[redacted]

From: Peadar O'Loughlin <peadar.oloughlin@oes.ie>
Sent: Wednesday 13 September 2023 15:07
To: Anna Barry
Subject: RE: P0048-03 Dawn Meats t/a Western Proteins
Attachments: WP Carbon Reduction Project - Use of MBM as Fuel_Rev01.pdf

Dear Anna

Further to recent conversation regarding the above, please find attached some additional information relating to the proposal and compliance with MCP Directive.

Please do not hesitate to contact me should you require any further information.

Best Regards

Peadar

From: Peadar O'Loughlin
Sent: Friday, September 1, 2023 3:31 PM
To: a.barry@epa.ie
Cc: Brian Cloonan <brian.cloonan@dawnmeats.com>
Subject: P0048-03 Dawn Meats t/a Western Proteins

Dear Anna,

Further to your recent discussions with Brian Cloonan on the change request to accommodate the use of MBM as a fuel on site, please find attached copies of the following documents as requested.

- Air Dispersion Modelling Report
- Site Plan showing the outline of the boiler house (hatched in red/yellow border) (Mayo Co Co Planning Ref: 1370)
- Certificate of incorporation name change (to Dawn Meats Ireland UC)

The proposal will involve the combustion of MBM in a fluidised bed or rotary kiln combustion chamber, connected to connected to a heat exchanger that generates steam (boiler). Emissions will be via the existing 28m boiler stack (Ref A1-1) .

Please let me know if you have any queries in relation to the attached or any other aspect of the Change Request and we will respond as quickly as possible.

Best Regards

Peadar

Peadar O'LOUGHLIN | Managing Director

OES | *Consulting*

Planning | Sustainability | Health & Safety

I'm sending this email at a time that suits me. If you receive this email outside your standard working schedule, I don't expect you to read, respond to or action it.

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Dawn Meats Western Proteins
Proposed use of MBM as fuel at Rendering Plant
Response to EPA on Items Raised

- Provide a general outline of the project and when you are looking to progress ?

An overview of the proposal is included as Attachment A. The company are keen to progress as soon as practicable and envisage a 6–12-month timeframe for installation and commissioning of equipment.

- Under what regulation are you requesting to combust MBM ?

The proposal to utilise MBM as a fuel source on site is made under EU Commission Regulation 735 of 2020, amending Regulation 142 of 2011 to facilitate the use of meat-and-bone meal as a fuel in combustion plants.

  - why considered suitable fuel, and not a waste ?

    Meat and bone meal (MBM) is considered to be a suitable fuel by the EU, having previously established animal by-products and derived products as suitable fuels for combustion under EU Regulation 142/2011 in 2011, MBM having specifically been added by Regulation 735 of 2020.

    Furthermore, MBM is derived from Category I and Cat II material, the combustion of which as a fuel (with or without pre-processing) is covered under Art 12 of EC Regulation 1069/2009, recognising that MBM can be used as fuel and therefore is not a waste.

    Section 4(1)(a) of the Waste Management Act 1996 defines waste as:

    "any substance or object belonging to a category of waste specified in the First Schedule or for the time being specified in the European Waste Catalogue which the holder discards or intends or is required to discard, and anything which has been discarded or otherwise dealt with as if it were waste"

    In this case, owing to the significant calorific value of MBM, there is no imperative to discard the material – in fact utilising the material on-site as a carbon neutral fuel (to offset fossil fuel combustion) illustrates the significant benefit and value of the material (both in in economic and environmental terms) and as such, the material could not reasonably be considered a "waste".

  - how will installation comply with relevant rules set out within the regs?

    The relevant rules are set out under Regulation 735 of 2020, amending Article 6 of Article 6 of Regulation (EU) No 142/2011 (as amended) details of which and compliance with same are tabulated in Attachment B.

- Is it a new boiler or replacement of an old boiler ?

Proposal relates to a new boiler.

- If it is a new boiler, what is the proposed location (slaughterhouse or rendering plant at installation) ?
  The boiler will be installed within the utilities building on the rendering plant site (Refer to Attachment A – Figures: Site Plan).

