

---

# M E M O R A N D U M

---

**DATE:** 27 January 1998  
**TO:** Each Board Member  
**FROM:** Michael Henry  
**RE:** AIBP Ltd. t/a AIBP Rathkeale - Application for IPCL

Application Details	
Applicant:	AIBP Ltd. t/a AIBP Rathkeale, Rathkeale, Co. Limerick.
Reg. No.:	191
Class of activity:	7.4 - The slaughter of animals in installations where the daily capacity exceeds 1,500 units and where units have the following equivalents: 1 head of cattle=5 units.
Local Authority:	Limerick County Council
Licence application received	01/10/96
Notices under article 11(2)(b)(ii) issued:	28/11/96
Article 11(2)(b)(ii) reminders issued:	07/01/97; 28/08/97
Information under article 11(2)(b)(ii) received:	01/10/97; 21/11/97; 28/11/97;15/12/97
Site visit:	20/06/97; 16/01/98

## Company Profile

AIBP Ltd. t/a AIBP Rathkeale is primarily involved in the slaughter of cattle at its meat processing facility in Rathkeale, Co. Limerick. The plant, which was previously owned by Shannon Meats was taken over by AIBP in 1988 and is designed to cope with a maximum of 500 cattle/day. Some deer slaughtering also takes place at this facility. A total of 120 employees are employed on site and the operating hours vary depending on the time of year. During the busy autumn period, the plant may operate from 6.00 am to 10.00 pm, 5 days per week with some loading and cleaning being carried out at weekends. In less busy periods, the plant operates from 8.00 am to 8.00 pm 3/5 days per week.

The range of processes at the facility include the normal operations which are associated with slaughtering facilities. A fat processing plant is located on site where fat from the processing hall is processed on a batch basis to produce tallow oil and greaves. Both the tallow oil and the greaves are dispatched for further processing off-site. The company have indicated that the capacity of this plant is below the 40 tonnes/day threshold for Class 7.1 activities. In addition, there is an on-site canning process where canned meats are cooked in retorts. The cans are then cooled, packed and stored on site prior to despatch to customers.

## Raw Materials in Use

In addition to cattle and deer, other raw materials used on site include blood processing chemicals (citric acid, caustic soda), hypochlorite/phosphate based cleaning chemicals, water treatment chemicals (alum, chlorine gas, salt), biocides and various oils and greases.

## Emissions to Atmosphere

The company have no existing Air Pollution Act licence. There are two boilers on-site and emissions from both boilers are discharged to atmosphere through two separate stacks each of which extends approx. 10m above ground level. Conditions 5.1 and 5.2 request the applicant to further investigate emissions from the boiler and implement any necessary improvements. Minor emissions arise from the fat cooking process while the applicant identified a number of fugitive emission sources from the livestock delivery area, blood storage/handling, paunch pressing and loading, offal collection, the WWTP area and the abattoir/boning operation.

## Process Effluent Emissions

A licence under Section 4 of the Water Pollution Act was issued to Shannon Meats Ltd. on 30/4/82 to discharge effluent to the River Deel. Wastewaters arising at the site are categorised under two separate headings: (i) process effluent from the principal processing operation at the site i.e. the slaughtering of animals and (ii) discharges from a water treatment plant.

### *Main Process Effluent Emission*

Process effluents from the slaughtering plant are treated in the facility's wastewater treatment plant (WWTP) which consists of a coarse screen, oxidation ditch, settlement tank and a sludge filter press. The treated effluent combines with surface water from the site which in addition to surface water run-off also contains cooling tower water and cannery retort water (used to cool the canned meats post cooking). The combined treated effluent/surface water is then discharged to the River Deel approx. 1-2 miles from the main processing site. The limits in the proposed determination for the final effluent from the on-site WWTP are set to ensure that the recommended standards in the WQMP are not exceeded. The BOD load from the WWTP amounts to 1/5th of the assimilative capacity of the River Deel, on the basis of the 95%ile flow in the receiving waters.

**Table 1**

<b>Parameter (mg/l except for pH)</b>	<b>PD ELV</b>	<b>BATNEE C ELV</b>
pH	6-9	6-9
BOD	20	40
COD	100	-
SS	30	-
Total Ammonia (as N)	10	10
Total Nitrogen (as N)	25	15
Orthophosphate (as P)	2	-
Oils, Fats, Grease	15	15

The final effluent from the Sanitary Authority's WWTP is discharged to the River Deel approx. 200m downstream of the AIBP Rathkeale effluent discharge point. This WWTP has a population equivalent of 6,000 and consists of an oxidation ditch followed by a settlement tank. The estimated BOD loading from Sanitary Authority's treatment plant (assuming effluent BOD of 10mg/l) has been calculated at 12kgBOD/d and on this basis,

the combined loading from the Sanitary Authority WWTP and the effluent from AIBP Ltd. t/a AIBP Rathkeale's WWTP will consume approx. 29% of the available waste assimilative capacity (BOD loading) in the River Deel.

