

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

**Signed:** 

**Date: 20/09/2022**



**OFFICE OF ENVIRONMENTAL  
SUSTAINABILITY**

**INSPECTOR'S REPORT ON AN INDUSTRIAL EMISSIONS LICENCE  
APPLICATION, LICENCE REGISTER NUMBER P1069-01**

**TO: SHARON FINEGAN, DIRECTOR**

**FROM: EOIN MCCAFFREY**

**DATE: 20 SEPTEMBER 2022**

Applicant: William Connolly & Sons Unlimited Company  
CRO number: 16517  
Location/address: Grange Lower, Goresbridge, County Kilkenny  
Application date: 06 March 2018

Classes of Activity (under EPA Act 1992 as amended): 7.8 (a) (iii) The treatment and processing, other than exclusively packaging, of the following raw materials, whether previously processed or unprocessed, intended for the production of food or feed from: animal and vegetable raw materials, both in combined and separate products, with a finished product production capacity in tonnes per day greater than:

- (I) 75 if A is equal to 10 or more; or
- (II)  $[300 - (22.5 \times A)]$  in any other case,

Where 'A' is the portion of animal material (in percent of weight) of the finished product production capacity.

Category/ies of activity under IED (2010/75/EU): 6.4(b)(iii) Treatment and processing, other than exclusively packaging, of the following raw materials, whether previously processed or unprocessed, intended for the production of food or feed from: animal and vegetable raw materials, both in combined and separate products, with a finished product production capacity in tonnes per day greater than:

- 75 if A is equal to 10 or more or,
- $[300 - (22.5 \times A)]$  in any other case,

where 'A' is the portion of animal material (in percent of weight) of the finished product production capacity.

Main CID:	Commission Implementing Decision (EU) 2019/2031 of 12 November 2019 establishing best available techniques (BAT) conclusions for food, drink and milk industries, under Directive 2010/75/EU of the European Parliament and of the Council (FDM CID)	
All relevant CIDs, BREF documents and National BAT notes are listed in the appendix of this report.		
Activity description/background: Feed is manufactured at the installation for the agricultural industry including equine, dairy, cattle, sheep, pig, poultry and small animals.		
Additional information received:	Yes (30/10/2019, 15/05/2020, 30/11/2021, 07/01/2022, 31/01/2022, 31/03/2022, 02/06/2022, 29/07/2022, 15/08/2022 and 18/08/2022)	
No of submissions received:	3	
Environmental Impact Assessment required: No	Stage 2 Appropriate Assessment required: Yes	
	Natura Impact Statement (NIS) submitted: Yes (30/11/2021) & revised 31/03/2022	
Site visit: 20/05/2022	Site notice check: 09/04/2018	

## 1. Introduction

William Connolly & Sons Unlimited Company (hereafter referred to as William Connolly) has operated a family business from the current site located just outside Goresbridge, Co. Kilkenny since 1908. The company started processing cereals for the manufacture of animal feed in 1963 and have expanded since this time.

The main activity on site is the manufacture of animal feed and onward distribution of manufactured feed to over 40 countries worldwide both in bulk and bagged form. The installation boundary is 18.02 hectares in size and includes the production area, agricultural lands and an integrated constructed wetland (ICW) which manages all stormwater discharges from the site. The applicant currently employs over 100 employees at the site, increasing that number during harvest season.

The River Barrow (\_210)( IE\_SE\_14B013100) is located approximately 200 meters to the east of the main production area. The boundary of the installation to the east, which contains the ICW is also within the boundary of The River Barrow & River Nore SAC (002162)(see Figure 6.3 and Appendix 1 of this Inspector's Report). The nearest sensitive receptor (NSR) is a dwelling within 25 meters of the eastern boundary of the main production area.

William Connolly & Sons Unlimited Company has applied to the Agency for an Industrial Emissions Licence as the animal feed manufacturing process carried out on-site is an activity that comes within the scope of Class 7.8 of the First Schedule of the EPA Act 1992 as amended.

## 2. Description of activity

The main activity on site is the manufacture of animal feed (bulk and bagged) for the equine, dairy, cattle, sheep, pig, poultry and small animal market. The installation can operate 24 hours a day /seven days a week, in particular during harvest season (July-

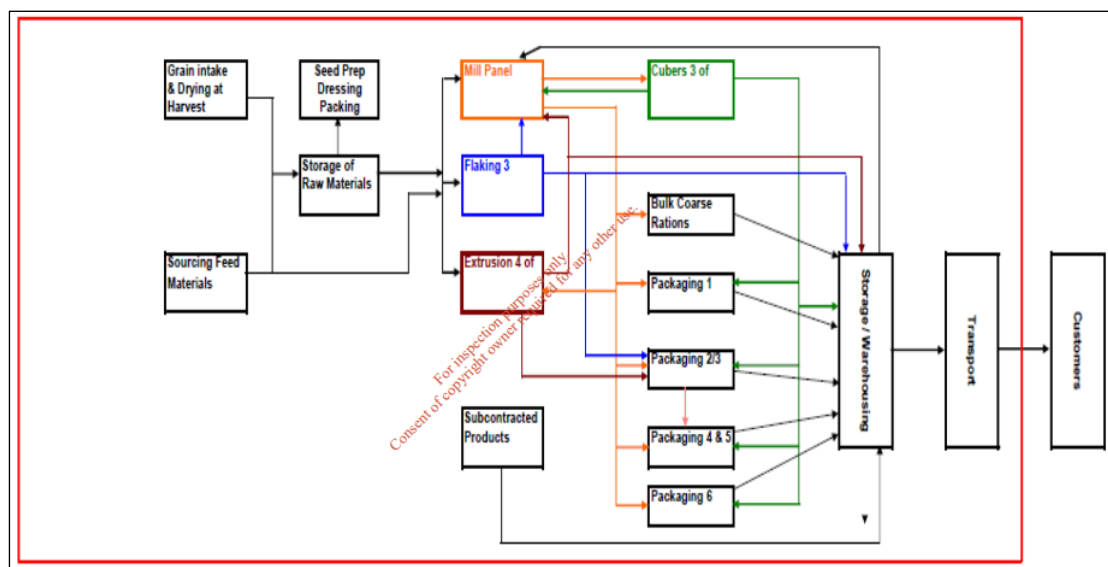
September), with reduced operational periods during the year in line with production demand at the feed mill. The site also has a dedicated maintenance garage and refuelling area to service and repair plant and haulage fleet.

The site currently has a through-put of up to 200,000 tonnes of feed per annum and intend on increasing its production capacity up to 300,000 tonnes per annum. Animal feed is distributed from the site either in bulk deliveries or smaller bags (25 kg).

The main activities on-site involve acceptance, drying and aerating of cereals/seed, the operation of the feed mill and associated dryers/grinders/flakers/extrusion lines and plant, the seed plant and bagging/storage sheds. The dried cereal is mixed with various raw materials, oils, molasses, seeds etc, and undergoes mechanical processes (grinding, mixing, extruding, flaking, cooling) to produce the animal feed (Figure 1).

The main dryers operate during the harvest period (8-week period between July and September) and are required to dry the grain or seed to reduce moisture levels to ensure it remains usable for the rest of the year to manufacture feed/seed products. Separate specialist dryers are used for the seed and grain in order to avoid cross contamination.

An overview of the main processes at William Connolly site are detailed in the following schematic:



**Figure 1:** Overview of Feed Mill Process. Source - Non-Technical Summary dated 16/03/2018 submitted as part of IE licence application (P1069-01).

Grain acceptance:

Grain is accepted, dried, aerated and then stored before dispatch to the feed mill where there are a number of processes undertaken depending on the final product.

Mill Panel Process:

The mill panel accepts grain from storage, puts it through hoppers & sieves before grinding and mixing the grain with liquid ingredients. This product may go for further processing in the flaker, extrusion or cubing plant or is stored as a bulk coarse ration. This coarse ration is a product in itself and may be dispatched to the customer directly.

Flaking Process:

Grain from storage and/or the mill panel undergoes sieving, conditioning (steam or dry heat) cooking, flaking and then cooling, after which it can be stored prior to onward distribution, or sent to a packaging line, or sent to the mill panel and further processed.

Extrusion Plant Process:

The extrusion plant takes grain from storage and/or from the mill panel where it is ground, conditioned with steam/water and other raw materials, then extruded and cooled and stored as bulk rations, or packaged, or sent to the mill panel and further processed.

Cubing Plant:

The cubing plant takes grain from the mill panel where it is conditioned with steam, water and/or molasses depending on the product, then cubed and cooled and sent to the raw material bins to be utilised in one of the other process lines, or to bulk storage prior to onward distribution, or to one of the packaging lines.

Processed product is sent to one of six packaging lines depending on the product type.

Seed Plant:

The seed plant accepts seed from storage where it is screened, cleaned and dressed and packaged. This is a seasonal process with seed being produced for spring and autumn planting.

The main production process is supported by ancillary processes including production of steam from two on-site boilers and an integrated constructed wetland (ICW) for the acceptance of uncontaminated stormwater from the production area before discharge to the neighbouring River Barrow.

The main potential emissions from the activity are dust (dryers, flakers, grinding, cubing, unloading, loading, handling of raw material/product), noise (dryers, grinding, flaking, plant operation, loading, unloading) and emissions of NO<sub>x</sub> and SO<sub>x</sub> to air from the on-site boilers and dryer burners.

### **3. Planning Status**

A number of planning applications have been made by the applicant for the area within the installation boundary. Details of relevant planning applications and permissions have been provided in the application form and in additional information submitted as part of the licence application. Full details of all relevant planning permissions are available on the Kilkenny County Council website. An EIA has not been required for any of the relevant planning applications and permissions granted by the planning authority to date.

The most recent planning applications associated with the installation and of relevance to this application include two new grain storage sheds to the north of the installation (21/573) and the extension of the ICW to include new cells 5, 6 and 7 and new discharge point (19/235) issued by Kilkenny County Council. The original 4 cell ICW granted permission in 2013 (13/196) was installed following enforcement action undertaken by Kilkenny County Council in respect of a pollution incident in 2011.

Planning permission numbers 19/528 and 17/641 also included an extension to existing silos, new high-bay production building, and raising the roof height of some of the existing production area.

#### 4. 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 83/40(2A)(b) and 83/40(2A)(c).

In accordance with the EIA Screening Determination, the Agency has determined that the activity is not likely to have a significant effect on the environment, and accordingly an EIA is not required.

Having considered the information provided by the applicant, the nature, size and location of the activity, it has been determined that the activity is unlikely to give rise to significant effects on the environment.

#### 5. Best Available Techniques

BAT for the installation was assessed against the BAT conclusions contained in Commission Implementing Decision (EU) 2019/2031 of 12 November 2019 establishing best available techniques (BAT) conclusions for the food, drink and milk industries, under Directive 2010/75/EU of the European Parliament and of the Council (FDM CID) and any other BREF documents specified in the appendices of this report. A detailed BAT assessment was carried out by the applicant. Additional conditions to be incorporated into the RD to address BAT Conclusions are detailed in the appendices of this report. Any relevant BAT-Associated Emission Levels (AEL's) are specified in the emissions sections of this report.

BAT is to apply housing for conveyors and an extraction system when transporting non-wettable products according to the BREF on Emissions from Storage, 2006. The applicant has provided detail in the application relating to housing surrounding the conveyance systems and air extraction is provided to collect dusty air and pass it through cyclones and fabric filters.

I consider that the applicable BAT Conclusion requirements are addressed through the technologies and techniques as described in the application, as well as the conditions and limits specified in the RD.

