3 of the RD requires that all liquid waste fuels shall be stored under a nitrogen gas blanket in tanks protected against over-filling.

Wastes for use as alternative raw materials (31 LoW codes, 9 hazardous and 22 non-hazardous) will be stored in a purpose-built raw materials building.

Whole tyres will be introduced into the kiln using a dedicated sorting and elevation and weighing system to feed a single tyre at a time through a double flap feeding point on the preheater tower.

Condition 8 sets out requirements in relation to the mixing of hazardous and non-hazardous waste. This condition implements Article 18 of the Waste Framework Directive (2008/98/EC). Article 18 of the Directive 2008/98/EC sets a ban on the mixing of hazardous waste and also sets out the requirements when applying for a derogation to this restriction.

ICP are proposing to install a number of additional storage structures to cater for the new wastes to be accepted at the installation. The detail of these structures are set out in Table 3.1 of the EIAR and their location is illustrated in Figure 3.4 of the EIAR. Planning permission was granted by An Bord Pleanála on 11/04/2018 for the construction of these storage structures. The storage of the proposed wastes is dealt with further under Section 3.3 of this report.

Waste Co-incineration

The existing licence sets out the emission limit values for air emissions resulting from the manufacture of cement and the co-incineration of waste. The generation of new emissions or a new emissions profile are not expected from the combustion of new wastes including hazardous wastes.

Condition 6 of the RD requires that each new LoW code will be subject to a co-incineration test programme. Market conditions will dictate the combination of wastes to be used. The test programme is required to determine the following:

- Verify the residence time, the minimum temperature and the oxygen content of the exhaust gas which will be achieved during normal operation and under the most unfavourable operating conditions anticipated.
- Establish all criteria for operation, control and management of the abatement equipment to ensure compliance with the emission limit values specified in this licence.
- Assess the performance of any monitors on the abatement system and establish a maintenance and calibration programme for each monitor.
- Establish criteria for the control of all waste input.
- Confirm that all measurement equipment of devices (including thermocouples) used for the purpose of establishing compliance with this licence have been subjected, in situ, to normal operating temperatures to prove their operation under such conditions.

Condition 6 of the RD states that co-incineration of waste shall not be permitted (outside of the agreed test programme) until such time as the Agency has indicated in writing that it is satisfied with the results of the test programme for an individual waste.

BAT 12 of the Commission Implementing Decision for the production of cement, lime and magnesium oxide (2013/163/EU) specifies a number of techniques to ensure appropriate treatment of the wastes used as fuels and/or raw materials in the kiln. Two of these techniques include:

- To operate in such a way that the gas resulting from the co-incineration of waste is raised in a controlled and homogenous fashion, even under the most unfavourable conditions, to a temperature of 850°C for 2 seconds; and
- To raise the temperature to 1,100°C, if hazardous waste with a content of more than 1% of halogenated organic substances, expressed as chlorine, are co-incinerated.

Condition 3 of the RD requires that before the co-incineration of waste commences, the temperature in the combustion chamber should reach a temperature of $\geq 850^{\circ}\text{C}$ for at least 2 seconds. In relation to hazardous waste, Condition 8 of the RD states that no hazardous waste that contains more than 1% of halogenated organic compounds, expressed as chlorine, shall be accepted for co-incineration or otherwise introduced into the kiln. The RD sets out requirements for waste acceptance and periodic testing/analysis, as discussed above, to ensure compliance with this requirement.

Condition 8 of the RD also states that during start-up or shut down or when the temperature of the combustion gas falls below 850°C, the auxiliary burners shall be fed with coal, oils or gas.

The licensee has stated that the kiln system at ICP has a minimum residence time of 8 seconds and the kiln main burners operate at temperatures in excess of 2,000°C, which is in excess of the requirements of IE Directive (2010/75/EU).

Article 46(2) of the IE Directive (2010/75/EU) states that emissions to air from waste co-incineration plants shall not exceed the emission limit values set out in Part 4 of Annex VI or determined in Part 4 of that Annex of the directive. It also states that if in a waste co-incineration plant more than 40% of the resulting heat comes from hazardous waste, or the plant co-incinerates untreated mixed municipal waste, the emissions limit values set out in Part 3 (Air emission limit values for waste incineration plants) of Annex VI of the Directive shall apply. Therefore, Condition 8.12 of the RD states that no more than 40% of the resulting heat release in the co-incineration plant shall come from hazardous waste. Condition 8.15 of the RD also requires that the licensee to maintain a record of the quantity of each waste type co-incinerated at the installation, introduced into the kiln or otherwise used in the manufacture of cement. The record shall contain adequate data to demonstrate compliance with Condition 8.12 of this licence. The ELVs for emissions to air are dealt with further in Section 8 of this report.

Schedule A of the RD includes the existing and proposed LoW codes. Schedule A of the RD also specifies the minimum and maximum mass flows and the minimum and maximum calorific value of each of the hazardous waste categories in accordance with Article 45(2) of the IE Directive. While the applicant has requested a minimum calorific value of 0 MJ/kg for some hazardous waste types, this is not an appropriate value for a recovery operation. Therefore, the RD recommends a minimum value of 5 MJ/kg for all hazardous waste types. This schedule also specifies the maximum contents of the parameters specified in Article 45(2)(b) of the IE Directive. Schedule C of the RD specifies the ELVs and control measures associated with emissions to atmosphere. These ELVs and controls are considered to be BAT for the industry and is consistent with the protection of the environment and human health.

3.2 Proposal to increase the volumetric gas flow rates from Kiln 2, Kiln 3 and Cement Mill 1.

The licensee is proposing an increase in the volumetric flow rates from kiln 2 (A2-02), kiln 3 (A2-08) and cement mill 1 (A2-04). This proposal has been dealt with in Section 8.1 *Channelled Emissions to Air* of the report, which deals with the air dispersion modelling and looks at the implications of the increased flows on the relevant air quality standards.

3.3 Proposed new storage areas to accommodate new materials on site.

Section 3.6.4 of the EIAR provides details of the proposed structures, along with the locations and structural dimensions of the storage areas to accommodate the new materials on site. Table 3.1 of the EIAR breaks down the structures into a proposed timeframe for construction including short term (0 to 4 years), medium-term (3 to 7 years) and longer-term (6 to 10 years). Their proposed location with the installation is illustrated in Figure 3.4 of the EIAR. Planning permission was granted by An Bord Pleanála on 11/04/2018 for the construction of these storage structures. Furthermore, the EIAR states that the development requires the demolition of one existing firewater

retention tank associated with the existing alternative fuel handling facility for fine solids (SRF) at kiln 3. Prior to demolition of the existing tank, a replacement firewater retention tank is to be constructed a short distance to the west of the current location.

Condition 3 of the RD requires that the licensee shall establish and maintain all infrastructure referred to in the RD in advance of the commencement of the licensed activities as set out in that condition.

Condition 3 of the RD sets out the requirements for tank, container and drum storage areas to ensure there is adequate protection against spillages particularly in relation to liquid material. Furthermore, Condition 8 of the RD requires that waste and materials, shall be stored in designated areas, protected as may be appropriate against spillage and leachate run-off. The waste and materials shall be clearly labelled and appropriately segregated. In relation to fire-water retention Condition 3 requires that the licensee shall ensure that there is adequate firewater retention capacity on site at all times. It further requires that a review of the firewater risk assessment shall be undertaken at least once every three years or prior to significant infrastructural developments or management of new materials.

3.4 Proposal for the storage of Flue Dust Portland Cement (FDPC) and other by-products and waste materials

Flue Dust Portland Cement (FDPC) is produced as part of the cement process and includes bypass dust, cement kiln dust, clinker dust and flue dust. ICP were granted planning permission by Meath County Council on 9th July 2015 for the installation of a flue dust portland cement silo at kiln 3. In the past, FDPC has been stockpiled in the quarry by laying it down and compacting it in layers using mechanical equipment. FDPC is mildly reactive with water which, like cement, produces a hardened 'concrete-like' material. Some quantities of FDPC are reused back in the cement process to produce cement. ICP also send some FDPC for use off-site as a by-product. ICP have submitted to the Agency two notifications pursuant to Article 27(2)(a) of the European Communities (Waste Directive) Regulations 2011 of its decision that FDPC is a by-product within the meaning of Article 27(1) of the regulations on 07/05/2015 (Notification number: ART27-0226) and 25/04/2015 (Notification number: ART27-0386).

During an OEE site visit on 7th June 2019, the FDPC storage was reviewed. This material was observed to be stored in both the limestone quarry and in the designated FDPC storage shed adjacent to the 'additives' storage area. There had previously been approximately 30,000 tonnes of FDPC deposited in the limestone quarry and ICP have confirmed that approximately 4,500 tonnes remained.

OEE have requested updates from the licensee on the removal of the FDPC from the quarry area including remaining quantities and timeframe for removal. Since then ICP have confirmed to OEE that based on the usage of FDPC in the cement manufacturing process to date ICP would be confident that the FDPC stored in the quarry would be consumed by the end of 2020.

In a response to a complaint regarding elevated levels of potassium and chloride in the groundwater, ICP submitted a report on the investigation on 19/06/2019

(discussed further in Section 9 *Discharges to ground/groundwater* of this report). One of the recommendations of the report was for ICP to complete a review of the storage of FDPC at the installation to ensure that the material is not exposed and kept away from rainfall. OEE then requested the licensee to complete a review of the storage and management of FDPC within the Cement Works area and also carry out a review to determine if FDPC may be impacting on the chloride and potassium levels recorded at groundwater monitoring location Ref. No. GW-1. ICPs response outlined the storage arrangement for FDPC at the installation and also stated that groundwater analysis shows that leaching from the quarry storage area is not reflected in the reported groundwater quality results for the period 2015-2019. As part of the report it was recommended that ICP continue to remove the stockpiles from the quarry storage area.

Condition 8 of the RD requires that waste and materials, including those generated on-site, shall be stored in designated areas, protected as may be appropriate against spillage and leachate run-off. The waste and materials shall be clearly labelled and appropriately segregated.

3.5 Proposed reduction of monitoring frequency

The licensee is seeking to reduce the monitoring frequency of the following parameters:

- *Reduction in BOD monitoring at SW3 from weekly to monthly*
The discharge monitoring point SW3 consists of the discharge from the sanitary waste water treatment plant. The treated wastewater then combines with the surface water from the site along with the quarry groundwater and discharges via SW4. It is considered that the proposed change to monitoring frequency for BOD at SW3 from weekly to monthly is adequate and has been reflected in the RD.
- *Reduction in conductivity monitoring at SW4 from weekly to monthly*
The requirement to monitor conductivity at SW4 was removed in the last licence review P0030-05, which is again reflected this RD. Conductivity measurements reflect the mineral salt content of water, which is not a pollutant of concern for the discharges from the installation.
- *Reduction in monitoring frequency for air emission points, beginning with the emission point reference number 'A3', from once every 2 years to once every 3 years*
It is considered that the requirement to monitor the air emission points beginning with the emission point reference number 'A3', every 2 years is appropriate and should remain given the large number of points and the addition of new emission points. This proposed reduction in monitoring frequency may be considered again at a later date by the Office of Environmental Enforcement (OEE) under condition 6.10, upon request from the licensee.

3.6 Proposal to install a waste heat recovery unit on Kiln 3.

The licensee proposes to use excess heat from the process to generate up to 7.5 Megawatts (MW) of electricity on site. This is equivalent to approximately 25% of the electricity needs of the installation. This project will reduce annual CO₂ emissions (potentially up to 23,000 tonnes reduction) in Platin arising from the use of electricity currently sourced from the national grid.

ICP were granted planning permission by Meath County Council on 1st July 2015 for the installation of the waste heat recovery unit on kiln 3. The expiry date for the planning permission is 30th June 2020. Condition 7 of the RD requires that the licensee install and operate the heat recovery unit on kiln 3 by 30th June 2020.

The residual hot gases from the process will be diverted through a heat exchanger, to generate steam that in turn drives a turbine to generate electricity. The 'cooled' gases will be filtered as normal before being discharged through the stack. The benefits are that ICP will consume less electricity from the grid and will make better use of existing heat. The application states that this process will have no impact on air quality or waste generation. The only emission associated with the unit will be noise, which the licensee states will comply with the noise ELVs.

Schedule C of the RD sets out the control and monitoring requirements for noise emissions. Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD.

3.7 Proposal to include new emission points in the reviewed licence.

There are 117 emissions points to air (beginning with the emission point reference number 'A3'), including 23 new points since the last licence review, which are further addressed in Section 8.1 of this report. ICP have requested that in line with other industrial sectors licensed by the Agency that these emission points should no longer be required to be included in the licence. However, the Commission Implementing Decision for the production of cement, lime and magnesium oxide (2013/163/EU) specifically states that the BAT-AEL for channelled dust emissions from dusty operations (other than those from kiln firing, cooling and the main milling processes) is < 10 mg/Nm³, as the average over the sampling period (spot measurement, for at least half an hour). Given that the CID specifically sets an AEL for these emissions, any emission that requires a BAT-AEL to be applied will remain in the RD. Therefore, the 117 emissions points will be specified in the RD along with the proposed ELV of 10 mg/Nm³.

4. Compliance and Complaints Record

There were 3 complaints received under the current licence (P0030-05) in 2018 and 1 in 2019 by the Office of Environmental Enforcement (OEE) in relation to odour, surface water pollution, groundwater issues and dust. The complaints in relation to odour, surface water pollution and dust have been closed out to the satisfaction of

OEE. The odour complaint related to a sulphur odour and following an investigation the licensee deemed that the odour was not emanating from the installation. The complaint relating to groundwater raised concerns in relation to increased levels of chloride and potassium in the groundwater since 2015 and also questions the possible impact of groundwater abstractions at the quarry on groundwater levels in the region. This complaint was closed by OEE on 11/10/2019, however some of the issues raised in the complaint are dealt with in Section 9 of this report.

There was one compliance investigation for P0030-05 since the licence issued on 29/01/2018, which related to a diesel spill observed during a site visit conducted by OEE on 7th June 2019. Two non-compliances were issued in relation to this spill. OEE received confirmation from the licensee that all contaminated soil from the spill was sent to an appropriate waste management facility on 15/08/2019. This compliance investigation has since been closed.

There have been 4 further non-compliances raised under the current licence (P0030-05) since the licence issued in 2018, which relate to a breach of the noise emission limit values (ELVs), waste management/ containment, bund integrity testing, and breaches of air ELVs.

The breach of air ELVs relates to emissions monitoring which was conducted by the EPA at the installation on 08/08/2018. The air emissions monitoring report detailed that at the emission point reference A2-08, a result of 546.6 mg/Nm³ (ELV 500 mg/Nm³) was recorded for NO_x (as NO₂), a result of 0.086 mg/Nm³ (ELV 0.05 mg/Nm³) was recorded for Mercury (Hg) and a result of 14.8 mg/Nm³ (ELV 10 mg/Nm³) was recorded for Hydrogen Chloride (HCl). This was a non-compliance with Condition 5.1 of IE licence register number P0030-05. ICP questioned the validity of the results as their own monitoring complied with the ELVs during the specified period and spot checks by an emissions monitoring specialist also demonstrated compliance with the ELVs. The contractor operating on behalf of the Agency responded stating that their results had been checked and were accurate.

To enhance the flow of information from ICP to members of the public and interested third parties a new condition has been added to the RD. Condition 2.2.2.13 *Communications Programme* of the RD requires the licensee to maintain and implement a Public Awareness and Communications Programme to ensure that members of the public are informed and can obtain information at the installation concerning the environmental performance of the installation.

The condition further requires ICP, from date of grant of the licence, to publish to the internet, continuous monitoring data in real time and on a weekly basis a summary of the continuous emissions monitoring data required in *Schedule C: Emissions, Monitoring and Control* of the RD.

In order to ensure any other issues of an environmental nature are addressed to the satisfaction of members of the public and other interested parties the Condition also requires that a Community Liaison Committee be established.

5. Best Available Techniques

5.1 BAT for IED installations

Section 86A(3) of the EPA Act 1992 as amended, requires that the Agency shall apply BAT conclusions as a reference for attaching one or more conditions to an Industrial Emissions Directive (IED) licence, or revised IED licence. Therefore, BAT for the installation was assessed against the BAT conclusions contained in the relevant Commission Implementing Decision (CID)/BREF documents and Annex VI, Part 4 Section 2 of the Industrial Emissions Directive (2010/75/EU) which relates to special provisions for cement kilns co-incinerating waste. Appendix 3 sets out a summary of how the BAT Conclusions published in this CID have been taken into account in the Recommended Determination (RD).

Other reference documents on BAT which are relevant to the activities carried out are as follows:

- BREF for Emissions from Storage
- BREF for Energy Efficiency

Furthermore, the licence was previously reviewed (P0030-05 issued on 29/01/2018) in a licence review initiated by the Agency to ensure compliance with CID 2013/163/EU.

The assessment has demonstrated that the installation will comply with all applicable BAT Conclusion requirements specified in the CID and BREF Documents.

I consider that the applicable BAT Conclusion requirements are addressed through: (i) the technologies and techniques as described in the licence review documentation supplied by the licensee; (ii) the standard conditions specified in the RD; and (iii) the inclusion of additional specific conditions in the RD.

BAT associated emission levels (BAT-AELs) as specified in the Commission Implementing Decision for the production of cement, lime and magnesium oxide CID 2013/163/EU have been included in the RD and are applicable from the date of grant of the licence. The BAT-AELs are also reflective of the Commission Implementing Decision of 10 August 2018 establishing the best available techniques (BAT) conclusions for waste treatment under Directive 2010/75/EU of the European Parliament and of the Council.

The monitoring frequency of all emissions to air and water from the installation has been set in the RD and is in line with CID 2013/163/EU, where relevant.

5.2 Consultation with Competent Authorities

Consultation was carried out between An Bord Pleanála (ABP) and the Agency under the relevant section of the EPA Act.

ABP raised the following issues in relation to the licence application and EIAR (note that the original submission should be referred to at all times for greater detail and expansion of particular points):

- ABP stated that following inspection of documents on the EPA website the activity that is subject of the current IE licence review appears to be the same as that for which planning permission was granted, subject to conditions on 11/04/2018.
- ABP stated that the permission was granted by the Bord following the carrying out of an EIA and following an oral hearing and following receipt of an Inspector's Report on the case.
- ABP pointed the Agency to issues set out in the Inspector's report and assessment and the Bord's final decision as set out in the Direction and Order.
- ABP provided the Agency with all documents in relation to the EIA which can be found with the original submission.

Furthermore, a submission was received from Meath County Council dated the 18/01/2016. Meath County Council provided details of the planning history for the installation along with comments on the original EIS submitted with the application. While a revised EIAR was submitted in relation to this application the comments raised by Meath Co Co were considered as part of the EIA, as detailed in Section 16 of this report.

6. Compliance with Directives/Conventions

Industrial Emissions Directive (2010/75/EU)

This installation falls within the scope of the following categories of Annex 1 of Council Directive 2010/75/EU on industrial emissions (integrated pollution prevention and control).

- *Category 3.1* - Production of cement, lime and magnesium oxide:
 - (a) production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or in other kilns with a production capacity exceeding 50 tonnes per day;
- *Category 5.2* – Disposal or recovery of waste in waste incineration plants or in waste co-incineration plants:
 - (a) for non-hazardous waste with a capacity exceeding 3 tonnes per hour;
 - (b) for hazardous waste with a capacity exceeding 10 tonnes per day.
- *Category 5.5* - Temporary storage of hazardous waste not covered under point 5.4 pending any of the activities listed in points 5.1, 5.2, 5.4 and 5.6 with a total capacity exceeding 50 tonnes, excluding temporary storage, pending collection, on the site where the waste is generated.

The installation is subject to authorisation under chapters II and IV of the Directive, and associated annexes.

The Recommended Decision (RD) as drafted takes account of the requirements of the Directive.

Stockholm Convention

Ireland's *National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants (POPs)* was updated by the Agency in 2018. Unintentionally formed POPs are associated with waste co-incineration include Polychlorinated dibenzo-p-dioxins (PCDDs) and Polychlorinated dibenzofurans (PCDFs), commonly known as dioxins and furans.

The Plan states that PCDDs and PCDFs are destroyed at incinerator temperatures above 800°C for sufficient residence times. It states that the quantities of PCDD and PCDF emitted from commercial incinerators are regarded as low compared to the total amounts released annually. Given the similarities and high combustion temperatures with co-incineration, the same conclusion can reasonably be applied in this instance.

The waste co-incineration sector has a high standard of pollution abatement in order to comply with Chapter IV and Annex VI of the IED and routine monitoring of emissions is undertaken.

The source category controls identified for waste co-incineration are licensed operations in accordance with the IED, and associated monitoring requirements imposed as part of the RD. The RD has taken account of these measures and ensures that dioxin and furan emissions from the facility are closely regulated and controlled.

Clean Air for Europe CAFÉ Directive (2008/50/EC)

The air dispersion modelling study undertaken indicates that emissions from the installation will not result in a breach of the statutory air quality limits as specified in S.I. No. 180 of 2011 (transposed CAFÉ Directive). This is dealt with in greater detail in Section 8 of this report.

Seveso Directive (Directive 2012/18/EU)

The Health and Safety Authority are the competent authority for the Seveso Directive. The licensee has stated that the Seveso Directive (Directive 2012/18/EU) does not apply to the installation as the maximum storage quantity of dangerous substances as defined by the Chemicals Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2015 does not exceed the threshold quantities.

7. Submissions

There was a total of 68 submissions made in relation to this application. Of this number approximately 36 are the same or versions of the same and are based on versions of a template document. For the purpose of this discussion this document will be referred to as the 'principal' submission. The remaining 32 raised a range of issues some of which overlap with the 'principal' submission and some of which will need to be addressed separately. Given the volume of submissions on the licence review application the issues raised are dealt with in 20 headings rather than dealing with each individual submission. Table 3 below identifies each of the issues raised in the submissions.

While the main points raised in the submission(s) are briefly summarised in the table below, the original submission should be referred to at all times for greater detail and expansion of particular points.

The issues raised in the submission are noted and addressed in this inspector's report and the submissions were taken into consideration during the preparation of the Recommended Determination.

Table 3: Issues raised in submissions received in respect of the P0030-06 application.

Issue No.	Details of Issue and Agency Response
Issue 1	<p data-bbox="400 584 831 618"><u>Waste Acceptance/ Management</u></p> <p data-bbox="400 618 1329 685">The following concerns were raised in relation to Waste Acceptance/Management:</p> <ol data-bbox="400 685 1329 1814" style="list-style-type: none"> <li data-bbox="400 685 1329 1144">1. A significant number of submissions raised concerns over the types of wastes to be used as fuels at the installation. Some submissions raise further concerns about the level of information provided on the waste types proposed to be accepted at the installation. Other submissions stated that the potential impacts arising from the storage handling and burning of numerous new/alternative waste streams on site do not appear to be adequately addressed. Submissions requested that adequate ratios of 'alternative fuel' to be used should be fully disclosed so that the public and EPA themselves can check validity of the 'proposed emissions'. The EPA should take into consideration that Irish Cement could at any stage change the amount of alternative fuel ratios thus changing emissions being released. <li data-bbox="400 1182 1329 1391">In relation to tyres, objections were made to the burning of waste tyres. Another submission stated that the EPA has refused the use of tyres as a base layer for road construction due to possible leaching into watercourses, humans, fauna and flora. The same should be considered when there's a higher risk that particles could become airborne and reach a much wider population. <li data-bbox="400 1429 1329 1496">2. Submissions requested that the details of a quarantine area should be provided. <li data-bbox="400 1534 1329 1637">3. Submissions requested that all risks associated with the handling of hazardous wastes to be identified and mitigation measures to minimise potential harmful impacts should be discussed. <li data-bbox="400 1675 1329 1814">4. Concerns were raised that Irish Cement will begin importing waste from other countries in order to reach their targets. Concerns were also raised that more waste types will be incinerated rather than recycled putting the waste hierarchy (waste pyramid) in jeopardy.

5. Concerns were raised regarding the quantities of waste proposed. Other raised concerns about the over capacity of facilities that burn municipal waste in Ireland.

6. Concerns were raised that incineration is inefficient from an energy point of view.

Response:

1. The list of wastes, 112 in total, are consistent with waste types authorised for co-incineration in cement kilns throughout Ireland and the EU. For example, P0487-07 Breedon Cement Ireland Limited (Lagan Cement) is authorised to accept both non-hazardous and hazardous waste for co-incineration. Section 3.1 of this report deals with the RD requirements in relation to waste acceptance, handling and co-incineration. Condition 6 of the RD requires the licensee to submit to the Agency for agreement, a test programme for the co-incineration of each waste type prior to implementation. The test programme is required to establish all criteria for operation, control and management of the abatement equipment to ensure compliance with the emission limit values specified in the RD. The co-incineration of waste shall not be permitted (outside of the agreed test programme) until such time as the Agency has indicated that it is satisfied with the results of the test programme for an individual waste type.

Having met the technical specification the waste will be added to the kiln in a manner that provides the correct calorific value for the appropriate temperatures to be reached to achieve cement production. Throughout the kiln the temperature will be monitored to ensure a minimum temperature of 850°C is achieved before the introduction of waste for co-incineration, as per Condition 3 of the RD.

Schedule C of the RD specifies the ELVs and control measures associated with emissions to atmosphere. These ELVs and controls are considered to be BAT for the industry and is consistent with the protection of the environment and human health.

2. Condition 8 of the RD sets out the requirements for the storage of unsuitable wastes in the quarantine area. It states that rejected material stored in the quarantine area shall be stored under appropriate conditions to avoid loss to the environment, putrefaction, odour generation, the attraction of vermin and other nuisances.