#### *Effluent Discharge from Water Treatment plant*

The plant utilises surface water which is abstracted from the River Deel approx. 1-2 miles from the main slaughtering operation and 200m upstream of the final effluent discharge point. A water treatment facility is located adjacent to the water abstraction point where water is treated with alum to remove contaminants which settle out in a settlement tank. The overflowing water is dosed with chlorine and is then subject to further treatment in sand filters. The treated water is then pumped to storage at the main facility. Emissions to water from this plant arise from the backwashing of the filters which takes place on a batch basis (~2hrs/day) and also from the settlement tank. The proposed determination sets limits for discharges from this operation. The BOD loading from this plant is 3kgBOD/d while discharges of aluminium are limited to ensure that the recommended Drinking Water Regulations and US/WHO requirements (0.2mg/l) are not exceeded in the receiving waters downstream. Condition 6.7 requires the applicant to examine the options for treatment, reuse and disposal of such wastewaters. The settlement tank is cleaned on a monthly basis and the applicant is required to transport the washings/wastewaters arising from the cleaning process to the on-site WWTP for treatment.

The EPA report on river water quality (1991-94) states that moderate pollution in the River Deel can be quite extensive. The River Deel is a freshwater river whose two main uses are abstraction of water for potable purposes and fisheries. Among the water abstraction points located downstream of the AIBP effluent discharges are the Shannon Estuary water supply scheme and Askeaton public water supply. In addition to meeting the limits specified in *Schedule 1(i) Emissions to Water* of the proposed determination, the applicant is requested to carry out an assessment of the pathogenic impact of effluent discharges from the on-site WWTP (Condition 6.5). The applicant is required as part of the EMP to further look at implementing measures which will result in improvements in reductions in the effluent loads being discharged.

## **Waste Management**

### *Hazardous waste*

Hazardous wastes generated at the facility includes Specified Risk Material (SRM) and waste oils which are taken off-site by an agreed hazardous waste contractor.

### *Animal by-products and Other waste*

Animal by-products such as offal, bones, blood and coarse screen materials are taken off-site for rendering. Other wastes include general office/factory wastes and these are disposed of to the local Limerick Co. Co. landfill. Scrap metal is further processed/recycled off-site.

### *Waste for landspreading*

The applicant identified three main sources of wastes for landspreading: (i) dewatered paunch material (1,300 tonnes/yr) (ii) dewatered sludge from the on-site WWTP (750-1,000 tonnes/yr) and (iii) lairage/truck wash solids (115m<sup>3</sup>/yr). These wastes are currently landspread on 2 farms owned by AIBP Rathkeale and Mr. Declan Lowes, Ballingarrane, Askeaton, Co. Limerick. This landbank (all grassland) is estimated at 40 hectares and this excludes buffer zones where spreading is not carried out. Also included in this investigation was waste land around the factory plant where landspreading currently does not take place. A vulnerability assessment of the area around Rathkeale classified it as an extremely vulnerable, regionally important aquifer. Trial pit analysis of the landspread areas indicated that the soil-subsoil sequence for some of the landbanks was not consistently thicker than 2m. Based on the information submitted as part of the application it is evident that adequate land area is not available for landspreading of all of the above wastes. Condition 7.5.1 of the proposed determination allows the applicant to

apply the lairage/truck solids waste only, on the lands identified as being suitable for landspreading. In addition, the applicant will also have to agree alternative disposal/recovery methods for the paunch and dewatered WWTP sludges (Condition 7.5.2). This in effect means disposing of these materials to landfill or finding additional lands for landspreading. The proposed determination specifies a number of other requirements in relation to landspreading including a the submission of a Nutrient Management Plan within six months of date of grant of the licence and annually thereafter.

## Surface Water

Surface water from the main meat processing facility combines with the treated effluent from the WWTP prior to ultimate discharge to the River Deel. In addition to rain water run-off, cooling tower water and cannery retort water also discharge to this surface water system. The company are required to monitor surface water discharges as outlined in the proposed determination.

## Noise Emissions

The facility is located on the outskirts of the town of Rathkeale. The Agency has received no complaints concerning noise to date. The proposed determination will limit the company to daytime 55  $L_{eq}dBA$  and night-time 45  $L_{eq}dBA$  at noise sensitive locations in addition to carrying out a noise survey of the site operations every two years.

