

Kepak Cork
Condonstown, Watergrasshill, Co. Cork
Registration Number P0595-01

Annual Environmental Report
2009

Report Date:

March 2010

Complied By:

Dave O'Sullivan

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1.0 Introduction

1.1 Plant Details

This report has been produced to review the annual environmental performances of Kepak Cork during the period January to December 2009. Kepak Cork operates an animal slaughtering and meat processing facility in Condonstown, Watergrasshill, Co. Cork. The environmental performance of the company is monitored and controlled under an IPPC licence, registration number P0595-01. 2009 was the eight year that Kepak Cork has been operating under licence.

1.2 Environmental Policy of Kepak (Cork)

1.2.1 Principles

We recognise that responsible environmental management is good business practice.

Responsible environmental management enhances the Quality of our meat products and is in keeping with our customer's requirements.

We are committed to the protection of the environment and the well being of the community in which we operate.

We will use clean and efficient processes at all stages of our production, continually monitor energy costs, water usage and minimise waste.

We will continually seek to improve our environmental performance.

1.2.2 Actions

We will develop our Environmental Management System so that all activities on the site are managed and controlled in an environmentally responsible manner.

We will make available to the public and customers, information on our environmental performance.

We will train and develop our staff and contractors in the best environmental, health and safety practices.

We will comply with all environmental regulations as laid down by the EPA and other regulatory bodies, and co-operate fully with such bodies.

All new activities, products and processes shall be addressed to identify possible environmental impacts.

Site response procedures will be put in place to prevent accidental emissions of materials or energy on the site. In addition, procedures will be put in place in the event of detection of non-compliance with this policy.

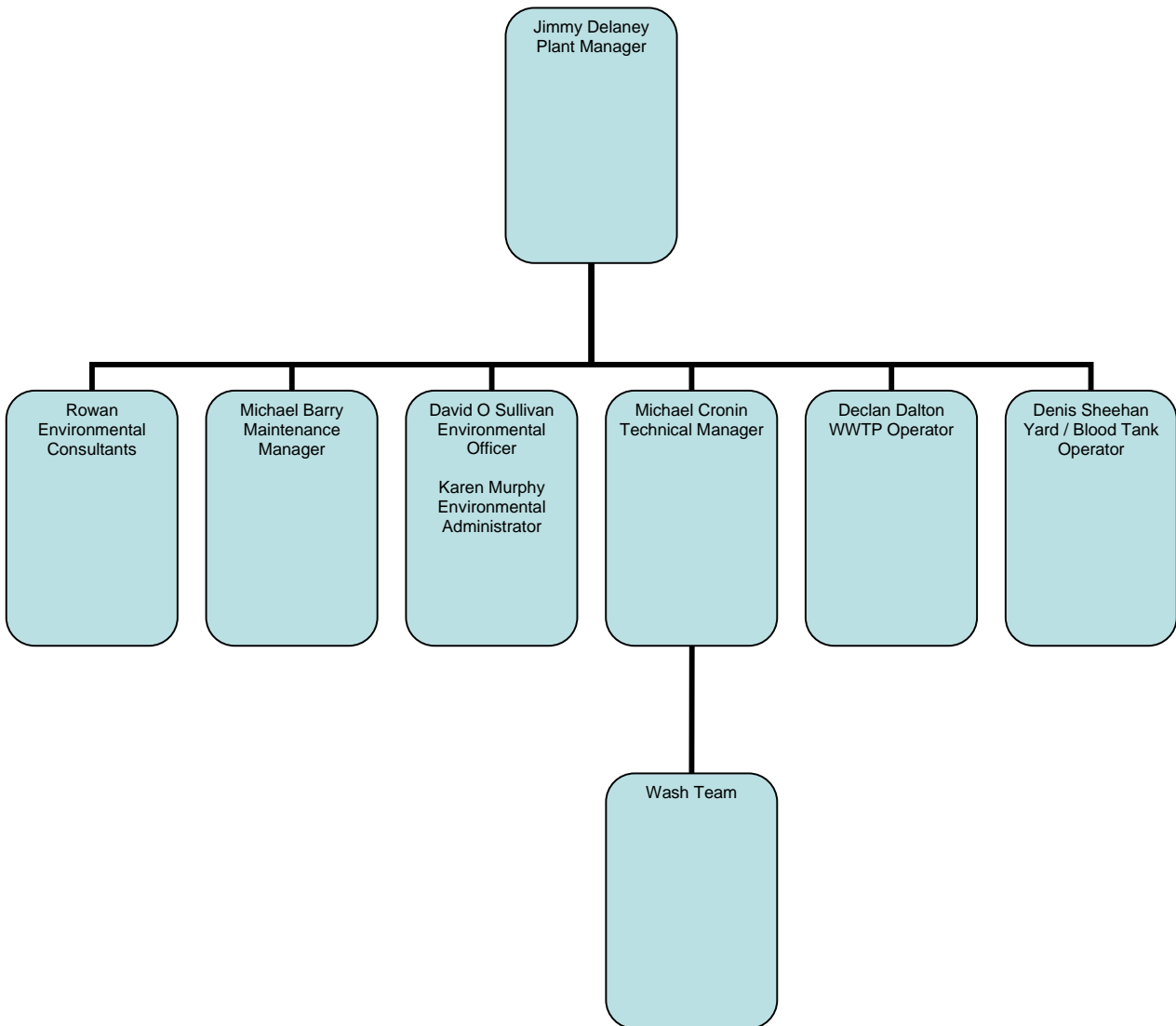
Wherever possible waste will be recycled from all activities on site.

1.3 Company Organisational Chart

The General Manager is responsible for the implementation of the Environmental Policy, overall environmental management of the site and allocation of resources.

The Environmental Officer is responsible for the day to day operations of the site, management of the IPPC licence, submission of reports to the agency and consultation with the management board.

The Maintenance Supervisor is responsible for the day to day plant operation of the waste water treatment plant and other abatement systems on the site.



