


This Report has been cleared for submission to the Board by Senior Inspector, Mr Sean O'Donoghue

Signed: *Donata Richards* . **Date:** 13th September 2016

	OFFICE OF ENVIRONMENTAL SUSTAINABILITY
INSPECTOR'S REPORT ON A LICENCE APPLICATION	
To:	Directors
From:	Jennifer Cope - LICENSING UNIT
Date:	13 September 2016
RE:	Application for review of an IE Licence from Medite Europe Limited, Register No. P0027-04

Application Details	
Type of installation:	Manufacture of medium density fibre (MDF) board.
Class of activity:	<u>Class 8.7:</u> The production of one or more of the following wood-based panels: fibreboard with a production capacity exceeding 600 m ³ per day. <u>Class 2.1:</u> Combustion of fuels in installations with a total rated thermal input of 50 MW or more.
Category of Activity under IE Directive (2010/75/EU):	<u>6.1(c):</u> Production in industrial installations of one or more of the following wood-based panels: fibreboard with a production capacity exceeding 600 m ³ per day. <u>1.1:</u> Combustion of fuels in installations with a total rated thermal input of 50 MW or more.
CRO number:	80984
GHG permit:	IE-GHG004-10337-2
Licence application received:	17 July 2015
Notices under Regulation 10(2)(b)(ii)	11 September 2015, 5 January

issued:	2016, 30 March 2016, 22 April 2016, 24 May 2016
Information under Regulation 10(2)(b)(ii) received:	06 November 2015, 15 February 2016, 27 April 2016, 23 May 2016, 22 June 2016
Additional information received:	23 May 2016, 25 August 2016
EIS received:	17 July 2015
Submission(s) received:	None
Site notice inspected:	24 July 2015
Site visit:	9 September 2015

1. Installation

Medite Europe Limited (Medite) is a medium density fibreboard (MDF) manufacturing installation located in Redmondstown, approximately 4 km from Clonmel, Co. Tipperary. MDF is a wood based sheet material manufactured from wood fibre bonded together with a synthetic resin adhesive.

The installation was first granted a licence by the Agency on 16 April 1996 (Reg. No. P0027-01). A revised licence was granted on 30 November 2001 (P0027-02) to remove the total site mass emission limit for formaldehyde and replace it with an ambient air quality monitoring programme and the installation of a continuous press to replace the existing Line 1 multidaylight press at that time. Medite Europe Limited review application, Reg. No. P0027-03 received 20 March 2011 was withdrawn on 22 July 2013.

The licensee is a legal entity of normal status and the associated company's registration office (CRO) number is 80984. Medite employs 160 people and operates 24 hours a day, 7 days a week, all year around.

2. Reason for Licence Review

The licensee requested a review of the licence to accommodate a number of proposed changes at the installation, as follows:

1. A maximum volumetric flow limit for the dryers (A2-5, A2-6 and A2-21) based on calculation rather than measurement;
2. Installation of a new enclosed cleaning and pneumatic transport system for woodchip, called the 'classicleaner'¹, with storage in a new silo for woodchip;
3. Inclusion of nine new emission points since the licence was granted in 2001, associated with the installation of:
 - a. a new boiler (A1-1);
 - b. the ClassiCleaner (particulate filters: A2-1 to A2-4) and a new dust silo bag filter (A2-27);
 - c. two new cyclofilters (A2-8 and A2-11);
 - d. a new press extraction scrubber (A2-15); and

¹ Retention planning permission (Ref No. 15/600016) was granted on 10 June 2015.

4. Inclusion of emission points A2-9 (Line 1 Glue Blender Bag filter) and A2-10 (line 1 Reject Bag filter), which were to be decommissioned in accordance with the current licence P0027-02. (See section 7.1 below)
5. Reduction of the emission limit value for the particulate filters from 10 mg/Nm³ to 5 mg/Nm³
6. Reduction of the NO_x emission limit value for the dryers from 130 mg/Nm³ to 110 mg/Nm³.

3. Process description

Medite operates two production lines that operate in parallel. Both lines share the same upstream chip processing facility and similar finishing facilities further downstream.

The installation has two boilers, a thermal fluid heater (production line 1) and a combined energy plant (production line 2) on site to provide heat streams to the process. Steam is used in the wood refining process, flue gas used in the wood fibre drying process, and the high temperature fluid used for heating the board press.

The principal process operations are:

1. Log and chip handling

Removal of bark from pulpwood logs in the drum debarker. Bark is used as a fuel for boilers and energy plant, or as a product for the horticultural industry. Truckloads of wood chips are bought in from sawmills. Chips are screened in the 'ClassiCleaner' unit, oversized material is re-chipped, fines and metal objects are removed and the chips conveyed to a storage silo. The 'ClassiCleaner' integrates raw material screening and cleaning processes into a single system. This system uses air for sifting and conveying wood material as part of the cleaning process. The air taken in from the ambient surroundings is exhausted after filtration through four air filtration units at various parts of the process. The fines silo conveying air is exhausted through a bag filter mounted on top of the silo.

2. Refining

There are three wood fibre systems, which run in parallel, two in production line 1 (face and core) and one in production line 2. Chips are conveyed to a pre-steaming vessel, where they are softened and then sent through a plug feeder to a steam digester column where chips are subjected to high-pressure steam. As chips are fed through the plug feeder, excess water is squeezed out and sent to the on-site waste water treatment plant (WWTP). The softened chips are passed through refiner plates, which create the wood fibre. The fibre is transported to the dryer system via a blow line pipe. Resin (urea, MDI) and other additives as required (dyes, fire retardant chemicals) are injected either straight after the refiners through a blowline, or after drying through a EVOjetTM system² in the case of line 1 core wood fibre.

3. Dryers

The wood fibre is dried by hot air through tube dryers. Production Line 1 face and core (two stage dryers) are heated indirectly by steam from the two boilers, and directly by boiler flue gases. Line 2 dryer (two stage) is heated by the energy plant flue gases (direct heating). Outlet air from stage 2 is recirculated back to stage 1 air inlet in order to save energy and minimise emissions to atmosphere. The dried fibre

² resin glue addition technology system

(3-14% moisture) passes over a continuous weigh belt and is conveyed to fibre storage bins.

4. Pressing

Line 1 and Line 2: The hot press is a continuous press which converts the fibres to board, and consists of an upper and lower continuously moving heated steel belt, through which the mat moves at a rate proportional to the thickness being produced. The pressed board is cross-cut to the required length, then cooled, stacked and removed for either immediate storage or sanding. A new press extraction wet scrubber has been installed on production line 1 for the wet scrubbing of the waste gas from the press, main pollutants abated are dust and volatile organic compounds.

5. Finishing

The board is sanded. Sander dust is removed by pneumatic conveying system to the boiler and energy plant for use as fuel. The sanded board is cut. The sawn off-cuts are conveyed pneumatically to boilers and energy plant for use as a fuel.

4. Planning Permission, EIS and EIA requirements

4.1 EIA Screening

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

4.2 Planning Status

A number of planning applications have been made by the licensee for the area within the installation boundary since 1981. Details of these planning applications and permissions have been provided in the licence review application and are available to review on Tipperary County Council's website, with the exception of planning file reference no P312290. The licensee received retention planning permission for the installation for the 'Classcleaner' integrated roller screening and separation units, associated conveyors and silo on 10 June 2015 (planning file reference number:15/600016).

Tipperary County Council required an Environmental Impact Statement (EIS) in support of planning permission, planning file No. P312290 for this site. The licensee submitted the EIS associated with planning file No. P312290, as well as the planning permission (planning file no. P312290), as part of the licence application.

Having specific regard to EIA, this report is intended to identify, describe and assess for the Agency the direct and indirect effects of the proposed activity on the environment, as respects the matters that come within the functions of the Agency, including any interaction between those effects and the related development forming part of the wider project, and to propose conclusions to the Agency in relation to such effects.

The EIS submitted, the licence application, the submission(s) and observation(s) received from third parties, planning documents, consultations with the planning authority, the relevant planning decisions and any additional information submitted by the licensee have been examined and assessed and are considered below for that purpose.

4.3 Content of EIS and licence application

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

It was considered that the EIS and licence review application did not adequately address the following areas and further information was sought under Regulation 10(2)(b)(ii) of the *EPA (Industrial Emissions)(Licensing) Regulations 2013, from the licensee:*

- Natura Impact Statement
- Additional air dispersion modelling information
- Design details for the ClassiCleaner system and WWTP
- Data on the boilers/energy centres
- Fan curve data for the three dryers
- BAT conclusions in place/proposed for the installation
- Impact assessment of the likely significant direct and indirect effects of the proposed activity on the environment

On receipt of further information under Regulation 10, all of the documentation received was examined and I consider that the information as submitted contains a satisfactory description of the project, the alternatives studied by the licensee, the aspects of the environment likely to be significantly affected by the activity, the likely effects of the activity on the environment, the forecasting methods used, the prevention and mitigation measures envisaged, the difficulties and deficiencies encountered and a non-technical summary.

I consider that the EIS, when considered in conjunction with the additional material submitted with the application, also complies with the requirements of the *EPA (Industrial Emissions)(Licensing) Regulations 2013*.

I have considered the issues that interact with the matters that were considered by the above authorities and which relate to the activity in Section 18 of this report.

Having considered the licence and EIS, the submissions of state and public authorities and the matters resulting from Tipperary County Council decisions, I consider that the likely significant effects of the activity on the environment are as set out in Section 18 below.

4.4 Consultation with Competent Authorities

The EPA consulted with Tipperary County Council and An Bord Pleanála as follows:

Consultation	Date
Notice under Section 87(1E)(a) issued to Tipperary County Council:	28 July 2015
Response to Section 87(1E)(a) Notice received:	25 January 2016
Notice under Section 87(1E)(a) issued to An Bord Pleanála:	07 September 2015
Response to Section 87(1E)(a) Notice received:	28 September 2015

1. Tipperary County Council Planning Authority provided a list of planning permissions that relate to the site and a statement regarding whether EIA was or was not undertaken.

Comment

The planning history for the site has been noted. The decisions of Tipperary County Council have been considered as part of the Agency's assessment.

2. An Bord Pleanála (ABP)
ABP advised that the planning appeal Ref No PL92.24409 was withdrawn on 04 June 2015 prior to any planning assessment by an Inspector or Board decision. Therefore the decision of Tipperary County Council dated 10 March 2015 still stands in this case.

Comment

ABP's response has been noted.

5. Submissions

No valid submissions were received in relation to this licence review application.

6. Consideration of Best Available Techniques (BAT) and BAT conclusions

BAT for the installation was assessed against the BAT conclusions in the following documents:

- Commission Implementing Decision (2015/2119/EU) of 20 November 2015 establishing best available technique (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the production of wood-based panels (CID 2015/2119/EU).
- BREF document on Best Available Techniques for Large Combustion Plants, July 2006.
- BREF document on Best Available Techniques for Energy Efficiency, February 2009.
- BREF document on Best Available Techniques on Emissions from Storage, July 2006.
- BREF document on Best Available Techniques in the Large Volume Organic Chemical Industry, February 2003.

The licensee submitted a review of the installation activities against the relevant BAT conclusion requirements contained in the above CID and BREF documents. There are 28 BAT Conclusions in the CID 2015/2119/EU. The licensee has demonstrated that the installation will comply with the BAT conclusion requirements specified in the CID 2015/2119/EU and will comply with all of the applicable BAT conclusions requirements contained in additional BREF documents.

For existing installations, for which a CID on BAT conclusions is published, the IED (in relation to the main activity of the installation) requires that within four years, the EPA must ensure that 'all permit/licence conditions for the installation concerned are reconsidered, and where necessary updated' and 'ensure compliance with the BAT'.