## Submissions

### *Submission No. 1*

A submission was received from the Department of the Marine (Ms. Mary Kinsella) on 01/11/96. This submission requests that (i) BOD and suspended solids levels of 20mg/l and 30mg/l, respectively, be applied to effluent discharges to surface water and (ii) the EPA apply stringent limits for phosphorous in the licence to combat concerns regarding the levels of phosphorous in the majority of water courses.

*The proposed determination sets limits of 20mg/l and 30mg/l for BOD and suspended solids, respectively. In addition, the licensee is requested to comply with an ortho-phosphate limit of 2mg/l.*

### *Submission No. 2*

A letter was received on 14/11/96 from Annette Fitzgerald of the Mid-Western Health Board and lists the following matters which may be of concern from an environmental health viewpoint:

- Quality of final effluent discharge: This is of particular concern as the extract points for Askeaton and the Shannon Estuary Public Water supplies are both located downstream of Rathkeale. The Board also request details of other organic compounds/parameters present in the final effluent.

*Schedule 1(i) Emissions to Water of the proposed determination specifies limits for a number of chemical parameters while the applicant is also obliged to undertake an assessment of the pathogenic impact of the effluent discharge from the on-site WWTP and implement any recommendations from this study (Condition 6.5).*

- Disposal and Landspreading of blood, slurry and sewage sludge:

*It is considered that the requirements of Condition 7 and Schedules 2(i) to 2(vi) of the proposed determination will ensure efficient control over the disposal and landspreading of wastes from this facility. Landspreading of blood and sewage sludge is not permitted.*

- Offal storage:

*Condition 9.3.5 requires the licensee to ensure that while awaiting disposal, all materials (including offal) shall be collected and stored in designated areas protected against spillage and leachate run-off.*

- Air pollution - Gaseous emissions

*The proposed determination requires the applicant to carry out a detailed study of emissions from the on-site boilers and carry out any remedial measures necessary. In addition, monitoring of such emissions is also requested.*

- Odour control from fat rendering

*Emissions from the fat rendering process are minor and it is considered that Condition 5.6 adequately addresses any odour issues which may arise from this facility.*

#### **Submission No. 3 - Limerick Co. Co.**

A submission was received from Limerick Co. Co. on 07/11/97 in relation to the landspreading of waste material from the AIBP facility by a local farmer Mr. Declan Lowes on his farm. It pointed out that local farmers were concerned when waste materials from the facility were contaminated with offal and Specified Risk Material. It considered the current method of disposal of rumen contents by Mr. Lowes to be inadequate and a water pollution hazard. It contended that this material has a high potential for pollution run-off because of its storage on a disused railway line. A Section 12 Notice under the Local Government (Water Pollution) Acts 1977 and 1990 was served by the Local Authority on Mr. Lowes in November 1997.

*The Section 12 Notice required the removal of all stored materials (including old silage) from or in the vicinity of the disused railway line and landspread in accordance with the best agricultural practice. This notice also prevents the future storage of organic matter on or adjacent to the disused railway line and it also required proposals (within two months) for the construction of a contained slab and tank for the future storage of rumen/bowel contents. No future silage clamps are to be constructed until containment facilities are provided.*

*The Agency followed up this Section 12 Notice as an enforcement matter which required the applicant to provide further details on the storage and disposal of paunch and offal materials from the facility. Limerick Co. Co. verbally confirmed that the paunch in fact was not infected with SRM. A site visit by Agency staff on 16/01/98 confirmed that the paunch material is no longer stored on the disused railway line, although the remaining paunch material is currently stored in covered stock piles on the adjacent land awaiting disposal/landspreading. Condition 7.5.6 of the proposed determination requires the licensee to submit a report within two months of date of grant of the licence on the removal of all paunch which is stored at off-site lands. This should be disposed/recovered in a manner which must have the prior agreement of the Agency. The proposed determination also requests the applicant to immediately agree with the Agency alternative methods for the disposal/recovery of the paunch.*

#### **Submission No. 4 - Mr. Dan Neville, T.D. (08/01/98)**

This submission merely points out that landspreading of animal waste from AIBP Rathkeale is of local concern.

*As outlined above, the proposed determination requires the applicant to control the landspreading of waste from this facility by complying with the requirements of Condition 7 and Schedules 2(i) to 2(vi). The applicant is requested to agree alternative methods for the disposal/recovery of the dewatered paunch and WWTP sludges and remove all paunch which is stored on off-site lands and dispose of/recover this material in a manner which is acceptable to the Agency.*

### **Recommendation**

That the Board approve the proposed determination as submitted.

Signed

---

Michael Henry