**Table 5.1 How BAT Conclusions are considered in the Recommended Determination.**

<b>Main Applicable BAT Conclusions for the Activity: BAT Conclusions for the Food, Drink and Milk Industries</b>	<b>Condition/Schedule</b>
Environmental Management System (EMS) and schedule of objectives and targets (BAT 1)	Condition 2
Inventory of water, energy and raw materials consumption as well as wastewater streams (BAT 2)	Condition 2
Emissions to water are monitored to a standard method and key parameters are being monitored (BAT 3 & 4).	Not applicable – no process emissions to water
Emissions to air are monitored to a standard method and key parameters are being monitored (BAT 5)	Schedules B and C

Energy Efficiency and Resource Use (BAT 6, 10)	Conditions 2 and 7
Water consumption and waste water discharge (BAT 7)	Condition 7
Harmful Substances (BAT 8)	Condition 8
Prevent uncontrolled emissions to water (BAT 11)	Not applicable – no waste water generated.
Wastewater Treatment Plant Techniques (BAT 12) and BAT-AELs	Not applicable – no waste water generated.
Odour Management Plans (BAT 15)	Condition 2, 5 and 6
Noise Management Plans (BAT 13 & 14) and standard limits	Condition 2, 5 and 6 and Schedules B and C
Emissions to Air (BAT 17)	Schedule B and C
<b>BREF Document for Storage, 2006</b>	
Housing for conveyors, extraction systems	Condition 3 and 5, Schedule C
Apply leak detection on storage tanks	Condition 3.9

## 6. Emissions

### 6.1 Emissions to Air

This section addresses emissions to air from the installation and the environmental impact of those emissions.

#### 6.1.1 Channelled Emissions to Air

There are 45 main channelled emissions to air at the installation from boilers, dryer burners, dryers, cubers, flakers, grinders and extruders all associated with animal feed production. Full details of these emission points are provided in attachment 7.4.1 (updated 31/03/2022) as part of the licence application.

#### Boilers and Burners:

The two LPG boilers, A1-1 (main) and A1-2 (back-up boiler), provide all production steam requirements with the main boiler operating 365 days a year and the back-up boiler for 6-hours per week (when boiler A1-1 is being serviced). The thermal input of both boilers is estimated to be less than 10 MW each. Table 6.1 below gives details on the boiler emissions proposed.

**Table 6.1 Main Channelled Emission Points for Boilers with Proposed ELV's**

Emission Reference	Location	Process Description	Parameter	BAT compliance <sup>Note 1</sup>	
				ELV in RD (mg/Nm <sup>3</sup> )	MCP Regulation 2017 limits (mg/Nm <sup>3</sup> )
A1-1	Feed Mill	Main boiler (LPG fired)	NO <sub>x</sub>	200	<b>250</b>
			SO <sub>x</sub>	35	<b>35</b>
			Flow	5,000 Nm <sup>3</sup> /hr	-
A1-2	Feed Mill	Back-up boiler (LPG fired)	NO <sub>x</sub>	200	<b>250</b>
			SO <sub>x</sub>	35	<b>35</b>
			Flow	3,000 Nm <sup>3</sup> /hr	-

**Note 1:** In some cases, emission standards other than those specified in BAT Conclusions may be considered to represent BAT, e.g. ELVs for Medium Combustion Plant (MCP) as set in the MCP Regulations, 2017.

As both boilers are above 1MW thermal input but less than 50MW, the *European Union (Medium Combustion Plants) Regulations 2017 (S.I. 595/2017)* (MCP Regulations) apply and the limits proposed are in accordance with the Regulations.

There are 10 no. burners (4 existing and 6 new) associated with the seed and grain dryers on-site (Dryer 2, 4A, 4B, 5 and 6), with thermal inputs ranging between 1.6 MW and 3.9 MW. The burners will operate along with the dryers during the harvest season only, typically on a 24-hour basis for 8-weeks each year. The boilers and burners have been converted to operate on LPG for the 2022 harvest season, with the primary pollutants being NO<sub>x</sub> and SO<sub>x</sub>.

#### Dryer Burners Outside of Scope of Medium Combustion Plant Regulation:

Under the scope of the MCP Regulations, Regulation 4(3)(iv) states that "*These **Regulations shall not apply to: combustion plants in which gaseous products of combustion are used for direct heating, drying, or any other treatment of objects or materials***". The applicant confirmed the combustion gases associated with each of the grain and seed dryer burners will mix with incoming air drawn in by a fan, before passing **directly** through the incoming grain/seed in order to dry it. This outgoing air is then cooled and expelled via cyclone, cyclofan or fabric filters.

As the combustion gases from the dryer burners are utilised for direct drying of the grain, limits for NO<sub>x</sub>/SO<sub>x</sub> have therefore not been applied to the dryers (emission points A2-30A to A2-49) in the recommended determination (RD) in accordance with Regulation 4(3)(iv) of the MCP.

Directive EU (2002/32/EC) on undesirable substances in animal feed and S.I. 432 of 2009 European Communities (Food and Feed Hygiene) Regulations 2009,) regulate the food safety aspect of the animal feed industry. The applicant carries out routine analysis of the dried grain/seed to ensure compliance with relevant limits set out in the Directive, with the Department of Agriculture also taking undertaking routine testing and analysis to ensure compliance.

#### Dust Emissions:

There are 43 no. main emission points associated with the dryers, cubers, flakers, grinders and extruders operating at the feed mill, seed plant and grain drying areas, where dust is the main parameter of concern. Abatement on these emissions include cyclones, cyclofans and fabric filters to remove particulate matter from exhaust streams. The harvest season represents the worst-case scenario for potential impacts to air given grain dryers will operate typically continuously for 6 weeks but may be up to 8-weeks (weather dependant/amount of grain harvested). The feed mill operates for varying periods during the year with the harvest season typically coinciding with reduced feed mill activity given reduced demand for feed at that time of year.

The applicant proposes to reduce the number of these emission points to 38 within 2 years by combining and relocating a number of emission points to exit vertically instead of horizontally as is common in the feed mill industry. The applicant has requested that the future alteration of the dust emission points be included in the licence. The applicant applied to Kilkenny County Council for planning exemption for the relocation and amalgamation of several dust emission points but was subsequently refused. As the changes require planning permission the future combined and relocated dust emission points while assessed below, have not been included within the RD as requested.

The applicant has requested that a mass emission limit (kg/hr) be applied in the licence for all main dust emissions points instead of a mg/Nm<sup>3</sup> BAT-AEL. The applicant details that the dryers on-site operate in pulse like fashion and are not a continuous emission and therefore requests a mass emission limit to be applied instead.

BAT 17 of the FDM CID sets BAT-AEL's (mg/Nm<sup>3</sup>) for grinding and pellet cooling. As the applicant has not requested a derogation to these CID limits, the required CID BAT-AEL's (mg/Nm<sup>3</sup>) have been included in the RD for all associated Grinding and Pellet Cooling emission points (eight no. emission points in total). Mass emission limits (kg/hr) have also been included in the RD for all main dust emission points, as requested by the applicant, which the applicant has based on an emission limit of either 5 or 10mg/Nm<sup>3</sup> in line with BAT-AEL's for Grinding of 2-10 mg/Nm<sup>3</sup> and Pellet Cooling of 2-20 mg/Nm<sup>3</sup>.

There are other emission points to air at the installation which, due to their emission characteristics, are not considered environmentally significant and are therefore regarded as minor emissions. These minor emissions are not considered as part of this impact assessment.

#### Assessment:

As part of the application, an air dispersion model (AERMOD) was carried out, and subsequently updated, to predict the ambient pollutant concentrations resulting from all main emissions. The modelling carried out was in accordance with published Agency guidance and was considered sufficiently detailed and conservative to assess the impact of the main emissions to air.

The model incorporated hourly meteorological data over a five-year period (Oak Park, Carlow ca. 26km northeast of the site), building wake effects, surface roughness, topography and design for all existing emission points and future emission points. For background (ambient) air quality, the maximum annual average concentrations for ZONE D (Rural Ireland) from the Agency's Published 'Air Quality in Ireland 2020' data were used for the parameters Nitrogen Oxide (as NO<sub>2</sub>), Sulphur Oxide (as SO<sub>2</sub>) and dust particulates.

The following scenarios were modelled:

For NO<sub>x</sub> and SO<sub>x</sub>:

- The main boiler (A1-1) operating continuously all year round and back-up boiler (A1-2) operating 6 hours per week, at proposed maximum limits and flows.
- The dryer burners operating continuously for an 8-week period during harvest season (56 days, 24 hours a day).
- A sensitivity study in accordance with AG4 - emission impacts based on 75% of the maximum volumetric flow requested, was modelled for each parameter.
- Conservative ambient background levels for NO<sub>x</sub> and SO<sub>x</sub> were included in the models.

For Dust (PM<sub>10</sub> & PM<sub>2.5</sub>):

- All current main dust emission points (43 no. in total) in operation at maximum concentrations and flows (Scenario 2.2 amended).
- All proposed future main dust emission points (38 no. in total) in operation at maximum concentrations and flows (Scenario 3.2).
- For amended Scenario 2.2 it was assumed that PM<sub>10</sub> and PM<sub>2.5</sub> emissions comprised of 50% of total dust emissions from the site.



- For Scenario 3.2 it was assumed that PM<sub>10</sub> emissions conservatively comprised 100% of total dust emissions from the site.
- A sensitivity study in accordance with AG4 - emission impacts based on 75% of the maximum volumetric flow requested was modelled for each scenario.

The dust emission models were based on the following assumptions:

- All plant and emission points at the feed mill operated continuously and consecutively for every hour the feed mill is in operation.
- All dryers and seed plant operating continuously for an 8-week period during harvest season (56 days, 24 hours per day).
- The feed mill operating for 39% of annual hours available, higher than actual average annual hours of operation of 35% (SCADA output previous five years).
- Conservative ambient background levels for PM<sub>10</sub> and PM<sub>2.5</sub> included in the models.

The applicant also modelled a notably conservative scenario, Scenario 2.1, with the following inputs well in excess of typical operations: a harvest season of 12 weeks (50% more than typical harvest season length of 8 weeks), the feed mill operating 50% more than the average annual hours of operation, a total particulates to PM<sub>10</sub> ratio of 100% (typically less than 30%) and all feed mill emission points operating continuously and simultaneously for each hour which is unlikely as the activity is intermittent. While this very conservative model scenario resulted in the process contribution (PC) slightly exceeding the relevant Air Quality Standard (AQS) by just 4%, it is discussed further below to demonstrate the conservative nature of the modelling undertaken.

A number of additional conservative scenarios, including the 75% sensitive studies, were modelled by the applicant for completeness and so have been excluded from the results section below. Also excluded from the assessment below is the proposed future operating scenario (Scenario 3.2 - combined and relocated dust emission points) as a grant of planning consent for the proposed changes has not been provided to the Agency.

As part of this assessment regard was had to the EPA Guidance Note AG4 which requires that the process contribution (PC) from industrial installations is added to the background concentration (BC) to obtain the predicted environmental concentration (PEC). To assess the impact, each PEC is compared with the relevant air quality standards (*Air Quality Standard Regulations, 2011 (S.I. No. 180 of 2011)*).

**Table 6.2:** Air Emissions compared with Air Quality Standard for NO<sub>x</sub> and SO<sub>x</sub>

Main channelled emissions impact						
Parameter	Averaging Period	Background concentration (µg/m <sup>3</sup> )	Process contribution to PEC (µg/m <sup>3</sup> )	Predicted Environmental Concentration (PEC) (µg/m <sup>3</sup> )	PEC as % of Air Quality Standard	Air Quality Standards/Guidelines (µg/m <sup>3</sup> ) <small>Note 1</small>
Nitrogen Oxides (as NO <sub>2</sub> )	99.8%ile hourly	11.4	128.88	140.28	70.1%	200
	Annual	5.7	4.85	10.54	26.3%	40
	1 hour (99.7%ile)	5.6	62.39	67.99	19.43%	350

Main channelled emissions impact						
Parameter	Averaging Period	Background concentration (µg/m <sup>3</sup> )	Process contribution to PEC (µg/m <sup>3</sup> )	Predicted Environmental Concentration (PEC) (µg/m <sup>3</sup> )	PEC as % of Air Quality Standard	Air Quality Standards/ Guidelines (µg/m <sup>3</sup> ) Note 1
Sulphur Dioxide (SO <sub>2</sub> )	24 hour (99.2%ile)	5.6	14.4	20	16%	125
	Annual	2.8	0.89	3.69	18.45%	20
NO <sub>x</sub> max at SAC receptor (SR6)	Protection of Vegetation (Annual)	5.7	1.68	7.38	24.61%	30
SO <sub>2</sub> at SAC receptor (SR6)	Protection of Ecosystems (Winter)	2.8	0.29	3.09	15.44%	20
SO <sub>2</sub> at SAC Receptor (SR6)	Protection of Ecosystems (Annual)	2.8	0.304	3.1	15.52%	20

Note 1: Air Quality Standards Regulations, SI 58/2009 and 180/2011, unless otherwise stated.