2.0 Summary Information

2.1 Self Monitoring Data - Emissions to Water

2.1.1 Emissions to Water Summary

Schedule 2 (i) in the licence outlines the parameters to be analysed on the effluent. The receiving water at Kepak was the river Flesk, emission point reference number SW1, located to the western boundary of the site. The maximum volume of water to be discharged in any one day was 440 m³.

Table 2.1.1 (i): Licensed Discharge Limits

Parameter	mg/L	Kg/day
BOD	20	8.8
Suspended Solids	30	13.2
Ammonia as N	0.5	0.22
Total Phosphorus as P	2.0	0.88
Oils, Fats and Grease	10	4.4
Total Nitrogen (as N)	15	6.6
pH	6 - 9	N/A
Volume m ³ /day	440	N/A

Effluent was analysed on a daily, weekly and monthly basis during 2009.

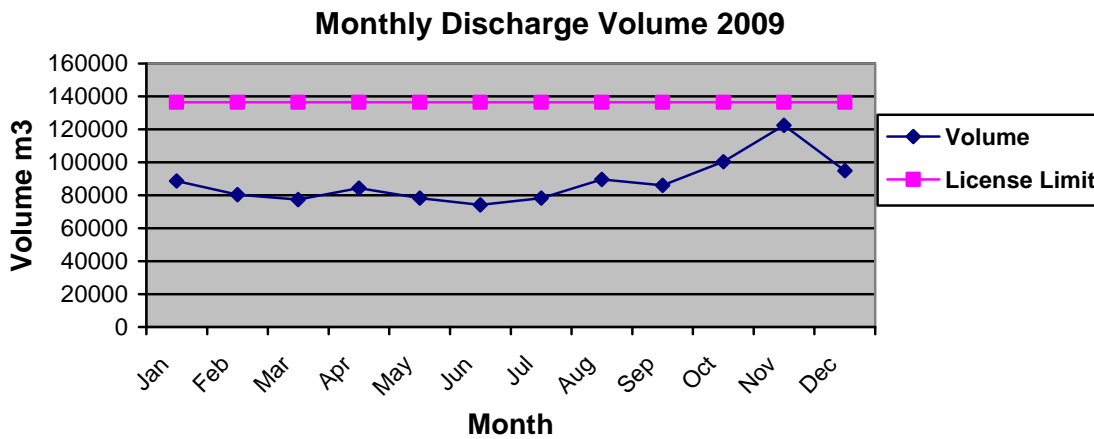
Table 2.1.1 (ii): Summary Table of Emissions to water

Parameter	Mass Emissions (Kg) 2008	Mass Emissions (Kg) 2009	Licensed Mass Emissions
Volume m ³	100,603	103653	160,600
BOD	71.72	142	3,212
Suspended Solids	2223	2023.5	4,818
Ammonia as N	13.98	14.88	80.3
Total Phosphorus as P	3.16	8.72	321.2
Oils, Fats and Grease	0	0	1,606
Total Nitrogen (as N)	2048	2010.7	2,409
pH		-	-

2.1.2 Volume of Treated Effluent Discharged

The total volume of treated effluent discharged into the River Flesk was 103,653 m³ for the period January to December 2009. The volume of water discharged did exceed the daily discharge licence requirement of 440 m³ on one occasion during the reporting period, due to heavy rain fall. The exceedence occurred on the 19th November and the amount discharged was 680m³. The average daily discharge volume was 283.9m³/day.

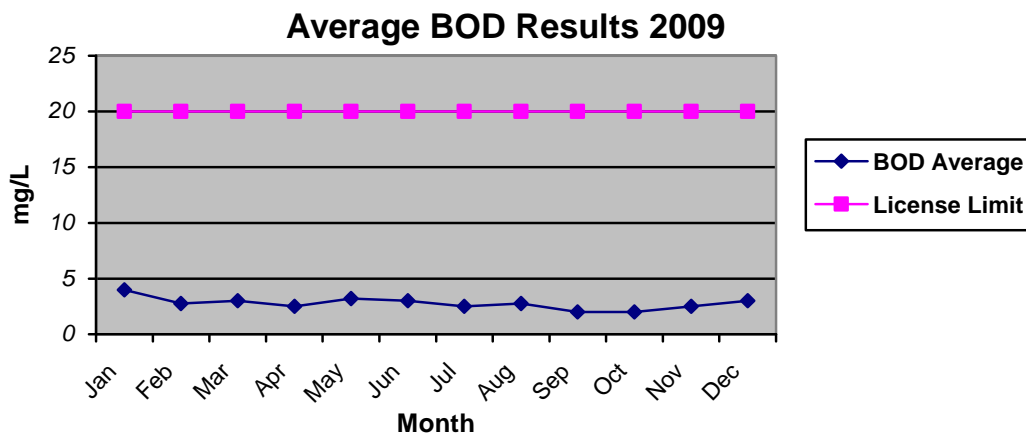
2.1.2 Graph: Volume of Water Discharged in 2009



2.1.3 BOD Loadings Discharged

The BOD loading to the River Flesk for the year 2009 was 142.0 Kg. This equates to a BOD loading of 0.38 Kg/day (Licence loading limit 8.8 kg/day). Average daily BOD₅ loadings were in compliance with licence requirements during the year. The BOD₅ limit set out in the IPC licence was 20 mg/L. Kepak were fully compliant with the licence limit during 2009, determined from samples analysed on a weekly basis.