BAT conclusion requirements specified in the in the CID 2015/2119/EU have been included in the RD where appropriate (see Table 1.0 below). The LCP BREF final

draft was published in June 2016, the BAT requirements cannot be incorporated in the RD as the draft is not finalised. The BAT conclusion requirements specified in this BREF document will apply to this installation when the commission implementing decision is published.

Table 1.0. Additional Conditions in RD to address BAT conclusion requirements

Main applicable BAT conclusions for the activities: BAT conclusions for the production of wood-based panels (CID 2015/2119/EU)	
Additional Requirements:	Condition/Schedule
Inclusion of a dust management plan in the EMS.	Condition 2
Inclusion of a waste management plan in the EMS.	Condition 8
Inclusion of a noise reduction plan in the EMS	Condition 2
Inclusion of a quality control plan for recovered wood	Condition 2
BAT-AEL's are specified for TVOC for emission points A2-5, A2-6, A2-12, A2-13, A2-15, A2-21 to A2-23 and for dust for emission points A2-1 to A2-4, A2-7 to A2-11, A2-16 to A2-27.	<i>Schedule B</i>
BAT-AEL specified for total suspended solids for emission point SW1 (Northern Discharge)	<i>Schedule B</i>
BAT-AELs are specified for total suspended solids and COD for emission point SW2	<i>Schedule B</i>
BREF document for Large Combustion Plants	
Inclusion of requirement to address 'Fire Prevention' in the accident Prevention Policy	Condition 9
BREF Document on Storage	
Inclusion of requirement to address 'Fire Prevention' in the Accident Prevention Policy	Condition 9

BAT associated emission levels (BAT-AELs) as specified in the CID 2015/2119/EU have been included in the RD as outlined in Appendix 2 and are applicable from 20 November 2019 or sooner where specified in the licence. The BAT-AELs for emissions to air specified in the CID 2015/2119/EU refer to concentrations expressed as mass of emitted substance per volume of waste gas under standard conditions (273,15 K, 101,3 kPa) and on a dry basis, expressed in the unit mg/Nm³. The current licence (P0027-02) specifies no correction for water content. The RD specifies gas volumes under standard conditions of (273.15 K, 101.3 kPa), with no correction for water content until 19 November 2019, and correction to dry gas basis from 20 November 2019. The licensee has until 20 November 2019 to comply with the BAT-AELs on a dry basis for emissions to air. The measured values for the dryers (A2-5, A2-6 and A2-21) on a wet basis provided in the AER for 2015, indicate that the emission limit values for the parameters specified in the RD for the dryers on a dry basis are achievable.

The monitoring frequency of emissions to air and water has been amended in the RD, in line with CID 2015/2119/EU, where relevant. The RD specifies that the yearly average concentration limit for suspended solids and COD discharged from SW2 and for suspended solids discharged from SW1 shall not exceed the yearly average limits specified in *Schedule B.2 Emissions to Water*. The yearly average is the average of all the 24 hour flow proportional composite samples taken in a calendar year, in line with CID 2015/2119/EU.

I consider that the applicable BAT conclusion requirements are addressed through:
(i) the technologies and techniques as described in the application; (ii) the standard

conditions specified in the RD; and (iii) where applicable, the inclusion of additional specific conditions (see Table 1.0 above).

7. Emissions

7.1 Emissions to Air

The primary combustion processes at the site are the two solid fuel boilers (No. 1 and No. 2) which supply heat to Production line 1, gas boiler (A1-1) to heat the thermal oil for the Line 1 press and the combined energy plant (solid fuel) supplying heat to Production Line 2. See section 7.5.1 of this report for details in relation to fuel types used in boilers 1 and 2 and the combined energy plant.

Boiler No.1 and No.2 (18 MW each)

The hot air output from the two boilers is used for generating steam for the production line 1 refiners, dryers and office, workshop heating, line heaters and hot water. The flue gases from the boilers are further used to heat the incoming air to the dryers on production line 1.

Gas Boiler (6 MW)

Natural Gas is used to heat the thermal oil production line 1 press; natural gas is also used as a back-up in the two boilers in production line 1.

Combined Energy Plant (19MW)

The hot air output from the combined energy plant is used for generating steam for the production line 2 refiner, heating thermal oil fluid for steam generation and to heat the production line 2 continuous belt and the line 2 dryer. The thermal oil is heated by four thermal heat exchangers by the hot air generated by the furnace. It is a closed loop system the hot oil heats the continuous press on production line 2 and generates steam for the refining process.

The combustion processes do not come under the scope of Chapter III 'Special Provisions for Combustion Plants' of the Industrial Emissions Directive (2010/75/EC) as the products of the combustion process, i.e., the combustion gases, are used for the direct heating and drying of wood fibre (Article 28(a) of the IED). Further information is included in section 12 Compliance with EU Directive of this report.

There are currently twenty seven main emission points operating on the site:

- Press thermal fluid heater (A1-1).
- Three dryers (emission point reference number no. A2-5, A2-6 and A2-21).
- Eighteen cyclo/bag filters (emission point reference nos. A2-1 to A2-4, A2-7 to A2-11, A2-16 to A2-20 and A2-24 to A2-27).
- Four press vents (A2-12, A2-13, A2-22 and A2-23) and one press extraction scrubber (A2-15).

The principle changes from the current licence (P0027-02) granted in 2001 with regard to emissions to air are:

- Inclusion of nine emission points associated with: the installation of a new boiler (A1-1), new ClassiCleaner (A2-1 to A2-4), and a new dust silo bag filter (A2-27), two new cyclofilters (A2-8 and A2-11), and one new press extraction scrubber (A2-15).
- In accordance with *Schedule 1(i)* of the current licence (P0027-02) emission points EP28 (A2-9) and EP29 (A2-10), located at the Baghouse, on the southside of the blending building, were to be decommissioned prior to

commencement of operation of line 1 replacement. These emissions points have been maintained at the installation and are included in the proposed RD as A2-9 (Line 1 Glue Blender Bag filter) and A2-10 (line 1 Reject Bag filter).

7.1.1 ClassiCleaner

Medite installed a cleaning and screening system for the wood chip raw material called a 'ClassiCleaner'. According to the licensee this unit allows the installation to reduce the specification for wood raw material, reduce cost and further improve environmental performance and manufacturing efficiency. The unit separates constituents from the wood chip raw material such as sawdust fines, metals, sand and stones.

7.1.2 Dryers (A2-5, A2-6 and A2-21)

There are on-going exceedances of volumetric flow rate emission limits set for the dryers (A2-5, A2-6 and A2-21).

The sample port locations for the three dryers (A2-5, A2-6 and A2-21) do not comply with the recommendations in the EPA OEE Guidance Note on Site Safety Requirements for Air Emissions Monitoring (AG1), EPA 2010. The licensee has investigated the option of extending the stack height by several metres to facilitate more accurate volumetric flow measurement, but according to the licensee this would have significant implications in terms of capital expenditure, require planning consent, visual impact and safety risk. Therefore, Medite proposed an alternative method for determining an accurate volume flow from these stacks based on calculation rather than measurement, in line with the EPA OEE Air Emissions Monitoring Guidance Note (AG2), EPA 2014.

In 2012, Medite commissioned FDT Consulting Engineers and Project Managers Limited to quantify the theoretical maximum volumetric output at the exhaust of the stack of each dryer based on maximum operating levels. The approach adopted in the report was to calculate the exhaust flows for each emission point based on a high-level mass balance on the systems.

The EPA commissioned AECOM consultants to review the data and documents associated with the calculation of the maximum flow rate from the wood chip dryers (A2-5, A2-6 and A2-21). The outcome of this review was the determination of accurate maximum volumetric flows which have been set as limits for A2-5, A2-6 and A2-21 in the RD. The licensee submitted revised air dispersion modelling to reflect the calculated maximum flow rates.

Emission Point Reference No.	Description	Mass flow Tonnes/hour	Calculated maximum volumetric flow m³/hour
A2-5	Line 1 core dryer	218	174,400
A2-6	Line 1 face dryer	218	174,400
A2-21	Line 2 dryer	217.7	174,160

The RD specifies annual oxygen monitoring for the dryers, to provide an indication on whether fan conditions have changed. The RD requires the licensee to notify the Agency of any proposed alterations to the dryers, which would change the maximum gas volumetric flow rates as calculated by the licensee as part of the licence application.

7.1.3 Impact of Air Emissions on receiving Environment

The licensee completed an air dispersion modelling study of the emissions from the installation using ADMS (version 5.1) (dated June 2016), input parameters included

meteorological data (2002 to 2006) and topography (terrain and building data). For background air quality, the average of zone D locations³ air monitoring data undertaken between 2012 and 2014 was used for NO₂, PM₁₀, CO and NO_x. Based upon co-located monitoring of PM₁₀ and PM_{2.5} in the UK, baseline PM_{2.5} is assumed to be 50% of monitored PM₁₀. The modelled scenario represents the permitted emission rates (i.e., greater than actual rates), including new emission points and amended parameters for existing points. According to the air dispersion model report no monitoring of ambient formaldehyde or MDI has been undertaken in Ireland, and no background data has been identified in the UK. On this basis and in the absence of relevant data, the assumption is made that background concentrations are negligible.

Table 2.0. Air Dispersion Modelling Results for the proposed emission limit values

Parameter	Averaging Period	Background concentration (µg/m ³)	Process contribution (PC) (µg/m ³) (% of Air quality standard)	PEC ^{Note 1} (µg/m ³) (% of Air quality standard)	Air Quality Standard (µg/m ³)
PM ₁₀	90.40 th percentile	21.8	23.9 (47.8%)	45.7 (91.4%)	50 ^{Note 2}
	Annual Average	12.2	7.35 (18.4%)	19.5 (48.8%)	40 ^{Note 2}
PM _{2.5}	Annual mean – stage 1	6.09	7.35 (29.4%)	13.4 (53.8%)	25 ^{Note 2}
	Annual mean – stage 2	6.09	7.35 (36.7%)	13.4 (67.2%)	20 ^{Note 2}
NO ₂	Annual mean	7	12.8 (31.9%)	19.8 (49.4)	40 ^{Note 2}
	1 hour 99.79 th percentile	14	60.5 (30.2%)	74.5 (37.2%)	200 ^{Note 2}
CO	8 hour	2,567	594 (5.94%)	3,161 (31.6%)	10,000 ^{Note 2}
Formaldehyde	Annual mean	0	3.29 (65.8%)	3.29 (65.8%)	5 ^{Note 3}
	30 minute maximum	0	51.1 (51.1%)	51.1 (51.1%)	100 ^{Note 3, 4}
MDI	Annual mean	0	0.02 (51.4%)	0.02 (51.4%)	0.04 ^{Note 3, 5}
	1 hour maximum	0	0.36 (25.6%)	0.36 (25.6%)	1.4 ^{Note 3, 5}
NO _x	Annual mean	10.1	12.8 (42.5%)	22.8 (76%)	30 ^{Note 2}

Note 1: Predicted Environmental Concentration (PEC) consists of background concentration and maximum process contribution. Modelled PEC using 'worst case year'.

Note 2: Air Quality Standards Regulations 2011, SI 180/2011.

Note 3: UK Environment Agency and Department for Environment, Food & Rural Affairs Environmental Assessment Levels⁴.

Note 4: World Health Organisation (2000) Air Quality Guidelines for Europe WHO, Copenhagen.

Note 5: UK Health and Safety Executive (2011), EH40/2005 Workplace exposure limits, Table 1: List of approved workplace exposure limits (as consolidated with amendments 2011).

³ Zone D is defined as the remainder of the state (excluding Zones A, B and C), in accordance with the Air Quality in Ireland Report 2012 (EPA 2012).

⁴ UK Environment Agency and Department for Environment, Food & Rural Affairs Environmental Management – guidance Air emissions risk assessment for your environmental permit, 2016.

Particulate Matter (PM₁₀ and PM_{2.5})

The model results indicate that the PEC for annual PM₁₀ and PM_{2.5} are below the air quality standards.

