DAWN PORK & BACON

Annual Environmental Report 2013

Licence Registration No. P0 175-02

Issued by: _____ Date: 08.05.2014
Quality/Environmental Manager

Contents

1.0 Introduction

This document is the 14th Annual Environmental Report (AER) covering environmental performance at the Queally Pig Slaughtering Ltd facility.

1.1 Site details

Licence Register Number	P0 175-02
Name of site	Queally Pig Slaughtering T/A Dawn Pork and Bacon
Class of activity	7.4.1 Operation of a slaughterhouse with a carcass production greater than 50 tonnes per day
RBME risk category	B3
National Grid Reference (6E, 6N)	656853, 614430
Site Location	The facility at Grannagh is located on a site of approximately 30 acres on the main Waterford to Limerick road, approximately 4 miles outside Waterford City. The River Suir is located to the east of the plant and runs into Waterford Harbour.

1.2 Summary data table

IPPC licence annual reporting requires the submission of a completed PRTR (pollution release and waste transfer register) database. The information provided in the PRTR is related to the amount of pollutant releases to air, water and wastewater as well as off site transfers of waste. The PRTR recently submitted electronically to the EPA can be viewed in Attachment 3.

1.3 Company Profile

Queally Pig Slaughtering Ltd T/A Dawn Pork & Bacon has its origins within the Queally Group. Part of the Group's original activities included the production of live pigs and in 1986 it was decided by the Group to introduce a natural flow to the Group's activities by slaughtering and processing its own pigs, thus maximising the Group's potential.

In view of such, a new purpose built factory was constructed at Grannagh close to Waterford City. This facility would eventually house what is now Dawn Pork & Bacon. The factory is comprised of 10,125 sq. m containing one of the most modern and technically efficient pork processing plants in Europe.

The factory has current slaughter capacity of 10,000 pigs over 39 hour working shift and the capability of fully de-boning 10,000 pigs per same shift. It has close links with the Group's farming enterprises, which currently provide the factory with 2,000 pigs per week

The current workforce including management, administrative, maintenance and production staff stands at 270 people. Markets currently being served by Dawn Pork & Bacon include mainland Europe, Japan, Korea, USA, Russia, Australia and the Irish Domestic market. The operation consists of slaughtering, primal cutting, de-boning, trimming, curing, packing and freezing. The plant is both EU and USDA approved. The plant participates in the Meat Processors Quality Assurance Scheme, the BRC Global Standard for Food Safety, Issue 6 and is registered with the Bord Bia Origin Green initiative. The Company have plans to get the EMA accredited to ISO14001 within the next 18 months.

2.0 Environmental Management System

2.1 EMS Documentation

Document	Present	Comment
Onsite EMS	√	▪ Includes an Environmental manual, operating manual for the effluent plant and laboratory, system procedures, internal audit system and records. ▪ Available for site inspections.
Significant Environmental aspects and associated impacts	√	▪ Available for site inspections
Public viewing of records	√	▪ Available for site inspections
Sustainability, environmental and energy Policy	√	▪ Available for site inspections
Objectives and targets	√	▪ Available for site inspections ▪ Summary of 2013 Environmental O&T and proposed Environmental O&T included in the AER.
Environmental Management Program	√	▪ Full EMP available for site inspections ▪ Outline incorporated into O&T.
Daily/weekly/monthly monitoring results	√	▪ Available for site inspections ▪
External lab report for 2013 groundwater monitoring	√	▪ Available for site inspections
Waste records	√	▪ Available for site inspections ▪
Training records	√	▪ Available for site inspections ▪
Organisational chart	√	▪ Available for site inspections ▪
Bund and pipeline integrity full report 2012	√	▪ Available for site inspections ▪
2013 Boiler efficiency report	√	▪ Available for site inspections ▪
ELRA/Decommissioning plan	√	▪ Available for site inspections ▪
Energy Audit	√	▪ Available for site inspections ▪
Noise Survey 2012	√	▪ Available for site inspections ▪
Impact on shellfish study	√	▪ Available for site inspections

2.2 <u>The following is a report on the progress achieved in the objectives and targets set for 2013.</u>