2.1.3 Graph: BOD of Effluent Discharged in 2009

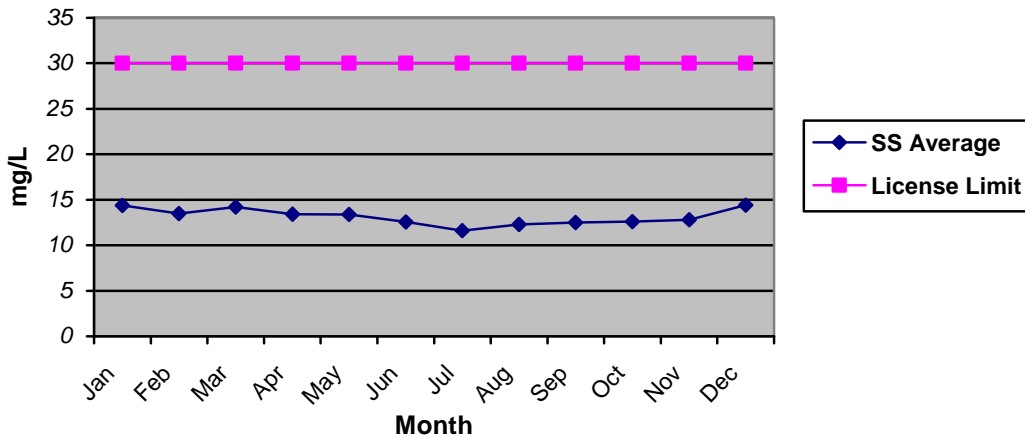


2.1.4 Suspended Solids

Suspended solids were analysed daily in the effluent monitoring programme. Kepak were fully compliant with licence requirements during 2009. A total of 2023.5 kg of suspended solids was discharged to the river Flesk during 2009, which evaluates as 5.54 kg/day (licence limit – 13.2 kg/day)

2.1.4 Graph : Suspended Solids Discharged 2009

Average Suspended Solids Results 2009

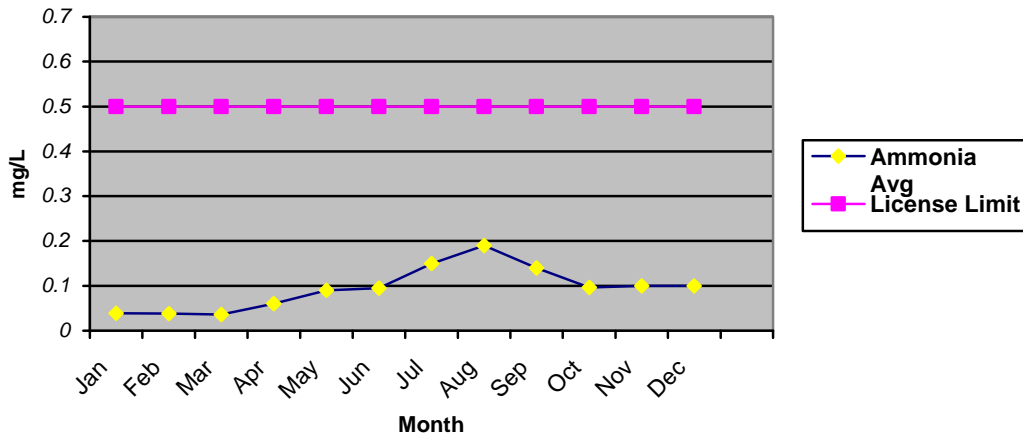


2.1.5 Ammonia as N

During 2009 the total ammonia loading to the river Flesk for the year was 13.9Kg. This was determined at 0.040 kg/ day over the year (Licence Limit – 0.22 kg/day) Kepak were fully compliant with the licence limit during 2009, determined from samples analysed on a daily basis.

2.1.5 Graph : Ammonia Discharged 2009

Average Ammonia Results 2009

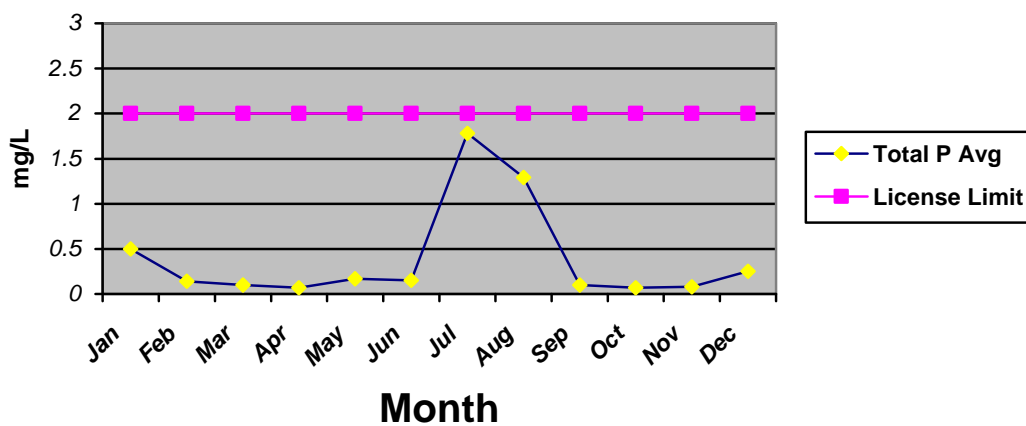


2.1.6 Total Phosphorous

During 2009 the total Phosphorus loading to the river Flesk from Kepak was 8.72 Kgs. This equates to approximately 0.023 kg/day. The licence limit for discharge to the river was set at 2.0 mg/L or 0.88kg/day. Kepak were in non compliance with the licence limit during 2009 on one occasion. On this occasion an elevated Total Phosphorous result of 4.73mg/L was recorded on the 17/07/2009.. Total Phosphorous was tested on a weekly basis by a contract laboratory. These weekly results were averaged to obtain a monthly average.

2.1.6 Graph : Phosphorous in Effluent Discharged 2009

Average Total P 2009

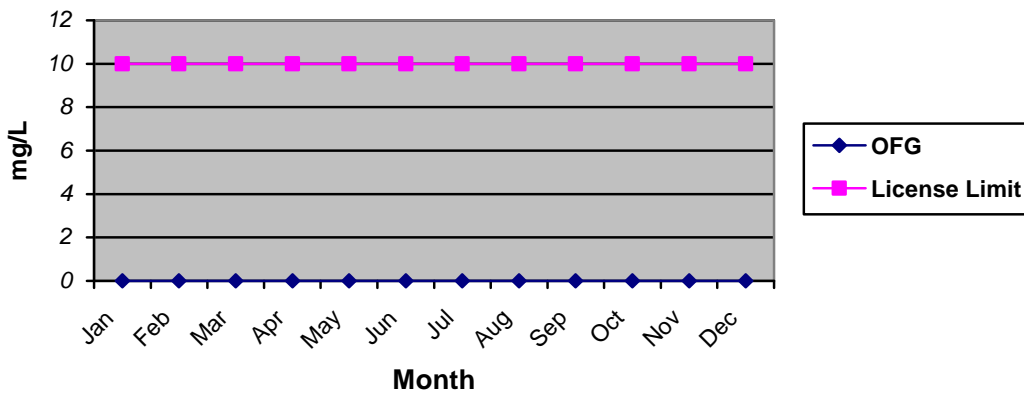


2.1.7 Oils Fats and Grease

Oils, fats and grease was analysed on a monthly basis by an external laboratory. The concentration present was always below the contractor’s limit of detection of 10 mg/L.