	<p>3. Condition 8 of the RD requires that waste and materials shall be stored in designated areas, protected as may be appropriate against spillage and leachate run-off. Section 12 of this report sets out further measures in relation to the handling of hazardous materials at the installation.</p> <p>4. Condition 8 of the RD states that no waste imported from outside Ireland shall be accepted for co-incineration at the installation.</p> <p>5. The Eastern Midlands Region Waste Management Plan (RWMP) provides a framework for waste management for a six-year period (2015-2021) and sets out a range of policies and actions in order to meet the specified mandatory and performance targets. The Waste Management Plan for the Eastern-Midlands Region is the framework for the prevention and management of wastes in a safe and sustainable manner. The waste management plan is a statutory document prepared by the local authorities of the region.</p> <p>Specifically, in relation to thermal recovery of waste the plan sets out some key actions as follows:</p> <ul style="list-style-type: none"> • Plan and develop higher quality waste treatment infrastructure including new reprocessing, biological treatment, thermal recovery and pre-treatment facilities; • Support the development of thermal recovery in the region which meets the needs of the region and the State in reducing the export of residual wastes for treatment abroad; <p>The proposed development seeks permission for the co-incineration of up to 465,000 tonnes of waste per annum as alternative fuels and alternative raw materials, of which 220,000 is solid recovered fuel (SRF) produced from various types of waste including municipal waste. These quantities are fully supported by the Eastern-Midlands Waste Management Plan which states that 4.1 million tonnes of waste (excluding agricultural wastes) was produced in the region in 2012.</p> <p>6. In relation to Energy efficiency, regard was had to the 'Climate Action Plan, 2019'. A key action item of the plan in relation to cement manufacture is the use of alternative fuels in the cement fuel mix. The plan seeks to increase the use of alternative fuels, such as Solid Recovered Fuels (SRFs) and other waste streams substituting for fossil fuels to 80% by 2030, the rate currently stands at approximately 30%.</p>
Issue 2	<p><u>EPA Office/Monitoring</u> A significant number of submissions requested that an EPA office be set up in the area. Submitters called for a more transparent monitoring</p>

system regarding emissions from the plant including air and water quality measuring stations outside the immediate area of the plant. It was requested that due to the large volume of incinerator type industries in the area, continuous ambient air monitoring should be installed in several locations in the region.

Other submissions requested that a 24 hours continuous monitoring system should be provided that is directly linked to an EPA office and records made available to public at all times.

Response:

The EPA offices are located throughout the country to provide a widespread enforcement presence. The Office of Environmental Enforcement (OEE) currently enforces licences on a regional basis ensuring that Inspectors are appropriately proximate to sites in the event where on-site presence is needed. The location of the EPA offices can be found at: <https://www.epa.ie/about/contactus/>

Under the National Ambient Air Quality Monitoring Programme 2017-2022 a new air monitoring station will be put in place in the Drogheda area. The monitoring point will form part of the *Tier 2: An Expanded Air Quality Index for Health (AQIH) network*, which will introduce 38 new air monitoring stations into the National Monitoring network. Data from Tier 2 will be communicated to the public via an upgraded AQIH system.

A permanent particulate matter monitoring station was located in the Drogheda area from 2004 to 2009. The EPA also carried out a comprehensive assessment of air quality in Drogheda in 2002. Results for all pollutants measured were below EU limit values and were similar to levels in other Zone C areas (Zone C areas are the 24 towns and cities in Ireland with a population greater than 15,000). Further information and results of the monitoring are available at www.epa.ie/pubs/reports/air/quality .

To enhance the flow of information from ICP to members of the public and interested third parties Condition 2.2.2.13 *Communications Programme* requires the licensee to maintain and implement a Public Awareness and Communications Programme to ensure that members of the public are informed, and can obtain information at the installation concerning the environmental performance of the installation.

The condition further requires ICP to publish, to the internet, continuous monitoring data in real time and on a weekly basis a summary of the continuous emissions monitoring data required in *Schedule C: Emissions, Monitoring and Control* of the RD.

	<p>In order to ensure any other issues of an environmental nature are addressed to the satisfactorily and other interested parties the Condition also requires that a Community Liaison Committee be established to meet at an agreed frequency to discuss an agreed agenda of items.</p>
<p>Issue 3</p>	<p><u>Cumulative effects</u> The following issues were raised in relation to cumulative effects:</p> <ol style="list-style-type: none"> 1. A significant number of submissions raised concerns in relation to the cumulative effects of the proposed activities from Irish Cement along with the neighbouring Indaver Ireland Ltd (W0167-03) Incinerator. 2. One submitter stated that the granting of licences by the EPA for the burning of waste both by Indaver as well as Irish Cement is in breach of Article 5 and Article 11 of the Stockholm Convention on Persistent Organic Pollutants. <p><i>Response:</i></p> <ol style="list-style-type: none"> 1. The cumulative effects of the proposed activities at ICP and neighbouring facilities/installations were assessed as part of the application. The revised air model submitted by the licensee and received by the Agency on 19/11/2018 considered the cumulative concentrations of total emissions from the Indaver Ireland Ltd plant and the proposed emissions from ICP. The total concentrations including background levels were compared to the relevant air quality standards. All predicted cumulative ground level concentrations were in compliance with the relevant air quality standards. 2. In relation to the Stockholm Convention, Ireland's <i>National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants (POPs)</i> was updated by the Agency in 2018. Unintentionally formed POPs are associated with waste co-incineration include Polychlorinated dibenzodioxins (PCDDs) and Polychlorinated dibenzofurans (PCDFs), commonly known as dioxins and furans. <p>The Plan states that PCDDs and PCDFs are destroyed at incinerator temperatures above 800°C for sufficient residence times. It states that the quantities of PCDD and PCDF emitted from commercial incinerators are regarded as low compared to the total amounts released annually. Given the similarities and high combustion temperatures with co-incineration, the same conclusion can reasonably be applied in this instance.</p> <p>The air modelling completed as part of this application shows that the maximum ground level concentration of dioxin emissions for the</p>

	<p>proposed activities, including background concentrations, is predicted to be less than 20% of the World Health Organisation (2000) indicative value for the annual mean; of this, greater than 19.8% is due to background concentrations. A less than 0.1% increase in concentrations of dioxins and furans is predicted to occur due to the proposed activities.</p> <p>Condition 3 of the RD requires that before the co-incineration of waste commences, the temperature in the combustion chamber should reach a temperature of $\geq 850^{\circ}\text{C}$ for at least 2 seconds The waste co-incineration sector has a high standard of pollution abatement in order to comply with Chapter IV and Annex VI of the IED and routine monitoring of emissions is required to ensure compliance.</p> <p>The RD has transposed accurately the requirements of the IED and those of the Commission Implementing Decision for the production of cement, lime and magnesium oxide CID 2013/163/EU.</p>
Issue 4	<p><u>Emissions</u></p> <ol style="list-style-type: none"> 1. A number of submissions state that the '<i>emissions regulations</i>' have already been exceeded on a number of occasions from this installation, so the submitters have significantly increased concerns in relation to '<i>any assurances that have been given as to the safety and efficiency of such a proposed application</i>'. One submitter questioned if the EPA has full responsibility for monitoring emissions and has the full power to take action if any conditions or rules have been broken especially in regards to this application. 2. Some submissions suggested possible emission reductions through substitution of clinker with other materials. 3. Concerns raised that cement production is heavily energy intensive and contributes to our emissions and impinges on Ireland achieving our 2020 energy and climate targets. <p><i>Response:</i></p> <ol style="list-style-type: none"> 1. The licensee is required to report any breaches of the licence ELVs to the Agency, as an incident, in accordance with Conditions 9 and 11 of the RD. The Agency takes a very proactive role in ensuring that all licensed installations are compliant with permits issued under its remit. Enforcement activities carried out by EPA Inspectors involve inspections, audits and emissions monitoring.

	<p>Inspectors assess the results of emissions monitoring carried out at licensed facilities to determine the impact, if any, of emissions on the environment. The Office of Environmental Enforcement (OEE) may escalate enforcement action, where warranted, in line with the OEE's enforcement policy.</p> <p>2. Clinker is a fundamental component of the cement production process and can therefore not be eliminated from the process. However, ICP are proposing to substitute some of the raw materials used for the production of cement as part of this application. The overall CO₂ savings associated with the proposed activities are detailed in Sections 8 and 16 of this report.</p> <p>3. In June 2019, the Irish Government released the 'Climate Action Plan, 2019'. The Plan outlines the current state of play across key sectors in Ireland including Electricity, Transport, Built Environment, Industry and Agriculture and charts a course towards decarbonisation targets. A sectoral breakdown of industry emissions indicates that manufacturing combustion and process emissions from the mineral industry (primarily cement manufacture) account for the most significant share of emissions in this sector. A key action items in relation to cement manufacture is the use of alternative fuels in the cement fuel mix. The plan seeks to increase the use of alternative fuels, such as Solid Recovered Fuels (SRFs) and other waste streams substituting for fossil fuels to 80% by 2030, the rate currently stands at approximately 30%.</p>
Issue 5	<p><u>Duration of Licence</u> A number of submissions raised concerns regarding the '<i>10 year licence</i>'.</p> <p><i>Response:</i> Section 90 of the Environmental Protection Agency Act 1992 as amended sets out the timeframes for which a licence can be reviewed. Section 90(1)(a) states that <i>the Agency shall, subject to subsections (4) and (5) and section 99I(7), either periodically or after such period as may be prescribed (but not before the expiry of 3 years from the date on which the licence or revised licence was granted), review a licence or revised licence.</i></p> <p>Section 90(1)(b) states that <i>the Agency may review a licence or revised licence at any time with the consent or on the application of the licensee.</i></p>

	<p>Section 90(4) set out the criteria where the Agency may initiate a review of a licence. The Agency may initiate a review of a licence due to legislative requirements e.g. the publishing of a new statutory instrument or the requirement to implement a Commission Implementing Decision.</p> <p>The 10 year timeframe mentioned in the submissions does not relate to Industrial Emissions licensing.</p>
Issue 6	<p><u>Air</u></p> <p>A number of issues were raised in relation to air emissions as follows:</p> <ol style="list-style-type: none"> 1. It was requested that the EPA should consider current and up-to-date air quality data to be accurately evaluated. The potential risks associated with the incineration of each proposed new/alternative waste stream and subsequent by-products of combustion should be fully assessed. There was also a call for an independent base line study to be completed on current emission levels. 2. It was stated that you can visually see the large and constant amount of particles coming out of the chimney at Irish Cement. 3. Concerns were raised that the filters located at the proposed incinerator are incapable of screening micro particles below a certain threshold: BAT is not completely capable of capturing PM_{0.1}. 4. Concerns were raised regarding Irish Cements request to change emissions standards to Germany Regulations in regards to 30 minutes air emissions on kiln start up and kiln cool down. 5. Concerns that the ambient air is not 'adequately' being measured in the areas of Drogheda and Duleek. Concerns regarding the 2003 EPA Ambient Air Monitoring which the submitter states that PM₁₀ particles were exceeded on frequent occasions. The submitter states that since then there has been no continuous full-year-long monitoring in the area. The submitter states that the low allocation of resources by the Irish State for funding continuous ambient air monitoring in the Drogheda area is in contradiction of the international obligations to protect its citizens from PM₁₀ and PM_{2.5} particles. The submitter states that access to information on the environment and the air we breathe is now also an obligation under the Aarhus Convention. <p><i>Response:</i></p> <ol style="list-style-type: none"> 1. The application process has involved very significant modelling of emissions to atmosphere in relation to numerous compounds

including Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂), Particulate Matter (PM_{2.5} & PM₁₀), heavy metals, dioxins, furans and dust. Additionally, a human health risk assessment (HHRA) was undertaken to assess the likely effects of human health from potential emissions of dioxins and furans. For background air quality, the modelling used 2014 to 2016 Agency air monitoring data (Zone C). In each study the worst-case scenario was presented, i.e., maximum exposure to the highest concentrations for the maximum period of time under the worst meteorological conditions.

The findings of each study found that the emissions from the activity would not lead to a breach of any air quality standard nor would it lead to any negative effect on human health. Please refer to *Section 8: Emissions to Atmosphere* for more comprehensive discussion on emissions modelling and setting of ELVs in the RD. The modelling was extensively reviewed to ensure it was completed in accordance with the EPA's Air Dispersion Modelling from Industrial Installations Guidance Note (AG4).

2. As discussed in point 1 above, particulate matter (PM_{2.5} & PM₁₀) was modelled as part of the application process to determine the impact of emissions to atmosphere from the installation. The modelling found that the emissions from the activity would not lead to a breach of any air quality standard nor would it lead to any negative effect on human health.
3. In terms of the mitigation employed to control particulate emissions on site the RD is very clear that for each emission point the mitigation measures are in accordance with BAT for the sector and comply with the terms of Commission Implementing Decision for the production of cement, lime and magnesium oxide CID 2013/163/EU.

In addition, Condition 6 of the RD requires the licensee to prepare a test programme for all abatement equipment installed to abate emissions to atmosphere. Any test programme must, as a minimum, establish criteria for operation, control and management of the equipment and also assess the performance of the abatement equipment.

Schedule C in turn specifies the ELVs that are to be achieved at each emission point to atmosphere and the frequency of monitoring required. It is considered that the measures specified in the RD provide a very high degree of protection to the environment and human health of those living in the vicinity of the ICP installation.

	<p>4. Condition 3 of the RD specifies measures to be taken during plant start-up and shut down. These measures adhere to the requirements set out in the Commission Implementing Decision for the production of cement, lime and magnesium oxide (2013/163/EU)</p> <p>5. Under the National Ambient Air Quality Monitoring Programme 2017-2022 a new air monitoring station will be put in place in the Drogheda area. The monitoring point will form part of the <i>Tier 2: An Expanded Air Quality Index for Health (AQIH) network</i>, which will introduce 38 new air monitoring stations into the National Monitoring network. Data from Tier 2 will be communicated to the public via an upgraded AQIH system.</p> <p>A permanent particulate matter monitoring station was located in the Drogheda area from 2004 to 2009. The EPA also carried out a comprehensive assessment of air quality in Drogheda in 2002. Results for all pollutants measured were below EU limit values and were similar to levels in other Zone C areas (Zone C areas are the 24 towns and cities in Ireland with a population greater than 15,000). Further information and results of the monitoring are available at www.epa.ie/pubs/reports/air/quality .</p>
Issue 7	<p><u>Biodiversity</u> The cement plant is in close proximity to a wildlife reserve.</p> <p><i>Response:</i> An Appropriate Assessment and Environmental Impact Assessment was completed as part of the assessment of this application, as detailed in Sections 15 and 16 of this report.</p>
Issue 8	<p><u>Surface Water & Groundwater</u> A number of issues were raised in relation to surface water and groundwater in the area, as follows:</p> <ol style="list-style-type: none"> 1. Concerns were raised regarding the regionally important aquifer within the area with a high to extreme vulnerability rating. The aquifer supplies water for the area, and concerns were raised regarding leakage from the site. Also, concerns were raised that both ground and surface water are already being impacted by quarrying activities on site. 2. Details of expected water usage on site should be provided. A request was made for ICP to provide specific details of mitigation for affected householders in the event of their water supply being adversely affected by the installation. A call was made for a proper assessment of all water supplies within region.

	<p>3. Concerns regarding the potential negative impact this development will have on the River Boyne and its future tourism opportunities.</p> <p>4. Claims that no proper risk assessment of regionally important aquifer in EIS.</p> <p>5. Other submissions also raised concerns regarding a number of quarries in the area.</p> <p><i>Response</i></p> <p>1. Condition 8 details the measures to be taken in accepting, handling and storage of wastes on-site. These requirements are very prescriptive and control tightly how wastes shall be managed within the installation. All waste materials shall be housed indoors, in bunded structures or on hard standing areas.</p> <p>Condition 6 requires the licensee to test the integrity and water tightness of all tanks, bunding structures, containers and underground pipes at the installation. This must be undertaken at least once every three years.</p> <p>Condition 6 of the RD also all requires the licensee to, on an annual basis, prepare and submit to the Agency a dewatering monitoring report. This report shall pay particular attention to the impacts (physical and chemical) of the dewatering activities on the groundwater environment (water table, cone of depression, base flow to surface waters, etc.), the surface water environment and ecological habitats in the vicinity of the installation and downstream of SW-4 as appropriate.</p> <p>ICP have registered their ongoing water abstraction with the EPA in accordance with the European Union (Water Policy) (Abstractions Registration) Regulations 2018 (S.I. No. 261 of 2018). Condition 6 of the RD requires the licensee to annually assess groundwater monitoring data and determine compliance under this licence with the European Communities Environmental Objectives (Groundwater) Regulations 2010, S.I. No 9 of 2010 as amended. In the event of a failure to demonstrate compliance with the European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended or if instructed by the Agency, the licensee is required to arrange for the completion, by an appropriately qualified consultant/professional, of a hydrogeological risk assessment as set out in Condition 6. Condition 6 of the RD requires the licensee, on an annual basis, to prepare and submit to the Agency a dewatering monitoring report. This report shall pay particular attention to the impacts (physical and chemical) of the dewatering activities on the</p>
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groundwater environment (water table, cone of depression, base flow to surface waters, etc.), the surface water environment and ecological habitats in the vicinity of the installation and downstream of SW-4 as appropriate.

With regards to surface water, the ELVs have been set to ensure compliance with the requirements of the European Communities Environmental Objectives (Surface Water) Regulations 2009 as amended. Furthermore, Condition 5 of the RD states that no emissions, including odours, from the activities carried on at the site shall result in an impairment of, or an interference with amenities or the environment beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary.

It is considered that the measures specified in the RD will provide a high degree of protection to the surface water and groundwater in the vicinity of the ICP installation.

2. Condition 2.2.2.13 *Communications Programme* requires the licensee to maintain and implement a Public Awareness and Communications Programme to ensure that members of the public are informed, and can obtain information at the installation concerning the environmental performance of the installation.

In order to ensure any other issues of an environmental nature are addressed to satisfactorily and other interested parties the Condition also requires that a Community Liaison Committee be established to meet at an agreed frequency to discuss an agreed agenda of items.

3. The effects of the activities carried out at the installation on the River Boyne were assessed as part of the Appropriate Assessment and Environmental Impact Assessment (in relation to the River Boyne and River Blackwater SAC and the Boyne Estuary SPA) as detailed in sections 15 and 16 of this report. Furthermore, the effects on tourism was considered as part of the EIA. The Appropriate Assessment concludes that the proposed activities will not have an adverse effect on the integrity of any European Site. The EIA concludes that no significant negative effects are anticipated from the activities.
4. The potential effects from the activities on the groundwater aquifer was considered as part of the application assessment including the Environmental Impact Assessment. Sections 9 and 16 of this report deals with the groundwater aquifer under the installation. ICP have registered their ongoing water abstraction with the EPA in accordance with the European Union (Water Policy) (Abstractions

	<p>Registration) Regulations 2018 (S.I. No. 261 of 2018). Condition 6 of the RD requires the licensee to annually assess groundwater monitoring data and determine compliance under this licence with the European Communities Environmental Objectives (Groundwater) Regulations 2010, S.I. No 9 of 2010 as amended.</p> <p>5. With regards to the quarries, the background status of the receiving water has been considered in setting the emission limit values (ELVs) for emissions to water. The ELVs have been set to ensure compliance with the requirements of the European Communities Environmental Objectives (Surface Water) Regulations 2009 as amended. The RD requires that discharges to surface waters are controlled such that environmental objectives and environmental quality standards are achieved. The ELVs are proposed to remain unchanged to what is in the current licence P0030-05.</p>
Issue 9	<p><u>Health</u></p> <p>A number of health issues were raised, as follows:</p> <ol style="list-style-type: none"> 1. - Claims that these companies are turning local communities into 'cancer villages as seen in other parts of the world'. <ul style="list-style-type: none"> - Concerns that there have been a number of neurological cases diagnosed in the area without any explanation. - Concerns regarding the burning of new hazardous waste streams may put the health and wellbeing of people living and working within this region at even further risk. - Concerns regarding further increases in 'toxic' emission levels of cancer-causing agents in an area where cancer levels seem to be increasing. - Concerns that burning of hazardous waste may contribute to human health issues. - Concerns for people in the area with compromised immune systems. - Call for more in-depth analysis of the potential health risks of these facilities. 2. Concerns that Duleek has a far higher than normal incidents of Guillain-Barré Syndrome. Links between this and the burning of waste at Irish Cement and Indaver should be investigated before increasing capacity. 3. Request that a National Environmental and Health Unit should be formed to assess alleged risk to public health. This unit should monitor health data and assess any unusual disease or syndrome in the Duleek and district population. <p><i>Response:</i></p>

	<p>1. The application process has involved very significant modelling of emissions to atmosphere in relation to numerous compounds including Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂), Particulate Matter (PM_{2.5} & PM₁₀), heavy metals, dioxins, furans and dust.</p> <p>Additionally, a human health risk assessment (HHRA) was undertaken to assess the likely effects of human health from potential emissions of dioxins and furans. The HHRA undertaken took a number (5) of soil samples in locations proximate to the ICP installation. They detected very low levels of dioxins, furans and PCBs, referring to the levels as 'essentially background levels'. The risk assessment is discussed further in Section 8: Emissions to Atmosphere of this report.</p> <p>In each study the worst-case scenario was presented, i.e., maximum exposure to the highest concentrations for the maximum period of time under the worst meteorological conditions.</p> <p>The findings of each study found that the emissions from the activity would not lead to a breach of any air quality standard nor would it lead to any negative effect on human health. Please refer to <i>Section 8: Emissions to Atmosphere</i> for more comprehensive discussion on emissions modelling and setting of ELVs in the RD.</p> <p>The RD contains Conditions which prohibit the formation of dioxins and furans through the maintenance of combustion temperatures above 850°C and further includes an ELV for dioxins and furans (PCDD/F) of 0.1ng/Nm³ of gas emitted. The RD also sets ELVs for emissions to air that ensure compliance with the relevant air quality standards.</p> <p>It is considered that the measures specified in the RD are sufficient to provide a high degree of protection to the environment and human health.</p> <p>2. The HSE carried out an investigation into the instances of Guillain-Barré Syndrome (GBS) in the area. The report was published in 2016 and concluded that no evidence of any environmental issue having a causal association with GBS was found.</p> <p>3. The establishment of a 'National Environmental and Health Unit' is outside the scope of the Industrial Emissions (IE) licensing process.</p>
Issue 10	<p><u>Public Consultation</u> A number of submissions raised issues with the lack of public consultation carried out by the licensee.</p>

	<p><i>Response:</i></p> <p>ICP are statutorily bound by the Environmental Protection Agency (Industrial Emissions) (Licensing) Regulations, 2013 (S.I. No. 137/2013) to undertake a number of steps to inform members of the public and other stakeholders of their intention to apply to the Agency for an Industrial Emissions (IE) licence or a review of an existing Industrial Emissions licence. Regulation 4 of S.I. No 137/2013 requires the publication of a newspaper notice 2 weeks prior to making an application the content of which is specified in Regulation 5. Regulation 6 of S.I. No 137/2013 requires the licensee to erect a site notice informing people in proximity of the plant of their intention to apply for an IE licence from the Agency. ICP complied with both measures in relation to this review application and as such are statutorily compliant in this regard.</p> <p>In accordance with Regulation 16 of S.I. No 137/2013, a number of statutory consultees, as set out in the regulation, are formally notified by the EPA once an application for an IE licence/ review licence is received.</p> <p>Furthermore, public consultation is a statutory requirement of the planning process. In April 2018, ICP was granted planning permission by An Bord Pleanála (ABP) for the combustion of up to 465,000 tonnes of wastes for alternative fuels/ raw materials, of which 50,000 tonnes is hazardous waste (planning reference 17.PA0050). An Oral Hearing was held as part of this planning application.</p> <p>As previously stated, Condition 2.2.2.13 <i>Communications Programme</i> requires the licensee to maintain and implement a Public Awareness and Communications Programme to ensure that members of the public are informed, and can obtain information at the installation concerning the environmental performance of the installation.</p> <p>The condition further requires ICP to publish, to the internet, continuous monitoring data in real time and on a weekly basis a summary of the continuous emissions monitoring data required in <i>Schedule C: Emissions, Monitoring and Control</i> of the RD.</p> <p>In order to ensure any other issues of an environmental nature are addressed to the satisfaction of members of the public and other interested parties the Condition also requires that a Community Liaison Committee be established to meet at an agreed frequency to discuss an agreed agenda of items.</p>
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Issue 11	<p><u>Pest Control/Nuisance/Odour</u></p> <p>Submissions recommended that the potential impacts of vermin, pests, litter and odour should be assessed given the proposal to accept numerous new/ alternative waste streams.</p> <p>Submissions requested that if the licence is granted, there should be a monthly litter patrol on the regional road R152.</p> <p>Concerns were raised that there has been offensive smells coming from the existing incinerator and from the heavy lorries that transport 'matter' to the plant.</p> <p><i>Response:</i></p> <p>Condition 8 details the measures to be taken in accepting, handling and storage of wastes on-site. These requirements are very prescriptive and control tightly how wastes shall be managed within the installation. All waste materials shall be housed indoors, in bunded structures or on hard standing areas.</p> <p>It is not proposed by the licensee to undertake the long-term storage of waste on site but rather to have a rolling stock on hand to feed the kilns and as such the waste is unlikely to be present for a period long enough to create a pest/or vermin issue on-site.</p> <p>Condition 5 of the RD requires the licensee to ensure that vermin, flies and litter do not result in an impairment of, or an interference with, amenities or the environment at the installation or beyond the installation boundary.</p> <p>Condition 5 of the RD also requires that no emissions, including odours, from the activities carried on at the site shall result in an impairment of, or an interference with amenities or the environment beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary.</p> <p>As stated previously an odour complaint was made to the Agency in 2018. The odour complaint related to a sulphur odour and following an investigation by the licensee it was not deemed to be emanating from the installation.</p>
Issue 12	<p><u>Complaints Procedure</u></p> <p>Submissions recommended that a formal complaints procedure should be outlined to resolve any possible issues or community concerns relating to the proposed development.</p> <p><i>Response:</i></p>

	<p>Condition 11 of the RD requires the licensee to record all complaints of an environmental nature related to the operation of the activity. The record shall include the date and time of the complaint and give details of the nature of the complaint. A record of the response to the complaint must also be maintained. The licensee is obliged to comply with Conditions of the licence. Where the licensee has been contacted and the problem has not been resolved the EPA should be contacted by telephone on 053 9160600, by email on info@epa.ie or by completing the online complaint form: https://lema.epa.ie/complaints.</p> <p>Condition 2 of the RD requires the licensee to maintain and implement a Public Awareness and Communications Programme to ensure that members of the public are informed and can obtain information at the installation concerning the environmental performance of the installation. In order to ensure any other issues of an environmental nature are addressed to the satisfaction of members of the public and other interested parties the Condition also requires that a Community Liaison Committee be established.</p>
Issue 13	<p><u>Traffic</u></p> <p>A number of traffic concerns were raised in the submissions, as follows:</p> <ul style="list-style-type: none"> • Submissions stated that there has already been fatalities and accidents at Platin. • Concerns regarding HGVs through village and nearby. • Concerns raised as there is a school nearby. Concerns regarding the safety of children and children cycling to school. • Concerns raised about the level of traffic resulting from the proposed activities. • Calls to fast track the Duleek Bypass. <p><i>Response:</i></p> <p>Traffic impact does not fall within the scope of the IE licensing process. In April 2018, ICP was granted planning permission by An Bord Pleanála (ABP) for the combustion of up to 465,000 tonnes of wastes for alternative fuels/ raw materials, of which 50,000 tonnes is hazardous waste (planning reference 17.PA0050). Traffic impact was considered as part of this planning process and conditions were set in the planning permission in relation to traffic management.</p>
Issue 14	<p><u>Alternatives</u></p> <p>Questions were asked, as follows:</p> <ol style="list-style-type: none"> 1. What other alternatives other than mixed and hazardous waste has Irish Cement considered for the production of cement? 2. What consideration of reasonable alternatives as per EU Directives has there been?

