

# Memorandum

**DATE:** 29<sup>th</sup> December, 2000  
**TO:** Each Board Member  
**FROM:** Leo Sweeney  
**RE:** Application from Munster Proteins Limited t/a Waterford Proteins for Review of IPC Licence Reg. No. 40

Class of activity:	7.7 The rendering of animal by-products
Name & Address of activity:	Munster Proteins Limited t/a Waterford Proteins, Christendom, Ferrybank, Waterford
Review Register Number:	586
Notice under Section 85(1)(b) issued:	07 November 2000
Information under Section 85(1)(b) received:	01 December 2000
Site visit:	20 December 2000

## Company

The above activity was granted an IPC licence on the 12 June 1997 bearing Register No. 40. Essentially the company has not operated a rendering facility at this location on a commercial basis since the early 1990's. The site is situated in the Kilkenny Local Authority functional area but the postal address is Waterford. The activity is located on a 14 acre site adjacent to the estuary on the perimeter of Waterford city. The area is primarily industrial with a small number of residential dwellings in relative close proximity to the facility.

Material arriving at the plant for processing is crushed and conveyed to a continuous cooker heated with steam. The cooked material is separated into tallow oil and meat & bone meal (MBM). The company operate a continuous cooking process with a capacity of 375 tonnes per day.

The Agency decided to review the existing licence, as provided for under Section 85(1)(b) of the EPA Act, 1992, in light of material change in the nature and extent of emissions including a proposal to process specified risk material (SRM).

## Proposed Determination

The Proposed Determination (PD) as drafted takes account of the requirements of Council Directive 96/61/EC concerning integrated pollution prevention and control. In particular Condition 10. *Energy Use* deals with energy use, reduction and efficiency on site, while Condition 15. *Residuals Management* provides for decommissioning of the site following cessation of the activity.

## *Materials Handling*

The company propose to handle animal by-products as well as SRM. Animal by-products and SRM are defined in the Glossary of Terms contained in the PD. SRM is defined in accordance with Commission Decision of 20 June 2000 regulating the use of material presenting risks as regards transmissible spongiform encephalopathies. It should be noted that this definition includes SRM not removed from dead animals i.e. fallen animals. The Department of Agriculture, Food and Rural Development (DAFRD) have direct legislative responsibility for the collection and transport of animal by-products and SRM as well as the processing and disposal of MBM and tallow oil.

Under Condition 7 of the PD, twenty seven conditions are specified which regulate the transportation, handling and processing of animal by-products and SRM. Conditions 7.1 and 7.2 aims to minimise the age of the material being received for processing and thereby reducing loadings on treatment systems with a particular emphasis on reducing odours. Conditions 7.5, 7.6, 7.7 and 7.8 requires that particular attention and consideration be given to material for processing to ensure that there are no spillages or odour nuisance during transportation.

Conditions 11.4.3 and 11.4.4 requires the licensee, prior to processing SRM, to demonstrate and test the suitability, adequacy, integrity and water tightness of all areas used to store material including tanks used to collect run-off and washings.

Condition 7.10 prohibits the facility from processing positive or suspect BSE material as well as animal diseases listed under the Diseases of Animals Act, 1966 (condition 7.11). Condition 7.19 requires all fallen animals arriving for processing to be transferred directly from vehicles to an overhead rail system.

Condition 7.20 states that no fallen animals shall be processed at the facility without having being tested for the abnormal protease-resistant form of a normal host protein. Condition 7.21 requires the licensee prior to processing SRM to submit to the Agency for approval a programme to ensure that all fallen animals arriving at the site are tested for the presence of the abnormal protease-resistant form of a normal host protein. (A prion protein is a small glycosylated protein molecule found in the brain cell membrane. An infected prion is one which has undergone a conformational change and in the process becomes heat resistant and protease-resistant. When a distorted prion molecule reaches the prions in the brain cell membrane of a host, the distorted molecule is able to act as a template to cause a normal prion protein molecule to adopt a similar distorted shape and that in turn is able to act as a template to do the same to another normal molecule and so on.) As condition 7.10 prohibits the processing of positive or suspect BSE animals, such material where it arises must be removed off-site. Condition 8.3 requires the licensee prior to the processing of SRM, to provide the Agency with full details of the storage/disposal route prior to exporting BSE positive or suspect material off-site.

