Kildare Chilling Company

Annual Environmental Report 2010

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Kildare Chilling Company

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1. Introduction

Kildare Chilling Company is a meat processing company involved in the processing of cattle and sheep. This document is the Annual Environmental Report (AER) covering environmental performance at Kildare Chilling Company for the year 2010. This report updates the AER for 2009 and updates the following headings of the previous AER's.

- Environmental Management programme
- Emissions to sewers
- Resource Consumption
- Organic Waste Register
- Reported Incidents
- Complaints Summary
- Waste Management
- Onsite Surface Water Monitoring
- Groundwater Monitoring

The licence details for Kildare Chilling Company are as follows;

Name: Kildare Chilling Company

Licence Number: P0170-01

Location of Activity: Kildare Town
Co Kildare
Ireland

2. Site Description

Kildare Chilling Company is situated on the outskirts of Kildare Town and is involved in the slaughter and processing of live sheep and cattle meat for human consumption. Normal operating hours for this activity are between about 7:00am and 6:00pm from Monday to Friday each week. Animals are not slaughtered on weekends but general factory maintenance or cleaning can take place during weekends. Approximately 100,000 – 110,000 cattle and 350,000 – 400,000 sheep are processed annually in the factory. The activity involves a number of separate processes, which are described below:

1 Cattle Processing
(a) Livestock Intake and Lairage
(b) Beef Processing
(c) Red Offal
(d) Green Offal
(e) Edible Fat Recovery
(f) Boning / Packaging
(g) Storing / Dispatch
(h) Wash Down

2 Sheep Processing
(a) Livestock Intake and Lairage
(b) Sheep Processing
(c) Red Offal
(d) Green Offal
(e) Boning / Packaging
(f) Storing / Dispatch
(g) Wash Down

3 On Site Services
(a) Hot Water / Steam Generation
(b) Refrigeration
(c) Process Water Treatment
(d) Waste Water Treatment
(e) Air
(f) Electricity

The environmental performance of the facility is regulated under an IPPC licence, IPPC licence no P0170-01. The main focus of this activity is directed towards producing meat for human consumption, therefore there is a very strong emphasis on hygiene and waste minimisation throughout the process area and the site in general. Relevant staff members are made aware of the need to minimise waste and to ensure that all avoidable wastes are properly collected, treated and disposed of in an environmentally acceptable manner.

3. Environmental Management

3.1 Kildare Chilling Company Environmental Policy

The Environmental Policy of Kildare chilling Company is as follows

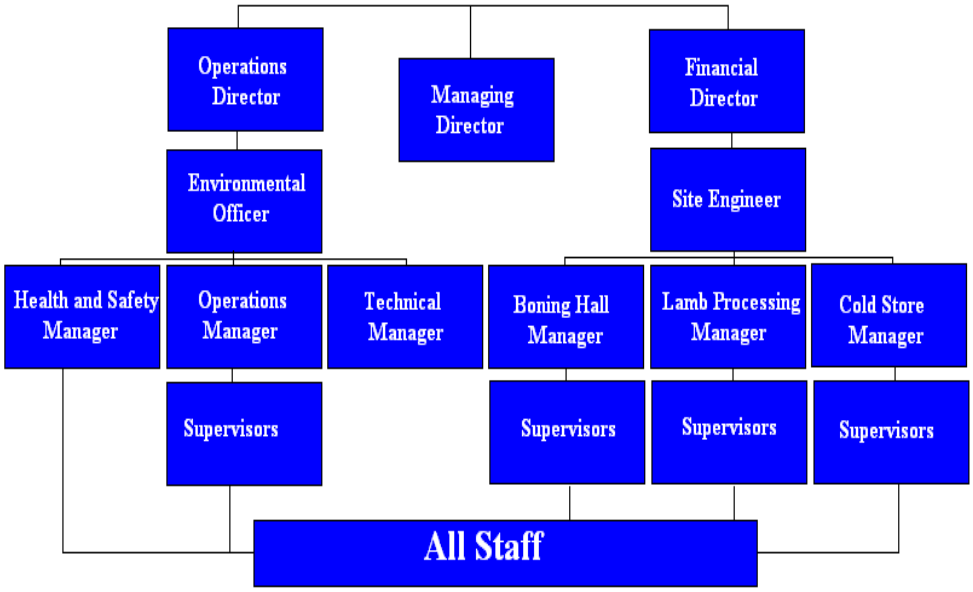
"It is the environmental policy of Kildare Chilling Company to carry out the processing of cattle and sheep products while controlling, operating and maintaining the production operations in a manner which will preserve the environment as far as is practicable and possible. We, the top management of the company propose that we will achieve this mainly by maintaining the companies Environmental Management System. This will assess all operations relating to the company and review all practical options for the use of cleaner technology, cleaner production and the reduction and minimisation of waste for the good of the environment, taking into account the concept of BAT