2.1.7 Graph : Oils Fats and Grease in Effluent 2009

Average Oils, Fats, Greases 2009

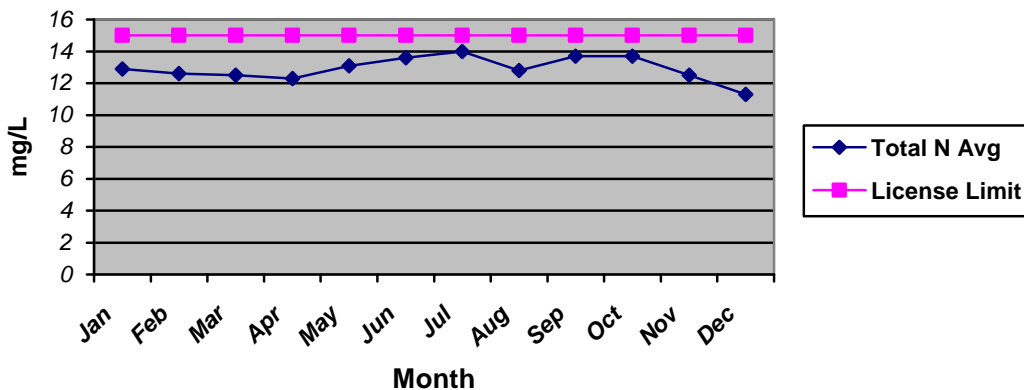


2.1.8 Total Nitrogen

During 2009 the total nitrogen loading to the river Flesk for the year was 2,010.7Kg. This was determined at 5.50 kg/ day over the year (Licence Limit – 6.6 kg/day). Total Nitrogen was analysed on a daily basis in 2009.

2.1.8Graph : Total Nitrogen in Effluent 2009

Average Total Nitrogen 2009



2.2 Self Monitoring Data – Summary Report of Surface Waters Monitoring Results 2009

In accordance with Condition 9.1.2 of Kepak Cork's IPPC licence here follows a summary of the surface water monitoring results for 2008.

The following are the surface water discharge points in Kepak Cork; SW2, SW3, SW4, SW5, SW6, SW7, SW8, SW9 and SW10

Each quarter these results are forwarded to the Agency. Below is a table showing the average levels detected for each parameter

2.2 Table: Average Levels in Surface Waters 2009

Parameter	Units	Average
BOD	mg/L	2.41
COD	mg/L	17.74
Conductivity	ps/cm	501.5
Total N	mg/L	4.71
Total Ammonia	mg/L	0.34
Temperature		Ambient
pH		7.2
Visual Inspection		Acceptable

2.3 Groundwater Monitoring Results 2009

In accordance with Condition 9.2.4 of Kepak Cork's IPPC licence here follows a summary of the ground water monitoring results for 2009.

The Kepak Cork site is serviced by 13 wells. These wells pump into a collecting tank in the Complex 1 area of the plant. When the water is pumped from this holding tank it is chlorinated for factory use and held in 2 other holding tanks.

We samples three of our wells as requested by the agency. We sampled one well up gradient from the site and two wells down gradient from the site. The three wells were well number 1 (up gradient) and well's number 11 and 12 (down gradient).

The table below shows the results from the three wells mentioned, water samples taken against EPA groundwater guidelines 2003.

Parameter	Units	EPA Guideline	Well NO:1	Well NO:11	Well NO:12	
pH			6.5	6.7	6.3	
COD	mg/L		<15	<15	<15	
Nitrate Nitrogen (as N)	mg/L	25	4.8	7.3	9.4	
Ammonia Nitrogen (as N)	mg/L	0.15	<0.05	<0.05	<0.05	
Total Nitrogen (TKN+TON asN)	mg/L		4.6	7.1	9.4	
Conductivity @25°C	Ps/cm	1000	336	417	319	
Total Coliform count	MPN/100ml		<3	<3	4	
Faecal Coliform count	MPN/100ml		<3	<3	<3	
Chloride by IC	mg/L	30	18	28	23	

The quality of the ground water supplying Kepak is of a very good quality. All parameters were within the EPA groundwater guidelines 2003.

2.4 Self Monitoring Data - Emissions to Air

2.4.1 Monitoring of Emissions to Atmosphere

There was one emission point, labelled A1-1, in Kepak Cork that required annual monitoring under schedule 1(i) of the licence no PO595-01. The analysis of boiler stack emissions and boiler efficiency servicing was carried out by Geoff Castles Boiler Services Ltd. The fuel type used in the boilers was medium fuel oil during the period. Monitoring and service was carried out while the boiler was operating on low, medium and high fire. The emission results reported are an average of low, medium and high fire.

Table 2.2.1 2009 Emission Results

Parameter	Units	19.11.2009
Sox	ppm	50
NOx	ppm	272.3
CO	ppm	6
Combustion Efficiency	%	91.43%

2.4.2 Fugitive Emissions

There were no Fugitive Emissions from the Cork site in 2009.