Condition 7.18 requires that all meat and bone meal and tallow oil derived from the processing of SRM is heat treated to achieve the requirements of the First Schedule of S.I. No 182 of 2000. The First Schedule sets out these requirements as: Max. Particle Size 50 mm, Temp. >133°C, Time 20 minutes and Pressure greater than or equal to 3 bar. This heat treatment process is widely regarded as achieving a reduction of up to 1,000 fold in possible BSE agent infectivity. The condition also requires validation of the heat treatment process in accordance with the Third Schedule of S.I. 182 of 2000.

Conditions 7.23, 7.24, 7.25, and 7.26 requires that the licensee handle meat and bone meal in a manner that does not give rise to spillages or dust emissions. Furthermore, all such handling is to be undertaken in an enclosed area and conveyed directly to bags and sealed awaiting further disposal. Condition 8.4 requires that the company shall prior to export off-site for disposal of meat and bone meal and/or tallow oil, provide full details for approval to the Agency relating to the disposal/recovery route.

### ***Emissions to Atmosphere***

An extensive range of conditions have been included in the PD to minimise odours and effectively deal with odourous emissions. Some of these conditions have already been discussed under Materials Handling above. In addition condition 5.4 requires the licensee to undertake an odour assessment to identify and quantify all significant odour releases as well as assessing the suitability and adequacy of the odour abatement system(s). Condition 5.6 requires the licensee to...*"prepare to the satisfaction of the Agency, a programme to demonstrate negative pressure throughout all buildings where animal by-products, SRM, intermediates or finished products are deposited, stored, processed or manufactured to ensure that there are no significant escape of odours."*

Condition 5.7 requires proposals for the provision of an air lock system at the material intake area while Condition 5.8 requires the venting of tallow storage tanks to air abatement plant. Condition 5.12 prohibits combustion of odorous gases in the boiler without the prior approval of the Agency. Conditions 7.13, 7.14, and 7.15 necessitate the maintenance of negative pressure and building integrity to control odours.

*Schedule 1(i) Emissions to Atmosphere* of the PD sets out ELV's and monitoring requirements for emission arising from the biofilter.

Condition 7.27 limits the total quantity of animal by-products and/or SRM which can be received on any one day for processing to 370 tonnes.

Condition 5.13 requires that fuel oil used in boilers has a sulphur content less than 0.25% by weight, or raise the stack height to a minimum height of 21 meters. Condition 5.14 requires the licensee to maintain records of all fuel deliveries to the site.

### **Waste Water Treatment**

Trade waste waters arising for disposal originates from two main sources. The primary source arises from condensed cooker off gases and secondly from wash waters originating from the cleaning of vehicles, trailers, containers, storage areas, equipment used for the collection, transfer and handling of animal by-products and SRM, as well as runoff arising from animal by-products and SRM.

Molecules such as prions cannot exist free in water and it is therefore considered that any BSE agent in the aquatic environment will be bound to solids and particles. Therefore any process which removes solids or particles presents a barrier to the transmission of the BSE agent. In the U.K. 4 mm screens are recommended for use in slaughtering plants to reduce possible BSE infectivity via this routeway.

Condition 6.6 of the PD requires that all waste waters arising from the secondary source detailed above are passed through a screen with a perforation size of 0.5 mm. Thus precautionary screening is undertaken, which exceeds by a factor of eight times that recommended in the U.K. Furthermore, the screened waste water stream is then passed to heat treatment as specified under the First Schedule and validated in accordance with the Third Schedule of S.I. No 182 of 2000 (condition 6.5) and discussed earlier in this report. The removal of solids material followed by heat treatment provides precautionary management and represents best practice in respect of this waste water stream prior to passing off-site for preliminary and secondary biological waste water treatment and final disposal to the estuary.

All trade waste waters arising on site are conveyed off-site to AIBP Limited t/a AIBP Waterford, Reg. No 205 for primary and secondary biological treatment. AIBP Limited t/a AIBP Waterford are Class 7.4 activity involved in the slaughtering of animals and are responsible for the operation and maintenance of the waste water treatment plant as well as the final treated waste water discharge. The combined treated waste waters arising from the two facilities are discharged to the Suir Estuary.

*Schedule 2(i) Emissions to Waste Water Treatment*, specifies maximum ELV's for waste waters passing off site for treatment. The company have requested that the ELV for BOD should be

raised to 5,000 mg/l in respect of grab samples to take account of fluctuations in the quality of this stream. It should be noted that the daily mean load of 840 kg/day remains the same and the company have not requested an increase in this figure.