**Table 6.3** Air Emissions compared with Air Quality Standard for PM<sub>10</sub> & PM<sub>2.5</sub>

Main channelled emissions impact						
Parameter	Averaging Period	Background concentration (µg/m <sup>3</sup> )	Process contribution to PEC (µg/m <sup>3</sup> )	Predicted Environmental Concentration (PEC) (µg/m <sup>3</sup> )	PEC as % of Air Quality Standard	Air Quality Standards/ Guidelines (µg/m <sup>3</sup> ) Note 1
Scenario 2.2 revised: Current Emissions set-up @50% PM <sub>10</sub> as Total Particulates						
PM <sub>10</sub>	Daily (90.4%ile)	11.8	20.29	32.09	64%	50
	Annual	11.8	5.53	17.33	43.3%	40
PM <sub>10</sub> – max at receptor SR4	Daily	11.8	3.87	15.67	31.34%	50
	Annual	11.8	1.13	12.93	32.34%	40
Scenario 2.2: Current Emissions set-up @50% PM <sub>2.5</sub> as Total Particulates						
PM <sub>2.5</sub>	Annual	8.6	2.77	11.37	56.8%	20
PM <sub>2.5</sub> – max at receptor SR4	Annual	8.6	0.57	9.17	45.84%	20

Note 1: Air Quality Standards Regulations, SI 58/2009 and 180/2011, unless otherwise stated.

### Results: Nitrogen Oxides (NO<sub>2</sub>) and Sulphur Oxides (as SO<sub>2</sub>):

As identified from Table 6.2 above, the predicted highest ground level concentrations (GLC) (including BC) for NO<sub>x</sub> and SO<sub>x</sub> are below the relevant AQS. The predicted maximum GLC (including BC) at the neighbouring SAC (receptor SR6) will be less than 30% of the annual AQS for NO<sub>x</sub> for the protection of vegetation, and less than 16% of the annual AQS for SO<sub>x</sub> and the annual AQS for SO<sub>x</sub> for protection of ecosystems.

While the predicted GLC for hourly emissions of NO<sub>x</sub> may appear elevated at 71% of the AQS, contour plots provided with the modelling indicate the maximum GLC is

located adjacent to the southwest boundary of the installation and not near any sensitive receptors, including the neighbouring SAC, and decreases rapidly within a short distance of the worst-case location at the boundary. In addition, emissions of NO<sub>x</sub> and SO<sub>x</sub> from the operation of all dryer burners have been included within the model even though limits for the burners are not required under the MCP Regulations.

The emission limits and flows for the boilers have therefore been set in the RD as requested and modelled and includes a limit on the operating hours of the back-up boiler. The RD has **not** set limits against the dryer burners as they are exempt from limits under Regulation 4(3)(iv) of the MCP Regulations.

#### Results: Total Particulates (as PM<sub>10</sub> & PM<sub>2.5</sub>):

As identified from Table 6.3 above, the predicted highest GLC (including BC) for PM<sub>10</sub> for existing emissions (amended Scenario 2.2) are below the relevant AQS. The predicted GLC (including BC) for PM<sub>10</sub> at the nearest neighbouring receptor (SR4) will be less than 32% of the annual or daily AQS. The predicted GLC (including BC) for PM<sub>2.5</sub> at the nearest neighbouring receptor (SR4) will be less than 46% of Annual AQS.

The predicted maximum GLC for existing emissions of PM<sub>10</sub> or PM<sub>2.5</sub> are 64% and 57% of the AQS, respectively. The contour plots provided with the modelling indicate the maximum GLC is located adjacent to the southwest installation boundary and not near any sensitive receptors and decreases rapidly within a short distance of the boundary (See Figure 2, Appendix 1 for daily PM<sub>10</sub> emissions contour plot).

As part of an analysis undertaken by the UK Trade Association, a very small number of feed mill installations (14 production lines from 5 separate feed mills) undertook PM<sub>10</sub> monitoring from the process cooler exhaust. Average PM<sub>10</sub> emission concentration was 1.6 mg/Nm<sup>3</sup> from 16 samples collected. Comparison with the total dust emission monitoring results indicates that PM<sub>10</sub> comprises approximately 22-28% of the overall dust emission. A similar number of PM<sub>2.5</sub> concentrations were recorded but a concentration above limits of detection was recorded in only one case (i.e 0.2mg/Nm<sup>3</sup>). Emissions of PM<sub>2.5</sub> can be assumed to be of minimal significance based on this analysis.

As previously mentioned, a further scenario modelled was Scenario 2.1 (not included in Table 6.3). This very conservative and unlikely scenario (a harvest season of 12 weeks, the feed mill operating 50% more than the average annual hours of operation, a total-particulates to PM<sub>10</sub> ratio of 100% and all feed mill emission points operating continuously and simultaneously for each hour) resulted in the PC slightly exceeding the 24-hour PM<sub>10</sub> AQS by 4%. It is worth noting that the Annual PEC for this scenario was 67% of the AQS and the PEC at the neighbouring sensitive receptors remained well below 24-hour and Annual AQS at 53% and 39% respectively. The contour plot for this very conservative model (Figure 3, Appendix 1 of this report) highlights the maximum PM<sub>10</sub> GLC is at the south west boundary, not near any receptors, covers a very small area and decreases rapidly within a short distance from the boundary.

Given the intermittent nature of the activity, with some processes operating as little as 7% of annual hours available and typically much lower during the harvest period when feed demand is low, and the highly conservative nature of some of the scenarios modelled, it is considered that emissions of dust from the installation are not considered likely to have a significant impact beyond the boundary.

#### Conclusions:

The limits and monitoring requirements applied in the RD are in accordance with the MCP Regulations and FDM-CID (2019/2031), as applicable. The RD includes CID BAT-

AEL's of either 5 mg/Nm<sup>3</sup> or 10 mg/Nm<sup>3</sup> for eight no. dust emission points associated with Grinding and Pellet Cooling in accordance with BAT 17 of the FDM-CID. Mass emission limits (kg/hr) for all main dust emissions points, in line with BAT-AEL's for Grinding and Pellet Cooling, have been included in the RD as requested and modelled.

*Schedule C: Control and Monitoring* of the RD specifies control and monitoring requirements for the on-site boilers and all main emissions of dust including maintenance of SCADA systems and inspections of dust filters. Condition 11 of the RD specifies all record keeping requirements. Condition 9 specifies measures required to be taken in the event of an incident and to prevent further incident.

Best practice is for emissions of dust to air from the installation to discharge vertically and not horizontally. The number of horizontal dust emission points at the William Connolly installation is considered undesirable from an environmental risk perspective. The RD requires a feasibility assessment for the reduction and/or reconfiguration of dust emission points to be completed within 6 months from the date of grant of the licence.

### 6.1.2 Diffuse Dust

Diffuse dust generation is associated mainly with the loading, unloading and storage of raw materials and product, and vehicle movements in, out and within the installation particularly during dry weather. Deliveries of grain during the harvest period may be temporarily stored outside (generally less than 48 hours) before conveyance to dryers and then storage within enclosed sheds via enclosed conveyors.

The applicant did not identify any dust complaints received with regard to the existing operation of the site. Diffuse dust was not perceptible around the production areas or beyond the installation boundary during the Inspectors site visit.

The applicant has identified the following techniques to be employed at the installation as part of its Environmental Management System for the control of potential diffuse dust emissions: Good housekeeping, yard surfaces to be maintained in good order, fast close doors on sheds, covered deliveries, on-site speed limits for vehicles, and loading/unloading and drop heights controlled to reduce diffuse dust.

Schedule B.5 of the RD specifies a maximum dust deposition limit of 350 mg/m<sup>2</sup>/day in accordance with the TA Luft<sup>1</sup> standard and *Schedule C.5: Ambient Monitoring* requires dust deposition monitoring is carried out at the boundary quarterly.

Condition 5 of the RD requires the applicant to ensure that dust associated with the activity does not result in the 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 6 of the RD requires the applicant to prepare, implement and maintain a programme for the identification and reduction in diffuse emissions using an appropriate combination of best available techniques.

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<sup>1</sup> German TA Luft Air Quality Standards (TA Luft 1986)

### 6.1.3 **Odour**

The area surrounding the installation is predominantly agricultural in nature with a dwelling nearby (within 25m) which is a potential odour sensitive receptor.

The raw materials required for animal feed manufacturing have associated odours. Grains, cereals and molasses in general have sweet odour characteristics and these raw materials will be stored in enclosed buildings or silos on-site. Such odours would not generally be considered offensive or cause a nuisance but the nature of the activity results in the potential in spoiled grain generation which may be malodourous.

The applicant has not detailed any odour complaints received by the installation during its years of operation and no odour was detected during the site visit. Given the nature of the operations, odour is not generally considered a significant issue at this installation.

Condition 5 of the RD requires that no emissions, including odour, from the activity shall result in an impairment of, or interference with amenities or the environment beyond the installation boundary. The RD requires odour surveys be undertaken on a regular basis in accordance with Agency guidance.

## **6.2 Emissions to Water/Ground/Sewer**

The operation of the feed mill is essentially a dry process with steam requirement only for conditioning of the product. There are no process emissions from the installation.

### 6.2.1 **Emissions to Surface Waters**

There are no process emissions to surface water from the installation.

### 6.2.2 **Emissions to ground/groundwater**

There are no process emissions to ground/groundwater from the installation.

### 6.2.3 **Emissions to Sewer**

There are no process emissions to sewer from the installation.

### 6.2.4 **Other emissions to ground/groundwater**

There is an existing septic tank treatment system (disc filter, polishing bed and percolation area) for the treatment of sanitary effluent from the site. The applicant confirms the treatment system is sized appropriately for the number of employees (including seasonal staff fluctuations). The company operate one no. water abstraction well on-site that provides all production water requirements (steam). The abstraction is registered (R02540-01).

The bedrock aquifer beneath the site, which is part of the Goresbridge South groundwater body (IE\_SE\_G\_166) is a locally important bedrock aquifer (LI), moderately productive only in local zones. The groundwater aquifer vulnerability beneath the site is classified as 'High'. The groundwater body is classified as 'Good' for the purposes of the WFD and is classified as 'Not at Risk'. The site is not located within a source protection area.

The RD includes a requirement for the applicant to provide and maintain a wastewater treatment plant for the treatment of sanitary effluent and requires the waste water treatment system and percolation area to satisfy the criteria set out in the Code of Practice Wastewater Treatment Manual - Treatment Systems for Small Communities, Business, Leisure Centres and Hotels (1999) published by the EPA.

The RD requires monitoring of the groundwater at the abstraction well, additional wells upgradient and downgradient of the ICW and an additional well to be located downgradient of the septic tank treatment system. Condition 6.21 and Schedule 5 of the RD set out the requirements for monitoring of groundwater and soil for relevant hazardous substances in accordance with monitoring requirements of the Industrial Emissions Directive.