In establishing this system we envisage that we will;

1. *Comply with all legislative, regulatory & IPPC (Integrated Pollution Prevention Control) Licence requirements.*
2. *Undertake all process and production operations in a manner that will minimise any risk to the environment as far as possible.*
3. *Seek to conserve our resources through the responsible use of energy & materials.*
4. *Train & instruct employees to conduct their work in a manner, which will achieve the company's policy and objectives.*
5. *Communicate the policy to all interested parties & making it publicly available.*
6. *Make a commitment to investigating continuous improvements in environmental performance with the emphasis on the aforementioned "*

3.2 Company Organisation for Environmental Management

Environmental management at the site is obtained by the use of an Environmental Management System (EMS). This is obtained by the use of an EMS with the following structure



3.3 Environmental Management Programme

An Environmental Management Programme (EMP) is set up as part of the EMS. This is programme of targets and target area to be looked as part of the EMS of the site. These are also follows

Table 3.1 Breakdown of EMP targets for 2010

Objective	Target	Means of Achieving Objective
1. Implement EMS modelled on ISO 14001	Ongoing from March 2009	Update the EMS to be modelled on ISO 14001
2. Consistently meet emissions to sewer quality to IPPC licence requirements	Continually meet BOD, SS, OFG, orthophosphate and oxidised nitrogen limits through 2009	Continual operation of the WWTP in a satisfactory manner to reduce the load entering the plant and treat it in a satisfactory manner
3. Substitute where possible materials for more environmental friendly materials	Continue to review processes and materials and aim to recycle as much as possible	Continue to look at processes and activities to examine means of recycling more materials, re-using some materials and reducing landfilling of waste
4. Reduce Water Consumption	Reduce amount of water being consumed in processes in the factory, hence the amount of wastewater generated	Continue to monitor the activities, washing continue to monitor and fix leaks.
5. Reduce amount going to landfill	Minimise amount of waste going to landfill	Continue to monitor and segregate waste arrivals and examine what can be recycled
6. Minimising Energy Consumption	Minimise the energy used in the factory	Continual monitoring, maintenance of hot water, compressed air and refrigeration lines Continue to look for opportunities to reduce energy consumption
7. Reduce energy in the WWTP	Make the WWTP aeration more efficient	Continually examine the electricity usage in the WTTP
8. Improve operating systems to reduce waste generation	To reduce loading going to WWTP	Constantly check wash up to ensure no foreign material is being sent to the WWTP Educate Supervisors to be more aware
9. Prevent incidents with environmental	Prevent incidents with	Regularly monitor systems with environmental incidents

impacts	environmental impacts	
10. Commitment to continual improvement	Improve the environmental performance of the company	Continually assess ways to improve the environmental performance of Kildare Chilling Company
11 Perpare a CRAMP at Kildare	To set up closure plan for Kildare Chilling Company in the event of unforeseen closure	Research CRAMP and prepare a CRAMP for Kildare Chilling Company.
12 Perform Bund integrity tests and liquid holding tests of all bunds and certify that they are fit for use.	To ensure all bunds are fit for the purpose of retaining liquids in the event of a spillage	Carry out bund assessment of all bunds on site.

The progress on each objective is shown below;

1.0 Implement EMS modelled on ISO 14001

The impementatin of an EMS modeled on ISO 14001 was found to be too laboursome and the existing EMS was sued

2.0 Consistently meet emissions to sewer quality to IPPC licence requirements

The WWTP performed well during 2011 with the execption of a few breaches of ELV's.

3.0 Substitute where possible existing materials for more environmentally friendly materials

This is an on going process, Kildare Chilling Company are continually examining processes and products to minimise its environmental impact. A large amount of old IBC's were recycled during the year. A number of old condensors and chilling units were also recyced as well as a ot of scrap iron present on site.