However, the model result for the short term daily PM₁₀ predicted environmental concentration (PEC) is 91.4% of the AQS. The background PM₁₀ levels are high (43.6% of the PEC) and the process emissions account for 47.8% of the PEC. For background air quality, the average of zone D locations⁵ air monitoring data undertaken between 2012 and 2014 was used for PM₁₀ and therefore the high background levels are not influenced by the existing activity. According to the air dispersion model report the maximum impact of emissions occurs very close to the installation and the concentrations decrease rapidly with increasing distance from the installation. The contour plots of the short term daily PM₁₀ PEC indicates that the highest concentrations occur along the south east boundary of the installation. The process contribution at the sensitive human receptors, south east of the installation boundary, reduces to a maximum of 32% of the AQS and 22.5% of the AQS (maximum PEC 75.6% and 66.2% of the AQS) at nearby receptors. The results are based on a conservative approach assuming continuous emissions at the proposed licence limit value as opposed to the actual emission which will be at somewhat lower concentrations than the proposed emission limit.

The CID for the production of wood-based panels (CID 2015/2119/EU) specifies a BAT-AEL of <3 -5 mg/m³ for Dust⁶ for channelled dust emissions to air from upstream and downstream wood processing, conveying of wood materials and mat forming (bagfilters/cyclo filters) and a BAT-AEL of 3-15 mg/m³ for dust emissions to air from the press. The PM₁₀ process emission results (average: 2 mg/m³) provided in the licence application indicate that the actual PM₁₀ emissions from the installation are well below the modelled maximum limits for PM₁₀, which indicates that the licensee can meet the emission limit value of 5 mg/m³ for dust from the date of grant of the licence. The RD specifies a limit of 5 mg/m³ for dust for the eighteen bag/cyclofilters, as modelled and a limit of 3.75 mg/m³ for emissions to air from the press, as modelled, from the date of grant of the licence to reduce the impact of PM₁₀ emission from the installation. Whilst the conservative model results indicate that the ambient concentrations will be less than the applicable air quality standards, it is considered that some additional measures are required in the RD to monitor the ambient PM₁₀ concentration off-site in order to confirm that there are no breaches of ambient standards. The RD requires the licensee to establish, implement and maintain a programme for monitoring and assessing the PM₁₀ concentrations in ambient air, in order to determine compliance with the AQS. The RD requires the licensee to monitor the ambient PM₁₀ concentration on a continuous basis.

Nitrogen dioxide

The annual NO₂ and short term NO₂ PEC from the installation is 49.4% and 37.2% respectively of the AQS. The RD proposes a limit of 110 mg/m³ for NO_x (as NO₂) for the boiler (A1-1) and dryers (A2-5, A2-6, A2-21) and 100mg/m³ for NO_x (as NO₂) for the press extraction scrubber (A2-15), as modelled. The emission limit values for NO_x (as NO₂) set in the RD are a reduction from 130 mg/m³ of NO_x (as NO₂) set in the current licence (Reg. No. P0027-02) for the dryers (A2-5, A2-6, A2-21), which is in accordance with the BAT-AELs specified for dryers specified in CID 2015/2119/EU.

⁵ Zone D is defined as the remainder of the state (excluding Zones A, B and C), in accordance with the Air Quality in Ireland Report 2012 (EPA 2012).

⁶ Total Particulate Matter (CID 2015/2119/EU).

Emission points A1-1 and A2-15, are new emission points, installed in 2002, and not included in the current licence P0027-02.

Oxides of Nitrogen (NO_x)

The air dispersion model assessment showed the annual NO_x from the installation is 76% of the AQS (critical levels for the protection of vegetation annual average for NO_x is 30 µg/m³) in SI 180/2011. This is mainly due to high background NO_x levels as process emissions account for 42.5% of the PEC. For background air quality, the average of zone D locations⁷ air monitoring data undertaken between 2012 and 2014 was used for NO_x and therefore the high background levels are not influenced by the existing activity. The contour plots indicate that the highest concentrations of NO_x (20 µg/m³) occur along the northeast boundary of the installation at the habitat receptors. The contour plots indicate that the concentrations reduce to 15 µg/m³ for the other habitat receptors along the northeast boundary of the installation. The results are based on a conservative approach assuming continuous emissions at the proposed licence limit value as opposed to the actual emission which will be at somewhat lower concentrations than the proposed emission limit. The modelling results indicate that the PEC for NO_x is below the air quality standard. Whilst the conservative model results indicate that the ambient concentrations will be less than the applicable air quality standards, it is considered that some additional measures are required in the RD to monitor and assess the NO_x impact of emissions from the site. The RD requires the licensee to establish, implement and maintain a programme for monitoring and assessing the NO_x concentrations in ambient air, in order to determine compliance with the AQS. The RD requires the licensee to monitor the ambient NO_x concentration on a continuous basis.

Carbon Monoxide

The air dispersion modelling indicates that the air quality standards for carbon monoxide will be observed (31% of the AQS). The RD requires an emission limit value of 600 mg/m³ for the two production line 1 dryers (A2-5 and A2-6) and 300 mg/m³ for the production line 2 dryer (A2-21) and 100 mg/m³ for the press extraction scrubber (A2-15) for carbon monoxide expressed as CO. The emission limit values for carbon monoxide set in the RD remain unchanged to that set in the current licence (Reg. No. P0027-02) for emission points A2-5, A2-6 and A2-21. The AER for 2015 shows that the measured values of 139 mg/m³, 86 mg/m³ and 15 mg/m³ for CO respectively for A2-5, A2-6 and A2-21, which indicates that the emission limit values specified in the RD are achievable.

Formaldehyde

The modelling results indicate that the maximum predicted environmental concentrations for formaldehyde are below the EAL and guideline values. The highest annual average predicted ground level concentration is 65.8% of the long-term guideline value and 51.1% of the 30 minute maximum. The RD proposes an emission limit value of 20 mg/m³ for formaldehyde for the three dryers (A2-5, A2-6 and A2-21), as modelled, until 19 November 2019. However, an emission limit value of 15 mg/m³ for formaldehyde, from 20 November 2019, is proposed in the RD, to reflect the BAT-AELs specified in the CID 2015/2119/EU. The emission limit values for formaldehyde for the press vents (A2-12, A2-13, A2-22 and A2-23) set in the RD are in accordance with BAT-AELs specified in the CID and remain unchanged to that set in the current licence (Reg. No. P0027-02). The RD proposes a limit of 10 mg/m³

⁷ Zone D is defined as the remainder of the state (excluding Zones A, B and C), in accordance with the Air Quality in Ireland Report 2012 (EPA 2012).

for formaldehyde for the press extraction scrubber (A2-15), as modelled, which is in accordance with the BAT-AELs specified in the CID. The RD requires biannual formaldehyde monitoring for the three dryers and press vents as specified in the CID 2015/2119/EU. The RD requires the licensee to maintain a programme for the monitoring and assessment of formaldehyde concentrations in ambient air. The RD specifies biannual ambient formaldehyde monitoring as approved by OEE on 28 February 2005.

Diphenylmethane 4,4' di-isocyanate (MDI)

The air dispersion modelling indicates that the air quality standards for MDI will be observed (51.4% and 25.6% of the annual and 1 hour maximum AQS respectively). The RD proposes an emission limit value of 0.06 mg/m³ for the dryers (A2-5, A2-6 and A2-21), press vents (A2-12, A2-13, A2-22 and A2-23) and the press extraction scrubber (A2-15) for MDI, as modelled. The emission limit values for MDI set in the RD are a reduction from 0.07 mg/m³ of MDI set in the current licence (Reg. No. P0027-02), with the exception of new emission point A2-15, which was installed in 2002, and not included in the current licence P0027-02. The RD reduces the frequency of monitoring MDI from quarterly to annually as approved by OEE on 25 August 2004.

Minor Emissions

The licensee has identified four minor emissions to air, A3-1 to A3-4 (from air vents) and eight existing (A4-1 to A4-8) potential emission points.

Dust

Dust deposition limits and the requirement to carry out monthly ambient dust deposition monitoring is maintained in the licence.

7.2 Emissions to Sewer

There are no emissions to sewer from the installation.

7.3 Emissions to Water

Surface run-off water

Surface water run-off is defined in CID 2015/2119/EU, as *Water from precipitation run-off and drainage, collected from outdoor log areas, including outdoor process areas*. Surface run-off water from the internal roads (in the northern half of the site), the log storage area, the area around the debarker/chipper building and most of the warehouse building roof, passes through a settling lagoon (settlement pond), before discharging to a drain leading to the River Anner (SW1: Northern discharge). The AER for 2015 shows a measured value of 340 mg/l for suspended solids. The RD requires the licensee to set trigger levels for pH, suspended solids and COD in surface run-off water. A yearly average limit of 40 mg/l is specified in the RD for total suspended solids (TSS) for emission point SW1 from 20 November 2019 in accordance with BAT (see section 6). The RD requires the licensee to include an evaluation of practicable options for the reduction of suspended solids in surface run-off water in the Schedule of Environmental Objectives and Targets. The licensee confirmed that they should be in a position to comply with the BAT-AEL by November 2019.

Process Effluent

Process effluent consists mainly of effluent from the three refiner plug feeder screws (water squeezed out of untreated virgin wood) and wash water from the debarker. The on-site WWTP consists of a screening unit, dissolved air flotation system, MBBR (moving bio bed reactor) tank, an activated sludge tank and a clarification system.

Sanitary effluent is also discharged to the WWTP but it constitutes <2% of total treated effluent.

Surface water from the main process yard area is joined by other minor emissions from the process plant, which is subject to both coarse and fine screening before discharge into two large interceptor settling lagoons. The surface water from these settling lagoons meets the clarified effluent from the WWTP and the combined flow is measured and monitored before discharge (at SW2) to the River Anner.

Receiving waters and impact

The following table summarises the main considerations in relation to the River Anner downstream of the process effluent discharge point (SW2).

Table 3a Receiving waters

Characteristic	Information	Comment
Receiving water name and code	River Anner (WFD code: IE_SE_16_4044)	River Anner flows into the Lower River Suir
EPA monitoring stations	16A020900 16A021100	5.6km upstream 0.8 km downstream
Biological quality rating (Q value)	Q4 in 2014 (16A020900) Q4 in 2014 (16A021100)	
WFD Status	Good (2010-2012)	Objective is to protect.
WFD Risk	At risk, 1a	
WFD Protected Areas	Lower River Suir SAC (Site Code: 002137)	Direct discharge.
WMU Action Plan	Anner Water Management Unit	The installation is identified as a point pressure in the plan

The results of the mass balance calculations are depicted in Table 3b. The mass balance calculations are based on the maximum flow rate from SW2 permitted in the RD, which is 1,500 m³/day (0.0174 m³/sec), and a 95% flow in the River Anner (1.33 m³/sec). There are 76 dilutions available in the River Anner at 95%ile flow conditions and maximum emissions (as permitted in the RD) from the installation. The estimated flow was provided by the Office of Environmental Assessment by using continuous flow data from the nearest upstream hydrometric station (16010). The 2014-2016 chemical monitoring data for the River Anner at station No. 0900, 5.6 km upstream of the SW2 was used as the background water quality data.

Table 3b Mass Balance Calculations at max flow rate of 1,500 m³/day.

Parameter	Proposed ELVs (mg/l)	Contribution from the discharge (mg/l) ^{Note 1}	Background concentration (mg/l) ^{Note 1}	Predicted downstream concentration (mg/l)	95%ile standard (mg/l) (good) ^{Note 2}
BOD	50	0.64	1.17	1.81	2.6
Total Ammonia (as N)	10 (current elv)	0.129	0.036	0.165	0.14
	5 (proposed elv)	0.064		0.1	
Ortho P	1.5	0.019	0.033	0.052	0.075

Note 1: Background water quality data, based on 2014-2016 monitoring data for the River Anner at station No. 0900, 5.6 km upstream of the installation.