- **EMP 01 Monthly/quarterly surface water monitoring to ensure there is no onsite contamination.** Status: Completed.
- **EMP 02 Waste water effluent inspection and adjustment of operational parameters to ensure optimum efficiency of WWTP.** Status: Completed.
- **EMP 03 Complete groundwater analysis to ensure there is no onsite contamination to groundwater.** Status: Completed.
- **EMP 04 Equipment calibration to ensure all WWTP probes/meters are accurate.** Status: Completed.
- **EMP 05 Installation of oil separator in the new carpark.** Status: Due for completion in 2014.
- **EMP 06 Preparation of PRTR.** Status: Completed.
- **EMP 07 Investigate the use of UV treatment for final effluent to comply with condition 6.18 of IPPCL** Status: Completed.
- **EMP 08 Bi-annual waste sludge analysis** Status: Completed.
- **EMP 09 Financial investment** Status: Ongoing project and investment in environmental projects.
- **EMP 10 Boiler efficiency testing to ensure optimum efficiency of boilers.** Status: Completed.
- **EMP 11 Reduce the water usage on site** Status: Completed.
- **EMP 12 Undertake and energy audit** Status: Completed.
- **EMP 13 Conduct an assessment on the use of raw materials and identify areas for improvement to comply with condition 7.1 of IPPC Licence P0 175-02.** Status: Completed.
- **EMP 14 Preparation of ELRA/Decommissioning plan** Status: Completed.
- **EMP 15 Train employees on environmental issues.** Status: Completed.
- **EMP 16 Odour audit to monitor if any odours are generated from the process and eliminate them if they occur:** Status: Completed.
- **EMP 17 Implementation of water regulation on production lines and machinery when not is use.** Status: Completed.

2.3 The following objectives and targets have been set for 2014

EMP	Target	Completion date	Responsibility	Indicator
EMP 01	Ensure underground pipelines are intact. Assessment carried out every 3 years. Last completed in 2012.	2015	Contractor	Contractor report
EMP 02	Bund integrity testing. Assessment carried out ever 3 years. Last completed in 2012.	2015	Contractor	Contractor report
EMP 03	Reduce hydraulic loading to the effluent plant. Analyse all waste streams to establish where improvements can be made.	December 2014	Environmental Manager	Report
EMP 04	Reduction in biological loading to the effluent plant. Analyse all waste streams to establish where improvements can be made.	December 2014	Environmental Manager	Report
EMP 05	Monthly/quarterly surface water monitoring to ensure there is no onsite contamination.	Ongoing	Environmental technician	Report
EMP 06	Waste contractors and transport companies – review of licenses.	Annually	Environmental Manager	Report
EMP 07	Complete groundwater analysis to ensure there is no onsite contamination to ground water.	May 2014	Environmental technician	Report
EMP 08	Equipment calibration to ensure all WWTP probes are accurate	April 2014	Contractor	Contractor report
EMP 09	Installation of oil separator in car park to minimize the potential for contamination of ground water and surface water.	September 2014	Maintenance Manager	Visual
EMP 10	Preparation of PRTR and submission to the EPA	March 2014	Environmental Manager	Report
EMP 11	Over ground pipelines – monthly inspection programme of flanges and valves etc, on over ground pipelines.	Ongoing	Environmental Manager	Report
EMP 12	Improve operational controls of our bio-filter to maximize efficiency and improve odours on site.	July 2014	Environmental Manager	Report
EMP 13	Boiler efficiency testing to ensure optimum efficiency of boilers and eliminating contaminated air emissions.	March 2014	Contractor	Contractor report
EMP 14	Conduct a noise survey	June 2014	Contractor	Contractor report
EMP 15	Reduce organic waste produced in the WWTP by improving the belt press operation i,e increase dry solids.	December 2014	Maintenance Manager	Report
EMP 16	Reduction in electricity used on site – installation of occupancy light sensors and timers, installation of LED lighting in external areas.	December 2014	Maintenance Manager	Report
EMP 17	Implement recommendations from the energy audit	July 2014	Environmental Manager	Report
EMP 18	Reduce water usage on site – closer management of the cleaning operation, installation of more efficient valves and nozzles, recycling water, improve level control system in sterilizers, trialing of different jets for wash purposes.	July 2014	Maintenance Manager	Report
EMP 19	**Staff Training and awareness** 1. Refresher environmental awareness training for every employee. 2. Overview of ISO 14001 for two employees. 3. EMS internal auditing training for two employees.	December 2014 June 2014 July 2014	Environmental Manager External Trainer External Trainer	Training records

3.0 Emissions to Water Summary

Environmental monitoring data for the monitoring period January to December 2013 are summarised in the following sections. Waste from Dawn Meats Exports and Dawn Pork and Bacon are gravity fed to the waste water treatment plant. Both waste streams undergo Primary screening and then the waste is pumped through the rest of the WWTP which comprises of an activated sludge system and final clarification. Treated waste water is discharged into the River Suir.