4.0 Reduce water consumption

This is an ongoing process within Kildare Chilling Company and the maintenance crew are continually monitoring and fixing leaks and hoses. The water use is monitored every day. Supervisors also make sure that water sources are turned off while production is ceased. The new boning hall that came into operation in 2010 has electrical sterilisers fitted in order to keep water use to a minimum in the new boning hall.

5.0 Minimise the amount of waste going to landfill

This is a continuous process within Kildare Chilling Company. All clean cardboard, pallets, bin liners, rope, strapping, office papers, paper hand towels, plastic drums are recycled. Plastic trays are being used instead of cardboard boxes for the storage of beef and lamb. IBC’s of chemicals are sent back to the chemical supplier to be used again, which is higher option in the waste hierarchy.

6.0 Minimising Energy Consumption

Kildare Chilling Co. has reduced energy during the winter period by reducing energy consumption to a minimum during the peak demand period. The fitting of electrical sterilisers in the new boning hall will meant that there is less energy wastage.

7.0 Reduce Energy demand in the WWTP

The air diffusers system of the new aeration tank were serviced a number of times to remove any dirt from the diffusers system with the effect of increasing their efficiency.

8.0 Improve operating systems to reduce waste generation

A number of grid were repaired in the different process areas such as the gut room preventing a decrease in the foreign matter going to the WWTP. Regular monitoring of washing up and training supervisors also prevented waste materia entering the WWTP.

9.0 Prevent incidents with environmental consequences

This is a key principal of environmental management within Kildare Chilling. There was only one incident in Kildare Chilling in 2010

10.0 Commitment to continual improvement

This is a commitment carried out by Kildare Chilling Company as part of the EMS whereby the company commits to continual improvement of its environmental performance. This is achieved by daily meeting of the environmental manager with the senior management and with the maintenance team.

11.0 Prepare a CRAMP at Kildare Chilling

It was origionally hoped to prepare a CRAMP analsyis at Kildare Chilling Company however it was shown to be to laboursome and was postponed for a later date.

12.0 Perform Bund integrity tests of all bunds and and liquid holding tests and certify that they are suitable for use

All bunds were tested for intergrity in Kildare Chilling Company in 2010. The certificates were seen to be

Table 3.2 Breakdown of targets for EMP 2011

Objective	**Target**	**Means of Achieving Objective**	**Persons Responsible**
1. Update New EMS to take into account new procedures.	Ongoing from March 2011	Update the EMS to take into account new procedures	Environmental Manager
2. Consistently meet emissions to sewer quality to IPPC licence requirements	Continually meet BOD, SS, OFG, orthophosphate and oxidised nitrogen limits through 2011	Continual operation of the WWTP in a satisfactory manner to reduce the load entering the plant and treat it in a satisfactory manner	Environmental Manager Maintenance Manager
3. Substitute where possible materials for more environmental friendly materials	Continue to review processes and materials and aim to recycle as much as possible	Continue to look at processes and activities to examine means of recycling more materials, re-using some materials and reducing landfilling of waste	Purchasing Manager Environmental Manager Production Manager
4. Reduce Water Consumption	Reduce amount of water being consumed in processes in the factory, hence the amount of wastewater generated	Continue to monitor the activities, washing continue to monitor and fix leaks.	Environmental Manager Maintenance Manager
5. Reduce amount going to landfill	Minimise amount of waste going to landfill	Continue to monitor and segregate waste arrivals and examine what can be recycled	Environmental Manager
6. Minimising Energy Consumption	Minimise the energy used in the factory	Continual monitoring, maintenance of hot water, compressed air and refrigeration lines Continue to look for opportunities to reduce energy consumption	Environmental Manager Maintenance Manager
9 Prevent incidents with environmental impacts	Prevent incidents with environmental	Regularly monitor systems with environmental	Environmental Manager

	impacts	incidents	
10. Commitment to continual improvement	Improve the environmental performance of the company	Continually assess ways to improve the environmental performance of Kildare Chilling Company	Environmental Manager

4. Emissions to Sewer

Emissions to sewer are governed by schedule 1 (i) of the IPPC licence. The ELV's are as follows

Table 4.1 ELV's for Kildare Chilling Company

Parameter	**ELV**
Flow m^3	45
BOD mg/l	10
Fats Oils and Greases mg/l	10
Suspended Solids mg/l	15
Ammonia mg/l N	4.5
Oxidised Nitrogen mg/l N	30
Orthophosphate mg/l P	1.5

The following is a table mass emission of pollutants to sewer in 2010 in comparison to the permitted mass emissions.