2.5 Waste Management

Table 2.5 The company produced the following waste in 2009:

Waste Product	Tonnes	Litres	Destination	Transporter	EWC Code
Specified Risk Material CAT 1	6600.26		Collage Proteins	Clonmel Fats and Powers	20203
Bone/offal CAT 3	597.33		Farragh Proteins	Power Transport	020202
Blood CAT 3		933,400	APC Technologies	Kehoe Transport	20102
Fat CAT 3	2546.59		Farragh Proteins	Power Transport	020202
Municipal Waste	344.98		Waste Recovery Services	Waste Recovery Services	200301
Mixed Waste	12.58		Waste Recovery Services	Waste Recovery Services	200307
Scrap Metal	9.25		Churchfield	Foleys	170405
Wooden Packaging	68.08				150103
Waste Oil		3,200	Atlas	Atlas	130208
Fluorescent lighting	1136 tubes		Estury Wholesale Supplies Ltd.	Estury Wholesale Supplies Ltd.	
Sludge / Bellygrass	2306		NMP Farms	Agri life	20204
Shredding Recycling	1.54		Rehab Recycling,Cork	Rehab Recycling	150101

Plastic / Cardboard Recycling	380.52		Panther Environmental Solutions & Cork Recycling	Panther Environmental Solutions & Cork Recycling	150101/02
Total	12867.13	936,600			

There were no rejected waste consignments in 2009.

2.6 NMP

2.6.1 Nutrient Management Plan 2009 Review

The nutrient management plan for 2009 was submitted and approved by the agency in 2009. The plan catered for 3651 tonnes of organic waste this represented 130% of the estimated 2800 tonne volume of organic waste to be produced in the plant in 2009. There was a total of 2306 tonnes of sludge and bellygrass produced at the plant in 2009.

All of the lands in the landbank were surveyed, including extensive soil sampling and analysis for available P, on site depth to bedrock determination, desktop hydrogeological surveying, outline of the proposed spreading areas and exclusion zones, meeting with the participating farmers, training and signing of landspreading agreements.

2.6.2 Nutrient Management Plan 2010 Report

The NMP for 2010 was compiled by Kepak Cork and forwarded to the Agency in February 2010. The report was agreed by the Agency in February 2010.

The estimated volume of organic waste to be spread in 2010 is 2200 tonne. Kepak Cork has a land bank capable of accepting 2617 tonne of organic waste. This represents 119% of the estimated 2200 tonne volume of organic waste to be produced in the plant in 2010

Agri –Life Ltd. have been contracted to transfer and spread all organic material in accordance with the NMP and Kepak Cork land spreading Code of Practice.

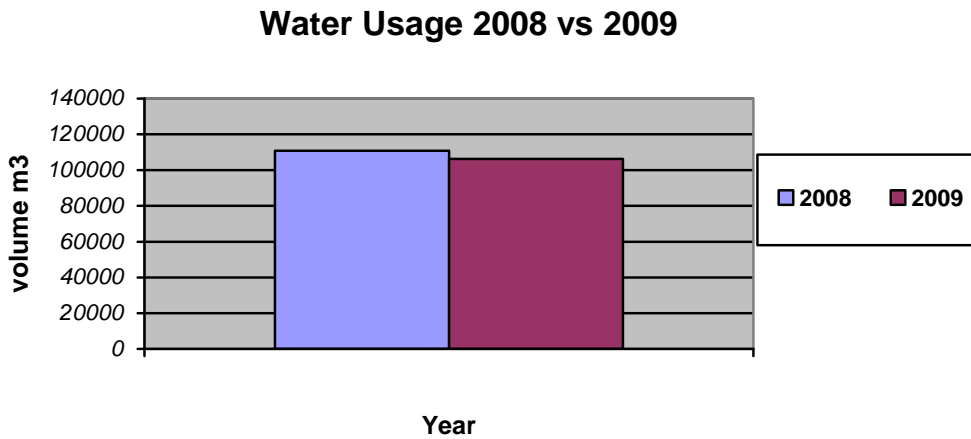
2.7 Resource Management & Water Usage

2.7.1 Water Usage

It is the policy of Kepak to manage its resources in accordance with good environmental practice. Year on year Kepak strive to reduce the volume of water used within the facility without compromising strict food hygiene regulations. These regulations are monitored by the Department of Agriculture and therefore water is essential to minimise the risk of food contamination. Water is used in the production process to wash down and sterilise

work areas. Kepak used a total of 106,234 cubic metres of water during 2009. This was a decrease of 4.16% in water usage over 2008 figures

2.7.1 Graph: Water Usage



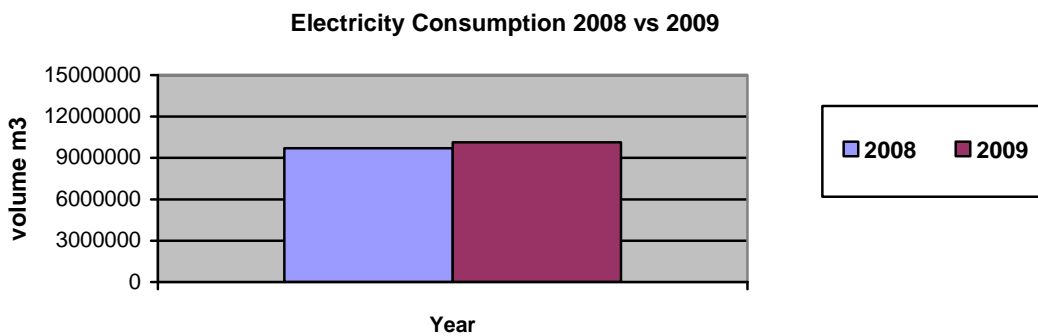
2.7.2 Electrical Usage

During the reporting period Kepak used 101,337,28 kWh of electrical energy.