	<p>3. The SEA Directive requires an assessment of reasonable alternatives.</p> <p><i>Response:</i></p> <p>1. The main alternative to waste is fossil fuels. The Climate Action Plan, 2019 (as detailed in Section 8.2 of this report) highlights that a key action item in relation to cement manufacture is the use of alternative fuels in the cement fuel mix. The plan seeks to increase the use of alternative fuels, such as Solid Recovered Fuels (SRFs) and other waste streams substituting for fossil fuels to 80% by 2030. The rate currently stands at approximately 30%.</p> <p>2. Reasonable alternatives were considered as part of the EIA process as detailed in Section 16.5 of this report. The following alternative operating scenarios were considered:</p> <ul style="list-style-type: none"> • 'Do-nothing' Alternative; • 'Do-Something' Intermediate Replacement Alternative; and • 'Do Maximum' Replacement Alternative. <p>Each alternative examines the CO₂ savings and the fossil fuel consumption associated with the proposed waste acceptance for co-incineration. A multi-criteria analysis of environmental impact was undertaken as part of the EIAR to assess impact and the analysis finds that once compliance with the licence is achieved there are positive impacts for climate and material assets in the "Do-Maximum" scenario which is the proposed development. This analysis is sufficiently detailed to inform this conclusion.</p> <p>3. The SEA Directive applies to plans and programmes and not to projects such as activities at the ICP installation. However, a SEA was completed for the Eastern-Midlands Region Waste Management Plan. Reasonable alternatives were also considered as part of the EIA as detailed in Section 16.5 of this report.</p>
Issue 15	<p><u>Discharge Pipeline</u></p> <p>Concerns were raised on how the pipeline that conveys the discharge from the installation to the River Nanny is monitored or maintained. A question was asked if there has been any evidence of leaks in this pipework and how it is inspected by Irish Cement?</p> <p><i>Response:</i></p> <p>In correspondence submitted by the licensee on 15/06/2016, it states that an annual inspection of the pipeline is carried out by ICL staff.</p> <p>Condition 6 of the RD states that the integrity and water tightness of all tanks, bunding structures, containers and underground pipes (including the pipeline that conveys wastewater from the installation to the River Nanny) and their resistance to penetration by water or other materials</p>

	<p>carried or stored therein shall be tested and demonstrated by the licensee prior to use (for new equipment). This testing shall be carried out by the licensee at least once every three years and reported to the Agency on each occasion. This testing shall be carried out in accordance with any guidance published by the Agency. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.</p>
Issue 16	<p><u>Community Fund</u> There was a request for community fund contributions. Other submitters are opposed to 'community compensation'.</p> <p><i>Response:</i> An Bord Pleanála has required the establishment of a community gain fund as part of the planning permission (ref: 17.PA0050) granted in 2018.</p>
Issue 17	<p><u>Habitats & Birds Directives</u> The view is expressed that any licence granted by the EPA must comply with the Habitats and Birds Directives and must comply with the following judgements of the Court of Justice of the European Union (CJEU): Case C-258/11, Case C-164/17, Case C-323/17, Case C-461/17 and Joined Cases C-293/17 and C-294/17.</p> <p><i>Response:</i> The requirements of the EIA Directive (2011/92/EU as amended by 2014/52/EU) and the Habitats Directive (92/43/EC) and Birds Directive (2009/147/EC) are considered as part of the Environmental Impact Assessment and Appropriate Assessment sections of this report. In addition, the rulings from CJEU references Case C-258/11, Case C-164/17, Case C-323/17, Case C-461/17, Case C-293/17 and C-294/17, form part of this assessment, as appropriate.</p>
Issue 18	<p><u>Concerns raised by Statutory Consultees</u></p> <ol style="list-style-type: none"> 1. Inland Fisheries Ireland raised concerns of discharge plumes in the River Nanny in 2005 and 2013. They stated that analysis sample results demonstrated that none of the licence conditions were breached at the time. IFI suspected that the plume may have been something to do with water chemistry that was not captured by the present water chemistry parameters. 2. The HSE raised a number of concerns as follows: <ol style="list-style-type: none"> i. The HSE stated that there was no evidence that a full two way process of public consultation was carried out.

	<ul style="list-style-type: none"> ii. The HSE raised concerns regarding to cumulative impacts from large developments in the area including Indaver Ireland Ltd's, the Platin limestone quarry and the Roadstone quarry. iii. The HSE raised concerns in relation to the proposed waste streams to be accepted at the installation and are of the opinion that the potential impacts arising from the storage, handling and burning of these wastes do not appear to be adequately addressed. iv. The HSE recommended that the EPA considers current air quality data. They also requested that the potential risks associated with the incineration of each proposed new/alternative waste stream and subsequent by-products of combustion be fully assessed. v. The HSE expressed concerns in relation to the groundwater aquifer beneath the installation and the impact from the activities on the groundwater and surface water in the area. The HSE requested that specific details should be provided of mitigation measures for households in the event of their well water supplies being adversely affected by the installation. vi. The HSE raised concerns in relation to increased pests on site due to the increased waste quantities proposed and requested that the potential impacts should be assessed. vii. The HSE raised concerns in relation to potential nuisance due to litter and odour on site due to the increased waste quantities proposed and requested that the potential impacts should be assessed. viii. The HSE recommended that a formal complaints procedure should be outlined to resolve any complaints from the community. <p><i>Response:</i></p> <ul style="list-style-type: none"> 1. As detailed above the ELVs for emissions to surface water have been set to ensure compliance with the requirements of the European Communities Environmental Objectives (Surface Water) Regulations 2009 as amended. An aquatic monitoring survey carried out for ICP in 2016 concluded that the discharge from ICP is considered to be having a neutral impact on the aquatic ecology of the local areas of the River Nanny. The ELVs and control measures specified in Schedule C of the RD are in line with those requirements set in the Commission Implementing Decision for the production of cement, lime and magnesium oxide CID 2013/163/EU. 2. The following response is made in relation to the HSE submission: <ul style="list-style-type: none"> i. Please see response to Issue 10 in relation to Public Consultation. ii. Please see response to Issue 3 in relation to Cumulative Effects.
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	<ul style="list-style-type: none"> iii. Please see response to Issue 1 in relation to Waste Acceptance/ Management. iv. Please see response to Issue 6 in relation to Air. v. Please see response to Issue 8 in relation to Surface Water and Groundwater. vi. Please see response to Issue 11 in relation to Pest Control/ Nuisance/ Odour. vii. Please see response to Issue 11 in relation to Pest Control/ Nuisance/ Odour. viii. Please see response to Issue 12 in relation to Complaints Procedure.
Issue 19	<p><u>Directives</u> Requests that a number of Directives are taken into account, including:</p> <ol style="list-style-type: none"> 1. Renewable Energy Directive 2009/28/EC 2. Energy Efficiency Directive 2009/125/EC 3. Waste Framework Directive 2008/98/EC 4. Carbon Capture Directive 2009/31/EC 5. Clean Air for Europe Directive 2008/50/EC <p><i>Response:</i> This Inspectors Report and the Recommended Determination (RD) addresses all the required relevant directives for the activities proposed. The following directives have been addressed as follows:</p> <ol style="list-style-type: none"> 1. <i>Renewable Energy Directive 2009/28/EC:</i> This directive requires Member States to set national targets for the amount of gross electricity consumption to be supplied from renewable sources by 2010. Ireland has submitted a National Renewable Energy Action Plan under Article 4 of the Renewable Energy Directive 2009/28/EC setting out countries national targets. 2. <i>Energy Efficiency Directive 2009/125/EC:</i> The Directive requires Member States (MS) to set a national energy efficiency targets and measures to be implemented to increase energy efficiency. The RD sets out a number of requirements to promote energy efficiency at the installation. Condition 2 requires that the Environmental Management System shall incorporate energy efficiency management as well as procedures for benchmarking energy efficiency. Condition 3 of the RD requires the licensee to have regard to energy efficiency when choosing/designing any new plant/infrastructure. Condition 7 of the RD sets further requirements to promote energy efficiency at the installation including energy efficiency auditing.

	<p>3. <i>Waste Framework Directive 2008/98/EC</i>: The Directive lays down some waste management principles. It incorporates provisions on hazardous waste and waste oils, and includes new recycling and recovery targets to be achieved by 2020. The Waste Framework Directive is integral directive that forms a basis for a number of and conditions in the RD relation to waste management and the handling of wastes.</p> <p>4. <i>Carbon Capture Directive 2009/31/EC</i>: This Directive relates to the geological storage of carbon dioxide. Carbon capture and storage (CCS) refers to the process by which CO₂ from large sources like power plants is captured, compressed and transported to and injected into geological storage sites, which are generally deep underground layers of porous rock capped with impermeable rock, in ways that ensure the CO₂ does not leak out into the atmosphere. While carbon capture is not considered as part of the proposed activities, Section 16.10 of this report deals with the estimated CO₂ reductions due to the introduction of additional wastes for co-incineration. Furthermore, the proposed activities are in keeping the Governments Climate Action Plan (2019) as previously discussed.</p> <p>5. <i>Clean Air for Europe Directive 2008/50/EC</i>: This directive deals with ambient air quality and cleaner air for Europe. This directive was considered and implemented extensively in dealing with the air emissions from the installation. In relation to ambient air monitoring, a new air monitoring station will be put in place in the Drogheda area under the National Ambient Air Quality Monitoring Programme 2017-2022. Data from the monitoring will be communicated to the public via an upgraded <i>Air Quality Index for Health</i> system.</p>
Issue 20	<p><u>Other Issues</u></p> <ol style="list-style-type: none"> 1. Requests to address 'Efficient cement use and substitute building materials'. 2. Requests to address 'Developments of alternatives to cement'. 3. Requests to address 'End of Use of the current Cement Plant output and reasonable alternatives to this current use'. 4. Concerns were raised that there is no mechanism to pass carbon costs on to the final consumers or purchasers of the product.

	<p>5. Concerns were raised that 'there is no analysis of alternative sites which could have provided a outlet for utilisation of recovered heat which could displace fossil fuels currently being used for Heating of Buildings'.</p> <p>6. Opinions were shared that the use of RDF as a fuel would be more suitable for the electricity generation sector.</p> <p>7. Concerns that the EU Emissions Trading Scheme is not sufficiently priced to drive innovation and alternatives.</p> <p>8. A submission was made in relation to the Irish Cement Limited Limerick IE Application P0029-06.</p> <p>9. Two submissions state that 'the proposal fails to have regard to the requirements of the Articles of the Treaty on the Functioning of the European Union'.</p> <p>10. Two submissions highlighted their support for the proposed activities.</p> <p><i>Response:</i></p> <p>1. The topic of 'efficient cement use and substitute building materials' is outside the scope of the IE licencing process.</p> <p>2. The topic of 'developments of alternatives to cement' is outside the scope of the IE licencing process.</p> <p>3. The topic of 'End of Use of the current Cement Plant output and reasonable alternatives to this current use' is outside the scope of the IE licencing process.</p> <p>4. The issue of levies and carbons costs are outside the scope of the IE licencing process.</p> <p>5. The RD requires energy efficiency and use of cleaner production to be addressed as part of the Environmental Management System. It also requires an energy efficiency audit and assessment of resource use efficiency to be undertaken in accordance with Condition 7.</p>
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	<p>6. The use of RDF in the electricity generation sector is outside the scope of the IE licensing process.</p> <p>7. The pricing of the EU Emissions trading scheme is outside the scope of the IE licensing process. The pricing of the EU Emissions trading scheme is set a European level.</p> <p>8. The submission in question was considered as part of the Irish Cement Ltd Limerick P0029-06 application. This Inspectors Report solely relates to the IE application P0003-06 for Irish Cement Limited located in Platin, Co. Meath.</p> <p>9. The Industrial Emissions Directive (IED) is a fundamental directive in the IE licensing process and was considered extensively while drafting the RD. The IED clearly states that the European Parliament and the Council of the European Union had regard to the Treaty of the Functioning of the European Union when setting out the requirements of the Directive.</p> <p>10. The submitters comments are noted in relation to their support for the proposed activities.</p>
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8. Emissions to Air

This section addresses the following:

- channelled emissions to air
- fugitive dust emissions
- greenhouse gases and climate impact
- odour

8.1 Channelled Emissions to Air

The existing licence sets out emission limit values for air emissions resulting from the manufacture of cement and also allows for the co-incineration of waste. Reassessment of these limit values is required for the purposes of the proposed changes by the licensee.

The table below gives details on all main channelled emissions (10 no.) at the installation, their location, the processes which gives rise to each emission, and whether the type of abatement is considered BAT.

There are a total of 117 other emissions points to air (including 23 new points since the last licence review) which, due to their emission characteristics are not considered environmentally significant and as such are not included in the modelling exercise.

This approach is consistent with previous licences issued for the ICP installation and other similar installations. The RD, as drafted, includes a 10mg/Nm³ ELV for particulates on each of these points.

There are an additional 7 minor emissions from boilers from the installation, which do not need to be controlled by the conditions or schedules or the licence, given that their thermal input is less than 250 kW.

Table 4: Channelled Emissions to Air

Main channelled emission point descriptions					
Emission Reference	Location	Proposed/ Existing	Process Description	Abatement	
				Description	BAT (Y/N)
A2-01	Raw Mill 1 and Coal Mill 1	Existing	Milling of raw materials	Electrostatic Precipitator	Y
A2-02	Kiln 2, Bypass, Raw Mill 2	Existing	Production of cement clinker/ Milling of raw materials	Electrostatic Precipitator	Y
A2-03	Coal Mill 2	Existing	Milling of Coal	Bag Filter	Y
A2-04	Cement Mill 1	Existing	Production	Bag Filter	Y
A2-05	Cement Mill 2 and Separator	Existing	Production	Bag Filter	Y
A2-06	Cement Mill 3 and Separator	Existing	Production	Bag Filter	Y
A2-07	Kiln 2 Grate Cooler	Existing	Production of cement clinker	Electrostatic Precipitator	Y
A2-08	Kiln 3, Bypass, Raw Mill 3, Coal Mill 3	Existing	Production of cement clinker/ Milling of raw materials/ Milling of Coal	Bag Filter	Y
A2-09	Kiln 3 Grate Cooler	Existing	Production of cement clinker	Electrostatic Precipitator	Y

Main channelled emission point descriptions					
Emission Reference	Location	Proposed/ Existing	Process Description	Abatement	
				Description	BAT (Y/N)
A2-10	Cement Mill 4 and Separator	Existing	Production	Bag Filter	Y

The main emissions to air are from the kilns. The main air emissions that emit gases from the combustion of waste are A2-01 (Raw Mill 1 and Coal Mill 1), A2-02 (Kiln 2), A2-03 (Coal Mill 2) and A2-08 (Kiln 3). Some of the exhaust gases from kilns are used for drying in the rawmills in order to maintain an inert atmosphere. Some of the exhaust gas from kiln 2 is used for drying in coal mill 2, which is then vented through the emission point A2-03. Some of the exhaust gas from kiln 3 is used for drying in raw mill 1/coal mill 1, which is then vented through the emission point A2-01. The off-gases from these emission points primarily contain particulates, sulphur dioxide and nitrogen oxides along with other pollutants listed in Table 6 of this report.

For the remaining 6 main emission points (A2-04, A2-05, A2-06, A2-07, A2-09 and A2-10) along with A2-01 and A2-03, during periods when combustion exhaust gas is not being vented through these points, the main pollutant of concern is particulates. Additionally, for all other air emission points (other than A3-107) particulates are the sole controlled contaminant. For A3-107 (Granulated Blast Furnace Slay Dryer Exhaust) limits have been set for oxides of sulphur, nitrogen oxides and particulates.

The licensee has previously requested a temporary derogation to extend the timeframe to install a bag filter on Cement Mill 1 (A2-04) in order to meet the dust BAT-AEL of <math><10-20 \text{ mg/m}^3</math>. The request was not accommodated by the P0030-05 licence. The licensee confirmed as part of the P0030-06 application process that the bag filter is now installed.

The licensee has sought no change in the existing emission limit values other than an increase in the volumetric flow rates from kiln 2 (A2-02), kiln 3 (A2-08) and cement mill 1 (A2-04). The following table sets out the current volumetric flow limits as specified in P0030-05 versus the limits proposed in the P0030-06 application.

Table 5: Volumetric flow rate in main air emission points versus proposed.

Reference	Current Licence Flow (P0030-05) (Nm ³ /h)	Application Flow (P0030-06) (Nm ³ /h)
A2-01	49,000	49,000
A2-02	400,000	650,000
A2-03	31,000	31,000

A2-04	18,500	35,000
A2-05	120,000	120,000
A2-06	135,000	135,000
A2-07	210,000	210,000
A2-08	477,878	650,000
A2-09	219,000	219,000
A2-10	110,000	110,000

The impact of emissions to air from combustion of additional wastes (including hazardous waste fuels) was assessed by updating the air dispersion model previously prepared by ICP for earlier licence review applications. The model is used to predict the ambient pollutant concentrations resulting from all main emissions.

For emission points A2-01, A2-02, A2-03 and A2-08, the parameters were modelled at the maximum requested ELVs of 500 mg/Nm³ for NO_x, 50 mg/Nm³ for SO₂, 10 mg/Nm³ for hydrogen chloride, 1mg/Nm³ for hydrogen fluoride, 50 mg/Nm³ for ammonia slip, 0.1 ng/Nm³ for dioxins and furans and 0.05 mg/Nm³ for mercury. The remaining parameters for emissions to air for these 4 points were also modelled in line with the ELVs set in the current licence (P0030-05). Furthermore, for all of the 10 main emissions to air, dust was modelled at the maximum ELV of 20 mg/Nm³.

The air dispersion modelling study has been carried out in accordance with the EPA's Air Dispersion Modelling from Industrial Installations Guidance Note (AG4) using the EPA approved Breeze AERMOD computer package (Version 18081, released April 2018). The modelling was considered sufficiently detailed and conservative to adequately assess the impact of the main emissions to air.

The modelling used 5 years of hourly meteorological data from the Dublin Airport meteorological station (2010 to 2014 inclusive). For background air quality, the modelling used 2014 to 2016 Agency air monitoring data (Zone C). Terrain data has been incorporated into the modelling assessment and building wake effects have also been taken into consideration. The modelling approach is based on the adoption of the following 'worst case' scenario.

The EPA's Air Dispersion Modelling from Industrial Installations Guidance Note (AG4) requires that the process contribution (PC) from industrial installations is added to the background concentration (BC) to obtain the predicted environmental concentration (PEC). In order to assess the impact, each PEC is compared with an appropriate environmental assessment level (EAL). In this case the appropriate EALs are the relevant air quality standards as specified in the Air Quality Standards Regulations, 2011 S.I. No 180 of 2011 and Air Quality Standards Regulations, 2009 S.I. No 58 of 2009.

The table below gives details of the predicted impact of the pollutants which are considered characteristic of the proposed air emissions.

Table 6: Air Impact Assessment

Parameter	Averaging Period	Background concentration ($\mu\text{g}/\text{m}^3$)	Process contribution to PEC ($\mu\text{g}/\text{m}^3$)	PEC ^{Note 1} ($\mu\text{g}/\text{m}^3$)	PEC as % of Air Quality Standard	Air Quality Standards/ Guidelines ($\mu\text{g}/\text{m}^3$) <small>Note 2</small>
Nitrogen Dioxide	Annual	7.1	1.49	8.59	21.5%	40
	99.8%ile	14.2	24	38.2	19.1%	200
Nitrogen Oxides (as NO ₂)	Annual	11.3	5.3	16.6	55.3%	30
Sulphur Dioxide	1 hour (99.73%ile)	6.2	8.21	14.41	4.1%	350
	24 hour (99.18%ile)	3.1	3.6	6.7	5.4%	125
	Annual	3.1	0.53	3.63	18.2%	20
CO	Maximum 8 hour	300	88.19	388.19	3.9%	10,000
PM ₁₀	Daily (90.4%ile)	16.9	8.5	25.4	50.8%	50
PM ₁₀	Annual	16.9	3.1	20	50%	40
PM _{2.5}	Annual	10.5	2.1	12.6	50.4%	25
Dioxins	Annual	0.000000058	0.000000011	0.0000000596	19.87%	0.0000003 <small>Note 3</small>
TOC	Annual	0.4	0.11	0.51	10.2%	5
	98%ile hourly	1.2	1.14	2.34	4.68%	50

Note 1: Predicted Environmental Concentration (PEC) = process contribution + background concentration.

Note 2: Air Quality Standards Regulations, SI 58/2009 and 180/2011, unless otherwise stated.

Note 3: WHO indicative value, WHO Air Quality Guidelines for Europe, 2nd Edition, 2000

As can be seen from table above, the predicted environmental concentrations are well below the relevant air quality standards or guideline values. The air dispersion model also predicted the impacts of a number of additional pollutants including metals which were all deemed to be significantly below the relevant air quality standards.

The air dispersion modelling undertaken in support of the request concludes that there will be no non-compliance with air quality standards in the vicinity of the installation as a result of these increases.

In addition to this and due to the proximity of the Indaver Ireland Ltd's (W0167-03) incinerator, a cumulative assessment of the impact on air quality from both the ICP and Indaver installations was submitted. This additional modelling assessment showed that all predicted cumulative ground level concentrations were in compliance with air quality standards. The highest concentration recorded, as a percentage of the relevant AQS, was for nitrogen oxides at 57.1%.

Additionally, the licensee submitted a Human Health Risk Assessment (HHRA) as part of the Health Assessment section of the EIAR, which comprises of an assessment of potential future emissions of polychlorinated dibenzodioxins, polychlorinated dibenzofurans and dioxin-like polychlorinated biphenyls (PCDD/Fs) from the installation. The methodology was to assess the worst-case scenario in terms of exposure pathways with a particular focus on the ingestion of food and soil against the USEPA's Human Health Risk Assessment Protocol. As part of the assessment, the PCDD/F content of soil samples as well as the worst case potential emission rate of PCDD/Fs (cement works operating continuously and emitting at the ELV for PCDD/F of 0.1 ng/m³) were considered. The Protocol was compared against the Tolerable Daily Intake recommended by the UK Committee on Toxicity in Chemicals in Food, Consumer Products and the Environment (COT) for dioxins, furans and dioxin-like PCBs of 2 picograms/kg bodyweight /day.

The assessment found that for all receptor scenarios the intake of PCDD/Fs that could arise from potential emissions from ICP are well below the limit of 2pg/kg/day for the protection of human health based on UK and WHO guidance. The conclusion was reached while considering the worst-case approach adopted and the worst-case exposure scenario considered throughout the assessment. It would be expected that the actual scenario will not present the same degree of risk as the scenario modelled.

In light of this, the increases in volumetric flow proposed by the licensee have been reflected in Schedule C of the RD. Furthermore, the ELVs have been set with regard to the emission rates modelled by the licensee. These emission limit values are in accordance with the CID for the production of cement, lime and magnesium oxide (2013/163/EU) as well as the Industrial Emissions Directive (2010/75/EU). The IED limits are applied to those emission points associated with co-incineration processes, whereas the BAT-AELs are applied throughout.

In relation to SO_x, as previously stated some of the exhaust gas from kiln 2 is periodically vented through coal mill 2 in order to maintain an inert atmosphere. Previously an ELV of 390 mg/Nm³ was set for SO_x at these points (A2-02 and A2-03) as kiln 2 was fuelled by petcoke and coal. However, given that it is now proposed to mainly fuel kiln 2 with waste the IED limit of 50 mg/Nm³ now applies. The limit of 50

mg/Nm³ for SO_x was already set for kiln 3 (A2-08) and Raw Mill 1/Coal Mill 1 (A2-01) in the current licence (P0030-05).

In relation to NO_x, the current licence (P0030-05) states that for A2-01 and A2-08, the ELV of 500 mg/Nm³ shall apply only on the provision, to the satisfaction of the Agency, verification of the ammonia use and annual average NO_x emissions data, and of the validity of the performance guarantee, as stated in the objection to the Proposed Determination (for P0030-5). Otherwise, an ELV of 450 mg/Nm³ shall apply. BAT 19 of the CID for the production of cement, lime and magnesium oxide (2013/163/EU) states that the upper level of the BAT-AEL range is 500 mg/Nm³, if the initial NO_x level after primary techniques is >1,000 mg/Nm³. The information specified above was submitted to the OEE and the ELV of 500 mg/Nm³ was approved by the Agency for A2-01 and A2-08 on 28/05/2018. This ELV has been included in Schedule C of the RD.

Otherwise the majority of ELVs in the RD remain unchanged from the current licence P0030-05. The exceptions to this are as specified above including volumetric flow rates (for A2-02, A2-04 and A20-04) and the SO_x ELV for emission points A2-02 (kiln 2) and A2-03 (coal mill 2). The proposed volumetric flow rates for A2-02, A2-04, and A2-08 are now 650,000 Nm³/h, 35,000 Nm³/h and 650,000 Nm³/h respectively.