3.1 Discharge effluent (EW1)

Parameter	Licence ELV	ELV Kg/Year	Kg/Year 2011	Kg/Year 2012	Kg/Year 2013
pH	6-9	-	-	-	-
Temperature	25^{0}C	-	-	-	-
COD	100mg/l	65,700	31,607	23,924	24, 431
BOD	40mg/l	26,280	5,176	2,411	2,340
Suspended Solids	60mg/l	39,420	6,670	4355	4,406
Total N (as N)	25mg/l	16,425	-	2,133	3851
Total Ammonia (as N)	10mg/l	6,570	1,649	1643	1073
Total Phosphosous (as P)	2mg/l	1,314	165	273	266.77
Orthophosphate (PO_4^{3-})	1mg/l	657	499	362	352.83
Detergents	5mg/l	3,285	242	115	111.87
Oils, fats and Grease	15mg/l	9,855	1,832	1991	1940.56
Total Emissions		169,506	47,480	37,204	38,773

Comment: Results indicate good performance against ELV. Further reductions in hydraulic and biological loading are planned for 2014. It should be noted that no individual samples taken in 2013 exceeded the licence ELV.

3.2 Surface Water (EW2)

Parameter	Unit of measurement	Monitoring frequency	2011	2012	2013
pH	Units	Monthly	-	-	-
Conductivity	mS/cm	Continuous	-	-	-
COD	mg/l	Monthly	17.2	21	31.9
Suspended solids	mg/l	Quarterly	3.25	6	17
Total Ammonia (as N)	mg/l	Quarterly	.52	.52	.152
Oils, fats and grease	mg/l	Quarterly	<1	<1	<1
Chloride	mg/l	Quarterly	29.7	30	32.32
Visual inspection	-	Daily	Clear	Clear	Clear

Comment: Surface water run off from roof areas and 'clean' yard areas is discharged by gravity to EW2. The surface water finally discharges into the River Suit. The results of analysis of surface water samples are similar to previous years and are within expected levels for surface water run off.

3.3 Ground Water

Parameter	Unit of measurement	Monitoring frequency	2011	2012	2013
pH	Units	Annual	-	7.16	7.3
TOC	Mg/l	Annual	-	8.3	.99
Nitrate	mg/l as N	Annual		6.85	7.14
Conductivity	uS/cm	Annual		754	1307
Phosphorous	mg/l P	Annual		0.10	<0.1
Total Nitrogen	mg/l N	Annual		6.90	7.6
Orthophosphate	mg/l P	Annual		<0.02	<0.02

Comment: Ground water measured parameters are consistent every year. As well as the parameters in the table the ground water is monitored on an annual basis against the parameters outlined in the 'EU Drinking Water Directive regulations'.

4.0 Waste Management

Management of solids non hazardous and hazardous waste are recorded in accordance with licence condition.

4.1 Waste removed off site for recovery

Waste category	EWC	Tonnage per year 2011	Tonnage per year 2012	Tonnage per year 2013
Organic waste from WWTP	020204	4,919.00	5,123.92	5,572.039
ABP-Blood	020202	1,934.88	2,054.30	1,858.76
ABP-Cat 2	020202	956.78	423.72	485.80
ABP-Pet food	020202	698.06	684.62	571.72
ABP-Offal	020202	3,680.57	4,514.64	4,375.02
Packaging and landfill waste	200101	124.60	142.16	128.28
Lamps	200121	0.166	0.18	0.17
Oil	110113	1.7	0.653	.700
Paper-shredding	200101	-	1.27	1.85
Total waste recovered/recycled		**12,315**	**12,945.46**	**12,994**

4.2 Waste removed off site for disposal

Waste category	EWC	Tonnage per year 2011	Tonnage per year 2012	Tonnage per year 2013
Lab waste	160506	0.052	0.092	-
Blades and knives	180202	-	0.431	.1365
Total waste disposed		**0.052**	**0.523**	**0.1365**

Note: No waste was disposed/recovered on site. Volumes of waste produced are consistent with the kill numbers. O&T for 2014 include plans to reduce the volume of organic waste produced from the WWTP.

5.0 Resource and energy management

Data relating to total energy consumption (electricity, natural gas and light fuel oil) and water are summarised in the following table.