### 6.3 Storm water discharges

The table below gives details on the installation's proposed storm water discharges to waters; the sources of potential contamination of these discharges, the type of on-site abatement, as well as details of the receiving water. The installation will operate an integrated constructed wetland (ICW) for the management of all storm water from the production area (cereal acceptance, drying, storage and feed mill area).

<b>Stormwater discharge point details</b>					
Emission Reference	Monitored parameters (monitoring frequency)	Abatement	Drainage areas	Discharging to	Trigger levels established (Y/N)
<i>SW1B – discharge to ICW – RD requires installation of SW1B monitoring point</i>	<i>Visual (daily); Flow, pH, BOD, COD, Suspended Solids, Total Ammonia, Orthophosphate, Conductivity, Total N, Total P, Mineral Oil.</i>	<i>Silt Trap, Class I by-pass interceptor, flow measurement device</i>	<i>All Production areas, buildings, yards, walkways, site roads, car parks.</i>	<i>ICW</i>	<i>No – required by RD</i>
<i>SW1A – discharge from ICW - installed.</i>	<i>Visual (daily); Flow, pH, BOD, COD, Suspended Solids, Total Ammonia, Orthophosphate, Conductivity, Total N, Total P, Mineral Oil</i>	<i>Inspection chamber, shut off valve, flow measurement device</i>	<i>ICW</i>	<i>River Barrow Channel (_210) (IE_SE_14B0 13100) via short land-drain</i>	<i>No – required by RD</i>
<i>Automatic diversion in place:</i>	<i>No – connecting pipelines between ICW cells will be adjusted to provide increase in storage capacity of cells as needed. A shut-off valve has been installed at the ICW outlet at SW1A.</i>				

All stormwater discharges from the production area will be directed to the expanded 7-cell ICW via a Class 1 by-pass separator at SW1B. The stormwater will be polished as required in the ICW before discharging via an inspection chamber and shut-off valve at SW1A to a short land drain and then to the main River Barrow(\_210). Figure 6.1 provides a drawing of the stormwater catchment and ICW area. Once the grain storage sheds are developed to the north of the site, this area will also connect to the main

stormwater management system and ICW. There is a refuelling area on-site and this connects to a recently upgraded Class 1 Full Retention Separator before connecting to the main surface water drainage network for the production area.

There were five no. additional stormwater discharge points (SW1, SW3, SW4, SW5 and SW6) that previously discharged to either a small mill stream that runs below the southern production area or to a field drain before flowing to the River Barrow. All five of these stormwater points are in the process of being decommissioned.

The applicant holds a Section 4 discharge licence issued from the local authority (Kilkenny County Council) for effluent discharges from fish tanks previously utilised on-site by a local angling club. The applicant confirmed the fish tanks ceased operation a couple of years ago, will not be re-used and do not form part of this licence application.



**Figure 6.1:** William Connolly stormwater catchment area and ICW management system. Source: Figure 1 of Attachment 5 of licence application P1069-01, Titled '*Connolly's Red Mills, Integrated Constructed Wetland (ICW) System*', dated November 2021. Update to Figure by licensing inspector to include SW1A and SW1B for clarity purposes.

#### ICW Construction and Capacity:

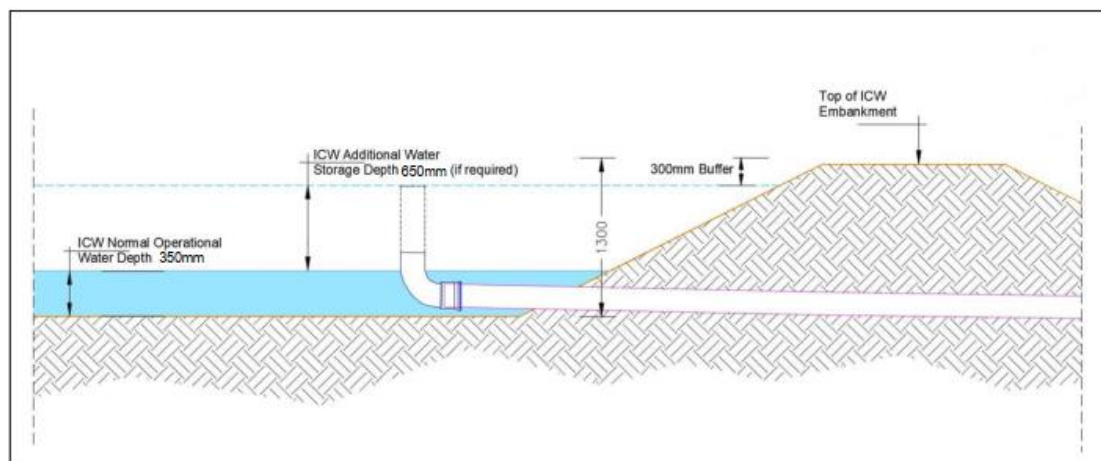
The original 4-cell ICW was constructed in 2014 and expanded to 7 cells in 2021. The total area of the expanded ICW is 1.5 Ha (15,800 m<sup>2</sup>). The applicant's ICW System summary report dated November 2021 looked at design, capacity retention, performance and maintenance of the ICW. The report identifies the 7 no. ICW cells will be interlinked to allow for gravity flow of stormwater between them and planting within the cells will filter the water and take up nutrients, reducing nutrient loading and polishing the stormwater as required. The maximum discharge rate at SW1A will be controlled at 0.003 m<sup>3</sup>/second through adjustment of the final outlet pipe as necessary following monitoring of the outlet flow measurement device.

The permeability testing reports confirm the ICW was constructed to minimum basal permeability of  $1 \times 10^{-8}$  m/s and basal layer of 0.3m over undisturbed subsoil of 0.75m. The assessment provides supporting details that the ICW will achieve a minimum storm water run-off retention period of 20 days having regard to the Department of Environment, Heritage and Local Government Integrated Constructed Wetland Document (November 2010).

The applicant assessed the retention capacity of the ICW. With an average water depth maintained in each cell of 0.35m, this equates to a volumetric capacity of  $5,530\text{m}^3$  within the overall ICW system. With an average daily rainfall amount for the region of 2.25mm this would result in the volume of stormwater run-off from the production area of  $119.3\text{m}^3$ , equating to retention time of 46 days. Where rainfall equates to 5mm, the run-off would be  $265\text{m}^3$  and equate to over 20 days retention time. The applicant also assessed a 1-in-100-year rainfall event (60-minute duration), equating to 27.3mm of rainfall and a discharge to the ICW of  $1,448\text{m}^3$ .

Where 5mm rainfall is forecast to be exceeded the applicant shall implement an ICW stormwater management plan. As detailed in Figure 6.2 below where additional water storage depth is required the outflow pipes will be upturned to provide a depth of 0.65m per cell equating to storage capacity of  $10,270\text{m}^3$ .

Therefore, under all considered scenarios the ICW has sufficient retention capacity for the discharges of stormwater from the production area of the site in-line with relevant guidelines. The applicant also confirmed that stormwater run-off from future development (new grain storage sheds) will not impact the hydrological, hydraulic or stormwater management capacity or regime of the ICW system.



**Figure 6.2:** ICW System Storm Water Retention Capacity.

Source: Figure 2 of Attachment 5 of licence application P1069-01, Titled '*Connolly's Red Mills, Integrated Constructed Wetland (ICW) System*', dated November 2021.

#### ICW Management and Maintenance:

The applicant provided details of the management system to be put in place for the ICW to ensure it will be appropriately maintained. Flow devices shall be installed at stormwater inlet (SW1B) and outlet (SW1A). Static water level gauges will be installed at suitable locations within the cells. The individual ICW cells will be observed daily for flows and depths and signs of potential contamination, excessive weed growth, embankment integrity and pipework defects. Weed and pest control will be monitored, and actions undertaken as required. Where excessive daily rainfall events are predicted



the interconnecting pipes will be upturned to increase retention capacity, water depths monitored ensuring flow rate of 0.3l/s is not exceeded, and interconnecting pipes adjusted until waters levels recede.

Receiving Waterbody status:

The River Barrow (\_210) has WFD Status of 'Poor' and is 'At Risk' of not achieving 'Good' as required by 2027 and has a Q-Value Q2/3. The chemical status of the River is generally 'Good' but failing on biological quality. The impacts identified include agriculture, hydromorphology and industry (Section 4 discharge from the William Connolly & Sons Unlimited Company site).

The River Barrow (\_210)(IE\_SE\_14B013100) is a Protected Area for (i) Water Dependent Habitat/Species – SAC (River Barrow and River Nore SAC (002162)), and (ii) Nutrient Sensitive Area (IERI\_SE\_2001\_0015) for purposes of Urban Waste Water Treatment Directive and Regulations<sup>2</sup>. The Paulstown Municipal Waste Water Treatment Plant (D0339-01) (agglomeration 500 - 1,000 PE) discharges to the Barrow River approximately 3.5km upstream of the William Connolly site. Orthophosphate (Ortho-P) is the limiting nutrient with indicative quality for this parameter within the waterbody as 'Good'. The installation is not within a source protection area for drinking water.

The applicant undertook biological monitoring of the River Barrow (upstream and downstream of the ICW and downstream of installation boundary) in August 2021. The applicant's assessment concluded a Q-value of 3/4 at the three locations within the River Barrow and that there was no indication of significant impact on the ecological quality of the River Barrow from the William Connolly site.

Worst-case impact Assessment:

The applicant undertook a worst-case impact assessment of a potential nutrient loading event to stormwater from the production area to the ICW, the ICW's ability in polishing the stormwater and the subsequent concentration discharge to the River Barrow. For the assessment the applicant estimated that following polishing in the ICW the maximum discharge concentration of the pollutants in the stormwater would be COD - 48.9 mg/l, Ammonia – 1.07mg/l and Ortho-P – 0.35 mg/l.

The applicant undertook an assimilative capacity assessment of the receiving water body. This involved a mass balance calculation to establish maximum downstream concentrations of the pollutants. The background concentrations used in the mass balance (Table 6.4 below) are based on the average values from the applicants own monitoring since 2010 on the River Barrow upstream of the installation boundary.

When compared to Agency monitoring data at Goresbridge monitoring station (RS14B013100) (750 meters downstream) or against adjusted background values for WFD 'Good Status', the applicants background values are sufficiently conservative for use in the assessment.

The applicant determined the 95%tile flow in the receiving River Barrow as 5.758m<sup>3</sup>/s using the Agency's hydro-tool model. At a controlled rate of discharge of 0.003m<sup>3</sup>/s from the ICW this equates to 1,936 dilutions available within the receiving waterbody.

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<sup>2</sup> Council Directive of 21 May 1991 concerning urban waste water treatment. Urban Waste Water Treatment Regulations, 2001 (S.I. 254/2001), as amended (S.I. 48/2010).

The Agency's hydrometric team confirmed the applicants modelled 95%ile flow of the River Barrow (\_210) was also sufficiently conservative.

Table 6.4 below provides the mass balance calculation and is based on the 95%tile flow, the mean background concentrations of each parameter in the receiving water, the proposed maximum discharge rate and the potential maximum discharge concentration of each parameter from the ICW following the modelled nutrient loading event.

**Table 6.4:** Predicted concentrations of worst-case nutrient loading event compared to Environmental Quality Standards (EQS).

<b>Parameter</b>	<b>Background Concentration (mg/l)</b> <sup>Note 1</sup>	<b>Concentrations in discharge from ICW (mg/l)</b>	<b>Predicted total concentration in receiving water (mg/l)</b>	<b>EQS good status</b> <sup>Note 2</sup> (mg/l)
COD	16.35	<b>48.9</b>	16.37	Not listed <sup>Note 3</sup>
Ammonia - N	0.11	<b>1.07</b>	0.11	0.14
MRP	0.03	<b>0.35</b>	0.03	0.075

**Note 1:** Average background values derived from monitoring of the River Barrow since 2010 by William Connolly.

**Note 2:** European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended.

**Note 3:** No corresponding EQS listed under Surface Water Regulations 2009

As can be seen from Table 6.4 above, following a potential nutrient loading event to the stormwater system and polishing in the ICW, there would be an imperceptible impact on the receiving water body from the stormwater discharge. The concentrations of relevant polluting parameters within the water body would remain within the EQS for 'Good Status' under WFD.

