November 2021

Non-Technical Summary

Red Mills, IE Licence Reg No. P1069-01

William Connolly & Sons Unlimited Company

Grange Lower, Goresbridge, Co. Kilkenny.

MALONE O'REGAN ENVIRONMENTAL

QUALITY ISO 9001:2015 NSAI Certified

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Form ES - 04

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Contents

1.0 INTRODUCTION

Malone O'Regan Environmental (MOR) was appointed by William Connolly & Sons Unlimited Company, herein referred to as 'Red Mills' in May 2021 to support Red Mills in preparing a response to a request for further information dated the 20th November 2018 that was issued by the Agency in regards to the application for an Industrial Emissions Licence (IEL) Reg. No. P1069-01.

We refer to the online meeting that was held on the 8th July 2021 between representatives of the Agency, Red Mills and MOR where reasons for the delay in submitting a response to the Agency's request were explained and an extension to November 30th 2021 was agreed. This extension was primarily agreed in order to allow MOR to compile the necessary baseline information during the 2021 harvest season to ensure a comprehensive response would be provided to the queries raised by the Agency.

1.1 Update to Licence Application

Following our appointment in May 2021, the first task that MOR undertook was a gap analysis of the original licence application and relevant EPA correspondence. These desk-based studies were supplemented with the findings of a number of site visits. Given the complexities of the Site, a number of visits were warranted. Based on the completion of these tasks MOR identified a programme of works that would be required to be undertaken to submit a robust response to the technical queries raised by the EPA. This programme of works was submitted to the EPA on the 12th July 2021 and successfully completed during the 2021 harvest season which commenced mid-July.

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

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

In addition, upgrade works and proposed new plant and equipment are scheduled to ensure futureproofing of the Facility and ensure compliance with IEL conditions. These works will consist of:

1. Drainage upgrade works;
2. Replacement of Dryer 6;
3. Changing boilers and Dryer 2 from diesel to LPG;
4. New Linkway Road, granted (Planning Reference 21/633); and
5. Proposed 2No. Grain Stores and 2No. Dryers (replacement Dryer 1 and 3) (Planning Reference 21/573).

These works are ongoing, some will be completed by Harvest Season 2022 and the remainder will be completed by Harvest Season 2023.

It is proposed that the use of the drainage system will commence as soon as the upgrade works have been completed.

Any additional plant, equipment or buildings installed at the Facility will be designed and will be built in compliance with all requirements of the relevant BAT Documents.

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 new Integrated Constructed Wetlands system, the effluent wastewater system and the permitted linkway road under Planning Ref: 21/633. Immediately following the construction of the new linkway road, 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' accompanying this submission.

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 will be 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.

1.4 Appropriate Assessment

A Natura Impact Statement has been submitted as part of this submission.

1.5 Operational Hours

The Feed Mill operates 24hours a day, up to 7days a week.

The grain dryers operate, 24hours a day, 7days a week during the harvest season. Outside of the Harvest season these grain dryers do not operate. The Harvest season typically occurs each year from the 1st July to the 31st September.

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

Since 1994, a 25tonne gas tank has been located onsite, south of the constructed ICW system. In 2021 this tank was replaced by a temporary 48tonne 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 onsite. 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 onsite in quantities above thresholds listed in Schedule 1.

With regards to RFI item 10, onsite dryers were converted to LPG (with exception of Dryer 2), however their associated oil tanks will remain in place and will 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, which will continue until their conversion to gas that will happen over the coming months.

2.0 ENVIRONMENTAL CONDITIONS AT THE SITE

Updated MOR noise and air assessment reports have been submitted which detail the current 2021 baseline conditions.

3.0 KEY CHANGES AT RED MILLS

Red Mills during the peak of the harvest, depending on weather conditions and the ripening of grains can receive large amounts of grain over a 10-15 day period, which 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 Dryers and structures 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 dryers and associated structures will reduce traffic movements to the Site as more grain will be stored internally onsite. The ca.27No. currently used offsite grain storage locations will become redundant, reducing doubling handling and traffic movements to and from these locations.

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

The above addresses Point 12 in RFI, which is further elaborated in Noise and Air Emissions Assessment Reports.

3.1 Replacement Dryer 6

The new twin column, directly heated grain dryer will be installed externally, and it will replace the existing flatbed Alvan Blanch (Dryer 6). Flatbed Dryer is currently being decommissioned.

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

Please refer to Emissions to Air Dispersion Report provided with this response to the RFI for further details on the emissions from the replacement dryer.