The company are presently examining alternative treatment technologies for the rendering industry, in particular recuperative thermal oxidation systems to deal with emissions arising from the cooking process (representing approximately 60% of the total volume of waste water arising for treatment and disposal). Thermal oxidation is presently used at a number of rendering facilities throughout Europe with the added advantage of combusting odourous gas streams as well as incorporating heat recovery. It is suggested that further savings can be made by using tallow derived from processing animal by-products and/or SRM to fuel the thermal oxidation process. Condition 6.8 requires the licensee not later than four months from the date of grant of this licence, to submit to the Agency for approval proposals to treat gases from the rendering process. Condition 6.9 restricts the quantity of animal by-products and/or SRM which can be accepted for processing at the site of the activity until alternative arrangements have been agreed and put in place to treat gases from the rendering process.

### **Noise**

There is no history of noise nuisance associated with the operation of this activity and it the noise levels specified in the PD will not be exceeded at the nearest noise sensitive location(s).

### **Facilities for the Protection of Groundwater and Surface Water**

Condition 11.4.1 requires that all tank and drum storage areas (to include tallow oil storage) to be bunded and the integrity and water tightness demonstrated to the Agency (condition 11.4.2). Conditions 11.4.3 and 11.4.4 discussed earlier in this report represent a significant improvement over existing IPC licences issued to rendering activities in seeking to establish the integrity of areas and tanks used to contain animal by-products and SRM as well as runoff arising from the storage and handling of this material.

The PD also requires the company to carry out a risk assessment to determine if the activity should have a fire water retention facility (condition 11.2.1).

### **Submissions**

The following submissions were received on the Munster Proteins Limited t/a Waterford Proteins IPC licence review.

#### **1. Ms. Cora Lang, Member Kilkenny Co. Co. (received 22 December 2000)**

*The submission refers to several complaints from constituents regarding the operation of this activity.*

The submission provides no further details relating to the nature of such complaints. The PD as drafted strictly regulates and controls all emissions associated with the operation of this activity. Condition 4. Notification necessitates the company to contact the Local Authority in the event of any incident with the potential for environmental contamination.

#### **2. Dr. Anthony Lee, 18 Catherine Street, Waterford (received 22 December 2000)**

*The submission objects to the issuing of a licence to the facility to process SRM on the grounds of possible health hazards and air pollution.*

The submission does not specify what particular health hazards are envisaged as a result of the operation of this facility. The PD contains an extensive range of conditions dealing with the

transportation, handling, processing, testing and disposal of materials arriving for processing. The health risks associated with the operation of this activity are considered to be extremely low having regard to research undertaken by the Environmental Agency (U.K.) *Risks From BSE Via Environmental Pathways*.

This report earlier detailed the extensive provisions contained in the PD relating to odour minimisation, control and treatment.

**3. Mr. Percy Delaney, Briarswood, Newtown, Waterford**

(received 22 December 2000)

*The submission objects to the review including the proposal to process SRM.*

The general nature of this objection has been addressed in the body of this report.

**4. Ald. D. Daniels, Mayor of Waterford** (received 22 December 2000)

*The submission expresses the concerns of the City Council in the light of the previous difficulties in the operation of this activity in particular odours and now health risks. The submission recognises the excellent work of the Agency and the exacting standards which are required. The most stringent assessment and strict compliance is sought.*

The PD as drafted represents best practice for this sector of activity and is regarded by the Agency to be Best Available Technology as defined in Council Directive 96/61/EC, concerning integrated pollution prevention and control. The assessment of the information required for this review as well as regard to the work, research, practices, legislative measures and experience gained by others in this field has been thorough and exhaustive. The best practices derived from a combination of all of these sources has been incorporated into the conditions contained in this PD. Compliance with the conditions in the PD will be assessed on an ongoing basis by the Agency through monitoring, reporting, site visits and audits. The issues raised regarding odour control and health risks have been addressed earlier in this report.

**5. Dr. Paul Gannon, South Eastern Health Board** (received 22 December 2000)

*The submission reminds the Agency that an IPC licence shall only be issued by the Agency when there is no risk to public health. The Health Board has received several complaints relating to odour nuisance over the years and has caused considerable upset to the community surrounding the plant. Any new licence should specifically deal with this problem as well as other emissions.*

The comprehensive range of conditions set out in the PD has regard to the risk to public health and the environment as required under the EPA Act 1992. The Agency are satisfied that there is no significant risk to human health or the environment as a consequence of issuing this PD.

Issues raised relating to odours and other emissions have been addressed earlier in this report.

**Recommendation**

I am recommending that the Board approve the PD to Munster Proteins Limited t/a Waterford Proteins with the conditions as attached.

Signed

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Leo Sweeney  
Inspector