In addition, the applicant identified there may be little or no flow to or from the ICW during the drier periods of the year which coincides with the harvest season and the most likely period where any potential contamination/nutrient loading event of stormwater could occur. There is also a certain amount of evapotranspiration from any water contained within the ICW during these drier periods thus reducing flow between the cells and reducing the potential risk further.

#### Conclusion:

The RD requires the applicant to maintain the storm water/drainage system and monitor discharges at both SW1B (inlet to ICW) and SW1A (outlet from ICW). Monitoring at SW1B will allow for the performance of the ICW to be supervised and ensure any potential pollution from the production area is identified and actioned. The RD requires discharges to be visually inspected and monitored for pH, biochemical oxygen demand (BOD), chemical oxygen demand (COD), total nitrogen (TN), total phosphorus (TP), ortho-phosphate (Ortho-P), total ammonia, suspended solids and conductivity, in accordance with Schedule C.2.3 *Monitoring of Storm Water Emissions*. The RD requires the applicant to assess and set trigger levels for the discharge of storm water in accordance with relevant Agency Guidance. The RD also requires a flow measurement device and shut-off valve to be maintained at the outlet (SW1A) from the ICW.

The RD requires ambient biological (annually) and chemical (quarterly) monitoring of the receiving waterbody (River Barrow\_210) immediately upstream and downstream

of the boundary from the ICW and downstream of the discharge point from the ICW. Condition 6.8 provides sufficient flexibility for the Agency to amend the frequency and scope of monitoring following the evaluation of test results.

The ability of the ICW to polish stormwater as may be required will depend on its appropriate operation and maintenance. Condition 3 and *Schedule C* of the RD require control and monitoring of the ICW and an operation, inspection and maintenance procedure to be in place within three months of date of grant of the licence.

The RD requires groundwater monitoring wells to be installed upgradient and downgradient of the ICW within six months from date of grant of this licence, in order to monitor any potential groundwater impact from the ICW over the long term.

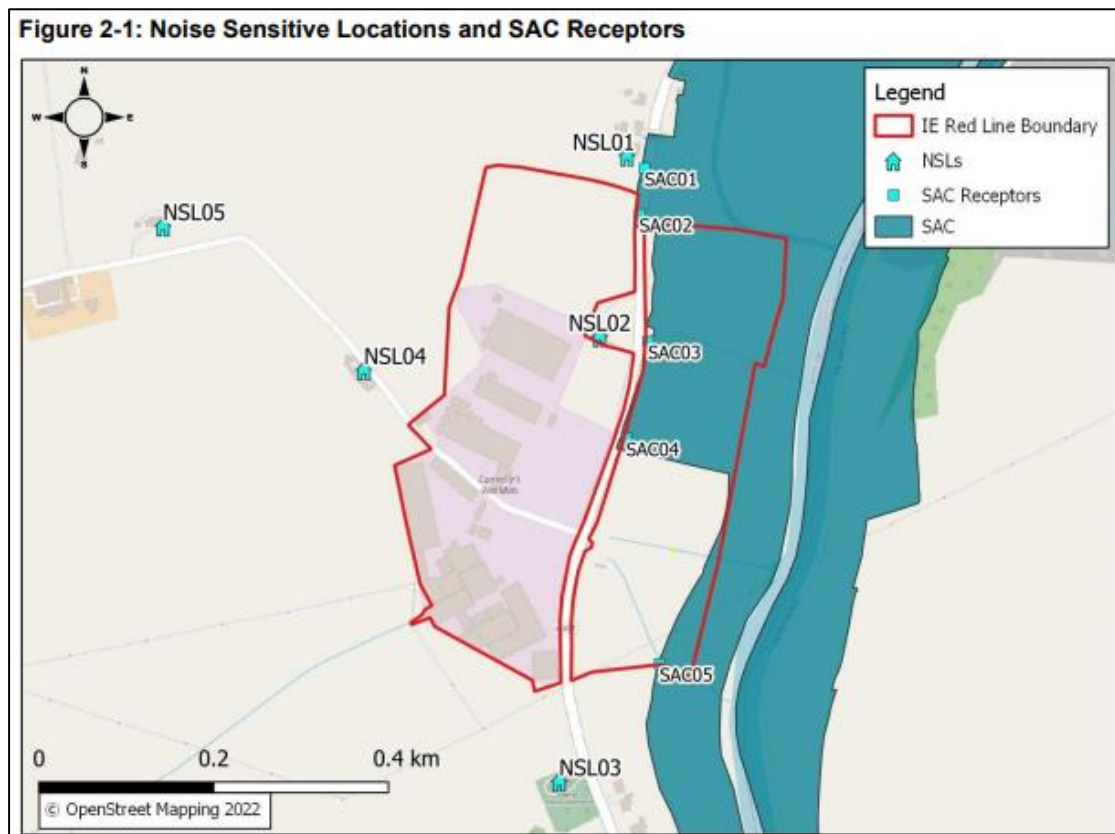
The RD contains standard conditions in relation to the storage and management of materials and wastes. The RD also requires that accident and emergency response procedures are put in place. The controls pertaining to accidents and emergencies are addressed in Prevention of Accidents section later in this report.

#### **6.4 Noise**

The environment surrounding the installation is predominantly agricultural. There are four noise sensitive locations (NSLs) around the production area: dwellings located at NSL01 (50m northeast), NSL02 (25m east), NSL04 (100m west) and a place of worship NSL03 (150m south)(see Drawing 6.1 below). The River Barrow and Nore SAC (002162) is located to the east within 150 meters of the main production buildings.

A rural road, the L2639, splits the installation boundary between the production area and ICW and runs directly past NSL01, 02 and 03, the ICW and the SAC boundary. A small unnamed local rural road splits the production area in two between the feed mill and seed plant passing directly alongside NSL04. Traffic on the two adjacent roads are contributors to noise levels recorded at the NSL's. The small unnamed local road will cease to pass through the site by mid-2022 and will be re-routed along the northern boundary of the installation.

The main fixed sources of noise at the installation can be associated with production activities including dryers, boilers, cyclones and dust extraction systems, vents, conveyors, production machinery and associated plant. Transient sources include traffic/plant movements to/from and within the installation and the loading/unloading of raw materials/product. The applicant advised that historically the installation has not received any noise complaints.



**Figure 6.3:** Noise sensitive locations and SAC noise impact assessment points (SAC01-SAC05). Source: Attachment 7-5-1 Noise impact Assessment dated March 2022 as part of Licence application P1069-01.

**Assessment:**

Noise monitoring was undertaken (daytime, evening time and night-time) at NSL 01, 02, 03 and 04 during the 2021 harvest season (August) as a worst-case scenario for noise emissions where the site will operate 24 hours a day. The applicant assessed noise monitoring results against standard noise limits in Agency Guidance NG4<sup>3</sup>.

The monitoring demonstrated that noise emissions from the installation would be compliant with standard noise limits at three of the four NSL’s but found that night-time noise levels were exceeded at NSL04 to the west. Traffic noise from the adjacent roads was clearly audible at NSL01, 02 and 03. The main dryers (dryers 4a, 4b, 5 and 6) and transient vehicle movements at the installation were identified at the main noise sources at NSL04. There was no tonal or impulsive noise audible at any NSL.

The monitoring did not assess the impact of noise at boundary of the SAC to the east. The applicant asserted that given the NSL’s to the east of the production area were compliant (NSL01, 02 and 03), the SAC which is located further again to the east on the other side of the regional road L2639, would therefore also be compliant.

**Modelling:**

A predictive noise modelling assessment was submitted by the applicant (dated 31/11/2021 and updated 31/03/2022). This assessed the worst-case impacts of noise emissions from the proposed installation during harvest season at all noise sensitive

<sup>3</sup> EPA Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4).

locations and five no. points along the neighbouring SAC boundary (see Drawing 6.1 above).

The assessment included all relevant existing noise emissions, modelled as operating 24 hours-a-day, all at the same time. The applicant advised this is not a typical scenario as not all plant (including at the feed mill) will operate at the same time even during harvest season. The model incorporated mitigation measures to be deployed including new plant, abatement, stacks locations/heights, and decibel level reductions.

The model results determined that noise emissions from the installation will remain compliant with standard noise emission levels (day-time, evening-time and night-time) at all NSL's and at the western boundary of the SAC.

#### Control Measures:

The applicant proposes to mitigate noise levels through a series of measures including the installation of abatement on specific fixed plant such as attenuators, silencers, enclosures and screening. Silencers are current being installed on Dryers 4a, 4B and 5, Teflon coating and polyethylene plastic belt upgrades on conveyor belts associated with transfer from dryer to grain stores, and a new modern Dryer 6 is also currently being installed.

Housekeeping measures will include increased use of buildings to contain noisy fixed plant, new plant and infrastructure will also be assessed and purchased taking noise emissions into account (in accordance with BAT), an improved maintenance regime, requirement for all vehicles to turn off when idling, HGV vehicle movements will be concentrated to day-time periods where possible, reversing indicators for plant to be flat and non-tonal, mobile plant will be kept away from boundaries closest to sensitive receptors at night, and roller doors/closed doors deployed on-site as required.

- The RD imposes the standard daytime/evening/night-time limits of 55 LAr,T/50 LAr,T /45LAeq,T dB(A) to apply at noise sensitive locations (NSL's).
- Condition 2 of the RD requires the applicant to include a noise reduction programme as part of its environmental management system in accordance with BAT 1 and BAT 13.
- Condition 6 and Schedule C of the RD require an annual noise survey to be undertaken at relevant noise sensitive receptors and at the boundary of the SAC during the harvest period.
- Condition 6 of the RD requires a noise management plan, including noise reduction and abatement measures, to be prepared, maintained and implemented (BAT 13 & 14).

## **7. Waste generation**

Certain wastes are generated on site as part of the licensable activity. Waste generated on site mainly comprises waste packaging and municipal type waste from office, canteen and welfare facilities. Waste from the vehicle maintenance area consists of waste oils/lubricants and soiled items. Waste in the form of spoiled seed & grain is also generated on-site. Sludges will be generated from the cleaning of oil separators.

The applicant employs a number of measures at the installation for the prevention and/or minimisation of waste. The RD requires the appropriate storage and

management of waste generated by the activity and that disposal or recovery of the waste shall only take place in accordance with the conditions of the licence and in accordance with the appropriate National and European Legislation and protocols. The RD requires the prevention, reduction and minimisation of waste including targets and actions to reduce the overall waste from the installation as part of the Environmental Management System (EMS).

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

## **8. Energy Efficiency and Resource Use**

The operation of the installation involves the consumption of fuel, electricity and water. The estimated used in 2021 are specified in attachment 4.6.2 of the application and request for further information response dated 02/06/2022 and are detailed below.

<b>Resource</b>	<b>Quantity per annum</b>
Electricity	11,802 MW/Hr
Liquified Petroleum Gas (LPG)	1,160 m <sup>3</sup>
Diesel (vehicles refuelling)	1,004 m <sup>3</sup>
Water (own well)	29,474 m <sup>3</sup>

LPG is the main fuel used for the boilers and dryers on-site with diesel/gas oil fuel stored and utilised to refuel the company's haulage fleet and plant. The applicant employs a variety of technology to maximise the efficient use of energy within the installation, including SCADA systems on feed mill operations and regular preventative maintenance on equipment.

The animal feed manufacturing process is mainly a dry process and therefore water is only used in the form of steam in order to condition the product. All water requirements are supplied by the company's own water abstraction well located in northwest of the installation which is registered (R02540-01).