Monitoring parameter	Unit of measurement	2011	2012	2013
Electricity	Watts	5,103,360	5,237,200	5,226,720
Water	Gallons	45,418,210	39,982,849	35,803,470
Gas	M3	245,734	265,545	210,110
Oil	Litres	193,799	29,035	14,236

Comment: Monitoring and targeting system in place for electricity/water/gas and oil used per pig processed. System will be continued to be used and developed. 120 K investment in 2012 to change our fuel source from oil to natural gas, ongoing projects to reduce and improve resource and energy management.

6.0 Monitoring and Compliance

Monitoring parameter	Date	Outcome	Comment
Unannounced EPA audit	12.11.2013	3 Observations	Observations closed out
EPA effluent collection and analysis	28.02.2013 20.06.2013	Results all within Emission Limit Values	N/A
Complaints	No complaints received in 2013	N/A	N/A
Environmental incidents	No environmental incidents in 2013	N/A	N/A

7.0 Water conservation report

7.1 Reduction in water used on site/pig processed

Water source	2010 Gallons used per pig processed	2011 Gallons used per pig processed	2012 Gallons used per pig processed	2013 Gallons used per pig processed	Overall reduction 2010-2013
Cold water	121.42	92.81	78.11	80.07	34%
Hot water	29.53	19.76	13.30	13.83	53%

To achieve the above reduction in water usage the following measures were implemented at the Dawn Pork and Bacon facility;

- In 2011 the use of sub metering on hot and cold water was introduced and allowed for the monitoring and targeting of hot and cold water usage per pig processed in certain areas in the plant. This data is consolidated on a central database and analysed for trends.
- In 2012 our sterilizer system was upgraded, to switch from continuously heated water at 82°C to water heated as and when required.
- Closer management and auditing of water usage on site.
- Installation of more efficient nozzles and valves on cleaning equipment.
- Recycling water from Vac pac machines into the 40C tanks.
- Improvement of level control in the sterilizers.
- Automation of manual valves.
- Employees are trained at induction and refresher training to report any water leaks that they notice to their line supervisor.
- Some treated waste water is recycled back into the treatment systems for use in other processes such as dewatering.
- By putting controls on water usage with feed back on lines so that when there is no product on the line/machines we will turn off water with electric valves, it is predicted that a further 10% reduction in water usage will be achieved 2013-2014.
- A water usage audit will be carried out this year to establish if more improvements can be made.

APPENDIX 1 Boiler Efficiency 2013
Report Summary

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Hi-Line Energy Solutions Ltd

Croughtabeg, Windgap, Callan, Co. Kilkenny.
Tel: 051 641118 Fax: 051 641122 087 2280083 Email hilineenergy@eircom.net

Service Record / Commissioning / Fault Report

Client	DAWN Fuels + Parcel
Address	Greenogue Waterford
Service	✓

Contact Name	Alan Wall
Tel No.	086-2459135
Purchase Order No.	
Date	25-1-13

Commissioning | Call Out

Burner Make:	Riello
Model:	RS 190
Serial No.	
Spec No.	
Fuel	Nat GAS
Output Kw	

Boiler Make:	Rudaens No.
Model:	SE 735 1160 - 1750.
Serial No.	
Input Kw	
Output Kw	1900

Isolate power supply to appliance

	Checked	N/A
Clean burner head	✓	
Check spark probe	✓	
Check flame probe	✓	
Check photo/UV cell		
Check/Change nozzles		
Clean fan		
Clean burner body	✓	
Clean sight glass	✓	
Clean boiler	✓	
Check for oil leaks		
Check for gas leaks		
Check air pressure sw	✓	
Check gas pressure sw	✓	
	✓	
Check for water leaks		
Check seals	✓	
Check flues	✓	
Test fire burner	✓	
Check/Reset combustion	✓	

Flue Analysis

	High	Low
O2 %	4.5	4.1
CO ppm	1	0
CO2 %	9.4	9.6
Ratio	0.0000	0.0000
Pressure (mBar)		
Temp net ©		
Temp Flue	152	115
Net efficiency %	94.3	95.9
Excess air %	22.2	24.6

Gas inlet pressure Mb running	98	
Burner pressure Mb	11	9
Oil pressure bar		
Nozzle Size/Degrees		
Smoke No.		