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

Table 3b demonstrates that the predicted downstream concentration of BOD and orthophosphate, based on the current emission limit values, would comply with the good status standards in the Surface Water Regulations 2009, as amended. However, there is a requirement to reduce the total ammonia emission limit value from 10 mg/l to 5 mg/l to ensure compliance with the Surface Water Regulations, 2009, as amended. The January to December 2014 effluent monitoring data for emission point SW2, submitted as part of the licence application, shows an average of 1.1 mg/l for ammonia (33 samples). The AER for 2015 shows a measured value of 0.54 mg/l for ammonia. This indicates that the emission limit value of 5 mg/l for total ammonia specified in the RD is achievable.

A yearly average limit of 35 mg/l suspended solids and 150 mg/l COD are specified in the RD for emission point SW2 from 20 November 2019 in accordance with the CID (see section 6). The current licence, Reg. No. P0027-02 specifies an emission limit value of 200 mg/l for suspended solids and 400 mg/l for COD. The licensee confirmed that they should be in a position to comply with the BAT-AEL for suspended solids by 20 November 2019. The AER for 2015 shows a measured value of 93 mg/l for COD and 41 mg/l for suspended solids, which indicates that the emission limit value of 150 mg/l COD is achievable, however, optimisation of the WWTP may be required to meet the emission limit value of 35 mg/l for suspended solids. The RD maintains the concentration limits of 400 mg/l for COD and 200 mg/l for suspended solids as a precautionary measure for the prevention of short term spikes.

Specific pollutants

Phenol, zinc, chromium and copper are specific pollutants limited in the existing licence. The resins used on site are urea formaldehyde and Diphenylmethane 4,4' diisocyanate (MDI) are not a source of phenol. The RD does not permit contaminated recovered wood as a fuel, which could be a source of heavy metals in the process effluent.

The AER for 2015 shows that the measured values of phenol are not detected and the measured values of chromium (0.002 mg/l), copper (0.01 mg/l) and zinc (0.14 mg/l) were not significant from emission point SW2. The 2016 quarter 1 and 2 monitoring data for SW2 shows that the measured values for phenol are below the limit of detection. When compared to the emission limit values set in the current licence (P0027-02) (0.3 mg/l for phenol and 0.5 mg/l for chromium, copper and zinc), there is no issue with chromium, copper, zinc and phenol from the installation. Therefore the emission limits for phenol, chromium, copper and zinc specified in the current licence are not carried forward in the RD. Chromium exists in two states in the environment: trivalent (+3) and hexavalent (+6), the latter of which is more toxic. The requirement to monitor the total chromium parameter has been replaced with chromium III and VI in the RD and the RD maintains the requirement to monitor for phenol, copper and zinc as a precautionary measure.

The RD reduces the monitoring frequency of zinc, copper, chromium III and VI from quarterly to annually as approved by OEE on 24 November 2006. The RD updates the toxicity testing of the undiluted final effluent report condition (6.13). The RD changes the monitoring frequency of toxicity from 'as may be required' to annual as a precautionary measure. The frequency of monitoring may be amended with the approval of the Agency following evaluation of test results.

7.4 Emissions to ground or groundwater

There are no emissions to ground/groundwater from the installation. There are eight groundwater monitoring wells (AGW1 to AGW8). The Agency approved the installation of two new groundwater wells, AGW7 and AGW8, on 16 July 2015 which

were installed on 8 January 2016. The RD includes these two additional groundwater monitoring wells. There are three percolation areas associated with the three septic tanks on-site. The Baseline Report section of this report (see section 11) provides a summary in relation to groundwater monitoring and assessments which have been carried out at the installation. Groundwater monitoring indicates satisfactory groundwater quality with the exception of occasional elevated ammonia concentrations in the vicinity of the former landfill. The impact of the landfill causing pollution to groundwater down-gradient of the site is considered to be low. The licensee implements a Groundwater Protection Programme to ensure the protection of groundwater at the installation. The RD requires the licensee to monitor every five years for relevant hazardous substances, as well as soil monitoring every ten years, thereby fulfilling the monitoring requirements specified in the Industrial Emissions Directive.

7.5 Waste

7.5.1 Wood waste used as fuel

Wood wastes to be used as fuels on site include process generated waste, such as bark, woodchip/fines, trimmings/sander dust, reject fibre, reject product, dewatered sludge from the waste water treatment plant, dewatered DAF solids and compacted wood solids from rundown screens. No construction and demolition waste wood or pallets are brought on-site for use as fuel.

The Best Available Techniques (BAT) Reference Document for the production of wood-based panels, defines 'production residues' as "*material from the production of wood-based panels consisting mainly of wood, and which could be recycled as a raw material for producing a wood-based panel at the same installation where it was produced or used as a fuel for producing energy for the production of a wood-based panel at the same installation where it was produced.*" Production residues include collected wood dust from sanding lines and cutting operations, collected trimmings at the mat forming station and after the press, rejected panels, wood sludge from the abatement systems, such as waste water treatment plants, wood residues from chipping and milling, and bark derived from debarking.

The MDF is not treated with preservatives or coating. The resins and other additives (flame retardant and dyes) added to the wood fibre to make the MDF do not contain halogenated organic compounds or heavy metals.

The licensee applies the EN ISO 17225 standard for solid biofuels to the wood waste fuel used in the boilers and the combined energy plant. The licensee's '*Procedure for accepting wood based biomass*' specifies the maximum allowable concentrations for halogenated organic compounds and metals as specified in the EN ISO 17225 standard. Waste monitoring of the boiler fuel mix for the boiler and energy plant (seven samples from January to July 2016) provided by the licensee shows that the boiler fuel complies with the maximum allowable concentrations for halogenated organic compounds and metals as specified in the EN ISO 17225 standard and is consistent with typical values for virgin wood. With the exception of the July 2016 sample which shows elevated levels of arsenic (3.8 mg/kg dry) compared to the maximum allowable concentration specified in the licensee's '*Procedure for accepting wood based biomass*' (≤ 2 mg/kg dry), but which is consistent with typical values for virgin wood ($< 0.1 - 4.0$ mg/kg dry of arsenic).

The use of wood sludge from waste water filtration, as a fuel in appropriately equipped on-site combustion plants is in accordance with BAT 12 of CID 2015/2119/EU). According to the licensee the sludge from the waste water treatment plant is made of up to 75% wood with a net calorific value (wet basis 1.82 MJ/kg) suitable for a fuel. This sludge is used to maintain the heat balance in the boilers.

The WWTP sludge is a wood waste largely from a virgin wood source and does not contain halogenated organic compounds or heavy metals as a result of treatment with wood preservatives or coating.

Chapter VI (Waste Incineration) of IED does not apply to plants (installations) treating "*wood waste with the exception of wood waste which may contain halogenated organic compounds or heavy metals as a result of treatment with wood preservatives or coating, and which includes in particular, such wood waste originating from construction and demolition waste*". Therefore, the requirements specified in Chapter IV and Annex VI of IED do not apply to this installation.

The AERs for 2015 and 2014 show that the measured values of dioxins (PCDD) and furans (PCDF) (≤ 0.0032 ngTEQ/Nm³) were insignificant, and that total heavy metals (≤ 0.247 mg/m³) were not detected from the three dryers (A2-5, A2-6 and A2-21). When compared to the emission limit value set in the current licence (P0027-02) (0.1 ng/m³ PCDD/F and 0.5 mg/m³ total heavy metals), there is no issue with PCDD, PCDF and heavy metals from the installation.

Therefore the emission limits for PCDD/F and heavy metals specified in the current licence are not carried forward in the RD. However, the RD maintains the requirement to monitor for PCDD and PCDF as a precautionary measure.

The RD limits the fuel use in the boilers and combined energy plant to wood biomass and the following from the on-site processing: dewatered sludge from the biological treatment plant, dewatered DAF solids, compacted wood solids from rundown screens, bark, chip/fines, reject fibre, reject product and saw trimmings/sander dust.

The boilers and energy plant use the biomass fuel to produce energy. *Schedule A.1* of the RD limits the fuel types used in the boilers and Energy plant.

7.5.2 Hazardous waste

Hazardous wastes generated on-site include waste oil, used aerosols, oil filters, waste oil, process resin/dye and used batteries.

7.5.3 Non-hazardous waste

Approximately 295 tonnes per month of ash is produced from the boilers and energy plant. Non-hazardous wastes generated on site includes mixed municipal waste, dry recyclables, scrap metal and ash.

All waste generated at the installation is collected, segregated and stored on-site appropriately. All waste streams (with the exception of waste used as a fuel on-site) will be sorted on-site prior to being collected and transported off-site by specialist waste management companies to appropriate treatment and recovery/disposal facilities.

7.5.4 Landfill

The on-site landfill was used from 1986 to 1996 for the onsite disposal of wood dust, culled MDF, resin residue, soil and settled solids from the surface water lagoons. From 1996, the landfill was used to dispose of only small quantities of inert material (top soil) and the landfill closed in 2010.

The landfill covers an area of approximately 1 hectare and is unlined. The landfill area is fully capped using top soil and construction rubble/stones, vegetation and trees have covered 90 to 95% of this area. There is no collection of leachate or landfill gas from the area of the landfill.

As required under Article 14 of the Landfill Directive (1999/31/EC), the licensee submitted a landfill 'conditioning plan' to the Agency on 16 July 2002. A

restoration/aftercare plan for the landfill has been included in the Residuals Management Plan (RMP) 2014, submitted as part of the licence application. According to the RMP (2014) closure plan costing, landfill investigation and aftercare costs of €200,000 will be required for 10 years of monitoring and reporting. The RMP has allowed for additional investigations following closure to ascertain if any specific soil or groundwater remediation was required for the landfill. According to the RMP, it is considered that this will only be necessary if the site changes from its current industrial use. The RMP closure costing for post closure investigation and any expected limited soil remediation required is €50,000 and €100,000 respectively. The RMP states "It is intended to leave the landfill in its current condition as there is no evidence that the landfill is having a significant impact on off-site down gradient groundwater wells." OEE have confirmed that no further action is required by the licensee apart from continued monitoring and reporting. The Baseline Report section (see section 11) of this report provides a summary in relation to ground/groundwater monitoring and assessments which have been carried out at the installation. The RD proposes a reduction in the frequency of soil gas monitoring from quarterly to biannually, as approved by OEE on 21 January 2010.

7.6 Noise

Noise sources at the installation include boilers, process area, debarker equipment, waste water treatment plant, site vehicles. The site is surrounded on all sides by woodland maintained by the licensee. This woodland helps to attenuate noise from the site.

Impact of noise

The licensee undertook a noise modelling assessment of the impact of noise sources (report prepared 9 September 2014) from the installation. The noise modelling assessment considered the expected noise levels at four noise sensitive locations (AN1 to AN4). The noise levels at the noise sensitive locations are below the emission limit values of 55 dB, 50dB and 45 dB $L_{Ar,T}$ during day, evening and night-time periods respectively.

The RD updates noise limits to include an evening time noise limit of 50 dB $L_{Ar,T}$ (30 minutes) in accordance with EPA's *Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)* (2012). The current licence requires an annual noise survey. However, the results of recent annual noise surveys indicate that the operation will not result in a breach of licence limits, therefore the RD requires a biennial noise survey.

8. Use of Resources

Fuel and Electricity

The installation utilises a number of sources of energy including biomass, electricity, natural gas, LPG and diesel fuel.

The estimated quantities used in 2014 are given below.

Resource	Quantity
Electricity	104,478,893 kWh
Natural Gas	31,520,124 kWh
Liquefied Petroleum Gas	200,000 l
Diesel fuel	300,000 l
Biomass	335,000 MWh ^{Note 1}

Note1: Source: AER for 2015, includes thermal energy generated from burning biomass.