4.2 Mass emissions for 2010 for Kildare Chilling Company

Pollutant	**Mass Emmisions for 2010 (kg)**	***Permitted mass emissions (kg)**
BOD	1148.87	3814.25
Fats Oils and Greases	887.61	3814.25
Suspended Solids	2249.18	5721.38
Ammonia (N)	324.9	1727.91
Oxidised Nitrogen (N)	1823.78	11442.75
Orthophosphate (P)	83.74	572.18

* The permitted mass emissions are based on discharges at ELV and maximum discharges

5. Resource Consumption

5.1 Water Consumption

The average daily water consumption on the site is 738m^3 and is obtained from a groundwater well and the county council supply is used for potable drinking water. The water from the groundwater wells is first softened using a softener and then chlorinated for use inn the factory.

Table 5.1 Water usage in Kildare Chilling Company in 2010

Month	**Groundwater**	**Council Supply**	**Total Monthly Usage**
January	15793	29	15822
February	12928	11	13939
March	15750	439	16159
April	14070	16	14086
May	13055	23	13078
June	15931	307	14238
July	15204	255	15459
August	15641	134	15775
September	15066	13	15079
October	15479	1074	16553
November	14288	1787	16075
December	17299	2001	19300
Total	**174874**	**6089**	**184563**

5.2 Energy Consumption

The energy used on-site for 2010 can be characterised below as

Table 5.2 Energy usages in Kildare Chilling Company for 2010

Energy Source	**Megawatt hours used**
Electricity	10555
Natural Gas	14979
Tallow Oil	0

Kildare Chilling Company prides itself on the use of clean sources of energy such as natural gas to reduce its carbon footprint.

6. Organic Waste register

There are two types of organic waste arisals on-site in Kildare Chilling Company. These are the Paunch Contents of the animal's stomach and also sludge from the WWTP. The Paunch is pressed on-site and the excess water sent to the WWTP. The sludge from the WWTP is a mixture of waste activated sludge and also DAF skimming which are dewatered using a sludge centrifuge. These are landspread on various landbanks in accordance with a Nutrient Management Plan approved by the agency. Below is a summary of the organic waste arisals on-site in Kildare Chilling Company.

Table 6.1 Summary of organic waste arisals for Kildare Chilling Company in 2010

Month	Pressed Paunch Arisals (Tonnes)	WWTP Sludge Arisals (Tonnes)
January	215	344
February	228	705
March	226	452
April	223	514
May	205	390
June	209	369
July	250	379
August	252	373
September	284	503
October	265	560
November	266	486
December	195	71
Total	**2818**	**4086**

7. Reported Incidents

The following is a list of reported incidents during 2010.

Table 7.1 Summary of reported incidents for Kildare Chilling Company in 2010

Date	Incident Details
7/1/10 - 10-01-10	Sudge dewatering system frozen as a result of the bad weather. Soids level built up in the WWTP and effluent quality decreased.

The following is a list of non-compliances reported. Kildare Chilling Company has had problems with its WWTP in previous times but has invested significant man hours and capital into ensuring compliance with its IPPC licence requirements and the fruits of this work can be seen in a much greater improvement in the performance of the WWTP.

Table 7.2 Details of non-compliances with ELV's in Kildare Chilling Company for 2010

	Parameter				
	FOG	**SS**	**O-P**	**Ammonia**	**Temperature**
IPPC ELV	**10**	**15**	**1.5**	**4.5**	**22º**
Date					
14/01/10	-	54.8	-	18.1	-
15/01/10	-	52	-	22.1	-
18/01/10	-	59	-	22.1	-
19/01/10	-	62	-	20	-
20/01/10	-	62	-	19.1	-
21/01/10	-	58	-	15.3	-
22/01/10	-	58	-	5.1	-
25/01/10	-	28	-	-	-
26/01/10	-	22	-	-	-
27/01/10	-	18	-	-	-
21,22,23/05/10	-	-	-	-	23,23,23
20,21,22/07/10	-	-	-	-	24,25,24
27,28,29/07/10	-	-	-	-	23,24,23,23

8. Complaints Summary

Below is a summary of the complaints received against the facility in 2010. The total complaints for the period 1/1/10 to the 31/12/10 is 10, the total number of compaints in the period 1/1/09 to 31/12/09 was 21.