Therefore, for emission points A2-01, A2-02, A2-03 and A2-08, the ELVs have been set as follows: 500 mg/Nm³ for NO_x, 50 mg/Nm³ for SO_x (as SO₂), 10 mg/Nm³ for hydrogen chloride, 1 mg/Nm³ for hydrogen fluoride, 50 mg/Nm³ for ammonia slip, 0.1 ng/Nm³ for dioxins and furans and 0.05 mg/Nm³ for mercury. The remaining ELVs for these 4 emissions to air are specified in Schedule C of the RD. Furthermore, for all of the 10 main emissions to air, a dust ELV of 20 mg/Nm³ applies. These ELVs are reflective of what was modelled by the applicant which demonstrated that all parameters will remain significantly below the relevant air quality standards.

The proposed emission limit values for emissions to air are set out in Schedule C of the RD. Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C. Schedule C also sets out the monitoring requirements for emissions to air.

Condition 4 of the RD includes a number of additional interpretations in relation to monitoring of emissions to air to what is in the current licence P0030-05. These include interpretations in relation to mass flow thresholds, reference oxygen values and non-continuous monitoring of emissions to atmosphere from co-incineration of waste.

8.2 Climate Impact

Climate change is a significant global issue which affects weather and environmental conditions (air, water and soil) which consequently affects human resources (population and human health) and amenities (material assets and cultural heritage) as well as biodiversity. Climate change is caused by warming of the climate system by enhanced levels of atmospheric greenhouse gases (GHG) due to human activities.

In June 2019, the Irish Government released the 'Climate Action Plan, 2019'. The Plan outlines the current state of play across key sectors in Ireland including Electricity,

Transport, Built Environment, Industry and Agriculture and charts a course towards decarbonisation targets. A sectoral breakdown of industrial emissions indicates that manufacturing combustion and process emissions from the mineral industry (primarily cement manufacture) account for the most significant share of emissions in this sector. A key action item in relation to cement manufacture is the use of alternative fuels in the cement fuel mix. The plan seeks to increase the use of alternative fuels, such as Solid Recovered Fuels (SRFs) and other waste streams substituting for fossil fuels to 80% by 2030, the rate currently stands at approximately 30%.

The table below outlines the sources of GHG emissions from the activity (proposed and existing) and provides details of the associated GHG permit.

Table 7: Details of greenhouse gas emissions from the installation

Greenhouse gas emissions	
Sources of GHG emissions from the activity	Kilns 2 and 3 Emergency Stand-by Generators Cement Mill Stand-by Furnace Acetylene – Mobile Welding Slag dryer Central Heating and Hot Water Boilers
Relevant GHG gases	Carbon Dioxide
GHG Permit Number	IE-GHG043-10364-4
Total annual emission of CO ₂ from the activity	The verified CO ₂ emissions for 2018 was 1,004,539 tonnes

As a GHG permit holder the licensee participates in the EU Emission Trading Scheme for reducing industrial greenhouse gas emissions.

Regarding reducing the climate impact of the installation under IED, the RD requires energy efficiency and use of cleaner production to be addressed as part of the Environmental Management System. It also requires an energy efficiency audit and assessment of resource use efficiency to be undertaken in accordance with Condition 7. It is considered that the impact of greenhouse gas emissions from the installation are primarily controlled and addressed by the GHG permit. Measures are also specified in the RD to ensure energy and resources are used efficiently.

It is considered that the likelihood of accidental emissions occurring which could impact on climate is low considering the measures outlined in Section 12 Prevention of Accidents and the conditions in the RD. Given the quantity of climate altering substances that could be released, in a national context, I consider that the impact of any accidental emissions from the installation on climatic considerations should be minimal.

Furthermore, BAT conclusion no. 6 limits the energy consumption levels at new cement plants and following major upgrades to 2,900 – 3,300 MJ/tonne of clinker manufactured. This limitation is included in *Schedule D Energy Consumption Performance* of the RD and becomes applicable following any major upgrade at the installation. A “*major upgrade*” is defined in the CID as being an upgrade of the plant/kiln involving a major change in the kiln requirements or technology, or replacement of the kiln. The purpose of the limitation is to drive the use of energy-saving techniques in the selection of new or upgraded plant. The change to co-incineration is not considered a ‘*major upgrade*’ under the terms of the CID.

Furthermore, as discussed in Section 3.6 of this report, the licensee proposes to use excess heat from the process to generate up to 7.5 Megawatts (MW) of electricity on site. This is equivalent to approximately 25% of the electricity needs of the installation. This project will reduce annual CO₂ emissions (potentially up to 23,000 tonnes reduction) in Platin arising from the use of electricity currently sourced from the national grid.

The current GHG Permit will be the subject of a review by the Agency prior to the acceptance of additional waste for co-incineration at the installation.

8.3 Fugitive Dust

Fugitive dust emissions at the installation arise in the form of dust generated from petcoke stockpiles, quarry and site haul roads and blasting operations.

It is proposed to store all new waste types onsite in purpose built buildings, tankers and silos. As a result, no new fugitive emissions area likely due to the new activities.

Condition 6 of the RD imposes additional stringent requirements on the control and minimisation of fugitive dust emissions arising from the operations on site to what was previously included in the current licence P0030-05. Schedule C of the RD specifies the emission limit value and frequency of monitoring at the dust deposition gauges associated with the installation.

8.4 Odour

All wastes for use as alternative fuels will be prepared off-site to the required specification to ensure that the material meets the requirements for a suitable alternative fuel. Delivery of the wastes to the installation will be subject to a declaration of conformity from the supplier and quality testing on arrival to ensure it meets the required standard. Any non-conforming deliveries will not be accepted at the installation and will be returned to the supplier. Contracts for the supply of waste will be on the basis of ‘just in time’ deliveries.

Therefore, there will be no long term storage of waste at the installation. For most wastes there will be storage of no more than 3 or 4 days. The only exception to this is used tyres where up to 12 to 14 days storage is possible where they will be stored in a purpose-built open storage yard. No odours will be generated from the tyres. For all other wastes they will be delivered in sealed containers/ tankers and transferred

to purpose built enclosed buildings, silos or tanks. They will then be transferred or pumped directly from the handling buildings, silos or tanks via enclosed pipes or conveyors directly to the cement kilns. Therefore, no odour issues are likely to arise off site.

Condition 5 of the RD states that no emissions, including odours, from the activities carried on at the site shall result in an impairment of, or an interference with amenities or the environment beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary. Condition 6 reinforces this by stating that the licensee shall provide and use measures for the prevention of odour emissions from the installation. The RD also requires the licensee to undertake an odour impact assessment at the installation no less than once every three years. Furthermore, Condition 8 of the RD requires that any rejected waste shall be stored under appropriate conditions to avoid loss to the environment, putrefaction, odour generation, the attraction of vermin and other nuisances of objectionable condition.

9. Discharges to Water and Ground

9.1 Emissions to Waters

ICP has one combined discharge to the River Nanny at SW4. The combined discharge is made up of three separate discharges from the installation:

1. Discharge from settlement tanks for treated process water and surface water run-off (SW1);
2. Discharge from the on-site waste water treatment plant for on-site domestic effluent (SW3);
3. Discharge of pumped groundwater from beneath the quarry floor.

The groundwater makes up approximately 81.9% of the discharge, while the surface/process water and treated wastewater make up 18% and 0.1% respectively. The combination of the above discharges through a single discharge point (SW4).

The discharge is conveyed in a 2,637m long, 610mm diameter underground pipeline from the cement factory to the outfall point into the receiving waters of the River Nanny. The outfall pipe runs under roads and agricultural land and outfalls into the River Nanny south of the factory just off the R150 regional road.

There are no new or varied emissions to surface water proposed in this licence review. The increase of waste quantities accepted at the installation will not result in any additional emissions to surface water. There will be a minor amount of additional rainwater runoff from the new storage structures.

The total additional impermeable area from new proposed buildings will be 1.9 ha. The EIAR states that the impermeable area of approx. 17.5 ha for the developed area of the full site this represents an increase of 10.1%. In addition, the new buildings will generally be located on ground that is currently hard-standing so no significant change to the current drainage regime will occur. The runoff from the roofs of the

new structures will be collected in a storm water drain which will be connected to the overall site drainage network.

The European Communities Environmental Objectives (Surface Water) Regulations, 2009 as amended, require that discharges to surface waters are controlled such that environmental objectives and environmental quality standards are achieved.

In December 2018 the licensee supplied a surface water mass balance of the site discharge to the Nanny. Existing flows and background level of the Nanny were supplied along with details of the licenced discharge at the ELVs. Analysis of BOD discharges at the current ELV show that the existing emissions increase the background from 1.3 mg/l to 1.55 mg/l relative to the EQS of 2.6 mg/l (good status at 95%ile for a river water body) indicating the effect is not significant. The licensee states that this discharge will remain unchanged as part of the proposed development and once the increased hardstand area does not result in any breaches of the 28,000 m³/day volumetric flow limit, the effect will be negligible relative to the existing discharge.

An aquatic monitoring survey completed in 2016 and submitted as part of the application concludes that the receiving surface water (River Nanny) is in an unsatisfactory ecological condition. However, this report concludes that the discharge from ICP is considered to be having a neutral impact on the aquatic ecology of the local areas of the River Nanny.

The current river status of the River Nanny (IE_EA_08N010700) at the discharge point from ICP is 'Poor' under the Water Framework Directive (2010-2015). This status is resulting from high nutrients in the river system. The most significant pressures on the River Nanny are agriculture and channelization.

As there are no proposed changes to the quantities or composition of the discharge, the maximum allowable discharge from the installation to the River Nanny remains at 28,000 m³/day, equivalent to an average of 0.32 m³/s. Given the continued poor status of the receiving water, the emission limit value for BOD is proposed to remain at 2.6 mg/l to ensure that the EQS for BOD (also 2.6 mg/l) is not exceeded. All remaining parameters specified in the current licence limits for this emission (temperature, pH, suspended solids, mineral oil, toxicity, lead, copper, zinc) have been carried forward in the RD.

All limits specified for the proposed emissions are considered compliant with the requirements of the EO Surface Waters Regulations, including the WFD's requirements for Protected Areas.

Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C sets out the monitoring requirements for emissions to water.

Schedule C of the RD states that where the flow limit is exceeded at SW4 or SW1 due to extreme meteorological conditions (e.g. heavy rain), the licensee is required to notify the Agency in accordance with the provisions of Condition 11 of the RD.

Condition 5 of the RD also includes a new condition since the current licence that states that there shall be no discharges to surface water other than stormwater, pumped groundwater, treated sewage effluent. Condition 6 of the RD also includes a new conditions that states there shall be no discharge of liquids arising within the buildings housing fine and coarse solids, waste for raw materials or waste for alternative fuels. Liquids arising within these buildings shall be contained within the buildings and collected for safe disposal.

9.2 Emissions to Sewer

There are no process emissions to sewer at the installation.

9.3 Discharges to ground/groundwater

There are no process emissions to ground or groundwater at the installation. However, a fundamental part of the quarrying operations at the installation is the abstraction of groundwater from the quarry floor.

As previously stated, the groundwater monitoring results for GW1 have shown elevated results of chloride and potassium since 2015. In June 2019, ICP commissioned an investigation into these elevated levels of chloride and potassium. The report states that off-site sources of potassium and chloride typically associated with agricultural practices in the region, may impact the quarry boundary for example through localised run-off or through existing routes for example the water course to the south-west of the installation. The report suggests that dewatering at the quarry may also '*draw in*' such off-site sources including chloride. OEE have carried out an investigation into the potential impact of the storage of FDPC on groundwater, as detailed in Section 3.5 of this report. There is no evidence of impact from the storage of FDPC on the groundwater to date.

ICP abstract water from the quarry in order to manage the water levels in the quarry. ICP have registered their ongoing water abstraction with the EPA in accordance with the European Union (Water Policy) (Abstractions Registration) Regulations 2018 (S.I. No. 261 of 2018). Their water abstraction registration number is R00237-01 and ICP have declared a maximum daily volume abstraction of 18,000 m³/day.

The aquifer beneath the site, which is part of the Bettystown groundwater body, is a regionally important bedrock aquifer. The groundwater body is classified as 'poor' for the purposes of the WFD, and is classified as 'at risk'. The assigned poor status is due to the overall relative ratio of abstraction to groundwater recharge and the associated falling water levels in the groundwater body. Following consultation with the Office of Evidence and Assessment (OEA) of the EPA, monitoring results show that groundwater levels are falling around the quarry since 2000, and the decrease in the water table around the quarry forms a cone of depression around it, which indicates that the abstraction at the quarry is unsustainable and is likely having an impact on groundwater levels in the region.

Condition 6 of the RD requires the licensee, on an annual basis, to prepare and submit to the Agency a dewatering monitoring report. This report shall pay particular attention to the impacts (physical and chemical) of the dewatering activities on the groundwater environment (water table, cone of depression, base flow to surface waters, etc.), the surface water environment and ecological habitats in the vicinity of the installation and downstream of SW-4 as appropriate. Furthermore, the existing licence's requirement for biannual monitoring of groundwater abstracted from beneath the quarry floor is maintained in the RD.

Condition 6 requires the licensee to annually assess groundwater monitoring data and determine compliance under this licence with the European Communities Environmental Objectives (Groundwater) Regulations 2010, S.I. No 9 of 2010 as amended. In the event of a failure to demonstrate compliance with those regulations or if instructed by the Agency, the licensee shall arrange for the completion, by an appropriately qualified consultant/professional, of a hydrogeological risk assessment as set out in Condition 6 of the RD.

Condition 5 of the RD includes a new condition since the current licence that states that no potentially polluting substance or matter shall be permitted to discharge to ground or groundwater under the site. Condition 3 also requires that any liquid recovered fuels shall be stored under a nitrogen gas blanket in tanks protected against over-filling.

10. Noise and Vibration

The installation operates 24 hours per day. The main sources of noise at the installation include blasting operations as well as the kilns and cement mills particularly the fans and drives from same. The main plant items that can generate noise are enclosed within buildings which are designed to reduce noise impact.

There has been no history of noise complaints in recent years at the installation.

No major noise sources are proposed as part of the new development. The new development mainly consists of the provision of storage areas for the additional wastes for alternative fuels and raw materials. Conveyors will be provided to transfer fuels and materials to kilns 2 and 3. These conveyors will be enclosed and are not likely to generate significant noise.

As part of the current licence, a noise monitoring survey is carried out annually at three noise sensitive receptors outside the boundary. Historical data from these surveys indicate that the installation is generally compliant with the licence limits, with the exception of one non-compliance in 2017.

Standard noise conditions and emission limit values, which apply at the noise sensitive locations, have been included in the RD.

The EPA *Guidance Note for Noise: Licence Applications, Surveys and Assessments in relation to Schedule Activities (NG4) 2016* specifies the following noise limits:

Daytime (07:00 to 19:00hrs) – 55dB LAr,T

Evening (19:00 to 23:00hrs) – 50dB LAr,T
Night-time (23:00 to 07:00hrs) – 45dB LAeq,T

These ELVs have been carried forward into the RD.

Furthermore, air overpressure caused as a result of blasting at the quarry is subject to an emission limit value of 125dB (Lin)_{max peak} with a limit of 12mm/second specified for Vibration, as per *Schedule C Emission, Monitoring and Control* of the RD.

Condition 6 of the RD in relation to noise, vibration and air overpressure has been updated to reflect the requirements of the Agency guidance 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)'.

11. Waste Generation

The activity does not produce significant quantities of waste and is mainly municipal type waste from office and welfare facilities onsite. All waste generated on site is transported and recovered/disposed off-site in accordance with National and European Legislation.

Non-hazardous (municipal, packaging, construction and demolition) and hazardous (e.g. mineral oils) wastes are generated at the facility and dispatched for recovery and disposal by authorised contractors. The proposed use of additional wastes as alternative fuels will not result in the generation of new waste streams that require management by ICP.

Overburden — a naturally occurring material of soil and stone from the on-site quarry has historically been deposited at an overburden mound within the licensed area of the installation. Overburden is now commonly used in the cement manufacturing process as an alternative to imported shale. However, there remains a quantity of material that is surplus and requires disposal. Condition 8 of the RD states that only extractive waste shall be deposited at the overburden mound. Condition 2 of the RD requires the licensee to maintain and implement a Waste Management Plan (to be known as an Extractive Waste Management Plan) for the minimisation, treatment, recovery and disposal of extractive waste. This Plan shall meet the requirements of Regulation 5 of the Waste Management (Management of Waste from the Extractive Industries) Regulations, 2009.

The RD requires that disposal or recovery of waste on-site shall only take place in accordance with the conditions of this licence and in accordance with the appropriate National and European legislation and protocols.

If dealt with in accordance with the conditions of the RD, the management of waste generated at the facility will be in accordance with the requirements of Article 11(e) of the Industrial Emissions Directive.

12. Use of Resources

The licensee has provided a comprehensive list of resources consumed at the installation; these are listed in the review application form.

The operation of the installation involves the consumption of water, oil and petroleum coke. The estimated quantities used in 2018 are given below.

Resource	Quantity per annum
Petroleum Coke	143,341 tonnes
Water	21,513 m ³
Diesel/ Light Fuel Oil (m ³)	1,459 m ³

No additional waste will be required as a result of the introduction of alternative fuels to the installation. There are two separate sources of bulk water to the site. The first is the internal groundwater supply from the quarry which is pumped to a ground level tanks of 2,000 m³ capacity and then pumped for use in the process (ICP's maximum daily volume abstraction from the quarry is 18,000 m³/day – all excess groundwater not used in the process is discharged to the River Nanny via SW4). The second is a supply from a reservoir which draws from the Drogheda Corporation supply. The groundwater is the main supply to the installation with the reservoir supply as a backup. A separate domestic supply is drawn from a Meath County Council water main.

It is intended that the increase in waste used as an alternative fuel for the cement making process will substantially reduce the quantity of petroleum coke being used on-site. ICP are proposing to replace over 85% of the petcoke by using waste as alternative fuels at the installation.

BAT conclusion no. 6 limits the energy consumption levels at new cement plants and following major upgrades to 2,900 – 3,300 MJ/tonne of clinker manufactured. This limitation is included in Schedule D of the RD and becomes applicable following any major upgrade at the installation. A "major upgrade" is defined in the CID as being an upgrade of the plant/kiln involving a major change in the kiln requirements or technology, or replacement of the kiln. The purpose of the limitation is to drive the use of energy-saving techniques in the selection of new or upgraded plant.

Hazardous Materials

Table G.1(i) of the application (updated table received 19/11/2018) provides details the process raw materials, intermediates and products used and generated at the installation. These materials included a number of hazardous laboratory chemicals, engineering materials and chemicals for the installation of bricks in the kiln. As previously stated, the licensee is also proposing to accept 50,000 tonnes of hazardous waste on site for co-incineration. The hazardous wastes to be accepted at the installation are listed in Appendix 6 & 7 of this report.

The RD specifies a number of measures to be put in place to protect soil, groundwater and surface water from any potential spills or leaks of hazardous materials. Condition 3 of the licence specifies measures to be put in place in relation to bunding around tank, container and drum storage areas. Conditions 3 specifies measures to be put in place to capture leaks from flanges and valves of all over-ground pipes used to transport material other than water. Condition 6 requires that a weekly inspection is carried out for leaks on all flanges and valves on over-ground pipes used to transport materials other than water.

Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years. Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off. Condition 8 set out measures to be put in place for any waste deemed unsuitable for processing at the installation.

13. Prevention of Accidents

There is potential for accidents or hazardous/ emergency situations to arise from activities at the installation. Such situations may include:

- Potential for fire due to large quantities of waste/ fuel stored at the installation.
- Potential for failure of tanks/ pipelines/ road tankers due to corrosion or external impact or fire.
- Potential for dust release from filters/ silos/ storage areas/ kilns/ transport systems.

The conditions of the RD provide for the storage and use of these substances in a manner that seeks to prevent/mitigate accidents and environmental pollution.

The following requirements set out in the RD are examples of measures that will mitigate the risk of accidents occurring and thereby preventing any consequent environmental pollution:

- Environmental Management System, incorporating an environmental management plan and a range of programmes including preventative maintenance, staff training and statements of policy and responsibility;
- Condition 6 of the RD details extensive control measures on the maintenance, calibration and operating controls for dust mitigation technology on site;
- Bunding of materials storage areas and catchment systems for leaks for the containment of spills, leaks and overflows as may occur. Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years;
- Firewater retention requirements to ensure polluted firewater is not discharged directly to the natural environment;

- Prohibitions on the introduction of waste into the cement kiln in the absence of adequate operating conditions, namely temperature and residence time, thereby avoiding environmental emissions due to incomplete combustion of waste;
- Test programmes for the co-incineration of new waste streams, to ensure that no unintended reactions or off-gases arise as a result of waste being introduced into the cement kiln;
- Prohibition on the establishment of a Category A extractive waste facility thereby avoiding the environmental and health and safety risks potentially arising at such facilities;
- Extensive waste acceptance criteria to ensure that only waste that is authorised and has been demonstrated as having no significant environmental impact as a result of its use at the installation is accepted.
- Condition 9 of the RD requires the licensee, to ensure that a documented Accident Prevention Procedure is in place that addresses potential hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. Condition 9 of the RD requires the licensee to have a documented Emergency Response Procedure in place that addresses any emergency situation on-site which should include provision for minimising the effects of any emergency on the environment.
- Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off.
- Condition 3 of the RD requires the licensee to ensure that all pumps sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as area likely to breach local or remote containment or separators, are fitted with high liquid level alarms. Furthermore, Condition 3 of the RD requires the licensee to apply a leak detection system in accordance with BAT to all storage tanks, container and drum storage areas that contain liquid material other than water.
- Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C also sets out the monitoring requirements for emissions to air, water, noise, vibration and air overpressure emissions.

Condition 9 of the RD requires procedures to be put in place to prevent accidents with a possible impact on the environment and to respond to emergencies so as to minimise the impact on the environment. An Environmental Liabilities Risk Assessment (ELRA) has also been submitted with the application. (see Fit and Proper Person Assessment section below for further details).

The risk of accidents and their consequences, and the preventative and mitigation measures listed above, have been considered in full in the assessments carried out throughout this report.

It is considered that the conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

14. Cessation of activity

The application details a range of measures to be employed upon cessation of the activity. These include:

- Decommissioning of all the above and underground structures,
- Removal of all fuel and residual substances related to the activity from the site, and
- All waste material will be collected and stored on site pending recovery/disposal.
- Removing all plant and machinery from the quarry, ceasing dewatering and providing adequate fencing and landscaping around the perimeter.

Condition 10 of the RD requires the proper closure of the activity with the aim of protecting the environment. A Closure, Restoration and Aftercare Management Plan (CRAMP) has also been submitted with the application. (see Fit and Proper Person Assessment section below for further details).

Baseline Report

Article 22(2) of the IED requires that where the activity involves the use, production or release of relevant hazardous substances and having regard to the possibility of soil and groundwater contamination at the site of the installation, the operator shall prepare and submit to the competent authority a baseline report before the revision of a licence. A baseline report was submitted as part of the application for the current licence (P0030-05) and was submitted again as part of the current application (P0030-060).

The baseline report is a tool that permits, as far as possible, a quantified comparison between the state of the site described in that report and the state of the site upon definitive cessation of activities, in order to ascertain whether a significant increase in pollution of soil or groundwater has taken place.

Schedule C of the RD updates the groundwater and soil monitoring schedule to include relevant hazardous substances identified in the baseline report. Condition 6 requires an annual assessment of groundwater monitoring results in the context of European Communities Environmental Objective (Groundwater) Regulations, 2010, as amended.

On cessation of the activity where the installation has caused significant pollution of soil or groundwater, Condition 10 of the RD requires the licensee to take measures to address the pollution and to return the site to the state established in the Baseline Report, or otherwise to take actions aimed at the removal, control, containment or reduction of hazardous substances so that the site ceases to pose a significant risk to human health or the environment.

15. Appropriate Assessment

Appendix 2 lists the European Sites assessed, their associated qualifying interests and conservation objectives along with the assessment of the effects of the activity on the European Sites.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activities, individually or in combination with other plans or projects are likely to have a significant effect on any European Site. In this context, particular attention was paid to the European Site(s) listed in Table 8 below:

Table 8: European Sites considered

<i>Site Code</i>	<i>European Site Name</i>
002299	River Boyne and River Blackwater SAC
001957	Boyne Coast and Estuary SAC
001459	Clogher Head SAC
004232	River Boyne and River Blackwater SPA
004080	Boyne Estuary SPA
004158	River Nanny Estuary and Shore SPA

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

This determination was based on the following:

Due to the nature and scale of the activities and the potential impacts such activities may have on the qualifying interests of the European Sites listed above.

An Inspector's Appropriate Assessment has been completed and has determined, based on best scientific knowledge in the field and in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011 as amended, pursuant to Article 6(3) of the Habitats Directive, that the activities, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site, in particular those listed in Table 8 above, having regard to their conservation objectives and will not affect the preservation of these sites at favourable conservation status if carried out in accordance with this recommended determination and the conditions attached hereto for the following reasons:

- Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C also sets out the monitoring requirements for emissions to air, water, noise, vibration and air overpressure emissions;
- Air dispersion modelling was assessed as part of the licence review and concluded that there would not be a significant impact on air quality as a result of the activities at the installation;
- Condition 4 also refers to the limitations on the vibration and air-overpressure levels during blasting activities;
- Condition 9 of the RD requires the licensee, to ensure that a documented Accident Prevention Procedure is in place that addresses that hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. Condition 9 of the RD requires the licensee to have a documented Emergency Response Procedure in place that addresses any emergency situation on-site which should include provision for minimising the effects of any emergency on the environment;
- Condition 3 of the RD requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines '*Storage and Transfer of Materials for Scheduled Activities*' (2004), which will minimise the potential for contamination of soil/groundwater;
- Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years;
- Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off;
- Condition 3 of the RD requires the licensee to ensure that all pumps sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separators, are fitted with high liquid level alarms;
- Condition 3 of the RD requires the licensee to carry out a risk assessment in relation to fire-water retention facilities at the installation; and
- Condition 3 of the RD requires the licensee to apply a leak detection system in accordance with BAT to all storage tanks, container and drum storage areas that contain liquid material other than water.

In light of the foregoing reasons no reasonable scientific doubt remains as to the absence of adverse effects on the integrity of those European Sites listed in Table 8 above.

