



Non-Technical Summary

**Red Mills, IE Licence Reg No.
P1069-01**

**William Connolly & Sons Unlimited
Company**

**Grange Lower, Goresbridge, Co.
Kilkenny.**





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1.0 INTRODUCTION

Malone O'Regan Environmental (MOR) was appointed by William Connolly & Sons Unlimited Company, herein referred to as 'Red Mills' to prepare a Non-Technical Summary (NTS) for the Industrial Emission (IE) Licence Application, Reference No. P1069-01.

This NTS has been prepared and updated in accordance with the Request for Further Information (RFI) issued by the EPA dated the 20th November 2018 and subsequent Notices in accordance with Regulation 19(2) of the EPA (Industrial Emission) (Licensing) Regulations 2013 as amended, dated 16th December 2021 and 24th January 2022 respectively. This NTS supplements the original Non-Technical Summary submitted on the 16th March 2018. Link: https://epawebapp.epa.ie/licences/lic_eDMS/090151b280675ca3.pdf

1.1 Update to Licence Application

Following our appointment in May 2021, the first task MOR undertook was a gap analysis of the original licence application and relevant EPA correspondence. These desk-based studies were supplemented with several site visits due to the size and complexities of the site.

As part of this comprehensive RFI response, we have updated the following elements of the IE Application previously submitted to the EPA:

- Red Line Boundary;
- Class of Activity;
- Major air emission points;
- Noise monitoring locations;
- Surface water monitoring location; and,
- Fuel - the Facility has switched to LPG all existing Dryers (except Dryer 2).

In addition, upgrade works and proposed new plant and equipment have either been completed, are currently ongoing or are scheduled. This is to ensure futureproofing of the Facility and compliance with IEL conditions. These works comprise:

1. Drainage upgrade works - ongoing;
 - a. New drainage lines, interceptor and separator installed;
2. Replacement of Dryer 6 - completed;
3. Changing boilers and Dryer 2 from diesel to LPG – ongoing ;
4. Proposed 2No. Grain Stores - (Planning Reference 21/573) – planning granted, scheduled for commencement

Some of the on-going works will be completed by Harvest Season 2022 and the remainder will be completed by Harvest Season 2023.

In addition, the new Linkway Road, granted (Planning Reference 21/633) is scheduled for commencement mid-2022.

1.2 Red Line Boundary

The Red Line Boundary has been amended from the original licence application to take account of recent land acquisition; the extended Integrated Constructed Wetlands system; the foul effluent wastewater treatment system and the permitted linkway road under Planning Ref: 21/633. Immediately following the construction of the new linkway road (which will be a public road, outside the red line boundary), the existing public road which currently bisects the site will be extinguished and these lands will then form part of the overall installation. The revised red line boundary is shown in Drawings 'Drawing 1' which accompanied the submission on the 30th November 2021.

1.3 Class of Activity

With regards to RFI item 3, in previous documentation it was reported the relevant class of activity would be Class 7.8 (a)(i). However, small amounts of animal products may be occasionally used. To enable a continued customer-centric and adaptive business, and to avoid potential limitations in developing future products, we propose that the Class of Activities carried out at the Site is revised to:

7.8 (a) (iii): Food and Drink:

7.8 a) The treatment and processing, other than exclusively packaging, of the following raw materials, whether previously processed or unprocessed, intended for the production of food or feed from:

(iii) animal and vegetable raw materials, both in combined and separate products, with a finished product production capacity in tonnes per day greater than:

- *75 if A is equal to 10 or more; or*
- *(II) [300-(22.5 x A)] in any other case, where 'A' is the portion of animal material (in percent of weight) of the finished product production capacity.'*

(b) For the purposes of clause (a), packaging shall not be included in the final weight of the product.

(c) Clause (a) shall not apply where the raw material is milk only.

The Class of Activity 7.8 (a)(iii) detailed above was confirmed by Red Mills to the Agency on the 31st January 2022.