- Confirm that any change in boiler operations would comply with MCP regs with regards to emission limits?

The proposal relates to a > 5MW boiler and so Directive (EU) 2015/2193 (Medium Combustion Plant (MCP)) applies. The relevant ELVs under MCP for a new installation rated between 5 and 20MW firing solid fuels other than biomass are shown below on Table 1 and compared with the proposed operational ELV's for the plant.

The proposal will fully meet MCP Regulations with regards to emission limits.

Table 1 Comparison of Proposal with relevant MCP ELV's

Parameter	Directive 2015/2193 New MCP 5-20 MW ELV's	Proposed Operational ELV's
Nitrogen monoxide and nitrogen dioxide (as NO_2)	300 mg/Nm^3	200 mg/Nm^3
Sulphur Dioxide (as SO_2)	400 mg/Nm^3	50 mg/Nm^3
Particulates	30 mg/Nm^3	10 mg/Nm^3

- Confirm mass emissions of relevant parameters will not increase over existing licence mass emission limits?

Mass emissions of relevant parameters will not increase over existing licensed mass emissions and will comply with Regulation (EU) No 142/2011 (Annex III - Chapter V as amended by 735/2020).

Table 2 Comparison of Proposal with P0048-03 ELV's for Emission point Reference A1-1

Parameter	P0048-03 ELV's	Proposed Operational ELV's
Nitrogen monoxide and nitrogen dioxide (as NO_2)	450 mg/Nm^3	200 mg/Nm^3
Sulphur Dioxide (as SO_2)	1700 mg/Nm^3	50 mg/Nm^3
Carbon Monoxide (CO)	80 mg/Nm^3	80 mg/Nm^3
Particulates	50 mg/Nm^3	10 mg/Nm^3

- Is there likely to be a new emission point or will they likely emit via an existing emissions stack?

There will be no new emission point. Emissions will be via existing emission point A1-1 (Boiler House (Boiler Stack 28m).

- Will additional infrastructure be installed requiring planning consent/exemption i.e., new boiler house/abatement etc?

No. Boiler will be installed entirely within utilities building granted permission in 2013 under Ref 1370, which included for the installation of a steam boiler and abatement system for particulate removal (bagfilter) and connection to existing emission point A1-1.

Attachment A

Outline Description of Proposal

Outline Description of Proposal

The proposal relates to a change in the primary fuel used at the Dawn Meats Western Proteins Rendering facility from heavy fuel oil (HFO) to meat and bone meal (MBM) and represents a significant demonstration of the company's commitment to moving to carbon neutral fuel sources.

MBM has traditionally been disposed of as a waste, however owing to its significant calorific value, its use as a fuel has been the subject of much research and development over the past decade and on 2 June 2020, the European Commission issued Regulation 735 of 2020 to facilitate the use of MBM as a fuel for combustion. This has followed on the back of development of suitable technology for using MBM in combustion and in recent years, biomass power stations have taken the use of MBM further as a source of alternative fuel and renewable energy.

Dawn Meats obtained planning permission on 17 July 2013 (Planning Ref 1370) for the construction of a new utilities building incorporating a carbon neutral biomass boiler, baghouse abatement system and associated infrastructure at the Hazel Hill facility in Ballyhaunis Co. Mayo (Refer to Drawing 13-418-202 – Utilities Building Site Layout)

The proposal involved the connection of the boiler to an existing 28m high boiler stack (Ref A1-1) and the site IE Licence Reg No. P0048-03 was subsequently amended under Technical Amendment A (9 May 2014) to accommodate the boiler.

The current proposal relates to the use of MBM as a fuel, instead of the biomass originally proposed. This is the only change requested, as emissions will discharge via A1-1 and will comply fully with the existing ELVs as set out in Schedule B of P0048-03.

The boiler will comprise fluidised bed combustion (FBC) or rotary kiln furnace connected to a heat exchanger that generates steam. The boiler will be based around a ca 12 MW installation capable of meeting site steam demand.