### Hazardous materials

Hazardous materials stored and used on-site in various quantities are associated with vehicle and plant operations and their on-going maintenance consisting of fluids in the form of oils, fuels, greases and degreasers. The likelihood of accidental releases of these substances to the environment, because of the licensable activity, is low.

The main raw materials on-site consist primarily of vegetable matter such as cereals, soya and rapeseed, liquid ingredients such as molasses and vegetable oils (various) and mineral additives, nutritional supplements and small quantities of whey powder. A comprehensive list of resources and raw materials stored and consumed on-site are listed in Attachment 4.6.2 (updated 31/01/2022) of the application.

In the application of BAT, Condition 7 of the licence provides for the efficient use of resources and energy in all site operations. It requires an energy audit to be carried out and repeated at intervals as required by the Agency and the recommendations of the audit to be incorporated into the Schedule of Environmental Objectives and Targets as outlined in Condition 2 of the Recommended Determination (RD).

## 9. Prevention of Accidents

A certain amount of accident risk is associated with the licensable activity. For this installation the table below specifies the risks and associated safety measures relevant.

Potential accidents & measures for prevention/limitation of consequences	
Potential for an accident or hazardous/ emergency situation to arise from activities at the installation	<p>Potential for fire due to large quantities of raw materials and fuels stored at the installation;</p> <p>Fire and explosion risks in cyclones and bag houses; or</p> <p>Fuel/raw material spillage/leak.</p>
Preventative/Mitigation measures to reduce the likelihood of accidents and mitigate the effects of the consequences of an accident at the installation	<p>Procedures in place for loading/unloading of materials;</p> <p>Provision and maintenance of adequate bunding;</p> <p>Materials handling is undertaken indoors or in areas of concrete hardstanding;</p> <p>Availability of spill kits and containment booms to prevent/minimise spills and leaks;</p> <p>Contingency plans &amp; emergency response procedures;</p> <p>Equipment design features;</p> <p>Storage and transport infrastructure and practices;</p> <p>Fire water retention review;</p> <p>Good housekeeping; and</p> <p>Training and procedure control.</p>
Additional measures provided for in the RD	<p>Accident prevention and emergency response requirements (Condition 9);</p> <p>Integrity of tanks to be assessed within 6 months of date of grant of licence and every 3 years thereafter and maintenance carried out as required (Condition 6);</p> <p>Storm water discharge points to be visually monitored (daily) and trigger values to be established (Condition 6);</p> <p>Requirement for silt traps and oil separators (Condition 3);</p> <p>Requirement for bunds and containment booms (Condition 3);</p> <p>Firewater retention risk assessment (Condition 3);</p> <p>An inspection system for the detection of leaks on all flanges and valves (Condition 6);</p> <p>Requirement for high level liquid alarms (Condition 3); and</p> <p>Requirement for inspection chamber and shut off valve on stormwater discharge point at SWA1 (Condition 3 &amp; 6).</p>

## 10. Cessation of Activity

A certain amount of environmental risk is associated with the cessation of any licensable activity (site closure). For this installation the main items would be the decommissioning of all plant and machinery, removal of surplus materials and fuels and decommissioning/decontamination of buildings, storage receptacles and pipelines.

Condition 10 of the RD requires the proper closure of the activity with the aim of protecting the environment.

## Baseline Report

Where an activity involves the use, production or release of Relevant Hazardous Substances (RHS)<sup>4</sup>, and having regard to the possibility of soil and groundwater contamination at the site of the installation, Article 22(2) of the IED requires operators to prepare a baseline report.

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 cessation of activities, in order to ascertain whether a significant increase in pollution of soil or groundwater has taken place.

A baseline report was submitted with the application (RFI response Attachment Baseline report provided (Attachment 9, dated 30/10/2019). The report states the Connolly family have operated a business from the site since 1908 with the feed mill business commencing operations in 1963. No evidence of any activity on-site prior to 1908 was provided. The surrounding area is predominantly agricultural with a small number of individual dwellings in proximity to the site.

A baseline assessment (Stages 1-8) includes the assessment of site investigation data (soil and groundwater) collected in December 2018. Diesel fuel (over 10,000m<sup>3</sup>) was identified as the main relevant hazardous substance (RHS) that will be used on-site. Since the baseline report was undertaken the company have switched to LPG as the main combustion fuel for dryers/boilers and so the volume of diesel fuel utilised and stored has reduced with many fuel tanks now decommissioned.

The bedrock aquifer beneath the site, which is part of the Goresbridge South groundwater body (IE\_SE\_G\_166) is a locally important bedrock aquifer (LI), '*Moderately productive only in local zones*' (GSI). The groundwater aquifer vulnerability beneath the site is classified as 'High' (GSI/EPA vulnerability classification). The groundwater body is classified as '*Good*' for the purposes of the WFD and classified as '*Not at Risk*' (WFD Risk Status).

Results of groundwater analysis in 2018 from the on-site abstraction well, which is located within proximity to historical diesel fuel storage tanks for dryer 4, 5 and 6, confirms there is no evidence of any contamination of hydrocarbons, mineral oils or VOC's at the site due to previous use.

Two representative shallow soil samples taken in 2018 in proximity to diesel fuel storage tanks for dryers 4A, 4B, 5 and 6 (operational at time of sampling), were submitted for laboratory analysis for hydrocarbons. The results identified low level hydrocarbon detection (just above Dutch Optimum Limit), but significantly below actionable levels (Dutch Action Limit). The diesel fuel storage tanks associated with dryer 4A, 4B, 5 and 6 have now been decommissioned with the switch to LPG as the main combustion fuel for dryers/boilers on-site.

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<sup>4</sup> RHS are substances or mixtures defined within Article 3 of Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) which, as a result of their hazardousness, mobility, persistence and biodegradability (as well as other characteristics), are capable of contaminating soil or groundwater and are used, produced and/or released by the installation.



It is in the applicant's interest to keep detailed records of operational practice such as inspections, maintenance, incidents, accidents and remediation under IED. The Agency's Office of Environmental Enforcement may refuse an application for surrender without detailed assessment and remediation proposals. Upon definitive cessation of the activity (and in accordance with Article 22(3) of the IED) the operator shall assess the state of soil and groundwater contamination by relevant hazardous substances used, produced or released by the installation.

Where the installation has caused significant pollution of soil or groundwater by relevant hazardous substances compared to the state established in the baseline report, the operator shall take the necessary measures to address that pollution so as to return the site to that state, 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. For that purpose, the technical feasibility of such measures may be taken into account.

A review of containment and control measures at the installation, which includes hardstanding throughout, indicates that the risk of a contamination event occurring is low and the risk of soil/groundwater contamination will be minimal.

The RD requires that monitoring for relevant hazardous substances shall take place every five years for groundwater and 10 years for soil.

## **11. Fit & Proper Person**

### Technical Ability

The applicant 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 applicant has demonstrated the technical knowledge required.

### Legal Standing

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

### ELRA, CRAMP and Financial Provision

The 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 not required.

### Fit & Proper Conclusion

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

## **12. Submissions**

There were three submissions made on this application.

While the main points raised in the submissions 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 submissions are noted and addressed in this Inspector's Report and the submissions were taken into consideration during the preparation of the Recommended Determination (RD).

<b>Submissions</b>			
1.	<p><b>Name &amp; Position</b> <b>Mr. Peter Sweetman</b></p>	<p><b>Organisation:</b> <b>Peter Sweetman &amp; Associates</b></p>	<p><b>Date received:</b> <b>29/01/2019</b></p>
<p><b>Issues raised:</b></p> <p>Mr. Sweetman states that "Any licence granted by the EPA for the following applications must comply with the Habitats and Birds Directives and must comply with the following judgements of the CJEU." The submission refers to the CJEU case references C-258/11, C-164/17, C-323/17, C-461/17 and joined cases C-293/17 and C-294/17.</p> <p><b>Agency response:</b></p> <p>An Appropriate Assessment for the activity has been carried out as detailed in the Appropriate Assessment Section below. The requirements of the Habitats Directive (92/43/EC) and Birds Directive (2009/147/EC) are considered as part of the Appropriate Assessment section of this report. In addition, the judgements of the Court of Justice of the European Union (CJEU) (C-258/11, C-164/17, C-323/17, C-461/17 and joined cases C-293/17 and C-294/17) form part of this assessment.</p> <p>I am satisfied that I had sufficient information available to complete an Appropriate Assessment, in an appropriate manner, to assess in view of best scientific knowledge and the conservation objectives of the site(s), if the project individually or in combination with other plans or projects is likely to have a significant effect on a European Site. An Appropriate Assessment Screening Determination was issued on 20/11/2018, which included specific reasons for determining that a Stage 2 Appropriate Assessment was required. A Natura Impact Statement (NIS) was submitted by the applicant on 30/11/2021 and updated on 31/03/2022. A notice for public consultation on appropriate assessment was issued on 14/04/2022. Written submissions received in relation to Appropriate Assessment have been taken into account.</p> <p>I have carried out an in-depth examination of the documentation associated with the licence application and concluded that for the reasons set out in the Appropriate Assessment section of this report, that the activity, individually or in combination with any other plans or projects, will not have a significant effect on any European Site.</p>			
2.	<p><b>Name &amp; Position</b> <b>Paul Harrington</b></p>	<p><b>Organisation:</b> <b>Principal Environmental Health Officer, Health Service Executive (Dublin Mid Leinster), St. Dymphna's Hospital, Carlow</b></p>	<p><b>Date received:</b> <b>18/04/2018</b></p>
<p><b>Issues raised:</b></p> <p>Mr. Harrington identified that a number of HSE departments were consulted, and the comments returned were:</p> <p>No environmental complaints have been received by the HSE regarding the operation of the site. The HSE considered BAT conclusions for the Food and Drink Manufacturing Sector when assessing the licence application. The HSE has no objection to the issuing of the Industrial Emissions (IE) licence for the installation provided it puts in place and adheres to a comprehensive Environmental Management Plan (EMP).</p> <p><b>Agency response:</b></p>			

<b>Submissions</b>			
	The inspector notes the comments of the HSE. Controls, limits and management plans with regard to air, noise, dust, and storm water are required in the RD. Condition 2 of the RD requires a comprehensive Environmental Management Plan to be developed, implemented and maintained at the installation by the licensee. Controls relating to emissions and discharges are dealt with in Section 6 of this Inspectors Report.		
3.	<b>Name &amp; Position</b> <b>Annette Fitzpatrick</b>	<b>Organisation:</b> <b>Administrative Officer, Planning Section, Kilkenny County Council, County Hall, Main Street, Kilkenny.</b>	<b>Date received:</b> <b>11/04/2018</b>
	<b>Issues raised:</b> Kilkenny County Council Planning Section submitted a list of all relevant planning applications relating to the area within the proposed installation boundary from 2001 to 2018. The submission also refers to the original 4 cell ICW granted permission in 2013 (13/196) on foot of enforcement action undertaken by Kilkenny County Council in respect of a pollution incident in 2011.		
	<b>Agency response:</b> The inspector notes the submission of the planning section of Kilkenny County Council. All planning permissions relating to the area within the proposed installation boundary are dealt with in the Planning Status section of this Inspectors Report.		

### **13. Consultations**

#### **13.1 Cross Office Consultation**

I consulted OEE Inspector Caoimhin Nolan in relation to the ICW, Brendan Kissane in relation to individual licence conditions, Stuart Huskisson in relation to Financial Provision, ELRA and CRAMP, and Ann Lyng in relation to Annual Enforcement Charges. In general, the OEE have no significant concerns regarding the proposed changes to the licensable activity.

I consulted with OEA Scientific Officers Janka Nitsche in relation to hydrometric flow data, Jean Smith in relation to background chemistry data for River Barrow (\_210), and Nigel Hayes (Catchments Team) in relation to status of receiving waterbody River Barrow (\_210).

#### **13.2 Transboundary Consultations**

There were no transboundary consultations undertaken as there were no transboundary impacts identified.