Table 8.1 Summary of Complaints in Kildare Chilling Company in 2010

	Noise	Odour	Dust	Water	Procedural	Misc.	Total
January	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0
March	0	2	0	0	0	0	2
April	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0
June	0	1	0	0	0	0	1
July	0	3	0	0	0	0	3
August	0	0	0	0	0	0	0
September	0	1	0	0	0	0	1
October	0	3	0	0	0	0	3
November	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0
Total	0	10	0	0	0	0	10

9. Waste Management

The following is a summary of the waste arisals at Kildare chilling Company in 2010.

Table 9.1 Table of Waste arisals at Kildare Chilling Company in 2010

European Waste Code	Hazardous	Quantity T/Year	Description of Waste	Name and Licence/Permit No of Recover/Disposer	Address of Recover/Disposer
02 02 02	No	82.04	Animal by product offals	Dublin Products LTD,R910	Dunlavin, Co Wicklow, Ireland
02 02 02	No	2451.84	Animal by product Bones	Dublin Products LTD,R910	Dunlavin, Co Wicklow, Ireland
02 02 04	No	4086	WWTP Sludge	Keiran Kelly, WCP-KE-09-0539-01	Nurney , Co Kildare, Ireland
02 02 99	No	2818	Paunch	Keiran Kelly, WCP-KE-09-0539-01	Nurney , Co Kildare, Ireland
20 03 01	No	77.06	General Factory Waste	Advanced Environmental Services, W0194-02	Portlaoise Landfill, Portlaoise, Ireland
02 02 03	No	2401	Animal by-products, (SRM) offals	College Proteins, R911	College Road, Nobber, Co Meath, Ireland
20 01 40	No	46.92	Scrap Metal	A1 Metals, WMP 007 D	Acragar, Mountmellick, Co Laois, Ireland
02 02 02	No	1607.7	Animal by product offals	Faragh Proteins, R921	Monnery, Crosdoney Co Cavan, Ireland
02 02 02	No	388.68	Animal by product Bones	Faragh Proteins, R921	Monnery, Crosdoney Co Cavan, Ireland
02 02 02	No	480.55	Animal by product offals	Munster Proteins, R914	Cahir, Co Tipperary
02 02 02	No	491.72	Animal by product Bones	Munster Proteins, R919	Cahir, Co Tipperary
02 02 03	No	4336.12	Animal by-products, (SRM) offals	Water ford Proteins, R919	Christendom, Ferrybank, Co Waterford
20 01 01	No	10.63	Paper and cardboard	Leinster Environmental, WP 2004/30	Clarmount Business Park, Haggardstown, Dundalk, Co Louth, Ireland

20 01 39	No	0.41	Plastics	Leinster Environmental, WP 2004/30	Clarmount Business Park, Haggardstown, Dundalk, Co Louth, Ireland
20 01 01	No	67.35	Paper and cardboard	Danelle recycling LTD, WP/25/06	Kilnock, Ballon, Co Carlow, Ireland
20 01 39	No	33.04	Plastics	Danelle recycling LTD, WP/25/06	Kilnock, Ballon, Co Carlow, Ireland
20 01 21	Yes	1122*	Lamps (*Individual number of waste lamps arising)	Wesco Electrical LTD,WES 100	Newbridge Industrial Estate, Newbridge, Co Kildare, Ireland
20 03 01	No	87.9	General Factory Waste	Advanced Environmental Solutions, W0194-02	Portlaoise Landfill, Portlaoise, Co Ireland

10. On-site surface water monitoring

The on-site surface water is analysed in accordance with Schedule 3(i) of the IPPC licence. The results are shown below

Table 10.1 On-site surface water monitoring results

	Visual Inspection	**Conductivity (µs/cm^3)**	**COD (mg/l)**
January	Clear	1256	12
February	Clear	1152	15
March	Clear	9600	21
April	Clear	1658	14
May	Clear	1240	25
June	Clear	581	14
July	Clear	1299	42
August	Clear	1253	29
September	Clear	4650	22
October	Clear	7850	67
November	Clear	4090	24
December	Clear	680	32

11. Groundwater Monitoring

The groundwater on-site is analyses in accordance with Schedule 4 (i) of the IPPC licence.

Table 11.1 Combined analysis of well on-site

Parameter	**Unit**	**Result**
Total Viable Count @ 22ºC	CFU/ml	27
Total Viable Count @ 37ºC	CFU/ml	0
Faecal Coliforms	CFU/ml	0
COD	mg/l	5
pH	N/A	7.2
Nitrate	mg/l	14.1