The unit will have a flue gas path that ensures compliance with current stringent legislative requirements of minimum temperature of 850^0C with a 2 second residence time. Abatement of particulate emissions is provided by a reverse jet pulsing bag filter system that ensures effective particulate capture maintaining emission limit values (ELVs) of less than 10mg/Nm^3, significantly lower than the current 50mg/Nm^3 ELV on A1-1.

The system will be housed entirely in the utilities building, with combustion gasses exhausted post abatement via the existing A-1-1 stack subject to the following maximum operational ELV's.

Emission Point Reference No.: Boiler A1-1

Location: Boiler House (Boiler stack 28m)

Volume to be emitted: Maximum in any one day: 600,000m^3

Maximum rate per hour: 25,000m^3

Parameter	P0048-03 ELV's	Proposed Operational ELV's
Nitrogen monoxide and nitrogen dioxide (as N02)	450 mg/Nm^3	200 mg/Nm^3
Sulphur Dioxide (as $S0_2$)	1700 mg/Nm^3	50 mg/Nm^3
Carbon Monoxide (CO)	80 mg/Nm^3	80 mg/Nm^3
Particulates	50 mg/Nm^3	10 mg/Nm^3

Note that these operational ELV's are lower than those currently licenced in Schedule B of the site IE Licence and derive from COMMISSION REGULATION (EU) No 142/2011, as amended.

Figures

Site Layout Plan

GENERAL ARRANGEMENT

Engineers | Architects | Design | Project Management

The Square - Claremorris - Co. Mayo

t : 094 9372120

f : 094 9372911

e : info@waldrons.ie

Client:	Dawn Meats Ireland t/a Western Proteins
project:	Utilities Building
drawing:	Site layout
date: 18-01-13	drawn by: T.Duggan / check:
scale: 1:500 @ A1	drwg no.: **13-418-202** / rev. no.: X.01

drawing status: **SCHEME DESIGN**

revision:	description:	date:
PP01	Issued for Planning	26-02-13

NOTES

DO NOT SCALE - USE FIGURED DIMENSIONS ONLY.

ALL DIMENSIONS TO BE CHECKED ON SITE PRIOR TO CONSTRUCTION AND ANY DISCREPANCIES TO BE HIGHLIGHTED BY CONTRACTOR.

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS AND DRAWINGS.

ALL LEVELS ARE TO FINISHED LEVELS UNLESS OTHERWISE INDICATED.

TOUGHENED GLASS TO BE PROVIDED WHERE INDICATED WITH 'T'.

Boiler House/Utilities Building (PL 1370)

AREA:-

SITE = 6.3861 hectares

SITE TO WHICH THIS APPLICATION REFERS OUTLINED IN RED

Site outlined in red
Location= Hazelhill, Ballyhaunis, Co. Mayo.
Scale 1:500

KEY
PROPOSED BUILDING SHADED THUS

KEY
PROPOSED ASPHALT/CONCRETE YARD SHADED THUS

LEGEND
- EXISTING FOUL MANHOLES
- PROPOSED ROOF WATER MANHOLE
- PROPOSED FOUL MANHOLES
- EXISTING SURFACE WATER MANHOLES
- PROPOSED SURFACE WATER MANHOLES
- OTHER MANHOLES
- EXISTING FOUL WATER DRAIN
- PROPOSED FOUL WATER DRAIN
- PROPOSED ROOF WATER DRAIN
- EXISTING SURFACE WATER DRAIN
- PROPOSED SURFACE WATER DRAIN
- R.W.P.
- EMBANKMENT LINE

Site layout 1:500

Attachment B

Compliance with Regulation 735 of 2020

Compliance with Rules established under Regulation 735 of 2020 and Chapter V of Annex III to Regulation (EU) No 142/2011 (as amended)