Parts used:

Remarks: Serviced GAS Burner / Boiler. Removed 11 damaged Baffles from Boiler. To be Replaced at next service. No leaks on Joints. FIRE Brick and Seals on door o.k.

Time Sheet

Date	Travelling Time	Arrive	Depart	Total	Office Use
25-1-13	1 Hrs	9.40	12.30	Hrs	
	Hrs			Hrs	
	Hrs			Hrs	

Engineer Signature: Paul Gaffney Client Signature:

Hi-Line Energy Solutions Ltd

P756

Croughtabeg, Windgap, Callan, Co. Kilkenny.
Tel: 051 641118 Fax: 051 641122 087 2280083 Email hilineenergy@eircom.net

Service Record / Commissioning / Fault Report

Client	Union Park + Bacon
Address	Granagh, Waterford

Contact Name	
Tel No.	
Purchase Order No.	74540
Date	15-2-13

Service ✓	Commissioning	Call Out

Burner Make:	Riello
Model:	RS 190
Serial No.	
Spec No.	
Fuel: Nat Gas	Output Kw

Boiler Make:	Kurleens No.
Model:	SK725
Serial No.	
Input Kw	Output Kw

Isolate power supply to appliance

	Checked	N/A
Clean burner head	✓	
Check spark probe	✓	
Check flame probe		
Check photo/UV cell		
Check/Change nozzles		
Clean fan		
Clean burner body	✓	
Clean sight glass	✓	
Clean boiler	✓	
Check for oil leaks		
Check for gas leaks	✓	
Check air pressure sw	✓	
Check gas pressure sw	✓	
Check for water leaks		
Check seals	✓	
Check flues	✓	
Test fire burner	✓	
Check/Reset combustion	✓	

Flue Analysis

	High	Low
O2 %	4.7	4.4
CO ppm	1	3
CO2 %	9.2	9.4
Ratio	0.0090	0.0094
Pressure (mBar)		
Temp net ©		
Temp Flue	180	179
Net efficiency %	93.0	94.9
Excess air %	29.2	26.6

Gas inlet pressure Mb running	27	30
Burner pressure Mb	12.5	5
Oil pressure bar		
Nozzle Size/Degrees		
Smoke No.		

Parts used:

Remarks: Serviced gas Burner / Boiler. Set of Blast tube Burner Arms and had Fallen off / Burner Head. Need Part needed. FIRE BRICK in IT Door of Boiler has Cracked and some bits had Fallen off. Repaired with FIRE Cement.

Time Sheet

Date	Travelling Time	Arrive	Depart	Total	Office Use
15-2-13	1 Hrs	9.35	13.10	Hrs	
	Hrs			Hrs	
	Hrs			Hrs	

Engineer Signature: Paul Keenan Client Signature:

P701

Hi-Line Energy Solutions Ltd

Abilene, Monassa, Callan, Co. Kilkenny.

Tel. 051 641118 Fax. 051 641122 087 2280083 Email hilineenergy@eircom.net

Service Record / Commissioning / Fault Report

Client: Dawn Pork + Bacon	Contact Name:
Address: Grannagh Waterford	Tel No.
	Purchase Order No. 33972
	Date 2-1-12

Service ✓	Commissioning	Call Out

Burner Make: Riello	Boiler Make: Buderus No.
Model:	Model:
Serial No.	Serial No.
Spec No.	Input Kw / Output Kw
Fuel MGO / Output Kw	

Isolate power supply to appliance

	Checked	N/A
Clean burner head	✓	
Check spark probe	✓	
Check flame probe		
Check photo/UV cell	✓	
Check/Change nozzles	✓	
Clean fan		
Clean burner body	✓	
Clean sight glass	✓	
Clean boiler	✓	
Check for oil leaks	✓	
Check for gas leaks		
Check air pressure sw		
Check gas pressure sw		

	Checked	N/A
Check for water leaks		
Check seals	✓	
Check flues	✓	
Test fire burner	✓	
Check/Reset combustion	✓	

Flue Analysis

	High	Low
O2 %	4.4	
CO ppm	38	
CO2 %	7.1	
Ratio	.0005	
Pressure (mBar)		
Temp net ©		
Temp Flue	156	
Net efficiency %	90.2	
Excess air %	119.1	

Gas inlet pressure Mb running		
Burner pressure Mb		

Oil pressure bar	12	
Nozzle Size/Degrees	2.0/60	
Smoke No.	0	

Parts used: 1 Seal for hydraulic Jack.