Water

There is no groundwater extracted for use on-site. Approximately 300m³/ year of groundwater is abstracted during purging of the groundwater monitoring boreholes prior to sampling. Approximately 344,236 m³/year of surface water is abstracted from the River Anner to supply boiler feed water to the installation and to maintain the firewater reservoir. Approximately 13,063m³/year of water is consumed from the public water supply.

Materials

The licensee has identified a number of substances (potassium permanganate, COD reagent, formaldehyde solution, process dyes, gas oil) used on site which have R50 (H400), R51/53 (H411), R52/53 (H412), or R53 (H413) designations (dangerous to the aquatic environment), however the amounts of these substances, with the exception of diesel, is small in terms of annual usage and storage, and are not emitted directly to the environment. In the event of a spillage or generation of contaminated firewater, there is a system for diversion of flow to the emergency holding lagoon (total capacity 425 m³) via manual placement of baffles to block off the route to normal discharge.

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer

A number of air conditioning units operate at the installation, six of which still operate with R22 (Chlorodifluoromethane) gas which is being phased out of use as required by the Ozone Depleting Substances (ODS) Regulation.

Regulation (EC) No. 842/2006 on certain fluorinated greenhouse gases (F-gas).

Some of the air conditioning units have been replaced to improve energy efficiency and these units use hydrofluorocarbons (HFCs) gas blends which fall under the F-gas Regulation.

Condition 2.2.2.8 the EMS Schedule of Environmental Objectives and Targets includes an evaluation of options for the use of cleaner technology and cleaner production. Condition 7 of the RD includes conditions dealing with energy, water and raw material use, reduction and efficiency on-site.

9. Greenhouse gas emissions and Climate Change impact

European Communities (Greenhouse Gas Emissions Trading) Regulations 2004, (SI 437/2004 and amendments).

The major source of greenhouse gas (GHG) emissions are from the combustion of diesel, liquefied petroleum gas (LPG) and through the use of electricity. Electricity demand is expected to increase by 0.8 MW to power the high efficiency dust filters. There will be a corresponding increase in GHG emissions due to increased electricity consumption. Diesel and LPG usage is not expected to increase as overall production levels are expected to remain the same.

The installation has acquired a Green House Gas (GHG) Permit (no. IE-GHG108-10403-1) from the Agency in accordance with the European Communities (Greenhouse Gas Emissions Trading) Regulations 2004, (SI 437/2004 and amendments). The category of activity under the GHG Regulations is 'combustion installations with a rated thermal input exceeding 20 MW (except hazardous or municipal waste installations).' The permit does not control emissions of gases other than carbon dioxide. Regulation 23 requires that the Agency shall not have regard to emission limit values, BAT, or require a licence review, with respect to greenhouse gases unless it is necessary to ensure no significant local pollution. CO₂ will be the only such greenhouse gas emitted from the installation in significant quantities.

With regard to reducing the Climate impact of the installation, the RD requires an energy efficiency audit as required and an assessment of resource use efficiency. The EMP objectives and targets include use of cleaner production.

10. Measures to prevent accidents and limit their consequences

There is the potential for an accident/hazardous and emergency situations arising from the operation of this installation. Such emergency situations could lead to fire (due to the high quantities of timber at the installation); explosion; releases to air; or a chemical/waste/fuel spill.

The application details a range of measures that will be employed to prevent accidents and limit consequences. These include:

- Bunding and containment to contain any spills;
- Fire response procedures;
- Concrete and asphalt sealed surfaces in the production area;
- Emergency holding lagoon;
- Diversion of firewater, spillages, contaminated water to the emergency holding lagoon;
- Emergency back-up fire pump; hydraulic pump, thermal oil emergency cooling pump;
- Press monitoring through CCTV & control room operative;
- Bulk liquids and drums are stored in bunded areas;
- Oil booms to prevent the migration of oil;
- Fire alarm systems;
- Fully trained emergency response team;
- Accident/incident Prevention and Emergency Response procedures;
- Maintenance Programme for plant equipment.

In addition the RD:

- Specifies requirements for tank, container and drum storage areas and firewater retention (Condition 3);
- Specifies that all drainage from bunded areas shall be diverted for collection and safe disposal, unless it can be deemed uncontaminated and does not exceed the trigger levels set for storm water emissions in the licence (Condition 3);
- Specifies soil and groundwater monitoring
- Specifies accident prevention and emergency response requirements (Condition 9).

Seveso Directive (2012/18/EU)

The *Chemicals Act (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2015* (SI 209/2015) (the "COMAH Regulations"), implement the Seveso III Directive (2012/18/EU). The activities do not fall within the requirements of the Seveso Directive as implemented by SI 209/2015.

11. Measures to be taken upon cessation

The licensee submitted a baseline report in line with the European Commission Guidance⁸. The report identifies the relevant hazardous substances (Boiler chemicals (corrosion inhibitors and steam condensate treatment), potassium permanganate (powder), water based cleaners; QC analysis - toluene; WWTP chemicals - Hydrated Lime (powder), aluminium chloride (powder), formic acid, biofeed; raw material - urea formaldehyde resin, process dyes; fuel - heat transfer oil and Gas oil) used at the installation, assesses the risk of soil or groundwater contamination from these substances, having regard to storage and transport practices on site and establishes the baseline conditions by monitoring. The report also outlines the site history, geology and hydrogeology.

According to the baseline report the installation was established on a greenfield site. There are no reported historic spills or incidents relation to the relevant hazardous substances used at the installation. A detailed qualitative risk assessment and impact appraisal of the landfill was undertaken by GES Limited on behalf of the licensee in 1998. The report indicated elevated concentrations of ammonia down gradient of the site. The investigations indicated adequate attenuation and dilution down gradient of the landfill ensuring no significant off site movements of contaminants. As part of the baseline report, a review of the groundwater monitoring data from 2000 to 2014 was carried out and confirms that the operation of the installation is not having an impact on the down gradient water quality.

Groundwater monitoring indicates satisfactory groundwater quality with the exception of occasional elevated ammonia concentrations in the vicinity of the former landfill. Elevated concentrations of ammonia are associated with the degradation of urea formaldehyde resin and MDI resin. There is no evidence of contamination in the down-gradient monitoring boreholes. The impact of the landfill causing pollution to groundwater down-gradient of the site is considered to be low.

Measures in place to prevent contamination of soil and groundwater include the following:

- Bunding and containment for spills;
- Diversion of spills/firewater to emergency holding lagoon, use of spill kits;
- Bund and pipeline integrity testing; training, use, handling and storage procedures;
- Maintenance programme.

According to the baseline report, "*based on a review of historical monitoring results and the most recent data for 2014 there is no evidence that contamination is migrating off-site.*" An assessment of the potential source-pathway-receptor pollutant linkages in the baseline report concludes that as no pathway to ground or ground water is present at the installation there are no pollutant linkages to ground or groundwater with the current activities. The risk of activities at the installation having caused or causing pollution to ground or ground water is low.

The RD requires soil monitoring to be carried out every ten years, and groundwater monitoring to continue to be carried out every five years for relevant hazardous substances. These requirements are in accordance with the requirements of the IED.

⁸ European Commission Guidance concerning baseline reports under Article 22(2) of Directive 2010/75/EU on industrial emissions (2014/C 136/03), 06 May 2014.

The residuals Management Plan for Medite submitted on 14 February 2014 was approved by OEE on 19 March 2014. Condition 10 requires the licensee to maintain the closure, restoration and aftercare management plan (CRAMP) and the CRAMP to be reviewed annually. Condition 12 of the RD as drafted, satisfies all the requirements of the Environmental Liabilities Directive in particular those requirements outlined in Article 3(1) and Annex III of 2004/35/EC.

12. Compliance with E.U. Directives

12.1 Industrial Emissions Directive (IED) (75/10/EU)

The installation falls within the scope of the following classes under Annex I of the Industrial Emissions Directive:

Category 6.1 (c) - *Production in industrial installations of one or more of the following wood-based panels: oriented strand board, particleboard or fibreboard with a production capacity exceeding 600 m³ per day.*

Category 1.1 – *Combustion installations with a rated thermal input exceeding 50 MW.*

The installation falls within the scope of Chapter II of the IED, which recasts the IPPC Directive.

Chapter III and Annex V of the IED do not apply to plants in which the products of combustion are used for direct heating, drying, or any other treatment of objects or materials (Article 28(a) of the IED). At Medite the products of combustion are used for indirect and direct heating and drying, therefore the requirements specified in Chapter III and Annex V do not apply to this installation.

As outlined in section 7.5.1, the requirements of Chapter IV and Annex VI do not apply to this installation.

The RD as drafted takes account of the requirements of IED. BAT is taken to be represented by the technologies described in *BAT conclusions for the Production of Wood-based Panels* as discussed in Section 6 above.

12.2 Medium Combustion Plant (MCP) Directive (2015/2193)

The requirements of the Medium Combustion Plant Directive do not apply to *combustion plants in which the gaseous products of combustion are used for direct gas-fire heating, drying or any other treatment of objects or materials.* (Article 2 (d) of MCP Directive).

12.3 Air Quality Directives (2008/50/EC and 2004/107/EC)

The CAFE Directive 2008/50/EC has replaced the Air Quality Framework Directive (96/62/EC) and the first three daughter directives, including 1999/30/EC (NO_x, SO₂, PM₁₀ and lead).

The impact of emissions to air is discussed in Section 7.1 Emissions to Air above.

12.4 Environmental Liability Directive (2004/35/EC)

The Environmental Liabilities Directive has been transposed into national legislation by *European Communities (Environmental Liability) Regulations 2008* (SI 547/2008). The Residual Management Plan (RMP) was agreed by OEE on 19 March 2014 (Licensee Return Ref No. LR003664). The RD includes conditions and schedules, which require the licensee to control operation of the activity and meet the specified emission limit values. Condition 10 requires the licensee to maintain a fully detailed and costed plan for decommissioning or closure of the site or part thereof and the closure, restoration and aftercare management plan (CRAMP) to be reviewed

annually. Condition 12 of the RD as drafted, satisfies all the requirements of the Environmental Liabilities Directive in particular those requirements outlined in Article 3(1) and Annex III of 2004/35/EC.

12.5 Landfill Directive (1999/31/EC)

Details of the on-site landfill are discussed in section 7.5.4 Landfill above.

12.6 Water Framework Directive (2000/60/EC)

There are no emissions to ground from installation. The RD requires monitoring of the surface water discharges from the installation.

In preparing the RD, regard has been had to the European Communities *Environmental Objectives (Surface Water) Regulations 2009*, as amended (SI 272/2009), and the *European Communities Environmental Objectives (Ground Water) Regulations 2010*, as amended (SI 9/2010). Emission limit values and monitoring requirements have been included in the RD.

12.7 Habitats Directive (92/43/EC) & Birds Directive (79/409/EEC)

Appropriate Assessment

There are three European sites within 15 km of the installation. It was not necessary to consider any European sites outside of this 15km distance as, given the nature and quantity of the emissions from the installation, any such sites fall well outside of the potential zone of influence of the activity. Appendix 3.0 lists the European sites assessed, their associated qualifying interests and conservation objectives along with the assessment of the effects of the activity in the European sites.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activities, individually or in combination with other plans or projects are likely to have a significant effect on any European Site. In this context, particular attention was paid to the European sites specified in Appendix 3.

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

This determination has been made on the basis of the hydrological connectivity to the Lower River Suir SAC and the nature and scale of air emissions from the installation and the distance to European sites.