The total electricity usage was increased by 4.3% on 2008 figures, due to increased production in our retail unit

The following graph shows how electrical consumption compares annually between 2008 and 2009

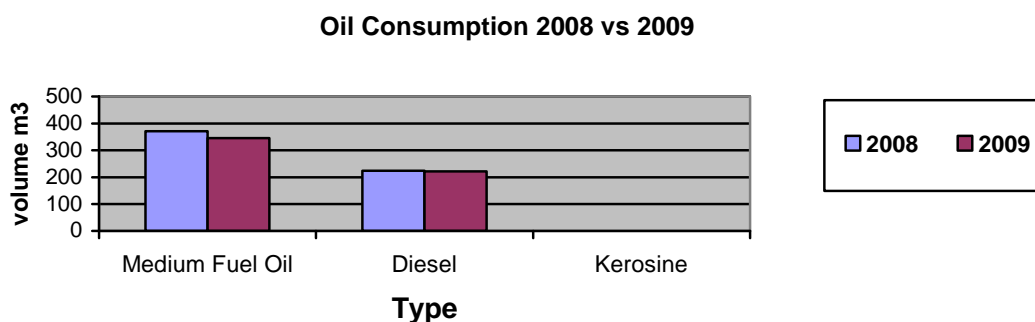
2.7.2 Electrical Consumption



2.7.3 Oil Consumption

There was 345.0 m³ of medium fuel oil consumed by the boilers in 2009., this was a reduction of 7.42% on 2008. In addition to this 221.1 m³ of Diesel was utilised at the facility during the reporting period, this was a reduction of 1.11% on 2008 The boilers are used to generate warm water for use in the cleaning process on site and to provide steam for cooking processing. There is also a small burner to provide heating to the Bungalow at reception. Some Diesel is used to drive the yard fork trucks and the shunter truck.

2.7.3 Graph: Oil Consumption 2008



2.8 Environmental Incidents and Complaints

In accordance with Condition 4.3 of the Kepak Cork IPPC licence, a summary report of reported incidents is included in this AER.

2.8.1 Environmental Incidents

During 2009, there was two environmental incidences:

- Elevated Total Phosphorous at the out flow (SW-1) of 4.73mg/L was recorded on the 17.07.2009, where out limit is set at 2.0mg/L.
- On the 19.11.2009 due to heavy rain fall we exceeded our out flow limit, we pumped out 680m³ on this date where out limit is set at 440m³.

2.8.2 Complaints from the Public

There were no complaints from the public in 2009.

2.8.3 Non Compliances Received

There was one non compliance's received during 2009.

- On the 19.11.2009 due to heavy rain fall we exceeded our out flow limit, we pumped out 680m³ on this date where out limit is set at 440m³.

2.8.4 Changes in Operations during the Year

There was one change in operation during 2009. A new Balance tank was constructed and put into operation during November 2009.

Section 3: Management of the Activity

3.1 Schedule of Objectives and Targets 2007 to 2013

Licence Objectives	Date	Licensee targets
WWTP performance parameters to adhere to IPC license	2008 - 2013	<p>Consistent IPPC adherence by means of</p> <ul style="list-style-type: none"> ○ Daily WWTP meetings between environmental manager and WWTP operators. ○ Good operating procedures using WWTP Manual <p>Regular consultation with R.E.C.</p>
Reduction in water consumption	<p>2008-2009 (large scale improvements)</p> <p>2009-2013 (improvements in smaller increments)</p>	<ul style="list-style-type: none"> ○ Computerised Monitoring & Targeting system ○ Implementation of Water Usage Audit Recommendations ○ Monitoring water consumption per unit daily. ○ Maintenance to reduce water wastage through leaks. ○ Production to reduce water wastage through processes. ○ Improvements to awareness of staff on water usage / wastage. <p>Through more accurate monitoring of water usage in 2008, numerate targets may be set from 2009 onwards.</p>
Stability in Electricity Consumption	2007- 2010	<p>Electricity reduction of 9.2% was achieved during 2007 relative to increased demand in production output.</p> <p>2007-2010-To reduce consumption by relative to production levels.</p> <p>The monitoring & targeting system will be expanded to allow monitoring of individual areas of consumption of electricity. Then these areas will be thoroughly analysed for energy savings</p> <p>Implementation of the Kovara Energy Audit recommendations.</p> <p>Through more accurate monitoring of water usage in 2008, numerate targets may be set from 2009 onwards</p>
Increase Recycling Quantities & Reduce landfill waste	2007-2009	<p>The recycle rate of cardboard and plastic has decreased by 66% over the year 2007. This was mainly due to increased usage of reusable trays instead of outer boxes for our customers. This has consequently reduced the amount of waste packaging and spoilt boxes which need to be recycled.</p> <p>Non hazardous waste disposal also decreased by 11.4% in 2007.</p> <ul style="list-style-type: none"> ○ To reduce refuse by 5% per annum

		<ul style="list-style-type: none"> ○ To carry out a raw materials audit to identify areas where more wastes may be recycled / processed for further use. ○ Discover other materials that can be sent for further recycling, e.g. ink cartridges & aluminium cans.
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3.2 Environmental Management Programme (EMP 2009) Report

Targets were outlined in the EMP 2009 to improve the environmental performance of the company. In accordance with condition 2.3.1 of Kepak Cork's IPPC licence here follows the Environmental Management Programme for 2009.

In 2009 Kepak undertook 5 projects, these were:

- Continuous review of Water and Energy
- Improvements to Infrastructure
- Diversion of Surface Water Drain to WWTP
- Replace balance tank in WWTP
- New Chemical Store

Project 1: Continuous Review of Water and Energy

Reason for Project:

To further reduce the use of water and energy within the Kepak Cork plant.

Project Summary:

Computerised Monitoring & Targeting Systems has not been put in place as of yet to trend the analysis of consumptions. Staff were made further aware of water usage and waste management. More efficient operation of the boiler occurred as the steam was switched off once production ceased in the evenings and there was non-usage of the boiler during non-production days in the Abattoir. A new Fat Conveyor System was put in place to transport the fat from the Abattoir to the fat trailers. This has replaced the fat pump which was run on steam and high on energy consumption. Better management on the cleaning staff was introduced to reduce the amount of hot water necessary in the cleaning process. The sterilisers in the Abattoir are more

efficiently operated by the staff to reduce hot water consumption during breaks and at the finish of production. More light sensors have been fitted to eliminate the need for unnecessary lighting at times.

Time Frame: June 2009

Project 2: Improvements to Infrastructure

Reason for Project:

In order to prevent any leachate from any potential spillages in the area, it is concreted. Over time some cracks have developed in these areas. Concrete areas are continuously assessed for this type of damage.

Project Summary:

Damaged concrete at the roadway in the WWTP has been removed and new concrete lay.

A gully trap was removed and replaced with a new larger one. This trap is located below the paunch/sludge holding area. This new gully trap will catch any possible run-off from the holding area. This trap then leads to the balance tank. See Figure 3 below.