Remarks: Serviced oil Burner / Boiler [illegible] hydraulic Jack [illegible] seal.

Time Sheet

Date	Travelling Time		Arrive	Depart	Total	Office Use
2-1-12	1	Hrs	13.55	16.10	Hrs	
12/2/12	1	Hrs	2 hrs		Hrs	
		Hrs			Hrs	

Tom Wills

Engineer Signature: Paul [illegible] Client Signature: [signature]

Subject to terms and conditions. Copies my be inspected at our office. All queries must be made within 5 days.

APPENDIX 2 Energy audit 2013

DAWN PORK & BACON

OES
Energy, Environment & Safety

Queally Pig Slaughtering Ltd. t/a Dawn Pork & Bacon

Grannagh, Co. Kilkenny, Ireland.

Energy Efficiency Audit Report, 2013

January 2014

ENVIRONMENT ISO 14001:2004 NSAI Certified
HEALTH & SAFETY OHSAS 18001:2007 NSAI Certified
QUALITY ISO 9001:2008 NSAI Certified

FBD House, Fels Point, Tralee, Co. Kerry
Building 1000, City Gate Mahon, Cork,
OES Consulting
Unit 10D Southern Link Business Park
Naas, Co Kildare
LoCall 1890 130 007
www.oes.ie

11. Audit Findings & Recommendations

The audit findings are tabulated below. In summary, eight recommendations have been made as a result of the findings.

Table 8. Audit Findings

Item	Recommendations / Observations
1	***Recommendation: Energy Management:*** There has been focus on other areas of improvement at the facility which have proved successful however it is considered that Energy Management is an area that could now be focused on. An Energy Policy could be developed; • An Energy Manager could be appointed and a reporting structure set up. Consideration should be given to setting up an Energy Management Committee comprising of the maintenance manager and other key personnel who can have an effect on the facilities energy consumption. This committee could act as the main channel of communication and motivation on energy efficiency; • Objectives and Targets should be set on both a long term and short term basis for reducing energy consumption and increasing energy efficiency; • Energy Awareness should be generated throughout the facility. This can be carried out by sending out a monthly email on how everybody can contribute to saving energy through simple measures such as turning of lights and office equipment when not in use. • Energy Champions could be appointed.
2	***Recommendation: Benchmarking – Total Facility Energy Load:*** For the purpose of benchmarking energy performance a baseline was developed for the total Facility annualised energy consumption. This is a quantitative reference providing a basis for comparison of energy performance. The baseline year chosen is 2005. This was chosen as the baseline year for the entire energy review process carried out. It can clearly be seen that the facility has reduced its total annualised energy consumption to 8,000,000 kWh. This is significantly lower than the initial baseline of 12,000,000 kWh. It is recommended that the facility consider using 2012 as a baseline going forward as 2005 no longer reflects organizational energy use and consumption. 2012 will reflect current energy trends at the facility. This would serve as a reference point in future analysis carried out on energy performance.

Item	Recommendations / Observations
3	***Recommendation: Electrical Load:*** The majority of the facility's electrical consumption is attributed directly to the refrigeration system, the compressed air system and the lighting. As there has been little change in this load since 2005 it is recommended that these systems should be targeted going forward for energy reduction. Further review of these systems could yield potential energy reduction projects.
4	***Recommendation: Lighting:*** QPS has requested a study be done on their lighting to potentially produce a lower rating light fitting that is suitable for use at their facility. It is strongly recommended that this be pursued as there are significant savings to be made here. It is also recommended that LED lighting be revisited. There have been major breakthroughs in LED technology in the past few years and there are a large number of new products on the market that may be suitable.
5	***Recommendation: Lighting:*** It is recommended that all lighting areas be reviewed for the installation of motion and daylight sensor control.
6	***Recommendation: Benchmarking – Gas Consumption:*** It is clear that the facility has reduced its total annualised gas consumption to 2,500,000 kWh. This is significantly lower than the initial baseline of 4,200,000 kWh. It is recommended that QPS consider using 2012 as a baseline going forward as 2005 no longer reflects organizational energy use and consumption. 2012 will reflect current energy trends at the facility. This would serve as a reference point in future analysis carried out on energy performance.
7	***Recommendation: Benchmarking – Gas Oil Consumption:*** It is clear that the facility has reduced its total annualised gas oil consumption to 250,000 kWh. This is significantly lower than the initial baseline of 2,500,000 kWh. It is recommended that the facility consider using 2012 as a baseline going forward as 2005 no longer reflects organizational energy use and consumption. 2012 will reflect current energy trends at the facility. This would serve as a reference point in future analysis carried out on energy performance.
8	***Recommendation: Demand Side Management:*** It was identified on the day of the audit that the facility previously participated in the "Demand Side Management" scheme where a backup generator was run to provide power to the facility thus reducing the load on the mains grid. while not strictly an energy efficiency measure this measure does represent best practice energy management. It is recommended that this measure be reconsidered as there are a number of providers who deliver this scheme such as Energia or Activation Energy. These are only two of many who provide this.