1.4 Appropriate Assessment

A revised Natura Impact Statement has been included as part of this submission, taking cognisance of the revised Air and Noise Emissions Assessment reports.

It is considered reasonable to conclude that the current operations at the Site are not impacting on the River Barrow and River Nore SAC based on the findings of detailed ecological, noise, air and water assessments. Regardless of this, Red Mills are committed to implementing a wide range of upgrade works at the Site that will result in improvements to noise, air and water emissions arising from the facility.

Compliance with future emission limit values for water, air and noise as part of the IE Licence will further protect the qualifying features of interest of the River Barrow and River Nore SAC.

The extension to the ICW offers real potential to implement enhanced biodiversity measures as part of an overall Biodiversity Management Plan, something that Red Mills are committed to pursuing over the next couple of years.

It can be concluded that the ongoing operation onsite and the proposed upgrade works, alone or in-combination with other projects, will not adversely affect the integrity, and conservation status of any of the qualifying interests of the River Barrow and River Nore SAC.

1.5 Operational Hours

For the purposes of the overall IE Licence, the following operational hours should be considered, as no restriction on operational hours is possible due to business reasons, on-demand customer centric production and in some cases animal welfare.

- The Feed Mill operates up to 24 hours a day, up to 7 days a week, throughout the year.
- The grain dryers operate 24 hours a day, 7 days a week during the harvest season. Outside of the Harvest season these grain dryers do not operate. The Harvest season typically occurs each year between the 1st July and the 31st September.

- The Seed Plant operates periodically throughout the year.

In-depth consideration of operational hours was provided in the MOR response to the EPA submitted on 7th January 2022.

1.6 EC (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2006

Since 1994, a 25-tonne gas tank has been located on-site, south of the constructed ICW system. In 2021 this tank was replaced by a temporary 48-tonne LPG tank. This is intended to be a temporary measure as Red Mills are in active discussions with Gas Networks Ireland about a direct connection to the gas network which would negate the need for any onsite storage.

Fertilisers are also stored on-site. However, the EC (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2006 do not apply to the Facility, as there are no substances with specified danger categories kept on-site in quantities above thresholds listed in Schedule 1.

With regards to RFI Item 10, on-site dryers were converted to LPG (with exception of Dryer 2). Their associated oil tanks will remain in place to be decommissioned and used for storing firefighting water strategically across the site. Only oil tanks serving the boiler and Dryer 2 are currently still in use. This will continue until their conversion to gas over the coming months.

2.0 ENVIRONMENTAL CONDITIONS AT THE SITE

Updated MOR noise and air assessments have been submitted (31st March 2022). The surface water assessment and Integrated Constructed Wetlands (ICW) summary report have been submitted (30th November 2021), detailing the 2021 baseline conditions and proposed mitigation measures. Groundwater and Site Conditions were submitted as part of the original application on 16th March 2018.

3.0 KEY CHANGES AT RED MILLS

During the peak of the harvest, depending on weather conditions and the ripening of grain, the Site can receive large amounts of grain over a 10–15-day period. This requires rapid drying to ensure that the grain does not deteriorate by developing mould growth (including generation of mycotoxins); sprouting; heating; decomposition; etc. If the grain deteriorates it can become unsuitable for its intended use and therefore becomes a waste.

The replacement Dryer 6 and granted Grain Stores will be integral to ensuring that waste grain will be avoided, and the grain onsite will remain as fresh as possible.

In addition to the reduction of waste grain, the replacement Dryer 6 and Grain Stores will reduce traffic movements to the Site as more grain will be stored internally on-site. The ca.27No. currently used off-site grain storage locations will become redundant, reducing double-handling and traffic movements to and from these locations.

The increased drying capacity will reduce the need for stockpiling of grain on-site, thereby reducing the potential for fugitive dust emissions from these stockpiles. Furthermore, the replacement dryers will reduce the duration of the drying on-site and will therefore reduce air and noise emissions as the dryers will be capable of processing grain more rapidly than the present setup.