A new section of kerbing has been built at the lower section of the WWTP. This kerbing will prevent any leachate run-off and divert it to the balance tank. See Figure 4 below.

Time Frame: February 2009

Project 3:

Diversion of Surface Water Drain to WWTP

Reason for Project:

To divert Surface Water Drain 5 to the WWTP because of high ammonia readings.

Project Summary:

SW Drain 5 was diverted back to the balance tank in the WWTP to avoid any contamination to the river. SW Drain 5 no longer exists.

Time Frame: February 2009

Project 4: Replace balance tank in WWTP**Reason for Project:**

The Condition of the holding tanks in the WWTP are continually monitored by the Environmental Team and the Maintenance Team. In recent inspections it has been noted that the Balance Tank requires upgrading. The company has decided rather than perform repairs, that the Balance Tank will be replaced.

Project Summary:

A new Balance tank has been built adjacent to the existing tank. The new tank has the larger capacity of 1340m³ as the existing one had a capacity of 776m³. The new tank has benefited the WWTP by allowing for a more consistent forward feed. The Balance tank is capable of absorbing and is capable of homogenising the raw effluent being produced by the facility before pumping to the biological treatment plant. This has overall benefits to the WWTP during quite periods in production, holidays and weekend's the WWTP can be optimally controlled to support/feed biological life in the plant.

Timeframe: November 2009

Project 5: New Chemical Store**Reason for Project:**

Due to the large scale of the company, extra chemical storage is required on the plant.

Project Summary:

A new store was designed and built on site, which has a larger capacity and holds all cleaning chemicals securely.

Time Frame: February 2009

3.3 Environmental Management Programme (EMP 2010)

Kepak Cork is aware of its responsibility to protect the environment. As a result we are committed to preventing pollution to our environment according to the BAT regulations. We will use the Kepak Cork EMP to ensure waste minimisation, IPPC adherence and to minimise the adverse effect on the environment of our activities.

Energy efficiency is now a key focus of Kepak as a group. The Kepak Group has implemented continuous improvement programs throughout all aspects of its business which focus specific teams on particular areas of the business in order to drive these areas forward and improve on them. One of the key areas for focus for the Group is energy efficiency. Energy Efficiency is high on the Group agenda and is being driven by the Operations Director.

This document outlines the different areas been addressed, setting targets, the means and time within which they will be achieved and designating responsibility to achieving these targets.

All key staff within Kepak Cork has received further training on lean manufacturing through the managers in each area.

In accordance with condition 2.3.1 of Kepak Cork's IPPC licence here follows the Environmental Management Programme for 2010:

During 2010 Kepak intend to undertake 5 projects, these are:

- Continuous improvements to infrastructure
- Continuous review of water
- Continuous review of energy
- Continuous review of waste
- Erect a roof over Lairage pens

Project 1: Continuous improvements to infrastructure

Reason for Project:

In order to prevent and leachate from any potential spillages in the area, it has to be concreted. Over time and due to the extremely cold winter some concrete has been damaged. Concrete areas are continuously assessed for damage.

Project Summary:

Extensively damaged concrete at the entrance to the site will be removed and replaced.

The concrete at the entrance to the Paunch/Sludge holding pit will be removed and replaced.

Smaller section of concrete around the site will also be removed and replaced.

Time Frame: April 2010

Responsibility:

Maintenance Manager & General Manager.

Project 2: Continuous review of water

Reason for Project:

To further reduce the use of water within the Kepak Cork plant.

Project Summary:

We intend on trialing new electrical sterilisers in the Abattoir, as a considerable amount of water is used in the slaughter process. The current sterilisers are on a continuous flow system. The proposed electrical sterilisers that we intend on trialing use very little water as they are manually flushed when necessary and they hold a continuous temperature so the regulating of valves to increase the flow would not be necessary.

Time Frame: 2010

Responsibility:

Maintenance Manager, General Manager & Operational Managers.

Project:3 Continuous review of energy

Reason for Project:

To further reduce the use of energy within the Kepak Cork plant.

Project Summary:

We are involved in continuous improvement initiative (CII, ESB monitoring).

We are fitting a new VSD controller at complex 1, which will reduce the amount of energy needed to supply the water to production within the Abattoir.

New vacuum pump controllers are to be fitted in the Retail plant, this will reduce the amount of energy needed for production.

More light sensors have been fitted to plant rooms and the boiler house, to eliminate the unnecessary use lights.

The blast freezer unit in the despatch area is no longer used for storage of product as this was using a lot of energy and is now only used for the purpose for which it was intended.

Approximately 300 light fitting in complex 1 were removed and more energy efficient lights were installed in their place.

A full energy audit of the fridge plant is to take place in the near future, to see if it can be made any more efficient.

Time Frame: 2010

Responsibility:

Maintenance Manager, General Manager & Operational Managers.

Project:4 Continuous review of waste

Reason for Project:

To further reduce the amount of waste within the Kepak Cork plant.

Reason for Project:

The purchase department were given the task to reduce the amount of packaging on the in coming supplies required for production within the Retail and Burger departments. The result of this is that suppliers are now delivering raw materials in trays where possible instead of using cardboard boxes.

We have worked on lean manufacturing initiatives with our biggest customer and one result from this was to increase the case fill for promotions, which has decreased the amount of packaging used and also reduced the amount of transport required to despatch the products.

Time Frame: 2010

Responsibility:

Maintenance Manager, General Manager & Operational Managers.

Project:5 Erect a roof over Lairage pens.

Reason for Project:

The purpose of erecting a roof over the exposed Lairage pens is to further reduce the amount of rain water which goes to the Waste Water Treatment Plant.

Reason for Project:

A roof has been erected over the exposed Lairage pens which has stopped the rain water from entering the drains in the area. This has eliminated the unnecessary need to process rain water in our Waste Water Treatment Plant, which reduce energy.

Time Frame: January 2010.

Responsibility:

Maintenance Manager & General Manager.

The following reports shall be forwarded quarterly to the EPA.