12. Conclusions

It is concluded that QPS have made some modifications to the plant over the last number of years that have had a dramatic improvement on the facility's energy performance and carbon footprint.

QPS had a carbon footprint of 4,922 Tonnes CO_2 in 2003 and 3,243 Tonnes CO_2 in 2012. This represents a 35% reduction in CO_2 emissions in 10 years. This is a significant reduction in QPS's carbon footprint.

There has been focus on other areas of improvement at the facility which have proved successful however it is considered that Energy Management is an area that could now be focused on going forward. There is potential for further savings and improved energy management if the company wishes to further develop

13. References

- EPA Guidance Note on Energy Efficiency Auditing (July 2003)

APPENDIX 3 PRTR 2013 submission

| PRTR# : P0175 | Facility Name : Queally Pig Slaughtering Limited | Filename : P0175_2013.xls | Return Year : 2013 |

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.18

REFERENCE YEAR	2013

1. FACILITY IDENTIFICATION

Parent Company Name	Queally Pig Slaughtering Limited
Facility Name	Queally Pig Slaughtering Limited
PRTR Identification Number	P0175
Licence Number	P0175-02

Waste or IPPC Classes of Activity

No.	class_name
7.4.1	The operation of slaughterhouses with a carcass production capacity greater than 50 tonnes per day

Address 1	Grannagh
Address 2	Co. Kilkenny
Address 3	
Address 4	
	Waterford
Country	Ireland
Coordinates of Location	-7.16672 52.2776
River Basin District	IESE
NACE Code	1011
Main Economic Activity	Processing and preserving of meat
AER Returns Contact Name	Joanne Day
AER Returns Contact Email Address	jday@dawnpork.com
AER Returns Contact Position	QA/Environmental Manager
AER Returns Contact Telephone Number	051 870210
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	270
User Feedback/Comments	
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
8(a)	Slaughterhouses

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	No
Have you been granted an exemption ?	
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	

4.1 RELEASES TO AIR

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Queally Pig Slaughtering Limited

Please enter summary data on the quantities of methane flared and / or utilised	T (Total) kg/Year	M/C/E	Method Used		Facility Total Capacity m3 per hour	
			Method Code	Designation or Description		
Total estimated methane generation (as per site model)	0.0				N/A	
Methane flared	0.0				0.0	(Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A	

4.2 RELEASES TO WATERS Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as this on

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
No. Annex II	Name	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
No. Annex II	Name	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
Pollutant No.	Name	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0
238	Ammonia (as N)	M		Hach Lange Nessler Method Colormetric method standard methof for waste water analysis	1075.703	1075.703	0.0	0.0
303	BOD	M		Adopted from standard methods for waste water analysis, 5 day test Reactor	2340.73	2340.73	0.0	0.0
306	COD	M		Digestion/colormetric analysis HACH	24431.37	24431.37	0.0	0.0
308	Detergents (as MBAS)	M		Anionic surfactant as MBAS	111.87	111.87	0.0	0.0
314	Fats, Oils and Greases	M		Solvent extraction method	1940.56	1940.56	0.0	0.0
387	Ortho-phosphate (as P)	M		PhosVer3 phosphate method, Hach Colormetric method	352.83	352.83	0.0	0.0
240	Suspended Solids	M		Filtration method	4406.07	4406.07	0.0	0.0
362	Kjeldahl Nitrogen	M		Test N' Tube Hach Method	3851.01	3851.01	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.4 RELEASES TO LAND Link to previous years emissions data [PRTR# : P0175 | Facility Name : Queally Pig Slaughtering Limited | Filename : P0175_2013.xls | Return Year : 2013 | 07/05/2014 13:27

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Please enter all quantities on this sheet in Tonnes