Element	Criteria	Dawn Meats Proposal	Complies (Y/N)
1. Type of plant:	Combustion plants with a total rated thermal input not exceeding 50 MW.	Proposed ca. 12 MW unit (5MW - 20 MW range under MCP)	Yes
2. Starting material:	Meat-and-bone meal of Category 1 and Category 2 materials, to be used as a fuel for combustion in accordance with the requirements set out in point 3 alone or in a mixture of meat-and-bone meal, rendered fat and manure.	Cat 1 and 2 MBM only	Yes
3. Specific requirements for meat-and-bone meal used as a fuel for combustion:	(a) meat-and-bone meal shall be stored in the combustion plant securely in a closed storage protected from access of animals and shall not be sent to another destination unless authorised by the competent authority in case of break down or abnormal operating conditions. (b) the combustion plant must be equipped with: (i) an automatic or continuous fuel management system to place the fuel directly in the combustion chamber without further handling. (ii) an auxiliary burner which must be used during start-up and shut-down operations to ensure that the temperature requirements set out in Section 2(2) of Chapter IV are met at all times during those operations and as long as unburned material is in the combustion chamber	(a) fully enclosed and secure storage for MBM provided for in utilities building. Approval will be sought if material is to be sent to alternative facility. (b) Plant (FBC or Rotary Kiln) equipped with (i) conveyor feed from storage to boiler fuel feed point, with automatic feed rate management (ii) auxiliary burner to ensure minimum 8500C temperature maintained during start-up/shut down pending completed combustion of material.	Yes
4. Methodology:	Combustion plants in which meat-and-bone meal of Category 1 or Category 2 materials is used as a fuel shall comply with the general requirements set out in Chapter IV and the specific requirements set out in points B(4) and B(5) of this Chapter. B(4) Emission limit values and monitoring requirements	B(4)	

<table>
<tr><th>Element</th><th>Criteria</th><th>Dawn Meats Proposal</th><th>Complies (Y/N)</th></tr>
<tr>
<td></td>
<td>(a) ELV’s
<table>
<tr><th>Pollutant</th><th>Emission limit value in mg/Nm3</th></tr>
<tr><td>Sulphur dioxide</td><td>50</td></tr>
<tr><td>Nitrogen oxides (as NO2)</td><td>200</td></tr>
<tr><td>Particulate matter</td><td>10</td></tr>
</table>
(b) Monitoring
At least annually, using CEN (or where not applicable, ISO or national standards)

(c) All results shall be recorded, processed and presented in such a way as to enable the competent authority to verify compliance with the emission limit values.

(d) For on-farm combustion plants applying secondary abatement equipment in order to meet the emission limit values, the effective operation of that equipment shall be monitored continuously, and the results thereof recorded.

(e) In the event of non-compliance with the emission limit values referred to in point (a) or where an on-farm combustion plant does not meet the requirements of point 1 of Section 2 of Chapter IV, operators shall immediately inform the competent authority and take the measures necessary to ensure that compliance is restored within the shortest possible time. Where compliance cannot be restored, the competent authority shall suspend the operation of the plant and withdraw its approval.</td>
<td>(a) Emissions will meet ELV’s as specified

(b) Monitoring will be carried out annually

(c) Results managed in accordance with current IE Licence procedures and reported to facilitate compliance

(d) Monitoring and recording of operational control parameters for bagfilter will be carried out in accordance with standard IE licence methods

(e) Non compliances will be immediately notified to Agency in line with current IE Licence reporting arrangements</td>
<td>Yes

Yes

Yes

Yes

Yes</td>
</tr>
</table>

Element	Criteria	Dawn Meats Proposal	Complies (Y/N)
	B(5). Changes of operation and breakdowns: (a) The operator shall notify the competent authority of any planned change of the on-farm combustion plant which would affect its emissions at least one month before the date on which the change takes place. (b) The operator shall take the necessary measures to ensure that the periods of start-up and shut-down of the on-farm combustion plant and of any malfunctions are kept as short as possible. In the case of a malfunction or a breakdown of secondary abatement equipment, the operator shall immediately inform the competent authority.	(a) Notification will be made to EPA under Condition 1.4 of site IE Licence as appropriate. (b) Notification will be made to EPA as appropriate.	Yes Yes
5. Derogation and transitional period:	The Member State competent authority responsible for environmental issues may by way of derogation from point 3(b)(ii), grant combustion plants operating on 3 June 2020 an additional time period of maximum 4 years to comply with the second subparagraph of point 2 of Section 2 of Chapter IV.'	Not Applicable	N/A