### **14. 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 activity, individually or in combination with other plans or projects is likely to have a significant effect on any European Site. In this context, particular attention was paid to the

European Sites at **River Barrow and River Nore SAC (002162), Blackstairs Mountains SAC (000770), Slaney River Valley SAC (000781), Thomastown Quarry SAC (002252) and River Nore SPA (004233).**

The activity is 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 activity, 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 activity was required, and for this reason determined to require the applicant to submit a Natura Impact Statement. A Natura Impact Statement was received by the Agency on 30/11/2021 and updated on 31/03/2022.

This determination is based on the following:

- The distance and hydrological connection between the installation and at least one European Site (River Barrow and River Nore SAC (002162)).
- A constructed wetland associated with the activity is located within the River Barrow and River Nore SAC.
- Having particular regard to emissions to air and water, which could have potential negative impacts on qualifying interests at a European Site.

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 activity, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site, in particular River Barrow and River Nore SAC (002162), Blackstairs Mountains SAC (000770), Slaney River Valley SAC (000781), Thomastown Quarry SAC (002252) and River Nore SPA (004233), 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 (RD) and the conditions attached hereto for the following reasons:

- Condition 5 specifies that emissions shall be made from specified emission points set out in *Schedule B: Emission Limits*, of the RD and subject to emission limit values specified in that Schedule;
- *Schedule C: Control and Monitoring*, of the RD sets out the monitoring requirements for emissions to air, noise emissions, ambient dust emissions and stormwater discharges, and control and monitoring of the ICW;
- Air dispersion modelling demonstrates that emissions to air from the installation will not result in ground level concentrations, which exceed air quality standards, beyond the installation boundary or standards for the protection of vegetation or ecosystems at the River Barrow and River Nore SAC;
- The RD requires the ambient monitoring of dust to confirm the absence of impact from the air emissions in the ambient environment and ensure continued protection of qualifying interests of any European Site.
- With regard to the European Sites which are hydrologically connected to the installation, there are no process emissions to surface water associated with the activity on-site;

- All stormwater discharges, other than from roofs, shall pass through silt traps and oil separators prior to discharge to the ICW. The ICW shall be maintained in accordance with Condition 3 to protect the receiving waters;
- Condition 6 of the RD requires trigger levels to be established and maintained for SW1A to ensure that discharges of storm water will not negatively impact water quality and the continued protection of water dependent species;
- *Schedule C.5: Ambient Monitoring* of the RD requires biological and chemical monitoring of the River Barrow adjacent to the installation boundary.
- *Schedule B.4: Noise Emission*, of the RD stipulates noise ELV's of 55dB(A) $L_{Ar,T}$  (daytime), 50dB(A) $L_{Ar,T}$  (evening-time) and 45dB(A) $L_{Aeq,T}$  (night-time) at noise sensitive locations, to ensure that noise emissions from the installation will not negatively impact on the surrounding environment, including qualifying interests such as the Otter at the neighbouring SAC;
- Noise emission modelling demonstrates that emissions of noise from the installation will remain below standard noise limits at noise sensitive locations and at the boundary of River Barrow and River Nore SAC (002162).
- Condition 6 of the RD requires a noise management plan, to include a noise reduction programme, to be prepared and implemented.
- The RD includes standard conditions in relation to storage and management of materials and wastes; and
- Condition 9 of the RD requires the applicant to ensure that a documented Accident Prevention Procedure is in place that addresses the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment.

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 River Barrow and River Nore SAC (002162), Blackstairs Mountains SAC (000770), Slaney River Valley SAC (000781), Thomastown Quarry SAC (002252) and River Nore SPA (004233).

## **15. EPA Charges**

The annual enforcement charge recommended in the RD is €12,112, which reflects the anticipated enforcement effort required and the cost of monitoring.

## **16. Recommendation**

The Agency, in considering an application for a licence or the review of a licence, shall have regard to Section 83 of the EPA Act 1992, as amended. The Agency shall not grant a licence or revised licence unless it is satisfied that emissions comply with relevant emission limit values and standards prescribed under regulation. In setting such limits and standards, the Agency must ensure they are established based on the stricter of both the limits and controls required under BAT, and those required to comply with any relevant environmental quality standard.

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 Screening. The RD gives effect to the requirements of the Environmental Protection Agency Act 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



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Eoin McCaffrey

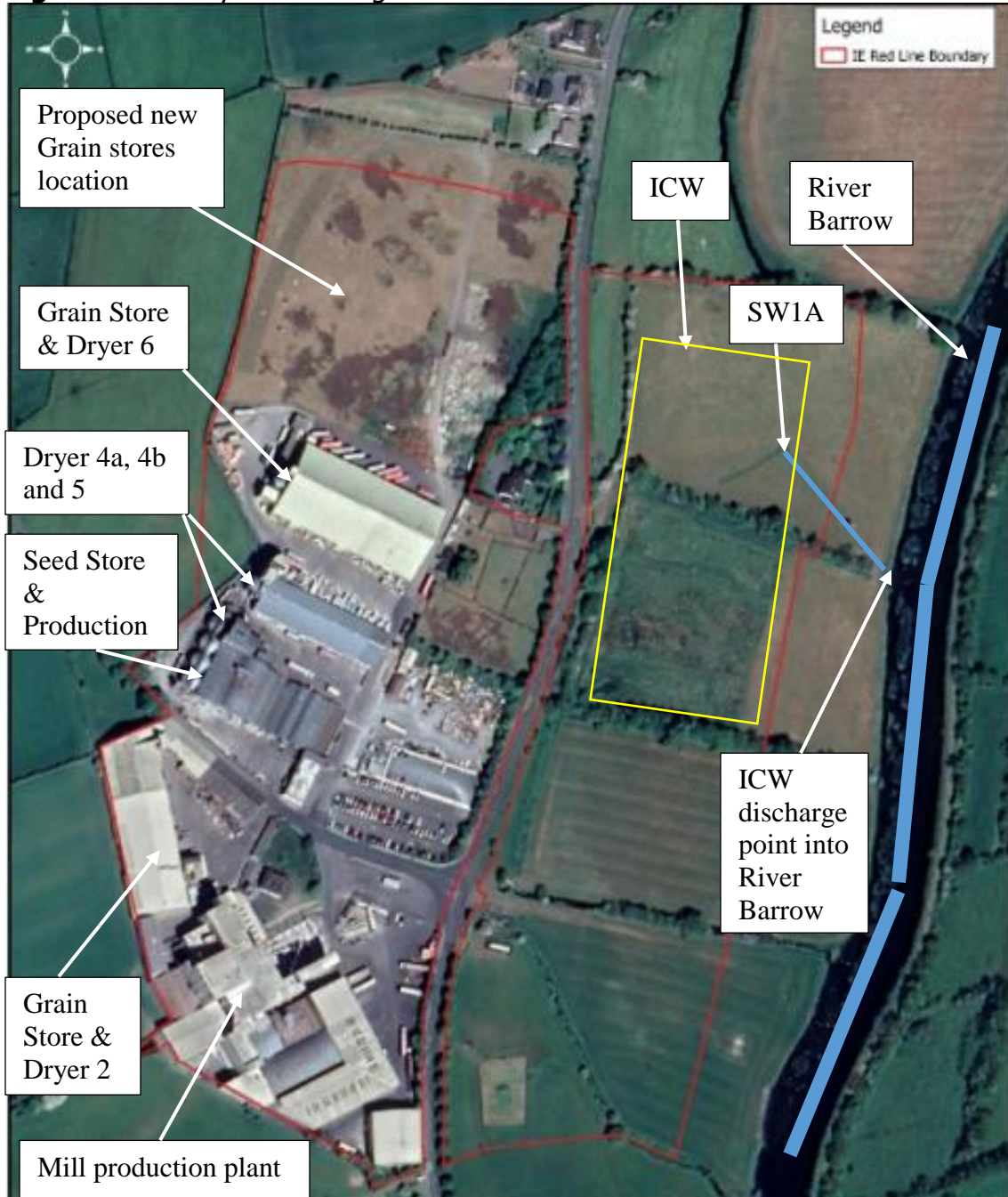
**Procedural Note**

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 Act 1992, as amended, as soon as may be after the expiration of the appropriate period.

## Appendices

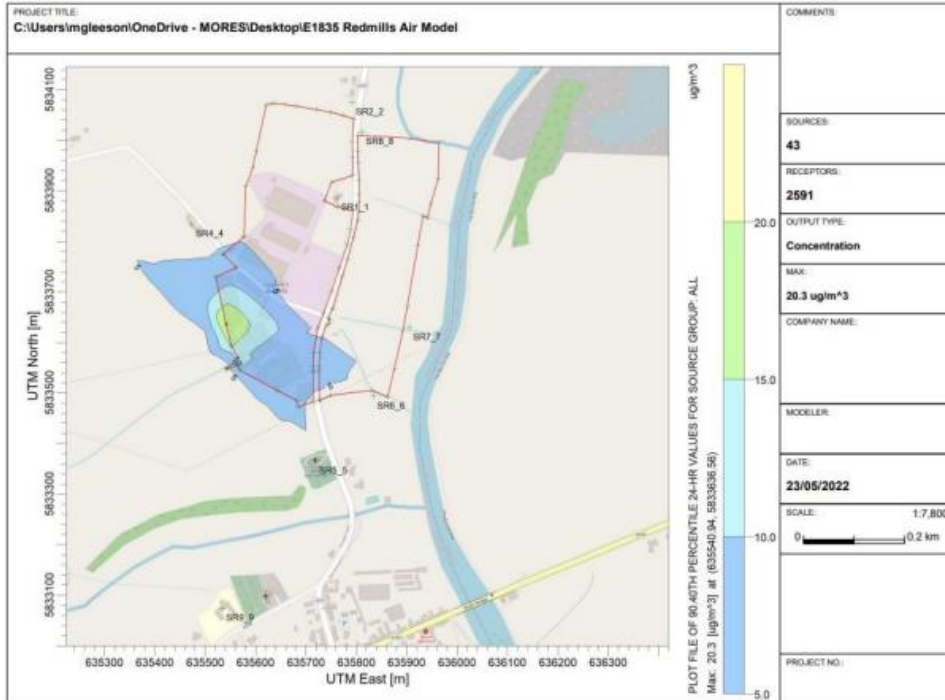
### Appendix 1: Maps/Drawings

**Figure 1:** Site layout Drawing



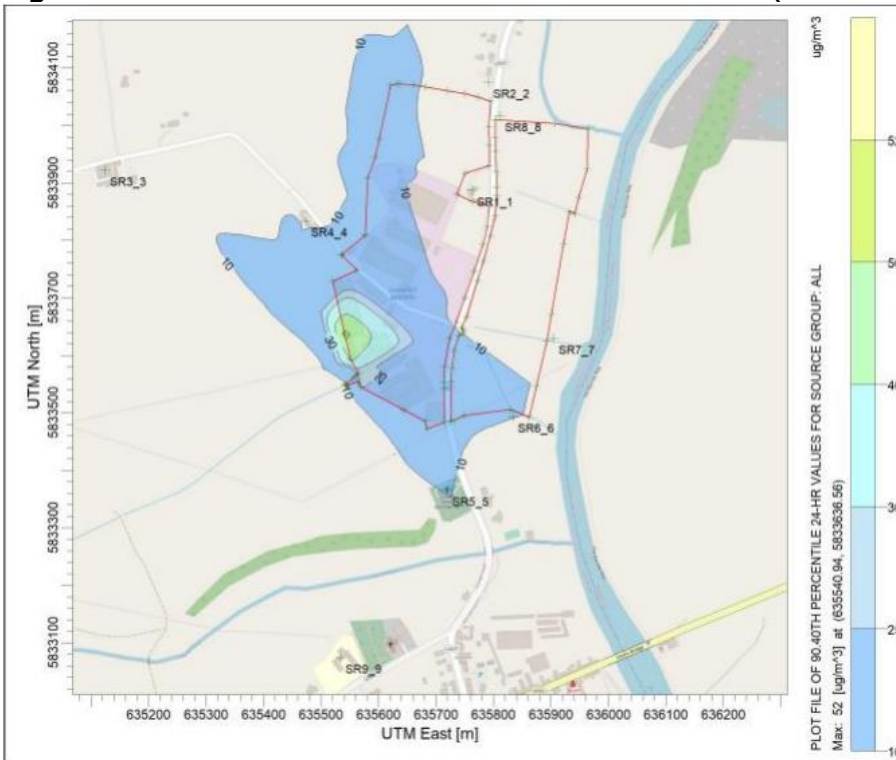
**Source:** Site installation boundary Drawing Titled “*Revised Red Line Boundary, Drawing No. 01*”, dated 25/11/2021”, submitted as part of licence application for P1069-01. Overlay of additional detail by licensing inspector.