3.1 Replacement Dryer 6

The new twin column, directly-heated grain dryer has been installed externally, and replaces the previous flatbed Alvan Blanch (Dryer 6).

The new dryer is modern and efficient in terms of energy usage and high throughput, with much improved safety. It uses LPG as fuel as opposed to the diesel used by the flat-bed dryer, thereby reducing emissions per tonne of grain.

Please refer to the Emissions to Air Report, dated 31st March 2022, for further details on the emissions from the replacement dryer.

3.2 New Grain Stores

Two (2No.) new Grain Stores were granted planning permission by Kilkenny County Council on the 22nd February 2022 (PI Ref: 21/573).

It is planned that these Grain Stores will be constructed and operational for the Harvest Season 2023.

3.3 New Linkway Road

A new linkway road (Planning Ref: 21/633) was granted by Kilkenny County Council (22nd November 2021) which will extend from a new junction onto the local road, located adjacent to the northern end of the Red Mills Site and broadly extending westwards, to a new junction onto the L6688 public roadway. The development includes a new roadway ca. 470m long; new road junctions and associated sightlines; the provision of 1No. factory entrance; 5No. field entrances; associated drainage works; road signage; fencing; boundary hedgerow planting; landscaping and all associated works.

This new road will be constructed outside the proposed IE Licence site boundary (red line), enabling the current road (L6688) bisecting the site to become a private road encompassed within the red line.

3.4 Surface and Storm Water

Baseline monitoring data has shown that there was no flow into or out of the existing ICW observed during any site visit by MOR from May to September 2021. It is likely that there will very rarely be a flow from the ICW outlet (SW1A) during the Harvest season as this typically corresponds with the driest months of the year, especially as the area of the ICW (existing and extended) is now increased. This also corresponds with the months when flows in the watercourses are at their lowest and therefore more susceptible to contamination due to reduced assimilative capacity. This system gives the greatest protection to water quality during peak production period when the river is most susceptible to contamination.

Surface water sampling of upstream and downstream monitoring in the River Barrow confirmed that there was no impact from the Facility during the 2021 Harvest Season.

3.4.1 ICW System and Upgrade Works

Since 2013, the ICW system has been operating on-site. In 2019, an additional ICW system was granted planning permission to the north of the original ICW system to provide an additional buffer capacity for surface water runoff from the Facility.

A comprehensive review of the onsite drainage was undertaken by MOR. Four separate emission points to the Mill Race were identified (there is potentially a fifth emission point, but this requires confirmation). The existing and proposed surface water drainage layouts were developed taking full cognisance of the EPA requirements with regards to surface water discharge.

Current works are ongoing to enable all surface and storm water to be collected on-site and discharged from the Facility via a newly installed interceptor and separator to the ICW system. A single discharge point from the wetlands was constructed (SW1A). Following connection with the southern part of the Site (currently under construction), all existing surface water discharge points will be decommissioned (SW1 to SW5).

A monitoring chamber and shut-off valve have been installed at the outfall of the ICW prior to discharge to the watercourse to enable periodic surface water sampling (SW1A).

Remaining works are on-going (please refer to the EPA form 'Attachment-7-7-Storm-Water-Discharges' submitted as part of the 30th November 2021 response to the RFI).

For more detail on the ICW and stormwater emission points please refer to the IE Consulting report and 'Drawings 2: Existing P705/P705A and Proposed P710/P710A' submitted as part of the 30th November 2021 response to the RFI.

4.0 EMISSIONS

All emission and monitoring points are indicated on Drawings, as part of the 30th November 2021 response to the RFI.

4.1 Emissions to Air

Currently, there is a total of 45 emission points at the Site.

There are three relevant air pollutants emitted from point sources at Red Mills Site in Goresbridge - NO_x, SO₂ and dust (Total Particulates). All were assessed by means of air dispersion modelling. Modelling took account of several scenarios that included baseline 2021, baseline 2022, and a scenario including mitigation measures.