16. Planning Permission, EIS and EIA Requirements

16.1 EIA Screening

In accordance with Section 83(2A) of the EPA Act 1992 as amended, the Agency must ensure that before a licence or revised licence is granted, that the application is made subject to an environmental impact assessment (EIA), where the activity meets the criteria outlined in Section 83 (2A)(b) and 83 (2A)(c). In accordance with the EIA Screening Determination, the Agency has determined that the activities are likely to have a significant effect on the environment, and accordingly is carrying out an assessment for the purposes of EIA.

The activity is a type of project specified in Schedule 5 of the Planning and Development Regulations 2001 as amended: *All installations for the manufacture of cement.*

An Environmental Impact Assessment Report (EIAR) was submitted by the licensee in support of this IE licence application on 26/10/2017.

16.2 Planning Status

A number of planning applications have been made by the licensee for the area within the installation boundary. Details of these planning applications and permissions have been provided in this application form.

Planning permission 17.PA0050 was granted in 2018 by An Bord Pleanála to authorise the construction phase of the project and permission for the increased use of waste as alternative fuels/raw materials. An Bord Pleanála determined that this development is likely to have a significant effect on the environment and that an EIA is required. The EIAR associated with 17.PA0050 was provided to the Agency by the licensee on 26/10/2017 for consideration as part of the review application.

Having reviewed the planners reports for previous planning permissions, it is considered that the EIAR submitted with the licence application, along with the licence application and the further information received, contains adequate information to inform the Agency's assessment and that the EISs relating to previous planning permissions are not required for the Agency's assessment.

16.3 Content of EIAR and licence application

I have considered and examined the content of the licence application, the EIAR and other relevant material submitted with it.

Further information was sought from the licensee on the following issues:

1. EIAR authors expertise
2. Population and Human Health
3. Biodiversity
4. Climate
5. Vulnerability to Risks/Disasters

On receipt of further information from the licensee, all of the documentation received was examined and I consider that the EIAR complies with the provisions of Article 5 of the 2014 EIA Directive when considered in conjunction with the additional material submitted with the application and when supplemented by my assessment as contained in this report.

16.4 Environmental Impact Assessment Directive

Having specific regard to EIA, this Inspector's report as a whole is intended to identify, describe and assess for the Agency the likely significant direct and indirect effects of the activity on the environment, as respects the matters that come within the functions of the Agency, for each of the following environmental factors as set out in the 2014 EIA Directive (Directive 2014/52/EU): Population and Human Health, Biodiversity, Land, Soil, Water, Air, Climate, Material Assets, Cultural Heritage and the Landscape.

This Inspector's report addresses the interaction between those effects and the related development forming part of the wider project. The cumulative effects, with other developments in the vicinity of the activity have also been considered, as regards the combined effects of emissions. In addition, the vulnerability of the activity to risks of major accidents and/or disasters has been considered. The mitigation measures proposed to address the range of predicted significant effects arising from the activity have been outlined. This Inspector's report provides conclusions to the Agency in relation to such effects.

As part of this assessment I have carried out an examination, evaluation and analysis of the following:

- the existing licence, Register Number: P0030-05;
- the review application, Register Number: P0030-06 and the supporting documentation received from the licensee;
- the EIAR;
- RPS Environmental Impact Assessment Review;
- the submissions received;
- the comments received back through consultations; and
- the documents associated with the assessments carried out by ABP and the issues that interact with the matters that were considered by that authority and which relate to the activity.

The review application has been reviewed against the amended EIA Directive 2014/52/EU and its associated regulations and guidelines.

16.5 Alternatives

The matter of alternatives is addressed in Chapter 3 of the EIAR.

Section 3.9 states that the consideration of alternative development locations was neither realistic nor practicable given that ICP is an established operational cement manufacturing installation, which already has permission for the co-incineration of waste as alternative fuels. Therefore, section 3.9 considers several alternative

scenarios within the installation boundary. The 3 scenarios considered are the 'Do-nothing' (Alternative 1), the 'Do-something' (Alternative 2) and the 'Do-maximum' (Alternative 3) scenarios. Each alternative examines the CO₂ savings and the fossil fuel consumption associated with the proposed waste acceptance for co-incineration.

Alternative 3 reflects the waste acceptance tonnages originally proposed at the installation for waste acceptance for co-incineration of 600,000 tonnes per annum. This waste acceptance tonnage was limited by An Bord Pleanála's decision (planning reference 17.PA0050) to 465,000 tonnes per annum. In recent information submitted by the licensee (received by the Agency on 12/03/2019), it is still considered that this will result in the most preferable outcome in terms of providing for significant CO₂ emissions (approximately 314,000 tonnes of CO₂ savings per year). Furthermore, this alternative will result in the most significant reductions in the use of non-renewable natural resources.

In this regard I consider that the matter of the examination of alternatives has been satisfactorily addressed.

16.6 Population and Human Health

16.6.1 Identification of Effects

Population and Human Health is addressed in Section 4.1 and 4.2 of Volume 2 of the EIAR and an accompanying Human Health Risk Assessment (HHRA) presented in Appendix 4.1 of the EIAR. The potential direct and indirect effects identified for population are as follows:

- Socio-economic effects on the population in terms of employment;
- Tourism effects such as visual effect within the area;
- Land use, settlement and residential amenity effects in terms of environmental nuisances from the proposed activity (odour, vermin, traffic);
- Emissions to air, including Particulate Matter (PM) such as PM₁₀ and PM_{2.5} as well as other potential air pollutants such as NO₂, SO₂, dioxins, etc;
- Emissions to water;
- Groundwater;
- Noise and vibration;
- Odour; and
- Potential for accidental emissions to the environment due to the activity.

Should emissions exceed environmental quality standards this could have implications for human health. Dust and odour arising from the activity have the potential to cause nuisance beyond the installation boundary.

16.6.2 Description and Assessment of Effects

The potential effects on human beings identified above have been addressed in Sections 8, 9, 10, 11, 13 and 16 of this report. These sections further identify, describe and assess the likely significant direct, indirect and cumulative effects of the activity on population and human health.

It is also noted that there are a number of interactions between population and human health and other factors considered as part of the EIA. These include water, air quality and climate, noise and vibration and landscape and visual impact. These interactions have been considered as part of the assessment.

ICP is located in a primarily agricultural environment, approximately 3km from Drogheda, approximately 2.5km northeast of Duleek, and approximately 1.5km southeast of Donore Village.

ICP is located in the electoral division of St. Mary's close to the boundary of the Duleek electoral divisions. Preliminary census data has shown a 9% population growth of the combined two divisions between 2011 and 2016.

Ten residential properties lie within 500m of ICP. A further 29 residential properties lie between 0.5km and 1.0km of the installation boundary. Indaver Ireland Ltd's (W0167-03) incinerator is located south of the Cement Works, while ICP's limestone quarry is immediately west of the cement plant. There are a number of other quarries, including Roadstones Mullaghcrone (W0278-01), located to the north and west of ICP.

ICP employs approximately 130 people directly with as many as a further hundred people indirectly employed in supporting activities and industries. The proposed activities will require further sourcing, preparation and supply of increased quantities of alternative fuels and alternative raw materials, to defined specifications on a consistent basis. This will have a positive effect in relation to additional indirect employment.

There are many tourist attractions in the area including the UNESCO World Heritage Site at Brú na Boinne, which is located approximately 4km northwest of ICP. Section 16.10 of this report (Material Assets, Cultural Heritage and Landscape) deals further with the assessment of the impact from the activities on these sites. All of the photomontages, which are included at Appendix 10.1 of the EIA Report, indicate that there will be very limited, imperceptible or no visual effect of the proposed activities on the local tourist attractions.

Air

In relation to health, a human health risk assessment (HHRA) was carried out as part of the health assessment section of the EIAR. The HHRA was carried out to look at the effects of polychlorinated dibenzodioxins, polychlorinated dibenzofurans and dioxin-like polychlorinated biphenyls (PCDD/Fs) from the installation. The HHRA draws from the AERMOD air dispersion model (discussed in Section 8 of this report) to inform the associated graphical interface for multi-pathway human health risk assessment software (consistent with common practice, drawing from US data, applied into a more local context). The licensee considers wet and dry deposition, have a good baseline and employ the highest concentration (assuming emissions at the IED waste incineration limit values) to offer a highly conservative assessment. The HHRA then applies the worst-case hypothetical receptor to model the uptake and associated tolerable daily intake for what is a typical lifetime of exposure. The HHRA concludes that that the contribution from the activity is not significant. The health assessment repeats the conclusions within the HHRA, air quality, noise and hydrology

sections, which are in themselves set to objective thresholds protective of health. Therefore, it is considered that the potential effects are imperceptible.

The air modelling considered a number of air quality parameters including particulate matter (PM₁₀ and PM_{2.5}), nitrogen oxides, sulphur dioxide, dioxins, as detailed in Section 8 of this report. The model also considers the cumulative effects from the neighbouring Indaver Ireland Ltd's incinerator. The air dispersion modelling concludes that there will be no exceedance of air quality standards in the vicinity of the installation as a result of these increases.

Surface Water

In relation to water, there are no drinking water abstractions downstream of the discharge from the installation on the River Nanny. Therefore, any linkage with population and human health relate to the amenity value of the River Nanny. The ELVs proposed are set to protect the receiving water in accordance with the European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended.

Groundwater

Groundwater is also dealt with in section 9.3 of this report. As raised in a number of submissions (detailed in section 7 of this report) there are a number of private wells in the area. Contaminants from the installation have the potential to impact on groundwater and in turn impact on the private wells in the area. The RD has set out a number of measures including bunding requirements and the installation on leak detection alarms to protect the groundwater from any leaks or spills from the installation. As discussed in Sections 9.3 and 16.8 of this report dewatering operations at the quarry is likely having an impact on groundwater levels in the region. These sections detail the conditions specified in the RD to monitoring the dewatering in the quarry. The RD sets out requirements for the licensee to monitor groundwater in the area.

Noise, vibrations and air overpressure

Noise, vibrations and air overpressure (noise) emissions arising from the installation could have the potential to cause nuisance for those living in the vicinity of the activity. As part of the current licence, a noise monitoring survey is carried out annually at three noise sensitive receptors outside the boundary. Historical data from these surveys indicate that the installation is consistently compliant with the licence limits. Furthermore, blasting operations from the installation will not change due to the proposed activities. No major noise sources are proposed as part of the proposed activities. The new development mainly consists of the provision of storage areas for the additional wastes for alternative fuels and raw materials. It is therefore concluded that the noise and vibration contribution of the activity is not significant in relation to human health.

Odour and vermin

In relation to odour and vermin, all wastes for alternative fuels will be prepared off-site to a required specification. No untreated mixed wastes will be delivered to ICP and no processing of wastes will take place at ICP. Wastes will be delivered on a 'just

in time basis. Therefore, there will be no long-term storage of waste at ICP. Given the delivery arrangements and purpose built storage buildings, it is not anticipated that odour issues will arise. Furthermore, a vermin control management plan will be implemented to offset any vermin issues at the installation.

Accidents

There is the potential for accidental emissions to the environment from the installation, which could have an effect on population and human health. These potential accidents are considered in section 16.13 of this report. The likelihood of accidental emissions occurring is considered low in light of the measures outlined in Section 13 (Prevention of Accidents) of this report.

Therefore, the effects associated with the continued operation of the installation are considered positive in terms of employment and economic activity in the area. There are no significant negative effects anticipated in relation to population and human health.

16.6.3 Cumulative Effects

Cumulative effects of the activity in relation to air, noise and water are addressed under the relevant headings in Sections 8, 9 and 10 above. It is considered that there is not likely to be a significant cumulative effect on population and human health from the activity and other activities/developments.

16.6.4 Mitigation and Monitoring

Mitigation measures and monitoring are detailed in the following sections of this report: Section 8 (Emissions to Air), Section 9 (Discharges to Water and Ground) and Section 10 (Noise) and Section 13 (Prevention of Accidents).

Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in *Schedule C Emission, Monitoring and Control* of the RD. *Schedule C* also sets out the monitoring requirements for all emissions of environmental significance from the installation.

Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years.

Condition 3 of the RD sets out the requirement for firewater retention to ensure polluted firewater is not discharged directly to the natural environment.

Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off.

Condition 3 of the RD requires that all tank and drum storage areas shall be bunded to the specifications set out in that condition. Condition 3 also requires the licensee to ensure that all pumps sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in

such quantities as area likely to breach local or remote containment or separators, are fitted with high liquid level alarms. Furthermore, Condition 3 of the RD requires the licensee to apply a leak detection system in accordance with BAT to all storage tanks, container and drum storage areas that contain liquid material other than water.

Condition 5 of the RD states that no emissions, including odours, from the activities carried on at the installation shall result in an impairment of, or an interference with amenities or the environment beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary. Condition 6 reinforces this by stating that the licensee shall provide and use measures for the prevention of odour emissions from the installation. The RD also requires the licensee to undertake an odour impact assessment at the installation no less than once every three years.

16.6.5 Conclusion

The likely significant direct and indirect effects of the activities on population and human health has been identified, described and assessed above. I have examined all the information on population and human health, provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct, indirect or cumulative effects in terms of population and human health.

16.7 Biodiversity

Note that in addition to this section on biodiversity, an Appropriate Assessment (AA) has been completed in Section 15 above under Article 6 of the EU Habitats Directive. The licensee has provided the following AA documentation to the EPA as part of the application:

- Screening for Appropriate Assessment (submitted as part of the original application in December 2015); and
- A Natura Impact Statement (NIS, issued as unsolicited additional information in September 2018).

Further information on the NIS has been sought from the licensee in a further information request issued by the Agency on the 15th October 2018. On the 12th December 2018 the licensee submitted an updated NIS to support the application.

16.7.1 Identification of Effects

Biodiversity is presented in Chapter 5 of Volume 2 of the EIAR and is supplemented with Appendix 5.1 of the EIAR which provides an Ecological and Sediment Study of the River Nanny. Potential direct and indirect effects identified are as follows:

- Potential effects on air quality and indirectly on flora and fauna due to channelled and fugitive emissions to air (and effects due to associated deposition);

- Potential effects on flora and fauna due to noise emissions and vibration (effects due to disturbance);
- Discharges to water from the installation to the River Nanny and its associated habitats and species;
- Potential effects on groundwater and indirectly on surface water due to activities; and
- Potential for accidental emissions to the environment due to the activities.

Should emissions exceed environmental quality standards this could have implications for biodiversity.

16.7.2 Description and Assessment of Effects

It is also noted that there are a number of interactions between biodiversity and other factors considered as part of the EIA. These include water, air quality and climate. These interactions have been considered as part of the assessment.

The footprint of the site is predominantly occupied by buildings, by material storage areas, and by hard-standing or bare ground between areas of operational plant. The roadside boundaries of the cement works, as well as the boundaries of the adjoining limestone quarry have been landscaped sensitively to provide dense belts of maturing woodland of mixed, primarily native, species such as ash, birch, willow, whitebeam, scots pine, wild cherry and rowan trees. Plantings also include chestnut and maple species, among others. Due to the industrial nature of the site, no fauna occur regularly on the proposed development site, other than species such as feral pigeons that use the buildings for shelter.

As previously discussed, the combined discharge from the installation discharges to the River Nanny. The licensee submitted a report entitled '*Aquatic Monitoring of the River Nanny near Duleek, Co. Meath*' dated 2016 as part of the EIAR. The report provides an analysis of the macroinvertebrate communities recorded on the River. The findings of the report are discussed in the 'Surface Water' paragraph below.

There are no designated conservation areas within the installation boundary of ICP. The following European Sites were considered as part of the appropriate assessment:

River Boyne and River Blackwater SAC
Boyne Coast and Estuary SAC
Clogher Head SAC
River Boyne and River Blackwater SPA
Boyne Estuary SPA
River Nanny Estuary and Shore SPA

The appropriate assessment completed as part of this report concludes that the proposed activities will not have an adverse effect on the integrity of any European Site.

Eleven proposed Natural Heritage Areas (pNHAs) are located within 10km of ICP. The majority of the pNHAs are concurrent with European Sites along the Boyne and the Boyne and Nanny Estuaries. Three proposed Natural Heritage Areas, not designated as European sites, are located southwest of ICP. These are Duleek Commons (001578), Thomastown Bog (001593) and Balrath Woodlands (001579). One further pNHA site, Cromwell's Bush Fen (001576) is located approximately 7km south of the site.

Air

Air dispersion modelling has shown that ambient air quality standards will not be exceeded, hence protecting biodiversity (See Section 8).

The Duleek Commons pNHA (site code 01578), which is a calcareous marsh and fen system, is located approximately 3km from the installation. In further information received by the Agency on 12/03/2019, it states that the United Nations Economic Commission for Europe (UNECE) critical loads for nitrogen as per the NRA Guidelines 2011 for such habitats ranges from 10-35kg(N)/ha/yr. Nitrogen deposition levels from ICP are compared to this level assuming a deposition velocity of 0.001 m/s. This results in a total value of 0.74 kg(N)/ha/yr at Duleek Commons, inclusive of background concentrations of 0.7 kg(N)/ha/yr. This is significantly lower than the UNECE critical loads calcareous marsh and fen system habitats of 10-35 kg(N)/ha/yr.

The combined ground level concentrations of NO_x and SO₂ are 57.1% and 18.8%, respectively, of the relevant limits for the protection of vegetation/ecosystems indicating no significant effect.

Noise & Vibration

Noise, vibrations and air overpressure (noise) emissions arising from the installation could have the potential to cause nuisance for noise sensitive species near the installation. Noise assessments and modelling have demonstrated that noise limits set in the RD will be met at the installation noise sensitive locations, hence there will be no significant effect on fauna. Limits have also been set in the RD in relation to vibration from the quarrying operations.

Surface Water

Surface water and treated process water from the plant (circa 18% of the discharge), together with groundwater from the adjoining quarry (circa 82% of the discharge) are discharged directly to the River Nanny outlet via licensed emission point SW4.

The water quality in the River Nanny has been assessed through a specific 2016 report included in Appendix 5.1 of the EIAR which shows that the current discharge from the site is having no effect on the biological water quality of the downstream areas surveyed.

Furthermore, in December 2018, the licensee supplied a surface water mass balance of this discharge on the Nanny. Using BOD as an indicator (as this is the only parameter with a recorded background concentration), the data presented allows for the determination that at the prescribed discharge limits (flows and ELVs) the River Nanny has the capacity to assimilate the current licensed discharge from SW4 and

remain within the EQS limits. As such, once the ELVs for this discharge remain in effect and the licensee retains compliance, then the effect to the Nanny is not considered significant.

Having considered the above and the assessment detailed in section 9 of this report, the ELVs specified in the RD for the proposed emissions to surface water are considered compliant with the requirements of the EO Surface Waters Regulations, including the WFD's requirements for Protected Areas.

Groundwater

As discussed in Sections 9.3 and 16.8 of this report dewatering operations at the quarry is likely having an impact on groundwater levels in the region. Following consultation with OEA, this rate of abstraction is not having an impact on the adjacent River Nanny flows or the supporting groundwater flow to the Duleek Commons pNHA. However, monitoring as set out in Condition 6 of the RD, will need to be carried out to avoid any future impacts.

Accidents

There is the potential for accidental emissions to the environment from the installation, which could have an effect on population and human health. These potential accidents are considered in section 16.13 of this report. The likelihood of accidental emissions occurring is considered low in light of the measures outlined in Section 13 (Prevention of Accidents) of this report.

Therefore, there will be no residual effect on any biodiversity or ecological receptors, either within the site itself or associated with any site designated for nature conservation as a result of the activities.

16.7.3 Cumulative Effects

Cumulative effects of the activity in relation to air, noise and water are addressed under the relevant headings in Sections 8, 9 and 10 above. It is considered that there is not likely to be a significant cumulative effect on biodiversity from the installation and other activities/developments.

16.7.4 Mitigation and Monitoring

Mitigation measures and monitoring are detailed in the following sections of this report: Section 8 (Emissions to Air), Section 9 (Discharges to Water and Ground), Section 10 (Noise) and Section 13 (Prevention of Accidents).

Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C also sets out the monitoring requirements for all emissions of environmental significance from the installation.

Condition 6 of the RD requires the licensee, on an annual basis, prepare and submit to the Agency a dewatering monitoring report. This report shall pay particular attention to the impacts (physical and chemical) of the dewatering activities on the groundwater environment (water table, cone of depression, base flow to surface

waters, etc.), the surface water environment and ecological habitats in the vicinity of the installation and downstream of SW-4 as appropriate.

Condition 6 requires the licensee to annually assess groundwater monitoring data and determine compliance under this licence with the European Communities Environmental Objectives (Groundwater) Regulations 2010, S.I. No 9 of 2010 as amended. In the event of a failure to demonstrate compliance with those regulations or if instructed by the Agency, the licensee shall arrange for the completion, by an appropriately qualified consultant/professional, of a hydrogeological risk assessment as set out in Condition 6 of the RD.

16.7.5 Conclusion

The likely significant direct and indirect effects of the activities on biodiversity has been identified, described and assessed above. I have examined all the information on biodiversity, provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct, indirect or cumulative effects in terms of biodiversity.

16.8 Land and Soil (including Geology, Emissions to Ground and Groundwater)

16.8.1 Identification of Effects

Chapter 6 of the Volume 2 of the EIAR addresses land, soils, geology, hydrogeology and hydrology and is supplemented with Appendix 6.1: Groundwater Monitoring Data. The following potential direct and indirect effects from the activity are identified:

- Effects from fuel storage and spillages on soil, groundwater and bedrock aquifer;
- Effects from waste storage containing hazardous (including potential leachate spillage) materials on soil, groundwater and bedrock aquifer;
- Effect from storage of ammonia on soil, groundwater and bedrock aquifer;
- Effects from excavation and dewatering of the quarry;
- Effects from the overburden mound;
- Effects from the storage of FDPC; and
- Potential for accidental emissions to the environment due to the activities.

Should emissions exceed environmental quality standards this could have implications for land and soil.

16.8.2 Description and Assessment of Effects

The potential effects on land have been addressed in Sections 8, 9, 10, 11, 13, 15 and 16 of this report. These sections further identify, describe and assess the likely significant direct, indirect and cumulative effects of the activities on land and soil.

It is also noted that there are a number of interactions between land and soil and other factors considered as part of the EIA. These include water, air quality and biodiversity. These interactions have been considered as part of the assessment.

The ground within the cement works typically consists of made ground and glacial till over shallow bedrock. Ground elevation across the installation ranges from c.65m to 40m OD (north to south) with the deepest area of the limestone quarry at -20.0m OD.

According to the GSI Unconsolidated Sediments Map, the overburden at the site is described as shale and sandstone till. Teagasc Soils maps show the overburden to be fine loamy drift with limestones. The subsoil comprises glacial till derived from sandstones, shales and limestones of the Carboniferous Period.

The main aquifer type under the site is a regionally important karstified aquifer dominated by diffuse flow. The vulnerability of the aquifer directly beneath the site is classified by the GSI as having a "high" to "extreme" vulnerability due to the absence of overburden cover and close proximity of the bedrock to the ground surface.

The excavation of the quarry at Platin has provided a low point in the hydrogeological regime and deepening of the quarry to c.-20m OD has resulted in a change in the local ground water flow pattern.

In relation to the dewatering operations, the quarry is continuously dewatered as part of the quarrying operations. As previously stated in Section 9.3 of this report monitoring results show that groundwater levels are falling around the quarry since 2000, and the decrease in the water table around the quarry forms a cone of depression around it, which indicates that the abstraction at the quarry is unsustainable and is likely having an impact on groundwater levels in the region.

Furthermore, Condition 6 of the RD requires the licensee to submit a dewatering monitoring report on an annual basis. This report shall pay particular attention to the impacts (physical and chemical) of the dewatering activities on the groundwater environment (water table, cone of depression, base flow to surface waters, etc.), the surface water environment and ecological habitats in the vicinity of the installation and downstream of SW-4 as appropriate. Condition 6 requires the licensee to annually assess groundwater monitoring data and determine compliance under this licence with the European Communities Environmental Objectives (Groundwater) Regulations 2010, S.I. No 9 of 2010 as amended. In the event of a failure to demonstrate compliance with those regulations or if instructed by the Agency, the licensee shall arrange for the completion, by an appropriately qualified consultant/professional, of a hydrogeological risk assessment as set out in Condition 6 of the RD.

The quarry water is then discharged from the installation via SW4. If contaminated groundwater is encountered during dewatering, groundwater treatment will be employed to meet the discharge requirements of the licence.

In terms of hydrogeology, effects from storage and/or spillage of materials on the Regionally Important Aquifer and groundwater are not likely once appropriate measures such as bunding and control of leachate and run-off, which are required by the RD are implemented.

It has been identified that due to the nature of the activities at the installation there is potential for leakages/spillages from the fuel, waste/ hazardous waste, ammonia storage areas. Ammonia is stored on site for use in selective non-catalytic reduction (SNCR) technology on the kilns.

A hydrogeological risk assessment was requested from the licensee as part of Regulation 10 request for further information in October 2018. In December 2018, a groundwater quality technical assessment was submitted by the licensee based on the relevant EPA *Guidance on the Authorisations of Discharges to Ground* (2011). This analysis concluded that as there is no viable source characteristic (i.e. no discharges to ground) there will be no likely significant effects on groundwater as a result of the activities.

Significant direct and indirect effects on the Platin quarry itself are not likely and the River Boyne (SAC/SPA) are not likely as the river is located greater than 2km from the quarry and groundwater flow is away from the River Boyne due to dewatering of the quarry. The River Boyne is in a different catchment area to the quarry.

The effect on the River Boyne SAC/SPA is not considered to be significant given the dewatering regime of the quarry is diverting groundwater flow away from the river.

As raised in a number of submissions (detailed in section 7 of this report) there are a number of private wells in the area. Contaminants from the installation have the potential to impact on groundwater water and in turn impact on the private wells in the area. The RD has set out a number of measures including bunding requirements and the installation of leak detection alarms to protect the groundwater from any leaks or spills from the installation. Furthermore, the RD sets out requirements for the licensee to monitor groundwater in the area.