**Figure 2:** Maximum Predicted 24-Hour Concentration of PM<sub>10</sub> (revised Scenario 2.2).



**Source:** Figure 1-2 Technical Note dated 02 June 2022 with IE application.

**Figure 3:** Maximum Predicted 24-hour Concentration PM<sub>10</sub> (Scenario 2.1)



**Source:** Figure 3.5 Emissions to Air Assessment dated 31 March 2022.



## Appendix 2: Appropriate Assessment

Assessment of the effects of the activity on European sites and proposed mitigation measures.

<b>Site Name</b>	<b>River Barrow and River Nore SAC (002162)</b>
<b>Distance to (km)</b>	0 meters – eastern boundary of installation within the SAC
<b>Conservation Objectives</b>	<i>NPWS (2011) Conservation Objectives: River Barrow and River Nore SAC [002162]. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht (dated 19/07/2011).</i>
<b>Qualifying Interest (* denotes a priority habitats)</b>	<b>Assessment</b>
<p><b>Habitats</b></p> <p>1130 Estuaries  1140 Mudflats and sandflats not covered by seawater at low tide  1170 Reefs  1310 Salicornia and other annuals colonising mud and sand  1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)  1410 Mediterranean salt meadows (<i>Juncetalia maritim</i>)  3260 Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation  4030 European dry heaths  6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels  7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>)*  91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles  91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)*</p> <p><b>Species</b></p> <p>1029 Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>)  1016 Desmoulin's Whorl Snail (<i>Vertigo moulinsiana</i>)  1355 Otter (<i>Lutra lutra</i>)  1092 White-clawed Crayfish (<i>Austropotamobius pallipes</i>)  1106 Salmon (<i>Salmo salar</i>)  1421 Killarney Fern (<i>Trichomanes speciosum</i>)</p>	<p><u>Emissions to storm water:</u></p> <p>Storm water from the installation discharges to an integrated constructed wetland (ICW) and then via a land drain to the main channel of the neighbouring River Barrow. The ICW is located within the installation boundary which is also within the boundary of the SAC. The River Barrow combines with the River Nore approximately 35 km downstream and ultimately flows to Waterford Harbour.</p> <p>The main potential for impact would arise from changes in water quality which could affect the habitats and species directly or could affect the water dependent prey on which the qualifying species depend. Refer to Storm water discharges section of this Inspectors Report.</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"> <li>• Silt traps and oil separators on storm water discharges from the installation.</li> <li>• Suitable trigger levels shall be set and maintained on storm water discharges from the installation.</li> <li>• Bunding and integrity testing shall be carried out.</li> <li>• The ICW shall be managed and monitored in accordance with management plans for its proper operation and control.</li> <li>• The RD requires monitoring of the inlet and outlet of the ICW to demonstrate the efficiency of operation of the ICW.</li> <li>• An inspection chamber and shut-off valve shall be maintained at the outlet from the ICW to the River Barrow to ensure that any incidents with potential for contamination shall not be released.</li> <li>• There shall be no emissions to water of environmental significance from the installation.</li> </ul> <p><u>Emissions to Air:</u></p> <p>The main potential for impact would arise from changes in air quality which could affect habitats and species. Air dispersion modelling has demonstrated that emissions to air from the installation will not cause an exceedance in relevant air quality standards beyond the boundary and at the neighbouring SAC.</p> <p>The controls and requirements (including emissions limits) as set in the RD will ensure that the qualifying interests of this European site are protected.</p> <p><u>Noise:</u></p> <p>Noise emissions could have an impact on noise sensitive qualifying interest species (e.g. Otter). The RD specifies noise limits 55dB(A) (daytime), 50dB(A)(evening) and 45dB(A)(night-time) at noise sensitive locations (NSL's). Noise prediction modelling demonstrates that noise from the installation shall remain within standard limits at the NSL's, therefore there will</p>

<p>1103 Twaite Shad (<i>Alosa fallax fallax</i>)  1990 Nore Pearl Mussel (<i>Margaritifera durrovensis</i>)  1095 Sea Lamprey (<i>Petromyzon marinus</i>)  1096 Brook Lamprey (<i>Lampetra planeri</i>)  1099 River Lamprey (<i>Lampetra fluviatilis</i>)</p>	<p>be no significant effect on qualifying species. The RD requires a noise reduction and management programme in accordance with BAT.</p> <p><u>Potential for accidents:</u></p> <p>There is the potential for accidents and emergency situations to arise from the operation of this installation which could affect the qualifying habitats and interests. It is considered that there are sufficient measures in place at the installation to deal with such events. Refer to <i>Section 9 Prevention of Accidents</i> of this Report.</p>
<b>Site Name</b>	<b>Blackstairs Mountains SAC (000770)</b>
<b>Distance to (km)</b>	10.5 km east of the installation
<b>Conservation Objectives</b>	<i>NPWS (2019) Conservation Objectives: Blackstairs Mountains SAC [000770]. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage and the Gaeltacht (dated 29/11/2019)</i>
<b>Qualifying Interests (* denotes a priority habitat)</b>	<b>Assessment</b>
<p><b>Habitats</b>  4010 Northern Atlantic wet heaths with <i>Erica tetralix</i>  4030 European Dry Heaths</p>	<p>There is no hydrological connectivity to this European site therefore there will be no impact to its qualifying interest via surface water pathways.</p> <p>The qualifying interests may be sensitive to air pollution. Air dispersion modelling has demonstrated that this site is outside the zone of influence for emissions to air from the installation.</p> <p>There is the potential for accidents and emergency situations to arise from the operation of this installation which could affect the qualifying habitats and interests. It is considered that there are sufficient measures in place at the installation to deal with such events. Refer to <i>Section 9 Prevention of Accidents</i> of this Report.</p>
<b>Site Name</b>	<b>Slaney River Valley SAC (000781)</b>
<b>Distance to (km)</b>	17.75 km east of the installation
<b>Conservation Objectives</b>	<i>NPWS (2011) Conservation Objectives for Slaney River Valley SAC [000781]. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage, and the Gaeltacht (dated 21/10/2011).</i>
<b>Qualifying Interests (* denotes a priority habitat)</b>	<b>Assessment</b>
<p><b>Habitats</b>  1130 Estuaries  1140 Tidal Mudflats and Sandflats  1330 Atlantic Salt Meadows (<i>Glauco-Puccinellietalia maritimae</i>)  1410 Mediterranean Salt Meadows (<i>Juncetalia maritima</i>)  3260 Floating River Vegetation  91A0 Old Oak Woodlands  91E0 Alluvial Forests*</p> <p><b>Species</b>  1029 Freshwater Peral Mussel (<i>Margaritifera margaritifera</i>)  1095 Sea Lamprey (<i>Petromyzon marinus</i>)  1096 Brook Lamprey (<i>Lampetra planeri</i>)</p>	<p>There is no hydrological connectivity to this European site therefore there will be no impact to its qualifying interest via surface water pathways.</p> <p>The qualifying interests may be sensitive to air pollution. Air dispersion modelling has demonstrated that this site is outside the zone of influence for emissions to air from the installation.</p> <p>Some of the qualifying interests may be sensitive to noise. Noise prediction modelling has demonstrated that this site is outside the zone of influence for noise emissions from the installation.</p> <p>There is the potential for accidents and emergency situations to arise from the operation of this installation which could affect the qualifying habitats and interests. It is considered that there are sufficient measures in place at the installation to deal with such events. Refer to <i>Section 9 Prevention of Accidents</i> of this Report.</p>

1099 River Lamprey ( <i>Lampetra fluviatilis</i> ) 1103 Twaite Shad ( <i>Alosa fallax</i> ) 1106 Atlantic Salmon ( <i>Salmo salar</i> ) 1355 Otter ( <i>Lutra lutra</i> ) 1365 Harbour Seal ( <i>Phoca vitulina</i> )	
<b>Site Name</b>	<b>Thomastown Quarry SAC (002252)</b>
<b>Distance to (km)</b>	15 km west of the installation
<b>Conservation Objectives</b>	<i>NPWS (2019) Conservation Objectives: Thomastown Quarry SAC [002252]. Version 1. National Parks and Wildlife Service, Department of Culture, Heritage, and the Gaeltacht (dated 02/07/2019).</i>
<b>Qualifying Interests (* denotes a priority habitat)</b>	<b>Assessment</b>
<b>Habitats</b> 7220 Petrifying springs with tufa formation (Cratoneurion)*.	<p>There is no hydrological connectivity to this European site therefore there will be no impact to its qualifying interest via surface water pathways.</p> <p>The qualifying interests may be sensitive to air pollution. Air dispersion modelling has demonstrated that this site is outside the zone of influence for emissions to air from the installation.</p> <p>There is the potential for accidents and emergency situations to arise from the operation of this installation which could affect the qualifying habitats and interests. It is considered that there are sufficient measures in place at the installation to deal with such events. Refer to <i>Section 9 Prevention of Accidents</i> of this Report.</p>
<b>Site Name</b>	<b>River Nore SPA (004233)</b>
<b>Distance to (km)</b>	13 km west of the installation
<b>Conservation Objectives</b>	<i>NPWS (2022) Conservation objectives for River Nore SPA [004233]. Generic Version 9.0. Department of Housing, Local Government and Heritage (dated 26/01/2022).</i>
<b>Qualifying Interests (* denotes a priority habitat)</b>	<b>Assessment</b>
<b>Birds</b> A229 Kingfisher ( <i>Alcedo atthis</i> )	<p>There is no hydrological connectivity to this European site therefore there will be no impact to its qualifying interest via surface water pathways.</p> <p>The qualifying interest may be sensitive to air pollution. Air dispersion modelling has demonstrated that this site is outside the zone of influence for emissions to air from the installation.</p> <p>The qualifying interest may be sensitive to noise. Noise prediction modelling has demonstrated that this site is outside the zone of influence for noise emissions from the installation.</p> <p>There is the potential for accidents and emergency situations to arise from the operation of this installation which could affect the qualifying habitats and interests. It is considered that there are sufficient measures in place at the installation to deal with such events. Refer to <i>Section 9 Prevention of Accidents</i> of this Report.</p>

### Appendix 3: Relevant Legislation

The following European 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 (2011/92/EU as amended by 2014/52/EU)
Habitats Directive (92/43/EEC) & Birds Directive (79/409/EC)
Water Framework Directive [2000/60/EC]
Waste Framework Directive (2008/98/EC)
Groundwater Directive (80/68/EEC) and 2006/118/EC
Medium Combustion Plant Directive (EU) 2015/2193
Air Quality Directives (2008/50/EC and 2004/107/EC)

### Appendix 4: CIDs/BREF/BAT documents relevant to this assessment

Commission Implementing Decisions	Publication Date
COMMISSION IMPLEMENTING DECISION of 12 November 2019 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the food, drink and milk industries ((EU) 2019/2031)	November 2019
Sectoral BREF	Publication date
Reference document on the Best Available Techniques in the Food, Drink and Milk Industries.	2019
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
N/A	N/A