3.2 New Structures and Replacement Dryers 1 and 3

These new Dryers will replace the previously decommissioned Dryers 1 and 3. Replacement Dryers 1 and 3 will be relocated to streamline the process of grain drying. There will be several new structures built at the Site, associated with the grain storage and grain drying under planning reference 21/573:

1) 2No. Grain Stores;
2) 2No. Grain Dryers; and
3) Associated plant and equipment.

There will be five (5No.) major emission points associated with these two (2No.) Grain Dryers.

This planning application is currently at request for further information (RFI) stage, it is envisioned that the planning consent will be obtained, and these replacement dryers will be installed and operational for the harvest season in 2023. Alternatively, the EPA could condition these dryers to be installed.

3.3 New Linkway Road

A new linkway road (Planning Ref: 21/633) development 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.

3.4 Surface and Storm Water

Baseline monitoring data has shown that there was no flow into or out of the 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 during the Harvest season as this typically corresponds with the driest months of the year. 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, i.e. 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 onsite. 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. The extension to the ICW system is nearly complete with only final planting and the discharge pipe still to be commissioned.

Currently the Facility discharges both to the Mill Race and the ICW system.

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

It is proposed that all surface and storm water will be collected onsite and discharge from the Facility via a newly installed interceptor to the ICW system. A single discharge point from wetlands will be constructed (SW1A). Following this, all existing surface water discharge points will be decommissioned (SW1 to SW5). A monitoring chamber will be present at the outfall of the ICW prior to discharge to the watercourse to enable periodic surface water sampling (SW1A). A shut off valve will also be installed. These works will be completed by Harvest 2022. Refer to the EPA form 'Attachment-7-7-Storm-Water-Discharges'.

For more detail on 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 this response to the RFI.

3.4.2 Monitoring Location

A monitoring chamber (SW1A proposed) will be installed to enable sampling of the discharge arising from the ICW System prior to entering the watercourse.

Please refer to the Drawings 2 'Proposed P710/P710A' submitted as part of this response to the RFI for more detail.

4.0 EMISSIONS

All emission and monitoring points are indicated on Drawings, submitted with this response to the RFI.

4.1 Emissions to Air

There is a total of 51 emission points at the Site (including existing emissions points, points to be installed before Harvest 2022, and emission points to be installed before Harvest 2023).

There are two relevant air pollutants emitted from point sources at Red Mills Site in Goresbridge - NOx and dust (Total Particulates). Both were assessed by means of air dispersion modelling. Modelling took account of a number of scenarios that included baseline (2021), baseline with mitigation measures, and future emissions (2022 and 2023).

NOx is emitted from two boilers currently running on diesel. These boilers will be converted to LPG by the end May 2022, requiring new burners. Therefore, proposed ELVs are based on standard NOx emission rate of 200 mg/Nm3 and volumetric flows that would not breach 75% of relevant AQS (annual and 1-hr averaging) at the Site boundaries.

Air Dispersion Modelling was undertaken for four (4No.) scenarios and programme of improvements has been identified to mitigate potential breaches of the 24hr Air Quality Standard at the Site boundary.

It should be re-iterated that all air dispersion modelling results were based on an unlikely scenario of maximum operation where all emission points would be operating at full load simultaneously and as such was very much a worst-case scenario. In reality, the Harvest season is shorter than the modelled 3 months, and the Feed Mill typically only operates 5 days a week, rather than modelled 7 days a week.

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”, submitted with this response to the RFI.

4.2 Noise Emissions

The Facility operates in two (2No.) distinct stages:

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

During the Harvest season, the Facility operates on a 24-hour basis and the Grain Dryers are operational over a typical 6-8 week period. For the majority of the year, the Grain Dryers onsite are not operational.

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 therefore it would be reasonable to conclude that then the facility would be compliant with typical EPA noise limits for the remaining 10 months when the grain dryers would not be operational.

The replacement dryers 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 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 future noise model was developed for the Facility, that took account of the replacement of older equipment, mitigation of identified existing noise emissions and the addition of two Grain Stores and associated dryers. The predicted Future Model 1 shows a decrease of 8dB at the closest noise sensitive receptor when compared to the baseline noise survey. Please refer to the EPA template form “Attachment 7-5 Noise Emissions” and Noise Impact Assessment provided with this response to RFI for further details on the predicted emissions from the future works and also noise modelling results.

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

4.3 Emissions to Water

It is proposed to complete the drainage upgrade works in advance of the 2022 grain harvest season. Following the 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’ which includes 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 volume. A programme of drainage improvement works will also be undertaken at the Site.

Red Mills are committed to making significant investments over the coming years to ensure operations at the facility will meet future Agency's requirements. We trust that this commitment should form a strong basis for any proposed licence determination to be issued by the Agency.