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Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	02 02 02	No	485.8	Animal tissue waste CAT 2	R3	M	Weighed	Offsite in Ireland	Dublin By-products Ltd,R910	Dunlavin,0,0,Wicklow,Ireland		
Within the Country	02 02 02	No	571.72	Animal Tissue waste Lungs and Liver	R3	M	Weighed	Offsite in Ireland	Premier Proteins,ID3	Cahir,0,0,Tipperary,Ireland		
Within the Country	02 02 02	No	4375.02	Animal Tissue waste Offal	R3	M	Weighed	Offsite in Ireland	Dawn Country Meats t/a Western Proteins,POO48 - 02	Hazel Hill,Ballyhaunis,Mayo,0,Ireland		
To Other Countries	02 02 02	No	1858.76	animal-tissue waste blood	R3	M	Weighed	Abroad	APC Technologies,DAFF AB	2 Silverwood Industrial Estate,Craigavon,0,Armagh BT66 6LN,United Kingdom		
Within the Country	02 02 04	No	5573.376	sludges from on-site effluent treatment	R10	M	Weighed	Offsite in Ireland	Agrilife Ltd,WCP/kk/317(a)/08	Tourin,Cappoquinn,Waterford,0,Ireland		
To Other Countries	11 01 13	Yes	0.7	degreasing wastes containing dangerous substances	R13	M	Weighed	Abroad	Safet Kleen Ireland,WCP-DC-09-1223-01 Waste Licence W0099-1	Unit 5,Airton Road,Tallaght,Dublin,Ireland	Solvent Resource Mangement Ltd,TP334SF,Weeland road,Knottingly,West Yorkshire,0,United Kingdom	Weeland road,Knottingly,West Yorkshire,0,United Kingdom
To Other Countries	**18 02 02**	**Yes**	0.1365	wastes whose collection and disposal is subject to special requirements in order to prevent infection	D15	M	Weighed	Abroad	Sterile Technologies Ireland Limtied,W0055-02	Units 420-430 Beech Road ,Western Industrial Estate Naas Road.,Dublin 12,Dublin 12,Ireland	Ecosafe Systems,W0054-02,Unit 1A,Allied Indudtrial Estate,Kylemore Road,Dublin 10 ,Ireland	Unit 1A,Allied Industrial Estate,Kylemore Road,Dublin 10 ,Ireland
To Other Countries	20 01 01	No	128.28	Packaging waste and landfill waste	R5	M	Weighed	Abroad	GreenStar Ltd,WCP W0116-02	Six cross roads,Carraiganard,Butlerstown,Waterford,Ireland		
Within the Country	20 01 01	No	1.65	paper and cardboard	R5	M	Weighed	Offsite in Ireland	Pulp Recycling Ltd.,DC-09-1218-01	Pulp Recycling Ltd.,Unit 3 Riverside,Whitestown Business park,Dublin 24,Ireland		
To Other Countries	20 01 21	Yes	0.17	fluorescent tubes and other mercury-containing waste	R5	M	Weighed	Abroad	Irish lamp recycling,WCP/kk/030(a)/05 Waste permit 02/2000	Blackpark,Kilkenny road,Athy,Kildare,Ireland	Irish Lamp recycling LTD,Waste Permit 02/2000,Blackpark,Killenny road,Athy,Kildare,Ireland	Blackpark,Killkenny Road,Athy,Kildare,Ireland

* Select a row by double-clicking the Description of Waste then click the delete button

APPENDIX 4 Impact of Effluent Discharge on shellfish

DAWN PORK AND BACON

Impact of Effluent Discharge on Shellfish

for Queally Pig Slaughtering Limited

Final

30th October 2013

Environet

Solutions

6 Discussion and Conclusion

The following points can be made;

- Monitoring of shellfish in Waterford Harbour has not found significant issues regarding microbiological contamination;
- With regard to the risks of microbiological contamination in Waterford Harbour there is significant cause for concern regarding the proliferation of septic tank systems and the vulnerability of the harbour area to those systems;
- Urban wastewater systems and agricultural activities were also considered to be a significant risk;
- The Shellfish Pollution Reduction Programme (Appendix C) confirms that IPPC licensed sites are not considered to be a risk with regard to shellfish waters, mainly due to the distance of the activities from the shellfish areas, in the case of QPSL, approximately 13 km.

In conclusion there does not appear to be any evidence that discharges of treated effluent from QPSL are causing any significant negative impact on designated shellfish areas downstream. Indeed it is likely that any negative impacts on shellfish areas will be as a result of septic tank systems or urban wastewater systems.