An Inspector's Appropriate Assessment has been completed and has determined, based on best scientific knowledge in the field and in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011 as amended, pursuant to Article 6(3) of the Habitats Directive, that the activities, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site, in particular the European sites specified in Table 4.0 above, having regard to their conservation objectives and will not affect the preservation of these sites at favourable conservation status if carried out in accordance with this recommended determination and the conditions attached hereto for the following reasons:

This determination is based on the following reasons:

- The storm water passes through a settling lagoon (settlement pond), before discharging to a drain leading to the River Anner to ensure that the discharges will not negatively impact water quality and ensure the continued protection of water dependent species;
- The RD requires the licensee to meet emission limit values set in *Schedule B.1 Emissions to Air* to ensure that the air emissions will not negatively impact air quality beyond the boundary of the installation and ensure the continued protection of qualifying interests of any European site;
- The RD requires ambient monitoring of formaldehyde, PM₁₀ and NO_x to confirm the absence of impact from the air emissions in the ambient environment and ensure the continued protection of qualifying interests of any European site;
- The distance and the lack of hydrological connectivity connecting the European sites listed No. 2 and No.3 in Appendix 3, to the installation;
- The RD requires the licensee to meet emission limit values set in *Schedule B.2 Emissions to Water* for SW2 and SW1 to ensure that the discharges will not negatively impact water quality and ensure the continued protection of water-dependent species;
- Noise emissions are not significant for the processes involved at the installation, noise modelling demonstrates that the impact of noise from the installation on the qualifying interests of any European site is negligible. The RD specifies standard noise conditions and emission limit values for noise;
- While there is potential for accidents and unplanned releases from the installation, it is considered that the conditions of the RD in relation to bunding and the protection of surface water and groundwater, are sufficient to ensure that accidental emissions from the activity will not impact on the qualifying interests of any of the European sites identified above. The RD specifies accident prevention and emergency response requirements.

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 specified in Appendix 3 above.

13. Cross Office Liaison

I consulted with the licence enforcement inspector regarding enforcement issues relating to the current licence (Reg. No. P0027-04) during my assessment. I consulted with Ian Marnane, Air enforcement Thematic Team (OEE) in relation to emissions to air, in particular in relation to the calculation of the maximum flow rate from the wood chip dryers. I consulted with Lin Delaney, National Ambient Air Quality Programme (ORP) in relation to ambient air monitoring. I consulted with Denise O'Riordan, waste thematic team (OEE) in relation to ELRA and financial provision. I consulted with Marie Archbold, Catchment Science and Management Unit (OEA) in relation to the Suir catchment assessment and the Anner subcatchment Assessment.

14. Site Visit

A site visit was undertaken on 09 September 2015. The following aspects were noted during a tour of the site: log and woodchip storage areas, former landfill, process area (debarker, chipper, Classcleaner, presteamer vessels, dryers, press, finishing

area), bag filters, WWTP, firewater retention pond, surface water drainage, bunds, lagoons (included emergency holding lagoon).

15. Compliance Record

The OEE was consulted in relation to the licence review application. The most recent OEE licence enforcement site visit was carried out on 16 April 2015 (site visit reference number SV03290). There was no non-compliance recorded during the site visit.

The OEE inspector was consulted in relation to compliance history. Since the revised licence (P0027-02) issued in 30 November 2001 there has been one incident categorised as serious, - the exceedance of the volumetric flow ELV for A2-22 and A2-23 (Line 2 press vents), three incidents categorised as limited and eleven incidents categorised as minor. The OEE incidents status for these incidents is 'closed'. The exceedances of air flow rate emission limit set for the dryers (A2-5, A2-6 and A2-21) is discussed in section 7.1.2 of this report. The new calculation for volumetric flow should prevent the recurrence of these incidences.

16. Fit & Proper Person Assessment

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

Technical Ability

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

Legal Standing

Neither the licensee nor any relevant person has been convicted of offences under the relevant legislation.

Financial Standing

The Residual Management Plan (RMP) was agreed by OEE on 19 March 2014 (Licensee Return Ref No. LR003664). The RD requires the licensee to complete, a comprehensive and fully costed Environmental Liabilities Risk Assessment and financial provision within three and six months respectively of date of grant of the licence.

According to the licensee, Medite is a wholly owned subsidiary of the state company Coillte Teoranta. According to the RMP *"should any potential cessation of operations occur while Medite Europe Ltd is in Coillte's ownership, such a cessation would be well managed exercise underwritten from Coillte's own internal resources."*

It is my view, having regard to the licensee's experience, technical abilities, financial and legal standing, that the licensee can be deemed a Fit & Proper Person for the purpose of this Review.

17. Complaints

Since the revised licence (P0027-02) was issued on 30 November 2001, an anonymous complaint was received by OEE on 17 April 2012 in relation to incineration of wood waste at the installation, OEE conducted an audit on 26 April 2012 to investigate. The licensee was required to update and submit to the Agency for approval all procedures for the acceptance of material for use on site as boiler fuel. A number of complaints were received prior to 2008 in relation to dust, air pollution and odour.

There have been no other complaints received by the Agency since April 2012.

18. Environmental Impact Assessment (EIA) Directive (85/337/EEC, as amended)

The following section identifies, describes and assesses the likely significant direct and indirect effects of the proposed activities on the environment, as respects the matters that come within the functions of the Agency, for each of the following factors: human beings, flora, fauna, soil, water, air, climate, the landscape, material assets and cultural heritage.

The main mitigation measures proposed to address the range of predicted significant impacts arising from the activities have also been outlined. The cumulative impacts with other developments in the vicinity of the activities has also been considered, as regards the impacts of emissions from the activities. This section must be read in conjunction with the analysis carried out in all sections of this report.

Likely significant effects

18.1 Human Beings

Likely significant effect	Description of effect	Assessment Addressed in Section
Health effects due to water quality impacts from surface water and treated process effluent	Potential impacts based on storm water run-off and treated process effluent.	18.4.1
Safety/Hazard/Major Accident risk at the installation	Risk of fire/explosion.	18.1.1
Health effects from operation of the installation	Potential effects on health due to the emissions from installation to air and water.	18.4 and 18.5
Pollution impacts (noise, dust, other emissions) from operation of the installation	Potential nuisance from noise, dust and other emissions.	18.2, 18.3, 18.4 and 18.5
Impacts on surface water and groundwater from spills/leaks at the installation.	Potential impact on surface water and groundwater during operation.	18.4.2

Assessment

18.1.1 Risk of fire/explosion

There is a potential for a fire, due to the high quantities of dried timber at the installation; a gas leak or an explosion.

Section 10 of this report details the measures to prevent accidents and to reduce the likelihood of accidents and minimise the consequences on human health, air, water, flora and fauna and the environment.

There is a low risk of accidental spillage of materials to air, soil or water to an extent that could lead to likely or significant cumulative effects beyond the site boundary.

Conclusion

I am satisfied that the measures in place will minimise the likelihood of the occurrence of a fire or explosion or major accident and in the unlikely event of an accident will minimise the consequences on human health and the environment.

Accordingly, if the activity is carried out in accordance with the RD and the conditions attached, the operation of the activity will not cause environmental

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

18.2 Flora and Fauna

Likely significant effect	Description of effect	Assessment Addressed in Section
Impacts on flora and fauna due to emissions to water from the installation	Potential effects on receiving water biota and aquatic fauna from emissions to water which ultimately discharge River Anner (Lower River Suir SAC (Site Code:002137)	18.4.1
Disturbance of fauna due to on-site activity	Noise impacts on fauna.	18.5.2
Spillage/leakages other hazard risks at the installation.	Potential effects of spillage and leakages on flora and fauna.	18.4.2
Impacts due to emissions to air from operation of the installation	Potential effects of emissions to air on flora and fauna.	18.5.1
Impact of emissions to water	Potential effects on aquatic fauna.	18.4.1
Habitat loss – due to safety/hazard/major accident	Potential effects of fire/explosion on flora and fauna	18.1.1

All the above have been addressed in other sections as identified in Table 18.2 Flora and Fauna above.

Conclusion

I am satisfied that there are sufficient controls in place to prevent a negative impact on the flora and fauna and in the unlikely event of an emergency/accident the mitigation measures in place will minimise the consequences on the flora and fauna. Accordingly, if the activity is carried out in accordance with the RD and the conditions attached, the operation of the activity will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

18.3 Soil

Likely significant effect	Description of effect	Assessment Addressed in Section
Dust	Potential dust from log yard area and process emissions	18.3.1
Spillages/Leakages and other hazard risks.	Impact of chemical fuel/oil spillages on soils.	18.4.2

Assessment

18.3.1 Deposition of dust and contaminated run-off from the log area

There is potential for the deposition of dust during the transport of logs and storage of bark leaching into the soil. There is the potential for run-off from the log area to be contaminated. There is potential for dust to blow from decaying bark in the log yard in dry and windy conditions.

There are no other installations or activities in the vicinity that are likely to generate dust or contaminated storm water to an extent that could lead to likely or significant cumulative effects beyond the site boundary.

Mitigation Measures

The following mitigation measures will further reduce the likelihood of a negative impact on human health, flora, fauna, soil, air, water and the environment:

- Good housekeeping of yard area;
- Waste handling to minimise the risk of soil contamination;
- Surface run-off water treatment system comprising settlement lagoons as outlined in section 7.3 above;
- The site is screened by planting to minimise dust emissions;
- Filter bags on process vents and wood dust handling to reduce dust emissions;
- The RD specifies a dust emission limit value for four monitoring points (AA1 to AA4 and any other locations that may be agreed with the Agency) and requires monthly ambient dust monitoring.

Conclusion

I am satisfied that there are sufficient controls on site to prevent the deposition of dust or contaminated run-off from impacting negatively on the soil or air and will therefore not significantly impact on human health, flora, fauna, soil, air, water and the environment.

Accordingly, if the activity is carried out in accordance with the RD and the conditions attached, the operation of the activity will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

18.4 Water

Likely significant effect	Description of effect	Assessment Addressed in Section
Impacts on surface water quality from treated discharges (SW1 and SW2).	Discharge of treated discharges (SW1 and SW2).	18.4.1
Impacts on surface water and groundwater from spills/leaks at the installation.	Potential impact on surface water and groundwater during operation.	18.4.2
Abstraction of water	Potential impact on the local water table level and on groundwater feed to surface water features	18.4.3

Assessment

18.4.1 Impacts on surface water quality from discharges (SW1 and SW2)

There is a potential for the surface run-off water (SW1, northern discharge) and the combined treated effluent and southern discharge (SW2) to negatively impact the surface water quality. In the worst case, in the absence of mitigation measures, pollution incidents could damage the ecology of the nearby watercourse.

As outlined in Section 7.3 surface water run-off (SW1) and the combined effluent and surface water discharge (SW2) will be collected and treated prior to discharge. As reported in the AER for 2015, emissions to water (SW2) are in compliance with the existing licence limits. Section 12.7 outlines the appropriate assessment carried out for the activities.

There are no other installations⁹ or activities in the vicinity that discharge process effluent or storm water to the River Anner that could lead to likely or significant cumulative effects on surface water and habitats when considered together with the activities at this installation.

Indirect effects from activities taking place upstream of the activities at the installation such as intensive agriculture (spreading of fertiliser) are controlled by other regulations such as the Nitrate Regulations and the Department of Agriculture, Food and the Marine and Local Authorities are the competent authority.

Mitigation Measures

The following mitigation measures will further reduce the likelihood of a negative impact on water quality and the environment:

- Effluent treatment plant to treat process effluent;
- Surface run-off water treatment system comprising of settlement lagoons as outlined in section 7.3 above;
- Pipeline and sump testing every three years;
- Coarse and fine screening;
- Emergency holding lagoon (total capacity 425 m³);
- In the event of an spillage or contaminated firewater, there is a system for diversion of flow to the emergency holding lagoon via manual placement of baffles to block off the route to normal discharge;
- The RD specifies emission limit values and treatment controls, and emission monitoring requirements (SW1 and SW2) to ensure that the discharge will not negatively impact water quality and ensure the continued protection of water dependent protected species.