Appendix 6.1 of the EIAR provides data on groundwater quality monitoring between 2000 and 2016 and indicates generally high levels of compliance for all parameters, with the exception of potassium and chloride. As stated previously, OEE have requested the licensee to complete a review of the storage and management of flue dust portland cement (FDPC) within the Cement Works area and also carry out a review to determine if FDPC may be impacting on the chloride and potassium levels recorded at groundwater monitoring location Ref. No. GW-1.

The storage of flue dust Portland cement (FDPC) is considered in Section 3 of this report. Approximately 4,500 tonnes of FDPC was stored within the quarry during a site visit on 07/06/2019. There is potential for leachate generation from the open storage of FDPC, which could have a potential impact on soil and groundwater. Condition 8 of the RD requires that waste and materials, including those generated on-site, shall be stored in designated areas, protected as may be appropriate against

spillage and leachate run-off. The waste and materials shall be clearly labelled and appropriately segregated.

Overburden is now commonly used in the cement manufacturing process as an alternative to imported shale. However there remains a quantity of material that is surplus and requires disposal. Condition 8 of the RD states that only extractive waste shall be deposited at the overburden mound. Therefore, the material stored in this mound should only be of natural sources and it unlikely to pose a significant risk to land and soil.

Accidents

There is the potential for accidental emissions to the environment from the installation, which could have an effect on population and human health. These potential accidents are considered in section 16.13 of this report. The likelihood of accidental emissions occurring is considered low in light of the measures outlined in Section 13 (Prevention of Accidents) of this report.

Therefore, the effects associated with the activities at the installation are not considered significant in relation to land and soil.

16.8.3 Cumulative Effects

Cumulative effects of the activity in relation to land, soil and water are addressed under the relevant headings in Sections 9, 11 and 13 above. It is considered that there is not likely to be a significant cumulative effect on land and soil from the activity and other activities/developments.

16.8.4 Mitigation and Monitoring

Mitigation measures and monitoring are detailed in the following sections of this report: Section 8 (Emissions to Air), Section 9 (Discharges to Water and Ground), Section 10 (Noise) and Section 13 (Prevention of Accidents).

Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years.

Condition 3 of the RD sets out the requirement for firewater retention to ensure polluted firewater is not discharged directly to the natural environment.

Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off. Condition 8 of the RD also requires that waste and materials, including those generated on-site, shall be stored in designated areas, protected as may be appropriate against spillage and leachate run-off. The waste and materials shall be clearly labelled and appropriately segregated.

Condition 3 of the RD requires that all tank and drum storage areas shall be bunded to the specifications set out in that condition. Condition 3 also requires the licensee to ensure that all pumps sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in

such quantities as area likely to breach local or remote containment or separators, are fitted with high liquid level alarms. Furthermore, Condition 3 of the RD requires the licensee to apply a leak detection system in accordance with BAT to all storage tanks, container and drum storage areas that contain liquid material other than water.

Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C also sets out the monitoring requirements for all emissions of environmental significance from the installation. Schedule C also sets out the requirements for groundwater monitoring.

Condition 8 of the RD states that only extractive waste shall be deposited at the overburden mound. Condition 2 of the RD requires the licensee to maintain and implement a Waste Management Plan (to be known as an Extractive Waste Management Plan) for the minimisation, treatment, recovery and disposal of extractive waste. This Plan shall meet the requirements of Regulation 5 of the Waste Management (Management of Waste from the Extractive Industries) Regulations, 2009.

Condition 6 of the RD sets out requirements in relation to quarry dewatering and groundwater monitoring.

16.8.5 Conclusion

The likely significant direct and indirect effects of the activities on land and soil has been identified, described and assessed above. I have examined all the information on land, soil, and groundwater provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of on land and soil.

16.9 Water (Including Wastewater and Storm Water)

16.9.1 Identification of Effects

Water and Hydrology are presented Chapter 7 of Volume 2 of the EIAR and is supplemented with Appendix 7.2: Historical Surface Water Monitoring. The following potential direct and indirect effects from the activities are identified:

- Effect on surface water from discharges from the installation; and
- Potential for accidental emissions to the environment due to the activities.

Should emissions exceed environmental quality standards this could have implications for water.

16.9.2 Description and Assessment of Effects

The potential effects on water have been addressed in Sections 9, 11, 13, 15 and 16 of this report. These sections further identify, describe and assess the likely significant direct, indirect and cumulative effects of the activities on water.

It is also noted that there are a number of interactions between water and biodiversity. These interactions have been considered as part of the assessment.

Platin Cement Works is located in the catchment of the River Nanny close to the watershed with catchment of the River Boyne.

Surface water and treated process water, together with groundwater from the quarry are discharged to the River Nanny outlet via Industrial Emission (IE) licensed emission point SW4. The combined discharge is comprised primarily of pumped groundwater from the quarry (approx. 81.9%) together with some surface and process water (approx. 18.0%), and a small quantity of treated wastewater (approx. 0.1%).

All surface water from the installation passes through balancing and settlement tanks and these are effective in removing suspended solids. In addition, oil interceptors and absorbent booms in the existing surface water treatment system are effective in removing any accidental spills of oils or other hydrocarbons.

The discharge is conveyed in a 2,637m, 610mm underground pipeline from the cement factory to the outfall point into the receiving waters of the River Nanny. The outfall pipe runs under roads and agricultural land and outfalls into the River Nanny south of the factory just of the R150 regional road.

Average discharge in 2016 was 14,720 m³/day and the installation shows compliance with the emission limit values for discharge.

In December 2018 the licensee carried out a surface water mass balance calculation of the installation's discharge to the Nanny. Existing flows and background level of the Nanny were supplied along with details of the licenced discharge at the ELVs. Analysis of BOD discharges at the current ELV show that the existing emissions increase the background from 1.3 mg/l to 1.55 mg/l relative to the EQS of 2.6 mg/l (good status at 95%ile for a river water body) indicating the effect is not significant.

Therefore, the ELVs proposed in the RD reflect what was previously set in the existing licence (P0030-05). All limits specified for the emissions are considered compliant with the requirements of the European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended.

The impermeable area of approx. 17.5 ha for the developed area of the full site this represents a minor increase of 10.1%. In addition, the new buildings will generally be located on ground that is currently hard-standing so no significant change to the current drainage regime will occur. The runoff from the roofs of the new structures will be collected in a storm water drain which will be connected to the overall site drainage network.

Accidents

There is the potential for accidental emissions to the environment from the installation, which could have an effect on population and human health. These potential accidents are considered in section 16.13 of this report. The likelihood of accidental emissions occurring is considered low in light of the measures outlined in Section 13 (Prevention of Accidents) of this report.

It is concluded that there will be no significant residual effect on water and hydrology as a result of the activities due to provision of mitigation measures as outlined in the relevant sections.

16.9.3 Cumulative Effects

Additionally, cumulative effects of the activity in relation to water are addressed under the relevant headings in Section 9 above. The Duleek Waste Water Treatment plant discharges to the River Nanny upstream of the discharge from ICP (SW4). The background concentrations in the River Nanny were considered when setting the ELVs for the ICP discharge. Furthermore, the ELV for BOD has been set at the environmental quality standard of 2.6 mg/l to prevent any further deterioration of the waterbody. It is therefore considered that there is not likely to be a significant cumulative effect on water from this activity and other activities/developments.

16.9.4 Mitigation and Monitoring

Mitigation measures and monitoring are detailed in the following sections of this report: Section 8 (Emissions to Air), Section 9 (Discharges to Water and Ground), Section 10 (Noise) and Section 13 (Prevention of Accidents).

Condition 6 of the RD states that the integrity and water tightness of all tanks, bunding structures, containers and underground pipes (including the pipeline that conveys wastewater from the installation to the River Nanny) and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee prior to use (for new equipment). This testing shall be carried out by the licensee at least once every three years and reported to the Agency on each occasion. This testing shall be carried out in accordance with any guidance published by the Agency. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.

Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C also sets out the monitoring requirements for all emissions of environmental significance from the installation.

16.9.5 Conclusion

The likely significant direct and indirect effects of the activities on water has been identified, described and assessed above. I have examined all the information on water provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects on water.

16.10 Air and Climate (Including Noise, Vibration, Dust and Odour)

16.10.1 Identification of Effects

Chapter 8 of the EIAR addresses air quality and climate and Chapter 9 relates to noise. The following potential direct and indirect effects from the activities are identified:

- Direct discharges to atmosphere. This includes both impacts to human health and sensitive ecological receptors (i.e. the River Boyne and River Blackwater River cSAC, River Boyne Coast and Estuary cSAC and pNHA, Duleek Commons pNHA and Laytown Dunes/Nanny Estuary pNHA);
- Fugitive odour and dust emissions;
- Noise and vibration from the activity;
- The effect of the activities on carbon emissions (greenhouse gases); and
- Potential for accidental emissions to the environment due to the activities.

Should emissions exceed environmental quality standards this could have implications for air and climate. Air quality could impact those living in the vicinity of the activity and habitats and species sensitive to air pollution. Furthermore, odour, noise and vibrations arising from the installation could have the potential to cause nuisance for those living in the vicinity of the activity.

16.10.2 Description and Assessment of Effects

The potential effects on air quality and climate identified above have been addressed in Sections 8, 10, 13, 15 and 16 of this report. These sections further identify, describe and assess the likely significant direct, indirect and cumulative effects of the activity on human beings.

It is also noted that there are a number of interactions between air quality and climate and other factors considered as part of the EIA. These include biodiversity and population and human health. These interactions have been considered as part of the assessment.

Air

There are 10 no. main channelled emissions at the installation, these include two kilns (A2-02 and A2-08), and eight other main channelled emissions from coal mills, cement mills and grate coolers (A2-01, A2-3, A2-04, A2-05, A2-06, A2-07, A2-09, A2-10).

There are a total of 117 other emission points to air at the installation which, due to their emission characteristics are not considered environmentally significant.

As discussed in section 8 of this report, the air dispersion modelling study has been carried out in accordance with the EPA's Air Dispersion Modelling from Industrial Installations Guidance Note (AG4) using the EPA approved Breeze AERMOD computer package (Version 18081, released April 2018). The modelling is considered sufficiently detailed and conservative to adequately assess the impact of the main emissions to air.

The air modelling considered a number of air quality parameters including particulate matter (PM₁₀ and PM_{2.5}), nitrogen oxides, sulphur dioxide, dioxins and furans and metals as detailed in Section 8 of this report. The model also considers the cumulative effects from the neighbouring Indaver Ireland Ltd's incinerator. Furthermore, as previously stated a HHRA was carried out as part of the health assessment section of the EIAR. The HHRA was carried out to look at the effects of polychlorinated dibenzodioxins, polychlorinated dibenzofurans and dioxin-like polychlorinated biphenyls (PCDD/Fs) from the installation. The HHRA concludes that that the contribution of the activity is not significant.

Furthermore, the air dispersion modelling concludes that there will be no non-compliance with air quality standards in the vicinity of the installation as a result of the activity.

Climate

Platin Cement Works is permitted to emit carbon dioxide by the EPA under Greenhouse Gas Emissions Permit No IE-GHG043-10364. Based on the current activities at the installation ICP have estimated that the installation emits approximately 713,432 tonnes of carbon dioxide per annum (the EPA verified CO₂ emissions for 2018 were 1,004,539 tonnes). It is estimated that the use of waste as alternative fuels will result in the emission of approximately 399,206 tonnes per annum, resulting in an estimated reduction of approximately 314,226 tonnes of CO₂ per annum from the estimated figure. Such a saving will result in a positive effect on climate.

Furthermore, the use of additional alternative fuels and alternative raw materials will result in a number of positive indirect effects on air quality and climate by reducing the use of natural raw materials and reducing the energy requirement for blasting and crushing.

Climate is discussed in more detail in Section 8 of this report.

Noise & Vibration

The installation is in a rural location in Platin, Co. Meath, with the N152 national secondary road situated east and southeast of the installation.

The main noise and vibration sources are from the blasting operations as well as the operation of the kilns and the mills, particularly the fans and drives from same. Assessment of noise, vibration and air overpressure was carried out in Section 10 of this report. Noise, vibrations and air overpressure (noise) emissions arising from the installation could have the potential to cause nuisance for those living in the vicinity of the activity and the noise sensitive species near the installation.

The cumulative impacts of noise from traffic and the adjacent Indaver Ireland Ltd (W0167-03) were considered as part of the EIAR.

The blasting operation at the on-site lime quarry is a significant source of noise and vibration. However, blasting is likely to be of short duration and it is considered not likely to be a significant cumulative effect from noise, vibration and air overpressure emissions and other noise generated by other activities/developments in the area. The likelihood of accidental noise, vibration and air overpressure (noise) emissions

occurring is considered low considering the measures outlined in the mitigation and monitoring section below.

Dust

As detailed in section 8 of this report, fugitive dust emissions at the installation arise in the form of dust generated from petcoke stockpiles, quarry and site haul roads and blasting operations.

Condition 4, 5 and 6 of the RD set out the measures to be taken by the licensee to control dust at the installation. The implementation of these measures will ensure that there will be no likely significant effect.

Odour

As detailed in section 8 of this report no untreated mixed wastes will be delivered to ICP. All waste to be used as alternative fuels will be prepared off-site to a required specification. Any deliveries found not in accordance with the required specification will not be accepted and will be returned to the supplier. Based on the existing control measures and monitoring there will be no likely significant effects.

Accidents

There is the potential for accidental emissions to the environment from the installation, which could have an effect on population and human health. These potential accidents are considered in section 16.13 of this report. The likelihood of accidental emissions occurring is considered low in light of the measures outlined in Section 13 (Prevention of Accidents) of this report.

It is concluded that there will be no significant residual effect on air and climate as a result of the activities due to provision of mitigation measures as outlined in the relevant sections.

16.10.3 Cumulative Effects

Cumulative effects of the activity in relation to air and climate, dust, noise and vibration are addressed under the relevant headings in Sections 8 and 10 above.

In relation to air and dust, a cumulative assessment of the impact on air quality jointly from both the ICP and Indaver installations was completed. The assessment showed that all predicted cumulative ground level concentrations were in compliance with air quality standards.

Furthermore, the cumulative impacts of noise from traffic and the adjacent Indaver Ireland Ltd (W0167-03) were also considered.

It is considered that there is not likely to be a significant cumulative effect on air, dust, noise and vibration from the activity and other activities/developments.

In relation to cumulative effects on climate, any combustion process will inevitably produce quantities of greenhouse gases (GHG) which have the potential to impact on air quality. In this assessment, it has already been determined that the emissions to air from the installation will not significantly affect local air quality, individually or cumulatively. However, any discussion of GHG emissions must be extended to national

and global climate impact. In the context of climate change, any activity which produces greenhouse gases must be regarded as contributing to the current significant cumulative global impact on climate. It cannot be concluded that the combined emissions from all industrial combustion processes will not have a significant cumulative impact of climate change. However, as stated previously, it is estimated that the use of waste as alternative fuels will result in an estimated reduction of approximately 314,226 tonnes of CO₂ per annum.

16.10.4 **Mitigation and Monitoring**

Mitigation measures and monitoring are detailed in the following sections of this report: Section 8 (Emissions to Air), Section 10 (Noise) and Section 13 (Prevention of Accidents).

The following conditions of the RD are also included to protect air and climate:

- Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C of the RD also sets out the control and monitoring requirements for emissions to air.
- Air dispersion modelling was assessed as part of the licence review and concluded that there would not be a significant effect on air quality as a result of the activities at the installation.
- Condition 6 of the RD specifies the operational controls and procedures to be employed at the ICP installation to ensure that activities do not result in a impairment of the surrounding environment as a result of dusts and/or odours being generated on-site.
- Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C of the RD also sets out the control and monitoring requirements for noise, vibration and air overpressure emissions.
- Condition 5 of the RD requires the licensee to ensure that dust associated with the activity does not result in an impairment of, or an interference with, amenities or the environment at the installation or beyond the installation boundary or any other legitimate uses of the environment beyond the installation boundary.
- Condition 4, 5 and 6 of the RD set measures to be taken by the licensee to control dust at the installation.
- Condition 4 also refers to the limitations on the vibration and air-overpressure levels during blasting activities.
- Schedule D Energy Consumption Performance requires that following any major upgrade as defined in the CID energy consumption levels at new cement plants are restricted to 2,900 – 3,300 MJ/tonne of clinker manufactured.

16.10.5 **Conclusion**

The likely significant direct and indirect effects of the activities on air and climate has been identified, described and assessed above. I have examined all the information on air and climate provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where

appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of on air and climate (including noise, vibration, dust and odour).

16.11 Material Assets, Cultural Heritage and Landscape (including Architectural and Archaeological Heritage as Appropriate)

16.11.1 Landscape and Visual Impact

16.11.1.1 Identification of Effects

Landscape and Visual Impact is addressed in Chapter 10 of Volume 2 of the EIAR. The potential direct and indirect effects on the landscape are:

- Visual effects on the landscape;
- Potential effects on views and prospects as listed in the Meath County Development Plan;
- Potential effects on views from Brú na Bóinne, a UNESCO World Heritage Site; including views from Newgrange, Knowth and Dowth and county road between Duleek and Carnes East;
- Effects on landscape planning context; and
- Potential visual impacts on tourism and amenities within the area.

A series of photomontages from nine individual viewpoints have been presented in Appendix 10.1 of the EIAR. These images provide clarity as to the extent of the additional infrastructural works and the potential visual impact of same.

Any disturbance of the landscape has the potential to impact on human beings and their enjoyment of the surrounding area due to visual impacts. These matters are dealt with in the decision of An Bord Pleanála to grant planning permission for the developments on site and are not controlled by the Agency. An Bord Pleanála has considered the effects to be acceptable.

16.11.1.2 Description and Assessment of Effects

The EIAR states that the visual effects will be either slight or imperceptible. While the existing installation may be openly visible or glimpsed from particular viewpoints, the proposed development will be either entirely screened or backgrounded by existing development and therefore will not give rise to additional visual effect.

There are six protected views and prospects within the County Development Plan which relate to the proposed development. The EIAR states that the proposed development will have no negative effect on views and prospects as listed in the Development Plan.

Meath County Development Plan 2013-2019 identifies four landscape character types within the county. The EIAR states that the proposed development would have negligible or imperceptible effect on landscape planning aspects.

Due to the Outstanding Universal Value and international significance of the area of the Brú na Bóinne World Heritage Site, the site contains a designated core as well as a surrounding buffer zone. Platin Cement and the associated quarry are situated outside the designated core and outside of the buffer area associated with Brú na Bóinne. Upper aspects of the existing installation are visible from within Brú na Bóinne World Heritage Site and from within protected views and prospects from this cultural heritage site. Lower aspects of the installation are screened by intervening topography and or vegetation.

The EIAR notes that the proposed development will not impinge on aspects such as walking, cycling and driving routes within the area, other than those discussed in Section 10.3.3 of the EIAR. It also states that there will be no effect on preservation objectives for trees and woodland.

In terms of landscape and visual impact the ABP Direction states the following:

The proposed development comprises structures which are subordinate in scale and form to the existing structures at the Cement Works site. The proposed development will not therefore give rise to significant visual or landscape effects or indirect effects on heritage and/or tourism.

Based on the photomontages provided and the analysis presented in the EIAR, it is considered that the activity will not have a likely significant direct or indirect effect on landscape and visual impact.

16.11.1.3 Cumulative Effects

The planning authority has not identified any cumulative effects in relation to landscape and visual impact dealt with as part of their assessment.

16.11.1.4 Mitigation and Monitoring

There are no specific mitigation measures or monitoring proposed in the RD.

16.11.2 Cultural Heritage

16.11.2.1 Identification of Effects

Cultural Heritage is addressed in Chapter 11 of Volume 2 of the EIAR and four appendices are presented to support this chapter including:

- Appendix 11.1: Historical and Archaeological Background
- Appendix 11.2: Archaeological Excavations
- Appendix 11.3: Recorded Monuments in the Study Area
- Appendix 11.4: Monuments included in the Archaeological Survey database

The potential direct and indirect effects on cultural heritage are:

- Recorded monuments and places: ME027-003001 – Platin: Church, ME020-014 – Platin: Promontory Fort – Inland;
- UNESCO World Heritage Site of Bru na Boinne – there are a number of National and Recorded Monuments, including the three main pre-historic site complexes of Newgrange, Knowth and Dowth; and
- The effect of emissions on decorated and inscribed stones of the UNESCO World Heritage Site

Any loss of archaeological or architectural heritage could impact negatively on human beings. These matters are dealt with in the decision of An Bord Pleanála to grant planning permission for the developments on site and are not controlled by the Agency. An Bord Pleanála has considered the effect to be acceptable.

16.11.2.2 Description and Assessment of Effects

The proposed activity will not change the character or quantity of existing emissions arising from the Cement Works and therefore, will not negatively affect these monuments.

There are no structures within the application area or the study area listed as protected structures in the Meath County Development Plan 2013-2019 or in the National Inventory of Architectural Heritage for Co. Meath. There are no buildings of architectural merit on the site of the activity.

Six proposed structures situated on previously unbuilt ground have been assessed in Section 11.3.10 of the EIAR. In the six areas, all have been previously stripped of topsoil down into the subsoil. There is no indication of any cultural heritage material within these areas.

The cultural heritage assessment contained within Section 11 of the EIAR involves detailed investigation of the cultural heritage including the archaeological, architectural and historical background of the application area, the landholding and the surrounding area of the proposed development. This area was examined using information from:

- The Record of Monuments and Places (RMP) of County Meath;
- The Meath County Development Plan 2013-2019;
- Topographical and Correspondence files and finds list of the National Museum of Ireland;
- Aerial photographs;
- Excavations reports;
- Cartographic sources; and
- Documentary sources

In addition, a field assessment was carried out on the 22nd of July 2015 and reviewed again on the 29th March 2017 to identify and assess any known archaeological sites and previously unrecorded features and possible finds within the application area.

The ABP direction does not list any cultural heritage determinations over and above the visual effect noted in Section 4.6.1.6 of the EIAR. However, the Inspector's Report notes the following:

The proposed development takes place within an existing industrial site and there are no items of cultural heritage interest within the site or near it that would be directly, or indirectly affected by it. Potential impacts on Brù na Boinne are addressed in Planning Assessment above. By virtue of the distance of the proposed development from Brù na Boinne and the lack of visibility of proposed structures from the World Heritage site, no adverse impacts are likely to arise. Similarly, given the very modest predicted changes to air quality, physical impacts on the monument (by virtue of air pollution) are unlikely to arise.

Therefore, it is considered that the activity will not have a likely significant direct or indirect effect on any known items of cultural heritage, archaeology or buildings of heritage interest in the application area or the vicinity of the installation.

16.11.2.3 Cumulative Effects

The planning authority has not identified any cumulative effects in relation to cultural effects including archaeology and architecture dealt with as part of its assessment.

16.11.2.4 Mitigation and Monitoring

There are no specific mitigation measures or monitoring proposed in the RD.

16.11.3 Material Assets - Utilities

16.11.3.1 Identification of Effects

Material assets are addressed in Section 13 of Volume 2 of the EIAR. The following potential direct and indirect effects on material assets are:

- Electrical Services and Utilities;
- Water Supply and Foul Drainage;
- Ownership and Access;
- Non-Renewable Resources; and
- Use of Natural Resources.

Material assets such as roads and traffic and built services are dealt with in the decision of An Bord Pleanála to grant permission for the development and are not controlled by the Agency. An Bord Pleanála has considered the effect to be acceptable.

16.11.3.2 Description and Assessment of Effects

The proposed development will be connected to the existing on-site electrical network for normal operation purposes (i.e. plant operation, lighting, etc.). There is no requirement for delivery of additional electrical or utility infrastructure to the installation. The activity will require the consumption of certain material assets; in

particular pet coke, water and diesel/ light fuel oil. The amounts used are listed in section 12 of this report.

Water supply, drainage and foul drainage will continue to operate in accordance with the IE Licence and will therefore have no adverse effect.

The licensee has full ownership of the installation area in which the proposed development is located and its associated access points. Therefore, there will be no direct or indirect effect on land ownership in the area.

There will be an effect on natural resources during the operation of the activities. The proposed additional use of wastes will have a significant positive effect replacing imported non-renewable fossil fuel. This will have a positive effect in diverting materials that would otherwise go to landfill or waste export, to the installation, where they will be recovered and reused as alternative fuels. The proposed additional use of alternative fuels will reduce CO₂ emissions by up to approximately 314,000 tonnes per annum.

Limestone, alumina, shale and iron ore are other natural resources used in the manufacturing of cement. Overburden is used to replace a portion of shale in the process. The proposed use of up to 120,000 tonnes per annum of waste as alternative raw materials will offset the requirement for a proportion of the existing non-renewable raw material resources used in the manufacture of cement at the installation.

Therefore, it is considered that the activity will have a positive effect on natural resources. Otherwise the activity will not have a likely significant direct or indirect effect on any material assets.

16.11.3.3 Cumulative Effects

No significant cumulative effects on material assets have been identified.

16.11.3.4 Mitigation and Monitoring

The controls in the RD in relation to waste generation and use of waste as an alternative fuel will prevent the occurrence of possible direct and indirect negative effects on the environment.

Schedule D of the RD requires that following any major upgrade as defined in the CID energy consumption levels at new cement plants are restricted to 2,900 – 3,300 MJ/tonne of clinker manufactured.

Condition 2 of the RD requires the licensee to maintain and implement an Environmental Management System (EMS), which shall incorporate energy efficiency management.

Condition 7 of the RD requires the licensee to carry out an audit of the energy efficiency of the site as required by the Agency.

16.11.4 Waste Management

16.11.4.1 Identification of Effects

Waste Management is addressed in Section 14 of Volume 2 of the EIAR. The following potential direct and indirect effects from the activity are identified:

- Waste generation; and
- Use of wastes as alternative fuels.

16.11.4.2 Description and Assessment of Effects

Waste generation is dealt with in section 11 of this report.

The licensee operates an Environmental Management System certified to the international standard for Environmental Management ISO 14001. ISO 14001 includes measures to reduce creation of waste and adverse environmental effects.

The use of waste as alternative fuels to replace imported fuels is determined to be significant, positive and long term.