NO_x and SO₂ are emitted from two boilers currently running on diesel. These boilers will be converted to LPG by the end of May 2022, requiring new burners. Therefore, proposed ELVs have been based on standard NO_x emission rate of 200 mg/Nm³ and SO₂ emission rate of 35mg/Nm³. These pollutants are also emitted from dryer burners (total of 10 burners over 1MW thermal input). Emissions from these burners were also assessed together with boilers via air dispersion modelling to demonstrate no impact on the environment. However, combustion gases used for direct drying are not subject to ELVs.

There are 43No emission points emitting dust, including 23No. emission points at the Feed Mill, 18No. emission points associated with Dryers and 2No. emission points at the Seed Plant. It is proposed to license all emission points based on mass emissions (kg/hr) due to equipment design and variability in emissions, except for the 3No. Grinders and 4No. Pellet Coolers for which there are BAT Conclusion ELVs in mg/Nm³.

Following the proposed implementation of the Feed Mill mitigation measures (detailed in the Air Dispersion Modelling Report dated 31st March 2022) which will include the routing of 6No. flakers into a single stack and 3No. grinders into a single stack, as well as multiple other stack improvements, there should be 16No. emission points at the Feed Mill.

A complete list of major emission points; ELVs; volumetric flows; discharge heights; monitoring requirements; etc. is provided in the EPA template form "Attachment-7-4-1 Emissions to Air Main", dated 31st March 2022.

4.2 Noise Emissions

The Facility operates in two (2No.) distinct stages with regards to noise:

- Non-harvest season (October – June); and
- Harvest season (July – September).

During the Harvest season, the Facility operates on a 24-hour basis and the Grain Dryers are operational over a typical 8-week period. The Grain Dryers onsite are not operational outside this period.

Therefore, peak noise emissions occur during the shorter duration Harvest season which is a 'worst-case scenario' with regards to noise emissions onsite. The focus was therefore on

demonstrating that compliance could be achieved during the harvest season, as it would be reasonable to conclude that the facility would then be compliant with typical EPA noise limits for the remaining 10 months when the grain dryers would not be operational.

The replacement dryer will include noise abatement to meet BAT but would still present new noise emissions for the Facility.

A baseline survey was undertaken during the 2021 harvest season. It was determined that the Site was compliant with typical EPA noise limits at Noise Sensitive Locations (NSLs) to the north, east and south of the Facility during the harvest season. Potential breaches of the typical EPA noise limits were identified to occur to the west of the Facility at a noise sensitive location identified as NSL04.

A noise model was developed for the Facility that took account of the replacement of older equipment (dryer 6), mitigation of identified existing noise emissions and the addition of two Grain Stores. The predicted Model 1 shows compliance with typical EPA noise limits at all NSLs and receptors associated with the River Barrow and River Nore Special Area of Conservation (SAC). Please refer to the "Attachment 7-5 Noise Emissions" submitted on 30th November 2021 and the updated Noise Impact Assessment dated 31st March 2022 for further details on the predicted emissions from the proposed works and also noise modelling results.

Management at the Facility is dedicated to the reduction of noise emissions to ensure no adverse noise impacts associated with the existing or future operations of the Facility during the Harvest season occur at identified NSLs.

4.3 Emissions to Water

Drainage upgrade works are ongoing. Following the completed drainage works, the discharge points SW1-SW5 will be decommissioned and replaced by SW1A.

Please refer to the existing and proposed drainage layouts (Drawings 2 Existing (P705/705A) and Proposed (710/710A)) and 'Attachment 7.7 Discharges to Storm Water' submitted as part of the 30th November 2021 response to the RFI, which include coordinates of both the existing monitoring locations and proposed future monitoring location (SW1A proposed).

5.0 CONCLUSIONS

The updated information included within this report provides comprehensive information regarding the existing Facility and proposed future works to enable compliance with relevant BAT limits and Environmental Quality Standards relating to air, noise and surface water.

In addition, the new red line boundary, upgrade works, new structures and layout of the Facility will reduce fugitive emissions and traffic volumes. A significant programme of drainage improvement, air and noise works is ongoing at the Site.