Conclusion

I am satisfied that there will not be significant effects on the environment from the surface run-off water (SW1) and treated combined effluent and southern discharge (SW2). Accordingly, if the activity is carried out in accordance with the RD and the conditions attached, the operation of the activity will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

⁹ Bulmers Limited (P0443-02) process effluent and some of the surface water discharges to sewer. Storm waters generated on site (P0443-02) discharge to the River Suir via an oil interceptor.

18.4.2 Impacts on surface water and groundwater from spills and leaks at the installation

There is a potential for spills or leaks of chemicals/fuel/oil/effluent from the WWTP at the installation which could have a negative impact on surface water, groundwater, soil and cause damage to aquatic flora and fauna communities. There is a potential for logyard run-off (high BOD, suspended solids, pH) to seep into the soil and groundwater.

Bulk liquids and drum storage are in bunded areas. The delivery area is hardstanding and procedures are in place to ensure that spillages cannot get into the surface water drainage system. There are no direct discharges to soil or groundwater at the installation.

There is a low risk of accidental spillage of materials to soil or water to an extent that could lead to likely or significant cumulative effects beyond the site boundary.

Mitigation Measures

The following mitigation measures will reduce the likelihood of a negative impact on water quality and aquatic flora and fauna communities:

- Impervious areas, bunding and containment to prevent contamination to soil/groundwater from spill and leaks;
- Two oil interceptors and sumps on-site;
- All sumps are fitted with high level alarms to prevent overflow;
- All tanks and bunds are integrity tested every three years;
- Personnel are trained in the proper handling of materials;
- Hauliers/drivers for the delivery of bulk material have been trained in the procedures in relation to safe handling, unloading and emergency response procedures;
- There are spillage control procedures on the site. Spill kits and booms are provided and maintained at integral locations surrounding the installation. Operatives are trained in spill management;
- Emergency holding lagoon;
- In the event of an spillage or contaminated firewater, there is a system for diversion of flow to the emergency holding lagoon via manual placement of baffles to block off the route to normal discharge;
- Employees are trained in accident prevention, emergency response and reporting incidents and forklift driving.

Conclusion

I am satisfied that there are sufficient controls in place to prevent any spills or leaks of chemicals/fuel/oil/WWTP, there will be no significant effect on human beings, soil, groundwater, surface water or aquatic flora and fauna communities.

Accordingly, if the activity is carried out in accordance with the RD and the conditions attached, the operation of the activity will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

18.4.3 Abstraction of water

There is a potential for the abstraction of water to change the river flow and impact the aquatic environment. The site abstracts surface water (344,246 m³) from the River Anner to supply boiler feed water to the installation and to maintain the firewater reservoir. There is no ground water extracted for use on-site.

There are no other installations or activities in the vicinity, that are likely to abstract significant quantities of water from the River Anner to an extent that could lead to likely or significant cumulative effects beyond the site boundary.

Mitigation Measures

The following mitigation measures will further reduce the likelihood of a negative impact on the groundwater or surface water:

- Condition 7.3 of the RD requires the licensee to identify opportunities for reduction in the quantity of water used on-site including recycling and reuse initiatives.

Conclusion

I am satisfied that there will not be significant effects on the environment from the abstraction of water at the installation.

Accordingly, if the activity is carried out in accordance with the RD and the conditions attached, the operation of the activity will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

18.5 Air

Likely significant effect	Description of effect	Assessment addressed in Section
Safety/Hazard/major accident risk at the installation	Impact on air quality	18.1.1
Air emissions of nitrogen oxides, volatile organic compounds, formaldehyde and other pollutants	Impacts on air quality (including impacts on humans, flora and fauna).	18.5.1
Noise impacts.	Potential noise/vibration nuisance for local residents and environmental receptors.	18.5.2
Dust	Potential dust from log yard area	18.3.1

Assessment

18.5.1 Impact on air quality

There is potential for emissions to air of nitrogen oxides and other pollutants such as particulates, VOCs, formaldehyde and MDI to reduce air quality and as such have a subsequent impact on human beings, flora and fauna and soil.

Section 7.1 Emissions to Air of this report outlines the impact of air emissions on the receiving environment. Dispersion modelling indicates that emissions will not cause any breach of relevant air quality standards or guideline values.

There are no other installations¹⁰ or activities in the vicinity that generate significant discharges to air to an extent that could lead to likely or significant cumulative effects beyond the site boundary. It is also considered that no secondary or indirect effects are likely as a result of air emissions from the activities.

Mitigation Measures

The following mitigation measure will further reduce the likelihood of a negative impact on air quality or soil:

- Filters are used to abate particulate emissions generated along different areas of the production process such as trimming, sanding and storage.
- Dust deposition monitoring at four locations on site.
- Adequate dispersion (demonstrated by modelling).
- Installation meets the requirement of BAT.
- Design of the installation to reduce emissions to air through appropriate abatement equipment.

In addition the RD specifies:

- Emission limit values, abatement controls, and monitoring requirements for emissions to air, and other licence conditions, which will ensure the emissions to air will not negatively impact on air quality and will minimise the potential risk to human beings, soil and flora and fauna.

Conclusion

Based on the above assessment and mitigation measures proposed I am satisfied that there will not be significant effects on human beings and the environment from air emissions from the installation.

Accordingly, if the activity is carried out in accordance with the RD and the conditions attached, the operation of the activity will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

18.5.2 Noise

There is a potential for noise/vibration nuisance for noise sensitive receptors.

Noise is addressed in Section 7.6 of this report. The licensee undertook a noise modelling assessment (report prepared 9 September 2014), the noise levels at the noise sensitive locations are below the emission limit values of 55 dB, 50dB and 45 dB $L_{ar,T}$ during day, evening and night-time periods respectively.

There are no other installations or activities in the vicinity that are likely to generate noise to an extent that could lead to likely or significant cumulative effects beyond the site boundary.

Mitigation Measures

The following noise mitigation measures will further reduce the likelihood of a negative impact on human beings and fauna:

¹⁰ There are no emissions to air of environmental significance other than carbon dioxide, boiler emissions and emission from flaring of biogas from Bulmers Limited (P0443-02).

- The installation is surrounded on all sides by woodland, which helps attenuate the noise from the site;
- The majority of on-site fixed plant (sorting and processing equipment) is housed internally within the on-site buildings;
- Where possible, Medite limits vehicle movements to and from the site outside of normal working hours;
- The RD sets noise limits and noise monitoring requirements.

Conclusion

I am satisfied that there will not be significant effects on the environment from noise from the installation. Accordingly, if the activity is carried out in accordance with the RD and the conditions attached, the operation of the activity will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

18.6 Climate

Likely significant effect	Description of effect	Addressed in Section
Global warming effect	Impact of emissions of carbon dioxide from the combustion processes.	18.6.1

18.6.1 Global Warming Effect

Emissions associated with the installation have the potential to affect or contribute to global warming. The major source of greenhouse gas (GHG) emissions are through the use of electricity, natural gas, LPG and diesel fuel.

As the installation is operating within the EU Emission Trading Scheme, the installation is subject to statutory monitoring and reporting of carbon dioxide emissions.

I consider that the impact of any emissions from the installation on climatic considerations should be minimal. There are no other installations or activities in the vicinity that are likely to generate discharges to air to an extent that could lead to likely or significant cumulative effects beyond the site boundary.

Mitigation Measures

The following mitigation measures will further reduce the negative impact on climate:

- Ongoing energy reduction initiatives, arising from audits.
- Air emission limit values are specified in the RD in accordance with BAT and in compliance with the *Air Quality Standards Regulations 2011*.
- Energy efficiency conditions are included in the RD.
- The installation holds a GHG permit.
- Energy requirements are primarily met through the recovery of wood biomass, bark, process dust and culled product. Biomass is carbon neutral.

Conclusion

I am satisfied that the overall effect of these mitigation measures will minimise the releases of greenhouse gas emissions from the installation and therefore reduce its contribution to global warming. Accordingly, if the activity is carried out in accordance with the RD and the conditions attached, the operation of the activity will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

18.7 Landscape, Material Assets & Cultural Heritage

Likely significant effect	Description of effect	Addressed in Section
Landscape and visual impact from the operation of the activity	Buildings and steam plumes from the dryer emission stacks may have an effect the landscape and have a visual impact	18.7.1
Impact on archaeology/architecture/cultural heritage	There are no operational effects anticipated in relation to archaeology/architectural/cultural heritage	18.7.2
Waste production and disposal.	Wastes generated from the activities	18.7.3
Use of natural resources and chemicals	Water, electricity, natural gas, diesel, LPG, biomass and chemicals	18.7.4

18.7.1 Landscape and visual impact

Any disturbance of the landscape or the cultural heritage of an area has the potential to impact on human beings and their enjoyment of the surrounding area. These matters are dealt with in the decision of the planning authority to grant planning permission for the installation and are not controlled by the Agency. The planning authority has considered the impacts to be acceptable.

The predominant feature of the installation is the steam plumes from the dryer stacks, which are visible for several kilometres. Landuse in the area is a mix of agricultural pastures and commercial sites. The existing buildings at the installation are situated approximately 50m back from the local access road. Apart from the dryer stacks, the site is only visible from the main entrance. The site is not very visible from any public roadway adjacent to the site as it is largely screened by the natural contours of the land and the existing woodland and hedgerows.

Overall the installation is considered to have a long term slight negative impact due to the steam plumes which are visible from several locations beyond the site parameter. The overall impact on the landscape and visual characteristics of the area is considered to be neutral as its appearance is generally in keeping with other land uses in the locality.

Mitigation Measures

The following mitigation measures will further reduce the negative impact on the landscape and visual impact:

- The main production area is surrounded by an embankment;
- The site perimeter is bounded by dense woodland and hedgerow;
- Selection of colours and finished minimise the visual impact of the buildings;
- Maintenance of the woodlands and planting trees around the perimeter of the site has helped to integrate the building into the surrounding environment.

Conclusion

I am satisfied that there will not be significant effects on the landscape from the operation of the activities.

Accordingly, if the activity is carried out in accordance with the RD and the conditions attached, the operation of the activity will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

18.7.2 Impact on archaeology/architecture/cultural heritage

Within the site boundary lies an ancient ringfort (TS083-010), which has laid undisturbed since the acquisition of the site by Medite. The ringfort is located at the edge of landscaped grounds to the east of the main production area. The area around the ringfort is overgrown and the interior is inaccessible.

It is very difficult to foresee a pathway by which emissions from the operation of the activities could impact any feature that is/might be present. These matters are dealt with in the decision of the planning authority to grant planning permission from the installation and are not controlled by the Agency. The planning authority has considered the impacts to be acceptable.

Mitigation Measures

No mitigation measures are proposed in the RD.

Conclusion

I am satisfied that there will be no significant effect on archaeology, architecture or cultural heritage of the area from the operation of the activity.

Accordingly, if the activity is carried out in accordance with the RD and the conditions attached, the operation of the activity will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

18.7.3 Waste production and disposal

Waste stored on-site pending its removal could affect the soil, geology and hydrology at the installation. Section 7.5 of this report outlines the waste types generated at the installation. All waste generated at the installation is collected, segregated and stored on-site appropriately.

Significant cumulative effects on the environment from the production of waste by this installation and other developments are not likely.

Mitigation Measures

The following mitigation measures will further reduce the negative impact from waste production and disposal:

- All waste streams (with the exception of waste used as a fuel on-site) will be sorted on-site prior to being collected and transported off-site by specialist waste management companies to appropriate treatment, recovery/disposal facilities.

In addition the RD:

- Requires that all tank, container and drum storage areas are rendered impervious to the materials stored therein (Condition 3.7).
- Regulates waste management at the installation (Condition 8), and *Schedule C* requires waste monitoring.

Conclusion

I am satisfied that there will not be significant effects on the environment from the generation of waste from the operation of the activities. Accordingly, if the activity is carried out in accordance with the RD and the conditions attached, the operation of the activity will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

18.7.4 Use of resources and chemicals

Section 8 of this report outlines the resources and other materials used by the installation.