A desk study has been carried out as part of the EIAR that considers the legislative context including EU, national and local policy and legislation and guidance that is relevant to the activity. The rating of effects and significance criteria was determined in accordance with the following:

- Environmental Protection Agency, EPA, 2002. EPA Guidelines on the Information to be contained in Environmental Impact Statements.
- Environmental Protection Agency, EPA, 2003. EPA Advice Notes on Current Practice (in the preparation of Environmental Impact Statements).
- Environmental Protection Agency (EPA) Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports, 2017; and
- (Consultation Draft) EPA Advice Notes on Current Practice in the Preparation of Environmental Impact Statements, 2015.

ABP note that the consideration of the planning application had due regard to the following waste policy documents:

- Waste Framework Directive 2008/98/EC;
- A Resource Opportunity – Waste Management Policy in Ireland, July 2012 (DECLG);
- National Hazardous Waste Management Plan 2014-2020; and
- The Eastern-Midlands Region Waste Management Plan, 2015-2021,

Furthermore, the ABP direction states that Condition 3 of the planning consent (in relation to capacity restrictions at the site) is imposed in order to comply with the policies of the Eastern Midland Region Waste Management Plan 2015 – 2021,

ABP also considered that environmental benefits would arise from increased self-sufficiency and reduced waste transport from the provision of additional capacity for waste at the cement works.

Some indirect effects identified in relation to the storage of waste include the potential for vermin, litter and odour. Condition 5 and 6 of the RD requires the licensee to ensure that vermin, birds, flies, mud, dust, litter and odour, associated with the activity do not result in an impairment of, or an interference with, amenities or the environment at the installation or beyond the installation boundary.

16.11.4.3 Cumulative Effects

No significant cumulative effects on waste management have been identified.

16.11.4.4 Mitigation and Monitoring

Condition 8 of the RD set out the requirements for the licensee in relation to waste management.

Condition 5 and 6 of the RD requires the licensee to ensure that vermin, birds, flies, mud, dust, litter and odour, associated with the activity do not result in an impairment of, or an interference with, amenities or the environment at the installation or beyond the installation boundary.

16.11.5 Material Assets, Cultural Heritage and Landscape Conclusions

The likely significant direct and indirect effects of the activities on material assets, cultural heritage and landscape have been identified, described and assessed above. I have examined all the information on material assets, cultural heritage and the landscape provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of material assets and cultural heritage and the landscape.

16.12 Interaction between the Factors

16.12.1 Identification of Effects

Interactions are addressed in Chapter 15 of Volume 2 of the EIAR. The following interactions are identified as relevant:

- Population & Human Health with Water & Hydrology
- Population & Human Health with Air Quality & Climate
- Population & Human Health with Noise & Vibration
- Biodiversity with Land, Soils, Geology and Hydrogeology
- Biodiversity with Water & Hydrology
- Biodiversity with Air Quality & Climate
- Land, Soils, Geology & Hydrogeology with Water & Hydrology
- Air Quality & Climate with Cultural Heritage
- Air Quality & Climate with Traffic & Transportation

- Landscape & Visual with Cultural Heritage
- Landscape & Visual with Population
- Waste Management with Traffic & Transportation

16.12.2 Description and Assessment of Effects

The interactions between factors have been identified, described and assessed throughout this report and are summarised below as follows:

Population & Human Health with Water & Hydrology

Negative effects on water quality could affect population and human health through reducing the amenity value of the local waterbodies for both the local population and tourists. As demonstrated in earlier parts of this report, such effects are considered not to be likely or significant.

Population & Human Health with Air Quality & Climate

Negative effects on air quality could affect human health through the combustion of wastes at the installation and fugitive dust or odours from the activities. As demonstrated in earlier parts of this report, such effects are considered not to be likely or significant.

Population & Human Health with Noise & Vibration

Noise, vibrations and air overpressure (noise) emissions arising from the installation could have the potential to cause nuisance for those living in the vicinity of the installation. As demonstrated in earlier parts of this report, such effects are considered not to be likely or significant.

Population & Human Health with Land, Soils, Geology & Hydrogeology

Negative effects on land, soils, geology and hydrogeology could affect human health through the contamination of local water supplies. As demonstrated in earlier parts of this report, such effects are considered not to be likely or significant.

Biodiversity with Land, Soils, Geology and Hydrogeology

Any negative effects on land, soil, geology and hydrogeology could have a negative impact on biodiversity dependent on these areas for habitats or feeding grounds. As demonstrated in earlier parts of this report, such effects are considered not to be likely or significant.

Biodiversity with Water & Hydrology

There is a relationship between groundwater, surface water and biodiversity – particularly in terms of considering potential impacts on the River Boyne and River Blackwater SAC and SPA. Any change in water quality could have an effect on the biodiversity in the area. As demonstrated in earlier parts of this report, such effects are considered not to be likely or significant.

Biodiversity with Air Quality & Climate

Negative effects on air quality could affect biodiversity through the combustion of wastes at the installation and fugitive dust from the activities. As demonstrated in earlier parts of this report, such effects are considered not to be likely or significant.

Land, Soils, Geology & Hydrogeology with Water & Hydrology

Any negative effects on land, soil, geology and hydrogeology could have a negative impact on water and hydrology particularly where river systems are linked to groundwater bodies. Furthermore, land based activities have the potential to impact surface waters due to drainage networks and land overflows. As demonstrated in earlier parts of this report, such effects are considered not to be likely or significant.

Air Quality & Climate with Cultural Heritage

Negative effects on air quality could affect cultural heritage by impacting on decorated and inscribed stones. As demonstrated in earlier parts of this report, such effects are considered not to be likely or significant.

Landscape & Visual with Cultural Heritage

Negative effects on landscape could affect the amenity value of cultural heritage sites. As demonstrated in earlier parts of this report, such effects are considered not to be likely or significant.

Landscape & Visual with Population

Negative effects on landscape could affect the amenity value for the local population as well as tourism. As demonstrated in earlier parts of this report, such effects are considered not to be likely or significant.

16.12.3 Conclusion

The likely significant direct and indirect effects of the activity on the interaction of all the factors considered above has been identified, described and assessed above. I have considered the interaction between population and human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage and the landscape, and the interaction of the likely effects identified throughout this report. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of the interaction between the foregoing environmental factors.

16.13 Vulnerability of the Project to Risks of Major Accidents and/or Disasters

16.13.1 Identification of Effects

Article 3(2) of the EIA Directive (Directive 2014/52/EU) states that the environmental impact assessment shall identify the following:

The effects referred to in paragraph 1 on the factors set out therein shall include the expected effects deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned.

The installation is not an establishment for the purposes of the Seveso Directive (Directive 2012/18/EU) as the threshold quantities of dangerous substances are not exceeded.

The key risks of the the vulnerability of the project to major accidents and/or disasters are identified as follows:

- Flood risk is likely the main vulnerability of sites in Ireland to natural disasters and a Flood Risk Assessment (FRA) is provided in Appendix 7.1 of the EIAR.
- In terms of water quality and firewater in the case of a major fire incident at the installation, a firewater risk assessment is included in Appendix 3.1 of the EIAR.
- The environmental consequences (other than firewater risk) of a major fire/explosion at the installation as a consequence of increased storage of waste;
- Vulnerability of the activity to climate change; and
- Vulnerability of the installation operation to a major traffic accident/disruption.

The installation Emergency Response Procedures are presented in Appendix 3.2 of the EIAR and this is a standard requirement for all EPA licenced sites to mitigate any potential effect.

The prevention of accidents is considered further in section 13 of this report.

16.13.2 Description and Assessment of Effects

Flood Risk

The principle vulnerability for projects in Ireland relates to flood risk and a Flood Risk Assessment (FRA) is provided in Appendix 7.1 to the EIAR. The July 2017 flood risk assessment presented has been carried out in accordance with the Guidelines for Planning Authorities on 'The Planning system and Flood Risk Management' published in November 2009, jointly by the Office of Public Works (OPW) and the then Department of Environment, Heritage and Local Government (DEHLG). Furthermore, flooding is considered the most significant risk to the activity from climate change.

The flood risk assessment indicates that the risk of fluvial, pluvial and groundwater flooding at the installation are all low and the proposed development will not have any adverse effect on floodplain conveyance and storage and will not increase the risk of flooding in the surrounding area. The installation is considered to lie within Flood Zone C, i.e. the probability of flooding is low (less than 0.1% or 1 in 1000 for both river and coastal flooding).

Fire

Given the nature of the activity there is a risk of fire at the installation. The firewater risk assessment presented for the existing infrastructure, coupled with the additional proposed infrastructure and materials, concluded that the fire water risk does not warrant the provision of additional containment to that provided/proposed. No analysis of other environmental consequences of a major fire, explosion or other incident is presented.

The firewater risk assessment followed the methodology set out in the EPA's Draft Guidance Note to Industry on Requirements for the Establishment of Fire-Water Retention Facilities.

The Emergency Response Plan sets out the appropriate response procedures to deal with fires, explosions, major industrial accidents, spills of flammable or environmentally harmful material, ammonia incidents and general emergencies.

Increased Storage

As stated previously there will be an increased storage of wastes for use as alternative fuels. The hazardous wastes are significantly made up of liquid wastes. This waste stream, in combination with other combustible waste streams, may increase the risk of fire/explosion at the installation. Information received by the licensee on 12/03/2019 states that pumpable fluids will be delivered to the installation by road tanker. Upon arrival, the material will be unloaded pneumatically via a sealed, bunded automatic tank system. Pumpable fluids will be stored in tanks in a bunded enclosure. Earthing systems, flame detection and inert blanketing of the tanks will be put in place. These fluids will be delivered to the kiln via an enclosed system by pumps which are capable of handling viscous or high-density fluids. The tanks will be positioned to allow for easy manual access for maintenance, cleaning and repair. Details were also provided of the bunding structure to be put in place to reduce the risk of spillage to ground or surface water.

With respect to hazardous solids handling, the licensee states that hazardous solids (fine solids, free-flowing solids, coarse solids, etc) will be delivered to the installation by road transport using containment appropriate to the hazard. These materials will be placed in the appropriate storage facility using on site materials handling equipment and fed from there to the kilns as required. Fine solids will be unloaded in an enclosed docking station. In order to store fine solids at the installation for use in kilns 2 and 3 the current Vecoplan Free-flowing Solids storage system will be extended. Each of the storage bays within the buildings used for holding hazardous solids contain a fire detector and temperature probes for fire and heat detection.

Traffic Accidents

ICP operates 24 hours per day, 7 days per week and has an annual cement production capacity of 2.8 million tonnes. While over 90% of the raw materials arise from the on-site quarry, the Cement Works requires deliveries of fuel for the kilns in addition to deliveries of minor raw materials.

It is noted that in the event of a traffic accident/disruption impacting on installation access/egress, there are a number of additional entrances and exits that could be used in this event.

Having examined the relevant information it is not considered that the activity is particularly vulnerable to major accidents or disasters.

16.13.3 Cumulative Effects

It is considered unlikely that accidents would occur concurrently in this area that would give rise to significant effects on the environment.

16.13.4 **Conclusion**

I have examined all the information on major accidents and/or disasters provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct, indirect or cumulative effects in terms of major accidents and/or disasters.

16.14 Reasoned Conclusion on the significant effects

Having regard to the examination of environmental information contained above, and in particular to the EIAR and supplementary information provided by the licensee, and the submissions from the planning authority and third parties in the course of the application, it is considered that the potential significant direct and indirect effects of the activities on the environment are as follows:

- Emissions to Air from the co-incineration of waste as alternative fuels and alternative raw materials;
- Emissions to Water (combined discharge of wastewater, stormwater and groundwater to the River Nanny);
- Noise emissions; and
- Potential for leakage of contaminants to ground or groundwater.

Having assessed those potential effects, I have concluded as follows:

- Emissions to Air from the co-incineration of waste as alternative fuels and raw materials will be mitigated through: imposing emission limit values to comply with air quality standards, operation of abatement, and implementation of monitoring, maintenance and control measures.
- Emissions to Water (combined discharge of wastewater, stormwater and groundwater to the River Nanny) will be mitigated through: imposing emission limit values to comply with environmental quality standards, operation of abatement, and implementation of monitoring, maintenance and control measures.
- Noise Emissions will be mitigated through: imposing noise emission limit values, operation of abatement, and implementation of monitoring, maintenance and control measures.
- Potential for leakage of contaminants to ground or groundwater will be mitigated through: integrity assessment, requirement for compliance with environmental quality standards for groundwater and implementation of monitoring, maintenance and control measures.

Having regard to the effects (and interactions) identified, described and assessed throughout this report, I consider that the monitoring, mitigation and preventative measures proposed will enable the activity to operate without causing environmental pollution, subject to compliance with the RD. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

17. Fit & Proper Person Assessment

The Fit & Proper Person test requires three elements of examination:

Technical Ability

The licensee has provided details of the qualifications, technical knowledge and experience of key personnel. The licence application also includes information on the on-site management structure. It is considered that the licensee has demonstrated the technical knowledge required.

Legal Standing

Neither the licensee nor any relevant person has relevant convictions under the Environmental Protection Agency Act 1992, as amended, or under any other relevant environmental legislation.

Financial Provision/Strength

ELRA, CRAMP & FP

The licence category and proposed installation was assessed for the requirements of Environmental Liabilities Risk Assessment (ELRA), Closure, Restoration and Aftercare Management Plan (CRAMP) and Financial Provision (FP), in accordance with Agency guidance. Under this assessment it has been determined that ELRA, CRAMP and FP were required.

In September 2019, under the current licence (P0030-05), the licensee submitted a revised CRAMP and ELRA for the installation. The proposed costs are €11,027,123 and €3,576,881 respectively. OEE are currently in the process of reviewing the reports and the proposed financial provision.

Conditions 10 and 12 of the RD requires both the ELRA and CRAMP to be revised prior to the acceptance of over 120,000 tonnes of waste and prior to the acceptance of hazardous waste for co-incineration.

Fit & Proper Conclusion

It is my view, and having regard to the Conditions of the RD, that the licensee can be deemed a Fit & Proper Person for the purpose of this review.

18. Cross Office Consultation

I consulted with OEE Inspectors, Simon Buckley and Oliver Gray in relation to this site, as well as in relation to individual licence conditions, Niall Dunne in relation to financial provision. In general, the OEE have no significant concerns regarding the proposed changes to the licensable activity. I also consulted with ORM Senior Scientific Officer Patrick Kenny in relation to ambient air monitoring. I consulted ORM Senior Inspector Jarlath Duffy in relation to measures taken to protect against the acceptance of radioactive type materials being accepted at the installation. Finally, I consulted OEA Senior Scientific Officer Matthew Craig in relation to groundwater in the vicinity of the installation.

19. Charges

The annual enforcement charge recommended in the RD is €30,868, which reflects the anticipated enforcement effort required and the cost of monitoring.

20. Recommendation

The RD specifies the necessary measures to provide that the installation shall be operated in accordance with the requirements of Section 83(5) of the EPA Act 1992 as amended, and has regard to the AA and EIA. The RD gives effect to the requirements of the Environmental Protection Agency Acts 1992 as amended and has regard to submissions made.

I recommend that a Proposed Determination be issued subject to the conditions and for the reasons as drafted in the RD.

Signed

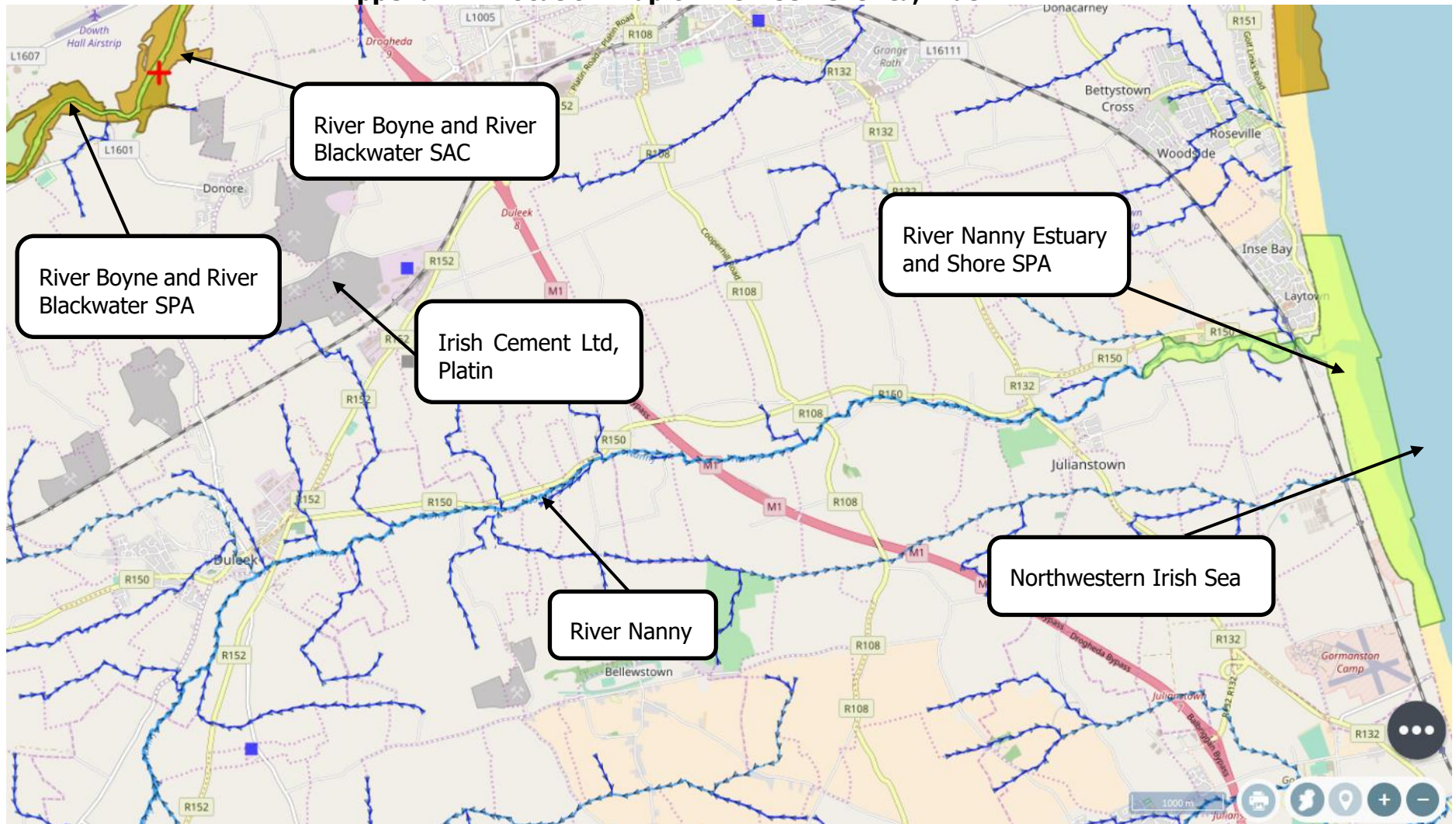
Deirdre French

Deirdre French
Inspector
Environmental Licensing Unit

Procedural Note

In the event that no objections are received to the Proposed Determination on the application, a licence will be granted in accordance with Section 87(4) of the Environmental Protection Agency Acts 1992 as amended, as soon as may be after the expiration of the appropriate period.

Appendix 1: Location map of Irish Cement Ltd, Platin



Appendix 2: Assessment of the effects of activities on European sites and proposed mitigation measures.

Site Name	River Boyne and River Blackwater SAC (Site Code: 002299)
Distance To (km)	Approximately 2.9 km direct distance from 306490 E, 271801 N
Conservation Objectives	As per <i>NPWS (2018) Conservation objectives for River Boyne and River Blackwater SAC [002299]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.</i>
Qualifying Interests (* denotes a priority habitat)	Assessment
<p>Habitats 7230 Alkaline fens 91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion <i>incanae</i>, Salicion <i>albae</i>)*</p> <p>Species 1106 Salmon (<i>Salmo salar</i>) 1355 Otter (<i>Lutra lutra</i>) 1099 River Lamprey (<i>Lampetra fluviatilis</i>)</p>	<p><u>Emissions to Water</u> The SAC is located in a different water body (River Boyne) to which the installation discharges (River Nanny). There will be no likely significant effects from emissions to water from the installation on the qualifying interests of the SAC.</p> <p><u>Potential Risk to Groundwater</u> A number of qualifying interests may be sensitive to groundwater pollution. There is a potential for the activities at the installation (production of cement and quarrying) to have an impact on groundwater, which could also have an indirect effect on surface water.</p> <p><i>Mitigation</i> The RD, as proposed, requires that the following controls are in place to protect the groundwater and in turn the qualifying interests of the SAC:</p> <ul style="list-style-type: none"> • Condition 3 of the RD requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines '<i>Storage and Transfer of Materials for Scheduled Activities</i>' (2004), which will minimise the potential for contamination of soil/groundwater.

- Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years.
- Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off.

Emissions to Air

The qualifying interests of the SAC may be sensitive to air pollution.

Mitigation

The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SAC:

- Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C of the RD also sets out the control and monitoring requirements for emissions to air.
- Air dispersion modelling was assessed as part of the licence review and concluded that there would not be a significant impact on air quality as a result of the activities at the installation.

Noise & Vibrations

Qualifying Interests such as the Otter may be sensitive to noise pollution. Furthermore, some of the qualifying interests of the SAC, particularly mammals, may be sensitive to vibrations from the activity.

Mitigation

The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SAC:

- Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C of the RD also sets out the control and monitoring requirements for noise, vibration and air overpressure emissions.
- Conditions 4 also refers to the limitations on the vibration and air-overpressure levels during blasting activities.

Potential for Accidents to Arise

There is a potential for accident and emergency situations arising from the operations at the installation. Such accident and emergency situations could have implications for the qualifying interests of the SAC.

Mitigation

The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SAC:

- Condition 9 of the RD requires the licensee, to ensure that a documented Accident Prevention Procedure is in place that addresses that hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. Condition 9 of the RD requires the licensee to have a documented Emergency Response Procedure in place that addresses any emergency situation on-site which should include provision for minimising the effects of any emergency on the environment.
- Condition 3 of the RD requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines '*Storage and Transfer of Materials for Scheduled Activities*' (2004), which will minimise the potential for contamination of soil/groundwater.
- Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years.
- Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off.
- Condition 3 of the RD requires the licensee to ensure that all pumps sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as area likely to breach local or remote containment or separators, are fitted with high liquid level alarms.
- Condition 3 of the RD requires the licensee to carry out a risk assessment in relation to fire-water retention facilities at the installation.
- Condition 3 of the RD requires the licensee to apply a leak detection system in accordance with BAT to all storage tanks, container and drum storage areas that contain liquid material other than water.

Site Name	Boyne Coast and Estuary SAC (Site Code: 001957)
Distance To (km)	Approximately 6.7 km direct distance from 306490 E, 271801 N
Conservation Objectives	As per <i>NPWS (2012) Conservation Objectives: Boyne Coast and Estuary SAC 001957. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</i>
Qualifying Interests (* denotes a priority habitat)	Assessment
Habitats 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 Salicornia and other annuals colonising mud and sand 1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with Ammophila arenaria (white dunes) 2130 Fixed coastal dunes	<p><u>Emissions to Water</u></p> <p>The majority of qualifying interests of the SAC are sensitive to surface water pollution. Any change in water quality has the potential to impact on the water dependant habitats.</p> <p><i>Mitigation</i></p> <p>The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SAC:</p> <ul style="list-style-type: none"> • Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C also sets out the monitoring requirements for emissions to water. <p><u>Potential Risk to Groundwater</u></p> <p>A number of qualifying interests may be sensitive to groundwater pollution. There is a potential for the activities at the installation (production of cement and quarrying) to have an impact on groundwater, which could also have an indirect effect on surface water.</p> <p><i>Mitigation</i></p> <p>The RD, as proposed, requires that the following controls are in place to protect the groundwater and in turn the qualifying interests of the SAC:</p> <ul style="list-style-type: none"> • Condition 3 of the RD requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines '<i>Storage and</i>

<p>with herbaceous vegetation (grey dunes)*</p>	<p><i>Transfer of Materials for Scheduled Activities'</i> (2004), which will minimise the potential for contamination of soil/groundwater.</p> <ul style="list-style-type: none"> • Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years. • Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off. <p><u>Emissions to Air</u></p> <p>The qualifying interests of the SAC may be sensitive to air pollution.</p> <p><i>Mitigation</i></p> <p>The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SAC:</p> <ul style="list-style-type: none"> • Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C of the RD also sets out the control and monitoring requirements for emissions to air. • Air dispersion modelling was assessed as part of the licence review and concluded that there would not be a significant impact on air quality as a result of the activities at the installation. <p><u>Noise & Vibrations</u></p> <p>The qualifying interests of the SAC are not sensitive to noise or vibrations.</p> <p><u>Potential for Accidents to Arise</u></p> <p>There is a potential for accident and emergency situations arising from the operations at the installation. Such accident and emergency situations could have implications for the qualifying interests of the SAC.</p> <p><i>Mitigation</i></p> <p>The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SAC:</p> <ul style="list-style-type: none"> • Condition 9 of the RD requires the licensee, to ensure that a documented Accident Prevention Procedure is in place that addresses that hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. Condition 9 of the RD requires the licensee to have a documented Emergency
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	<p>Response Procedure in place that addresses any emergency situation on-site which should include provision for minimising the effects of any emergency on the environment.</p> <ul style="list-style-type: none"> • Condition 3 of the RD requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines '<i>Storage and Transfer of Materials for Scheduled Activities</i>' (2004), which will minimise the potential for contamination of soil/groundwater. • Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years. • Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off. • Condition 3 of the RD requires the licensee to ensure that all pumps sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as area likely to breach local or remote containment or separators, are fitted with high liquid level alarms. • Condition 3 of the RD requires the licensee to carry out a risk assessment in relation to fire-water retention facilities at the installation. • Condition 3 of the RD requires the licensee to apply a leak detection system in accordance with BAT to all storage tanks, container and drum storage areas that contain liquid material other than water.
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Site Name	Clogher Head SAC (Site Code: 001459)
Distance To (km)	Approximately 15.4 km direct distance from 306490 E, 271801 N
Conservation Objectives	As per <i>NPWS (2017) Conservation Objectives: Clogher Head SAC 001459. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.</i>
Qualifying Interests (* denotes a priority habitat)	Assessment

<p>Habitats 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 4030 European dry heaths</p>	<p><u>Emissions to Water</u> The qualifying interests of the SAC are sensitive to surface water pollution. Any change in water quality has the potential to impact on the water dependant habitats.</p> <p><i>Mitigation</i> The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SAC:</p> <ul style="list-style-type: none"> • Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C also sets out the monitoring requirements for emissions to water. <p><u>Potential Risk to Groundwater</u> The qualifying interests may be sensitive to groundwater pollution. There is a potential for the activities at the installation (production of cement and quarrying) to have an impact on groundwater, which could also have an indirect effect on surface water.</p> <p><i>Mitigation</i> The RD, as proposed, requires that the following controls are in place to protect the groundwater and in turn the qualifying interests of the SAC:</p> <ul style="list-style-type: none"> • Condition 3 of the RD requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines '<i>Storage and Transfer of Materials for Scheduled Activities</i>' (2004), which will minimise the potential for contamination of soil/groundwater. • Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years. • Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off. <p><u>Emissions to Air</u></p>
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All the qualifying interests of the SAC are sensitive to air pollution.