- **Monitoring of Emissions to water**
- **Surface Water discharge monitoring**
- **Complaints**

The following reports shall be forwarded annually to the EPA.

- **Monitoring of Emissions to Atmosphere**
- **Biological Water Quality Monitoring Report**

The following report shall be forwarded biannually to the EPA

- **Noise Monitoring Survey Programme**

3.4 Pollution Emission Register

Watergrasshill Pollutions Emission Register

Emissions to Air:

Sox

NOx

CO

Emissions to Water:

BOD

Suspended Solids

Total Nitrogen as N

Ammonia as N

Total Phosphorus as P

Oils, fats and grease

Orthophosphate as P

Hazardous waste:

Waste Oils

SRM – CAT 1

Waste Blood – CAT 1

Fluorescent bulbs

Testing Vials

Oil Filters

Wastes for Disposal/Recovery:

Dewatered WWTP sludge
Dewatered paunch
Animal Offal & Bones – CAT 3
Soft Offal – CAT 3
Blood- CAT 3

Other waste:

Packaging waste
General office waste
Scrap Metal
Electrical waste

PRTR:

Emissions to Atmosphere: SO₂ (Sulphur Dioxide)
NO_x (Nitrous Oxides)
CO (Carbon Monoxide)

Emissions to Water: T.N (Total Nitrogen)
T.P (Total Phosphorus)

Emissions to Land: T.N (Total Nitrogen)
T.P (Total Phosphorus)

3.5 Bund Testing

Details of Bund Integrity testing to be attached.
All bunds are due to be tested again during 2010.

3.6 Noise Report Summary

In accordance with Condition 8.2 of the Kepak Cork IPPC licence the facility “shall carry out a noise survey of the site operations every 2 years”.

The noise survey was conducted in August 2008 and the report was sent to the Agency.

A new noise survey has been carried out during March 2010, see attached.

3.7 Energy Efficiency Programme

Kepak Cork engaged Kovara Energy Consultants 8 Loughminane Green, Green Road, Kildare Town, Co. Kildare to perform an energy audit at the facility in November 2007.

As direct result of this audit the company has significantly improved and is continuing to improve how it monitors the energy consumed by the various functions in the factory. This careful monitoring can and has helped identify areas where energy savings can be made.

An Energy Officer has been appointed and many energy saving projects have been identified and have been incorporated into both the 5 year and the yearly schedule of Environmental Objectives and Targets. In some cases Capital Expenditure has been granted to fund the implementation of these projects. There has been significant savings in energy achieved to date, It is anticipated that even more savings can be made going forward.

The progress of the projects identified is monitored at monthly environmental meetings and regularly at Maintenance and Operational Meetings.

3.8 Water Efficiency Audit

A Water Usage audit was carried out in 2007 in Complex 1. This identified many opportunities for water saving. All have been implemented to date

The usage of all temperature waters is being monitored going forward as part of improved energy efficiency in the plant. It is anticipated that this increased monitoring will identify areas where water may be used more efficiently in the plant. This will have the effect of reducing the amount of energy used in the plant to heat the water.

The progress of the projects identified is monitored at monthly environmental meetings and regularly at Maintenance and Operational Meetings.

3.9 Raw Materials Efficiency Programme

The summary of the raw materials audit is:

The Project Summary of the raw materials audit is:

The raw materials audit examined all 5 processing departments in the Kepak Cork site, reviewed each of their raw materials and how they were used, recycled or put for waste.

Overall the site appears to use its raw materials in a very efficient manner. The raw materials audit identified 2 by-products in the abattoir section of the plant which could, if further processed, be removed from CAT 1 and sold. These by-products are Hocks and Snouts.

Currently these are designated for CAT 1 and are rendered. But the Hocks could potentially be processed for human consumption and the Snouts processed for gelatine production. The cost of processing these by-products for sale to market was calculated but it could not be established if the process was feasible as no buyer could be found and therefore no sale price could be identified.

4.0 Licence Specific Reports

4.1 Biological Water Quality Monitoring Report

In Accordance with Condition 6.6 of Kepak Cork's IPPC licence the Biological Water Quality Monitoring Report is included in Appendix 1 of this AER.

Kepak Cork carried out the Biological Q Index in September 2008 .

4.2 Pathogenic Analysis of the River Flesk

In accordance with Condition 6.7 of Kepak Cork's IPPC licence, here follows a summary of the pathogenic analysis of the river Flesk.

Kepak Cork commissioned Ross Macklin, B.Sc, Dip GIS of Atkins Environment to compile the report on the pathogenic monitoring carried out at 2 monitoring points, 50 metres upstream and 50 metres downstream of the discharge point.

The upstream and downstream samples had very similar biological (pathogenic) results. In all samples no Salmonella were detected. S. aureus was also absent

in all samples. The Total Coliform results were higher down stream and the E.coli results were higher upstream from the surface water discharge. However the results for these parameters are low in both samples and this is not seen as being of significance. The Clostridium perfringens and Enterococci are very similar both in the upstream sample and the down stream sample of the discharge point.

On comparing the results obtained for the samples taken upstream and downstream of the discharge point to the limits set out in SI 294/1989, both samples are of category A1 with regard to microbiological parameters.

In conclusion:

- The surface water discharge, SW1, from Kepak Watergrasshill, does not have any adverse affect on the pathogenic water quality of the River Flesk.
- The waters both upstream and downstream of the discharge point on the river Flesk can be seen as microbiologically (pathogenically) clean and of good quality.
- The surface waters both upstream and downstream of the discharge point on the River Flesk can be categorised as A1 with regard to microbiological parameters, under SI 294/1989 European Community directive on the Quality of Surface waters intended for Abstraction for Drinking Water.

Parameter	Units	50m Upstream	50m Downstream
Salmonella (surfaces, ind.Water)	100mls	Absent	Absent
Total Coliforms Count	MPN/100mls	2,420	4,520
E.coli count	MPN/100mls	285	190
Staphylococcus aureus surfaces	100mls	<1	<1
Enterococci (intestinal) water	CFU/100mls	10	11
Clostridia perfringens (Inc. spores)	MPN/100mls	<1	<1