Significant cumulative effects on the environment from the use of resources and chemicals by this installation and other developments are not likely.

Mitigation Measures

The following mitigation measures will further reduce the negative impact of the use of resources and chemicals:

- Renewable biomass fuel is used to produce energy;
- The RD includes conditions dealing with energy, water and raw material use, reduction and efficiency on site.

Conclusion

I am satisfied that there will not be significant effects on the environment from the use of resources and chemicals from the operation of the activities. Accordingly, if the activity is carried out in accordance with the RD and the conditions attached, the operation of the activity will not cause environmental pollution. The conditions of the RD and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

18.8 Interaction of effects

The interaction between factors as a result of the operation of the installation are summarised below, as provided in response to the Regulation 10(2)(b)(ii) notice received in 2015. I have considered the interaction between the factors referred to in Section 18.1 to 18.7 above and the interaction of the likely effects identified.

Matrix of the Interaction between the factors during operation (o).

	Human Beings	Flora & Fauna	Soil & Groundwater	Surface Water	Air	Noise	Climate	Landscape, Material Assets and Cultural Heritage
Human Beings	-	-	-	-	-	-	-	-
Flora & Fauna	-	-	-	-	-	-	-	-
Soil & Groundwater	o	o	-	-	-	-	-	-
Surface Water	o	o	o	-	-	-	-	-
Air	o	o	-	-	-	-	o	-
Noise	o	-	-	-	-	-	-	-
Climate	o	o	-	-	-	-	-	-
Landscape, Material Assets and Cultural Heritage	-	-	-	-	-	-	-	-

Table 9: *Interaction effects matrix for the operation of the Medite facility*

The most significant interactions, as addressed in earlier parts of this report are as follows:

1. Human beings

From emissions to air, soil, water, noise and climate impacts. As demonstrated above, such impacts are not considered to be likely or significant.

2. Air, water, soil and flora and fauna

Potential impacts from incorrect storage of waste and materials, leaks or fire may directly and indirectly impact on air, soil, groundwater quality, surface water quality and aquatic habitats and aquatic flora and fauna. As outlined above, such impacts are considered not to be likely or significant.

3. Climate, human beings and flora and fauna

Climate change is a global issue that affects food production, ecosystems, biodiversity, resources and amenities. As outlined above, the activity is not considered to be a significant contributor of climate altering substances and it is considered that significant effects on climate (and consequently effects on human beings and flora and fauna) as a result of the operation of the activity are not likely.

Based on the assessment in section 18.1 to 18.7 above, and the mitigation measures proposed (including the relevant conditions in the licence), I do not consider that the interactions identified are likely to cause or exacerbate any potentially significant environmental effects of the activities.

19. Reasoned Conclusion on Environmental Impact Assessment

Having regard to the impacts (and interactions) identified, described and assessed above, I consider that the preventative and mitigation measures proposed will enable the activities to operate without causing environmental pollution. I also consider that the potential impacts on the environment identified above, even if they occur, are

unlikely to damage the environment as a whole, and the risk of them occurring is not unacceptable.

20. Recommended Determination (RD)

In preparing this report and the Recommended Determination I have consulted with Agency technical and sectoral advisors as appropriate. The RD specifies emission limit values for the new filters (A2-1 to A2-4, A2-8, A2-11, A2-27), the new boiler (A1-1) and a new press extraction scrubber (A2-15). The RD specifies maximum volumetric flows for the dryers (emissions points A2-5, A2-6 and A2-21). The RD reduces the dust and NO_x emissions limit values for particulate filters and dryers respectively. The RD requires a programme for monitoring and assessing the Formaldehyde, PM₁₀ and NO_x concentrations in ambient air.

The RD gives effect to the requirements of the EPA Act 1992, as amended, having regard to AA and EIA.

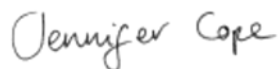
21. Charges

The annual enforcement charge recommended in the RD is €13,831, which reflects the anticipated enforcement effort required and the cost of monitoring. This represents a slight decrease when compared to the Agency's 2015 enforcement charge of €13,926.48.

22. Recommendation

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

Signed

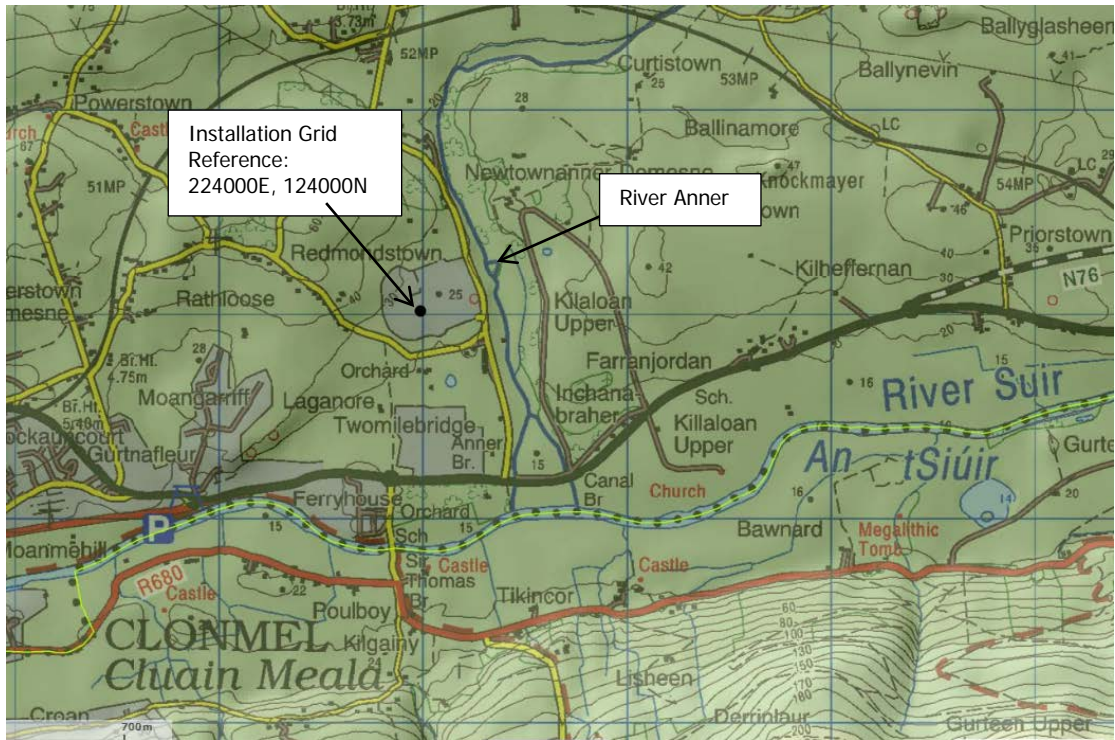


Jennifer Cope

Procedural Note

In the event that no objections are received to the Proposed Determination of 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.

Appendix 1 Installation Location Map of Medite Europe Limited (P0027-04)



Appendix 2 BAT associated emission levels as specified in the CID 2015/2119/EU

Emissions to Air:

Parameter	BAT-AELs mg/Nm ³	As modelled mg/Nm ³	Proposed in the RD Applicable until 19 November 2019 mg/Nm ³	Proposed in the RD Applicable from 20 November 2019 mg/Nm ³	BAT Minimum monitoring frequency
Emissions to air from the dryer (A2-5, A2-6 and A2-21)					
Dust	3-20	5	5	5	Periodic measurement at least once every six months
TVOC	<20-120	-	-	120	Periodic measurement at least once every six months
Formaldehyde	<5-15	20	20	15	Periodic measurement at least once every six months
NO _x	30-250	110	110	110	Periodic measurement at least once every six months
PCDD/F	-	-	-	-	Periodic measurement at least once a year
Emissions to air from the press (A2-12, A2-13, A2-15, A2-22 and A2-23)					
Dust	3-15	3.75	3.75	3.75	Periodic measurement at least once every six months
TVOC	10-100	-	-	100	Periodic measurement at least once every six months
Formaldehyde	2-15	5 (A2-12, A2-13), 10 (A2-15), 6 (A2-22, A2-23)	5 (A2-12, A2-13), 10 (A2-15), 6 (A2-22, A2-23)	5 (A2-12, A2-13), 10 (A2-15), 6 (A2-22, A2-23)	Periodic measurement at least once every six months
Channelled dust emissions (A2-1 to A2-4, A2-7 to A2-11, A2-16 to A2-20 and A2-24 to A2-27)					
Dust	<3-5	5	5	5	Periodic measurement at least once a year ¹¹

¹¹ Sampling from bag filters and cyclofilters can be replaced by continuous monitoring of the pressure drop across the filter as an indicative surrogate parameter.

Emissions to Water:

Parameter	BAT-AELs mg/l	Proposed in the RD Applicable until 19 November 2019 mg/l	Proposed in the RD Applicable from 20 November 2019 mg/l	BAT Minimum monitoring frequency
TSS	10-40	-	40 (SW1)	Periodic measurement at least every three months ^{Note 1}
TSS	5-35	200 (SW2)	35 (SW2)	Periodic measurement at least once a week
COD	20-200	400 (SW2)	150 (SW2)	Periodic measurement at least once a week

Note 1: Flow proportional sampling can be replaced by another standard sampling procedure if the flow is insufficient for representative sampling.

Appendix 3 Assessment of the effects of the activity on European sites and proposed mitigation measures.

	European Site (site code)	Distance/ Direction from installation	Qualifying Interests (* denotes a priority habitat)	Conservation Objectives	Assessment
1	Lower River Suir SAC (Site Code: 002137)	0 km east	<p><u>Annex I Habitat:</u> 1130 Atlantic salt meadows, 1410 Mediterranean salt meadows, 3260 Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation 6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels 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>)* 91J0 <i>Taxus baccata</i> woods of the British Isles*</p> <p><u>Annex II Species:</u> 1095 Sea Lamprey, 1099 River Lamprey, 1096 Brook Lamprey, 1029 Freshwater Pearl Mussel, 1092 White-clawed Crayfish, 1103 Twaite Shad, 1106 Salmon and 1355 Otter</p>	As per NPWS (2015) Conservation Objectives for Lower River Suir SAC [002137] Generic Version 4.0. Department of Arts, Heritage and the Gaeltacht (dated 13/2/15)	<p>Water emissions: 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 sections 7.3 and 12.5 above.</p> <p>Air emissions: A significant impact on air quality could affect the habitats and species. Refer to sections 7.1 and 12.5 above.</p> <p>Noise emissions: Due to the nature of the activity noise will not have a significant effect on sensitive receptors within the European site. See sections 7.6 and 12.5 above.</p> <p>Potential for accidents to arise: There is the potential for an accident/hazardous and emergency situations arising from the operation of this installation which could affect the habitats and species. Refer to sections 10 and 12.5 above.</p>
2	Comeragh Mountains SAC (site code 001952)	9.8km south east	<p><u>Annex I habitats:</u> 3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3260 Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation 4010 Northern Atlantic wet heaths with <i>Erica tetralix</i> 4030 European dry heaths 4060 Alpine and Boreal heaths</p>	As per NPWS (2015) Conservation Objectives for Comeragh Mountains SAC [001952] Generic Version 4.0. Department of Arts, Heritage and the Gaeltacht (dated 13/2/15)	There is no pathway for interaction due to distance from the installation.

			8210 Calcareous rocky slopes with chasmophytic vegetation 8220 Siliceous rocky slopes with chasmophytic vegetation, 1393 Slender Green Feather-moss		
3	Nier Valley Woodlands SAC (site code 00668)	9.3 km south	<u>Annex I habitats:</u> 91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles	As per NPWS (2015) Conservation Objectives for Nier Valley Woodlands SAC [00668] Generic Version 4.0. Department of Arts, Heritage and the Gaeltacht (dated 13/2/15)	There is no pathway for interaction due to distance from the installation.