Mitigation

The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SAC:

- Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C of the RD also sets out the control and monitoring requirements for emissions to air.
- Air dispersion modelling was assessed as part of the licence review and concluded that there would not be a significant impact on air quality as a result of the activities at the installation.

Noise & Vibrations

The qualifying interests of the SAC are not sensitive to noise or vibrations.

Potential for Accidents to Arise

There is a potential for accident and emergency situations arising from the operations at the installation. Such accident and emergency situations could have implications for the qualifying interests of the SAC.

Mitigation

The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SAC:

- Condition 9 of the RD requires the licensee, to ensure that a documented Accident Prevention Procedure is in place that addresses that hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. Condition 9 of the RD requires the licensee to have a documented Emergency Response Procedure in place that addresses any emergency situation on-site which should include provision for minimising the effects of any emergency on the environment.
- Condition 3 of the RD requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines '*Storage and Transfer of Materials for Scheduled Activities*' (2004), which will minimise the potential for contamination of soil/groundwater.
- Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years.

	<ul style="list-style-type: none"> • Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off. • Condition 3 of the RD requires the licensee to ensure that all pumps sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as area likely to breach local or remote containment or separators, are fitted with high liquid level alarms. • Condition 3 of the RD requires the licensee to carry out a risk assessment in relation to fire-water retention facilities at the installation. • Condition 3 of the RD requires the licensee to apply a leak detection system in accordance with BAT to all storage tanks, container and drum storage areas that contain liquid material other than water.
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Site Name	River Boyne and River Blackwater SPA (Site Code: 004232)
Distance To (km)	Approximately 3.2 km direct distance from 306490 E, 271801 N
Conservation Objectives	As per <i>NPWS (2018) Conservation objectives for River Boyne and River Blackwater SPA [004232]. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht.</i>
Qualifying Interests (* denotes a priority habitat)	Assessment
Birds A229 Kingfisher (<i>Alcedo atthis</i>)	<p><u>Emissions to Water</u> The SPA is located in a different water body (River Boyne) to which the installation discharges (River Nanny). There will be no likely significant effects from emissions to water from the installation on the qualifying interests of the SPA.</p> <p><u>Potential Risk to Groundwater</u> The Kingfisher may also be sensitive to groundwater pollution. There is a potential for the activities at the installation (production of cement and quarrying) to have an impact on groundwater, which could also have an indirect effect on surface water.</p>

Mitigation

The RD, as proposed, requires that the following controls are in place to protect the groundwater and in turn the qualifying interests of the SAC:

- Condition 3 of the RD requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines '*Storage and Transfer of Materials for Scheduled Activities*' (2004), which will minimise the potential for contamination of soil/groundwater.
- Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years.
- Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off.

Emissions to Air

The Kingfisher is sensitive to surface air pollution.

Mitigation

The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SPA:

- Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C of the RD also sets out the control and monitoring requirements for emissions to air.
- Air dispersion modelling was assessed as part of the licence review and concluded that there would not be a significant impact on air quality as a result of the activities at the installation.

Noise & Vibrations

The Kingfisher may be sensitive to noise pollution. Furthermore, the Kingfisher may be sensitive to vibrations from the activity.

Mitigation

The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SPA:

- Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C of the RD also sets out the control and monitoring requirements for noise, vibration and air overpressure emissions.
- Conditions 4 also refers to the limitations on the vibration and air-overpressure levels during blasting activities.

Potential for Accidents to Arise

There is a potential for accident and emergency situations arising from the operations at the installation. Such accident and emergency situations could have implications for the qualifying interests of the SPA.

Mitigation

The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SPA:

- Condition 9 of the RD requires the licensee, to ensure that a documented Accident Prevention Procedure is in place that addresses that hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. Condition 9 of the RD requires the licensee to have a documented Emergency Response Procedure in place that addresses any emergency situation on-site which should include provision for minimising the effects of any emergency on the environment.
- Condition 3 of the RD requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines '*Storage and Transfer of Materials for Scheduled Activities*' (2004), which will minimise the potential for contamination of soil/groundwater.
- Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years.
- Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off.
- Condition 3 of the RD requires the licensee to ensure that all pumps sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as area likely to breach local or remote containment or separators, are fitted with high liquid level alarms.
- Condition 3 of the RD requires the licensee to carry out a risk assessment in relation to fire-water retention facilities at the installation.

	<ul style="list-style-type: none"> Condition 3 of the RD requires the licensee to apply a leak detection system in accordance with BAT to all storage tanks, container and drum storage areas that contain liquid material other than water.
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Site Name	Boyne Estuary SPA (Site Code: 004080)
Distance To (km)	Approximately 5.6 km direct distance from 306490 E, 271801 N
Conservation Objectives	As per <i>NPWS (2013) Conservation Objectives: Boyne Estuary SPA 004080. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</i>
Qualifying Interests (* denotes a priority habitat)	Assessment
Birds A048 Shelduck (<i>Tadorna tadorna</i>) A140 Golden Plover (<i>Pluvialis apricaria</i>) A162 Redshank (<i>Tringa totanus</i>) A144 Sanderling (<i>Calidris alba</i>) A143 Knot (<i>Calidris canutus</i>) A156 Black-tailed Godwit (<i>Limosa limosa</i>) A195 Little Tern (<i>Sterna albifrons</i>) A169 Turnstone (<i>Arenaria interpres</i>)	<u>Emissions to Water</u> The majority of qualifying interests of the SPA are sensitive to surface water pollution. Any change in water quality has the potential to impact on the water dependant habitats and species. <i>Mitigation</i> The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SPA: <ul style="list-style-type: none"> Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C also sets out the monitoring requirements for emissions to water. <u>Potential Risk to Groundwater</u> A number of qualifying interests may be sensitive to groundwater pollution. There is a potential for the activities at the installation (production of cement and quarrying) to have an impact on groundwater, which could also have an indirect effect on surface water. <i>Mitigation</i>

<p>A141 Grey Plover (<i>Pluvialis squatarola</i>) A142 Lapwing (<i>Vanellus vanellus</i>) A130 Oystercatcher (<i>Haematopus ostralegus</i>) Habitats Wetlands</p>	<p>The RD, as proposed, requires that the following controls are in place to protect the groundwater and in turn the qualifying interests of the SAC:</p> <ul style="list-style-type: none"> • Condition 3 of the RD requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines '<i>Storage and Transfer of Materials for Scheduled Activities</i>' (2004), which will minimise the potential for contamination of soil/groundwater. • Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years. • Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off. <p><u>Emissions to Air</u> The qualifying interests of the SPA may be sensitive to air pollution.</p> <p><i>Mitigation</i> The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SPA:</p> <ul style="list-style-type: none"> • Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C of the RD also sets out the control and monitoring requirements for emissions to air. • Air dispersion modelling was assessed as part of the licence review and concluded that there would not be a significant impact on air quality as a result of the activities at the installation. <p><u>Noise & Vibrations</u> The qualifying interests of the SPA may be sensitive to noise pollution. Furthermore, some of the qualifying interests of the SPA may be sensitive to vibrations from the activity.</p> <p><i>Mitigation</i> The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SPA:</p>
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- Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C of the RD also sets out the control and monitoring requirements for noise, vibration and air overpressure emissions.
- Conditions 4 also refers to the limitations on the vibration and air-overpressure levels during blasting activities.

Potential for Accidents to Arise

There is a potential for accident and emergency situations arising from the operations at the installation. Such accident and emergency situations could have implications for the qualifying interests of the SPA.

Mitigation

The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SPA:

- Condition 9 of the RD requires the licensee, to ensure that a documented Accident Prevention Procedure is in place that addresses that hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. Condition 9 of the RD requires the licensee to have a documented Emergency Response Procedure in place that addresses any emergency situation on-site which should include provision for minimising the effects of any emergency on the environment.
- Condition 3 of the RD requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines '*Storage and Transfer of Materials for Scheduled Activities*' (2004), which will minimise the potential for contamination of soil/groundwater.
- Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years.
- Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off.
- Condition 3 of the RD requires the licensee to ensure that all pumps sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as area likely to breach local or remote containment or separators, are fitted with high liquid level alarms.
- Condition 3 of the RD requires the licensee to carry out a risk assessment in relation to fire-water retention facilities at the installation.

	<ul style="list-style-type: none"> Condition 3 of the RD requires the licensee to apply a leak detection system in accordance with BAT to all storage tanks, container and drum storage areas that contain liquid material other than water.
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Site Name	River Nanny Estuary and Shore SPA (Site Code: 004158)
Distance To (km)	Approximately 8.2 km direct distance from 306490 E, 271801 N
Conservation Objectives	As per <i>NPWS (2012) Conservation Objectives: River Nanny Estuary and Shore SPA 004158. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</i>
Qualifying Interests (* denotes a priority habitat)	Assessment
Birds A143 Knot (<i>Calidris canutus</i>) A144 Sanderling (<i>Calidris alba</i>) A140 Golden Plover (<i>Pluvialis apricaria</i>) A130 Oystercatcher (<i>Haematopus ostralegus</i>) A184 Herring Gull (<i>Larus argentatus</i>) A137 Ringed Plover (<i>Charadrius hiaticula</i>) Habitats Wetlands	<p><u>Emissions to Water</u></p> <p>The majority of qualifying interests of the SPA are sensitive to surface water pollution. Any change in water quality has the potential to impact on the water dependant habitats and species.</p> <p><i>Mitigation</i></p> <p>The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SPA:</p> <ul style="list-style-type: none"> Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C also sets out the monitoring requirements for emissions to water. <p><u>Potential Risk to Groundwater</u></p> <p>A number of qualifying interests may be sensitive to groundwater pollution. There is a potential for the activities at the installation (production of cement and quarrying) to have an impact on groundwater, which could also have an indirect effect on surface water.</p> <p><i>Mitigation</i></p>

The RD, as proposed, requires that the following controls are in place to protect the groundwater and in turn the qualifying interests of the SAC:

- Condition 3 of the RD requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines '*Storage and Transfer of Materials for Scheduled Activities*' (2004), which will minimise the potential for contamination of soil/groundwater.
- Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years.
- Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off.

Emissions to Air

The qualifying interests of the SPA may be sensitive to air pollution.

Mitigation

The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SPA:

- Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C of the RD also sets out the control and monitoring requirements for emissions to air.
- Air dispersion modelling was assessed as part of the licence review and concluded that there would not be a significant impact on air quality as a result of the activities at the installation.

Noise & Vibrations

The qualifying interests of the SPA may be sensitive to noise pollution. Furthermore, some of the qualifying interests of the SPA may be sensitive to vibrations from the activity.

Mitigation

The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SPA:

- Condition 5 of the RD requires that no specified emission from the installation shall exceed the emission limit values set out in Schedule C of the RD. Schedule C of the RD also sets out the control and monitoring requirements for noise, vibration and air overpressure emissions.
- Conditions 4 also refers to the limitations on the vibration and air-overpressure levels during blasting activities.

Potential for Accidents to Arise

There is a potential for accident and emergency situations arising from the operations at the installation. Such accident and emergency situations could have implications for the qualifying interests of the SPA.

Mitigation

The RD, as proposed, requires that the following controls are in place to protect the qualifying interests of the SAC:

- Condition 9 of the RD requires the licensee, to ensure that a documented Accident Prevention Procedure is in place that addresses that hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment. Condition 9 of the RD requires the licensee to have a documented Emergency Response Procedure in place that addresses any emergency situation on-site which should include provision for minimising the effects of any emergency on the environment.
- Condition 3 of the RD requires that all tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines '*Storage and Transfer of Materials for Scheduled Activities*' (2004), which will minimise the potential for contamination of soil/groundwater.
- Condition 6 of the RD requires that the integrity and water tightness of all underground pipes, tanks, bunding structures and containers and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee at least once every three years.
- Condition 8 of the RD requires that all material and waste shall be loaded, unloaded and stored in designated areas protected as may be appropriate against spillage and leachate run-off.
- Condition 3 of the RD requires the licensee to ensure that all pumps sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as area likely to breach local or remote containment or separators, are fitted with high liquid level alarms.
- Condition 3 of the RD requires the licensee to carry out a risk assessment in relation to fire-water retention facilities at the installation.

	<ul style="list-style-type: none">• Condition 3 of the RD requires the licensee to apply a leak detection system in accordance with BAT to all storage tanks, container and drum storage areas that contain liquid material other than water.
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Appendix 3: BAT Compliance Conditions

CID/BREF/BAT Document	CID/BREF/BAT Reference	Additional requirements introduced into RD	Condition/Schedule
Production of cement, lime and magnesium oxide	CID 2013/163/EU	Environmental management systems (BAT 1)	Condition 2.2
		Maintenance Programme (BAT 16)	Condition 2.2.2.14
		Choosing/designing any new plant/infrastructure (BAT1)	Condition 3.3
		Reference conditions for air emissions for the kiln and non-kiln activities (General considerations)	Condition 4
		Diffuse dust emissions (BAT 14 and 15)	Condition 4 and Schedule C
		Energy Efficiency (BAT 6, 7, 8, 9 and 10)	Condition 7
		Raw Material consumption (BAT 11, 12, 13, 24, 25a, 26a, 28a)	Condition 7
		Emergency preparedness (BAT 1)	Condition 9.2
		Energy Consumption (BAT 6, 7, 8, 9 and 10)	Schedule D
		Monitoring of the Kiln Process (BAT 5)	Schedule B
		BAT-AELs and monitoring are specified for emission points A2-01 to A2-10, A3-01 to A3-72, A3-74 to A3-90, A3-94 to A3-121.	Schedule C
Energy Efficiency	BREF document for Energy Efficiency (02.2009)	Inclusion of Energy Efficiency management system in EMS	Condition 2

Appendix 4: Relevant European (and international) legal instruments

The following Irish and European and international legal instruments are regarded as relevant to this application assessment and have been considered in the drafting of the Recommended Determination.
Industrial Emissions Directive (IED) (2010/75/EU)
Environmental Impact Assessment (EIA) Directive (2014/52/EU)
Habitats Directive (92/43/EEC) & Birds Directive (79/409/EC)
Water Framework Directive [2000/60/EC]
Air Quality Directives (2008/50/EC and 2004/107/EC)
Environmental Liability Directive (2004/35/CE)
Waste Framework Directive (2008/98/EC)
Groundwater Directive (80/68/EEC) and 2006/118/EC
Regulation (EC) No 1069/2009, (Animal by-products Regulation)
Energy Efficiency Directive (2012/27/EC)
Clean Air For Europe CAFÉ Directive (2008/50/EC)
Stockholm Convention on Persistent Organic Pollutants

Appendix 5: Other BREF documents and National BAT notes relevant to this assessment

Sectoral Commission Implementing Decisions	Publication date
COMMISSION IMPLEMENTING DECISION of 26 March 2013 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for the production of cement, lime and magnesium oxide (2013/163/EU)	April 2013
COMMISSION IMPLEMENTING DECISION of 10 August 2018 establishing the best available techniques (BAT) conclusions for waste treatment under Directive 2010/75/EU of the European Parliament and of the Council.	August 2018
Sectoral BREF	Publication date
Best Available Techniques (BAT) Reference Document for the Production of Cement, Lime and Magnesium Oxide	2013
Reference Document on the Best Available Techniques for Waste Treatment	December 2015
Horizontal BREF	Publication date
Reference Document on the Best Available Techniques on Emissions from Storage	July 2006
Reference Document on the Best Available Techniques for Energy Efficiency	February 2009
National BAT notes	Publication date
The Cement and Lime Sector	2008

Appendix 6: Waste acceptance for co-incineration at the cement plant.

Maximum quantity of waste imported for co-incineration: 465,000 tonnes per annum

Note 1

Description	List of Waste (LoW) code	Maximum intake ^{Note 1}
Solid recovered fuel (SRF) for co-incineration	19 12 10	220,000 tonnes per annum
Hazardous Waste for co-incineration	01 05 05* 07 04 03* 16 11 01* 01 05 06* 07 04 04* 17 05 03* 02 01 08* 07 05 01* 17 05 05* 03 01 04* 07 05 03* 19 01 17* 05 01 07* 07 05 04* 19 02 07* 05 06 01* 07 06 01* 19 07 02* 06 02 03* 07 06 03* 19 10 03* 07 01 01* 07 06 04* 19 11 02* 07 01 03* 07 07 01* 19 12 06* 07 01 04* 07 07 03* 19 12 11* 07 02 01* 07 07 04* 19 13 01* 07 02 03* 08 01 11* 19 13 03* 07 02 04* 08 04 09* 20 01 13* 07 03 01* 13 07 01* 20 01 26* 07 03 03* 13 07 03* 20 01 37* 07 03 04* 15 01 10* 07 04 01* 15 02 02*	50,000 tonnes per annum
Waste for use as alternative raw materials for co-incineration	01 01 01 10 01 07 19 07 03 01 01 02 10 01 17 19 08 05 01 03 06 10 03 05 19 08 12 01 03 08 17 05 03* 19 08 14 01 03 09 17 05 05* 19 09 02 01 05 05* 17 08 02 19 13 01* 01 05 06* 19 01 12 19 13 02 02 03 05 19 01 17* 19 13 03* 03 03 09 19 01 18 19 13 04 06 02 03* 19 03 05 10 01 05 19 07 02*	120,000 tonnes per annum
Other Waste for co-incineration	02 01 02 07 02 13 17 02 01 02 01 03 07 06 99 17 02 03 02 01 04 08 01 12 19 02 10 02 01 06 08 04 10 19 10 04 02 01 07 12 01 05 19 12 01 02 01 09 15 01 01 19 12 04 02 02 03 15 01 02 19 12 07 02 03 04 15 01 03 19 12 08 02 07 02 15 01 05 19 12 12	75,000 tonnes per annum

	02 07 04	15 01 06	20 01 01	
	03 01 01	15 02 03	20 01 25	
	03 01 05	16 01 03	20 01 38	
	03 03 01	16 11 02	20 01 39	
	03 03 08			

Appendix 7: List of Waste (LoW) codes to be accepted along with the waste description.

LoW Code	LoW Description
<i>01</i>	<i>Wastes resulting from exploration, mining, quarrying, physical and chemical treatment of minerals</i>
01 01 01	Wastes from mineral metalliferous excavation
01 01 02	Wastes from mineral non-metalliferous excavation
01 03 06	Tailings other than those mentioned in 01 03 04 and 01 03 05
01 03 08	Dusty and powdery wastes
01 03 09	Red mud from alumina production other than the wastes mentioned in 01 03 10
01 05 05*	oil-containing drilling muds and wastes
01 05 06*	drilling muds and other drilling wastes containing hazardous substances
<i>02</i>	<i>Wastes from agriculture, horticulture, aquaculture, forestry, hunting and fishing, food preparation and processing</i>
02 01 02	Animal-tissue waste
02 01 03	Plant-tissue waste
02 01 04	Waste plastic (except packaging)
02 01 06	Animal faeces, urine and manure (including spoiled straw), effluent, collected separately and treated off-site
02 01 07	Wastes from forestry
02 01 08*	agrochemical waste containing hazardous substances
02 01 09	Agrochemical waste other than those mentioned in 02 01 08
02 02 03	Materials unsuitable for consumption or processing
02 03 04	Materials unsuitable for consumption or processing
02 03 05	Sludges from on-site treatment
02 07 02	Waste from spirits distillation
02 07 04	Materials unsuitable for consumption or processing
<i>03</i>	<i>Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard</i>
03 01 01	Waste bark or cork

03 01 04*	sawdust, shavings, cuttings, wood, particle board and veneer containing hazardous substances
03 01 05	Sawdust, shavings, cuttings, wood, particle board and veneer other than those mentioned in 03 01 04
03 03 01	Waste bark or cork
03 03 08	Wastes from sorting of paper and cardboard destined for recycling
03 03 09	Lime mud waste
05	<i>Wastes from petroleum refining, natural gas purification and pyrolytic treatment of coal</i>
05 01 07*	acid tars
05 06 01*	acid tars
06	<i>Wastes from inorganic chemical process</i>
06 02 03*	hydrofluoric acid
07	<i>Wastes from organic chemical processes</i>
07 01 01*	aqueous washing liquids and mother liquors
07 01 03*	organic halogenated solvents, washing liquids and mother liquors
07 01 04*	other organic solvents, washing liquids and mother liquors
07 02 01*	aqueous washing liquids and mother liquors
07 02 03*	organic halogenated solvents, washing liquids and mother liquors
07 02 04*	other organic solvents, washing liquids and mother liquors
07 02 13	Waste plastic
07 03 01*	aqueous washing liquids and mother liquors
07 03 03*	organic halogenated solvents, washing liquids and mother liquors
07 03 04*	other organic solvents, washing liquids and mother liquors
07 04 01*	aqueous washing liquids and mother liquors
07 04 03*	organic halogenated solvents, washing liquids and mother liquors
07 04 04*	other organic solvents, washing liquids and mother liquors
07 05 01*	aqueous washing liquids and mother liquors
07 05 03*	organic halogenated solvents, washing liquids and mother liquors
07 05 04*	other organic solvents, washing liquids and mother liquors

07 06 01*	aqueous washing liquids and mother liquors
07 06 03*	organic halogenated solvents, washing liquids and mother liquors
07 06 04*	other organic solvents, washing liquids and mother liquors
07 06 99	Wastes not otherwise specified
07 07 01*	aqueous washing liquids and mother liquors
07 07 03*	organic halogenated solvents, washing liquids and mother liquors
07 07 04*	other organic solvents, washing liquids and mother liquors
<i>08</i>	<i>Wastes from the manufacture, formulation, supply and use (MFSU) of coatings (paints, varnishes and vitreous enamels), adhesives, sealants and printing inks</i>
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances
08 01 12	Waste paint and varnish other than those mentioned in 08 01 11
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances
08 04 10	Waste adhesives and sealants other than those mentioned in 08 04 09
<i>10</i>	<i>Wastes from thermal processes</i>
10 01 05	Calcium-based reaction wastes from flue-gas desulphurisation in solid form
10 01 07	Calcium-based reaction wastes from flue-gas desulphurisation in sludge form
10 01 17	Fly ash from co-incineration other than those mentioned in 10 01 16
10 03 05	Waste alumina
<i>12</i>	<i>Wastes from shaping and physical and mechanical surface treatment of metals and plastics</i>
12 01 05	Plastic shavings and turnings
<i>13</i>	<i>Oil wastes and wastes of liquid fuels (except edible oils, and those in chapters 05, 12 and 19)</i>
13 07 01*	fuel oil and diesel
13 07 03*	other fuels (including mixtures)
<i>15</i>	<i>Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified</i>
15 01 01	Paper and cardboard packaging
15 01 02	Plastic packaging
15 01 03	Wooden packaging

15 01 05	Composite packaging
15 01 06	Mixed packaging
15 01 10*	packaging containing residues of or contaminated by hazardous substances
15 02 02*	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by hazardous substances
15 02 03	Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02
<i>16</i>	<i>Wastes not otherwise specified in the list</i>
16 01 03	End-of-life tyres
16 11 01*	carbon-based linings and refractories from metallurgical processes containing hazardous substances
16 11 02	Carbon-based linings and refractories from metallurgical processes other than those mentioned in 16 11 01
<i>17</i>	<i>Construction and demolition wastes (including excavated soil from contaminated sites)</i>
17 02 01	Wood
17 02 03	Plastic
17 05 03*	soil and stones containing hazardous substances
17 05 05*	dredging spoil containing hazardous substances
17 08 02	Gypsum-based construction materials other than those mentioned in 17 08 01
<i>19</i>	<i>Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use</i>
19 01 12	Bottom ash and slag other than those mentioned in 19 01 11
19 01 17*	pyrolysis wastes containing hazardous substances
19 01 18	Pyrolysis wastes other than those mentioned in 19 01 17
19 02 07*	oil and concentrates from separation
19 02 10	Combustible wastes other than those mentioned in 10 02 08 and 19 02 09
19 03 05	Stabilised wastes other than those mentioned in 19 03 04
19 07 02*	landfill leachate containing hazardous substances
19 07 03	Landfill leachate other than those mentioned in 19 07 02
19 08 05	Sludges from treatment of urban waste water
19 08 12	Sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11

19 08 14	Sludges from other treatment of industrial waste water other than those mentioned in 19 08 13
19 09 02	Sludges from water clarification
19 10 03*	fluff-light fraction and dust containing hazardous substances
19 10 04	Fluff-light fraction and dust other than those mentioned in 19 10 03
19 11 02*	acid tars
19 12 01	Paper and cardboard
19 12 04	Plastic and rubber
19 12 06*	wood containing hazardous substances
19 12 07	Wood other than those mentioned in 19 12 06
19 12 08	Textiles
19 12 10	Combustible waste (refuse derived fuel)
19 12 11*	other wastes (including mixtures of materials) from mechanical treatment of waste containing hazardous substances
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
19 13 01*	solid wastes from soil remediation containing hazardous substances
19 13 02	Solid wastes from soil remediation other than those mentioned in 19 13 01
19 13 03*	sludges from soil remediation containing hazardous substances
19 13 04	Sludges from soil remediation other than those mentioned in 19 13 03
20	<i>Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions</i>
20 01 01	Paper and cardboard
20 01 13*	solvents
20 01 25	Edible oil and fat
20 01 26*	oil and fat other than those mentioned in 20 01 25
20 01 37*	wood containing hazardous substances
20 01 38	Wood other than those mentioned in 20 01 37
20 01 39	Plastics