INSPECTORS REPORT ON A LICENCE APPLICATION

To: Directors

From: Yvonne Furlong

Date: 3 JANUARY 2008

RE: Application for an IPPC Licence from MICHAEL D. O’ CONNOR, SONS AND COMPANY LIMITED TRADING AS CAPPOQUIN CHICKENS, Licence Register P0834-01

Application Details

| Class of activity: | 7.4.1: The operation of slaughterhouses with a carcass production capacity greater than 50 tonnes per day. |
| Licence application received: | 03/09/2007 |
| Information under Article 11(2)(b)(ii) received: | 22/11/2007 |
| Site notice inspected: | 09/10/2007 |
| Site visits: | 09/10/2007 |

Company

Michael D. O’ Connor, Sons and Company Limited trading as Cappoquin Chickens (Cappoquin Chickens), located a short distance from Cappoquin town, Co Waterford is a producer and processor of poultry products, mainly chickens. Cappoquin Chickens, a family run activity, was founded in the 1920’s and initially employed 3 people. Cappoquin Chickens registered as a limited company in 1973, and in 1975 moved to newly established premises employing 90 people. The company now employs in excess of 150 people.

Cappoquin Chickens currently slaughters c.200,000 chickens per week and produces on average 280 tonnes of finished product per week. The products include whole chickens and chicken portions along with value added lines, including cooked chicken, chinese wings, cooked portions, chicken kievs, chicken burgers, etc. The plant operates 24 hours a day, five days a week. The plant is on a site of ten acres. Agricultural fields surround the installation and an IDA site is situated directly across the road.

The most recent planning permission was granted in 2000 for the retention of a factory extension.
**Process Description**

Live birds are delivered to the factory in modules/crates on trailers. The modules are offloaded using forklifts and are then placed on a conveyor system which presents the live birds to operatives for placing in shackles on the live bird line. The chickens are then electrically stunned. They are then bled, the bleed time is approximately 60 seconds per bird. The birds then enter the scalders and are scalded at c.52ºC. The chickens are then mechanically plucked and the eviscera are removed. All the blood, feathers, offal, heads and dead-on-arrival chickens are sent off-site for rendering. All the wash water is sent to the on-site wastewater treatment plant.

The carcasses are then chilled in the air chill before processing and/or packing; this maintains the product at less than 2ºC. The carcasses are weighed and graded and then sent down the production line and the products are packed as whole chickens or processed and packed as chicken pieces. A small portion of the chicken is breaded. In the breading department raw meat is passed through a “crumber” and a flash fryer. The company also supply a very small amount of cooked chickens. Some final product is stored in refrigeration rooms at -26ºC.

The packaging used consists of polystyrene trays, boxes and cling film. The final products are then distributed throughout Ireland. Distribution is solely by company owned refrigerated trucks.

**Emissions**

**Air**

The main emissions to air from this site is from the boiler, A3-1, used for steam generation. The boiler is not considered significant at 3MW thermal input. The boiler is fuelled on 35-second oil. The sulphur content of the 35-second oil is <0.2%.

The recommended determination (RD) states that the licensee shall use oil with a sulphur content not exceeding 0.1% by mass, as required by the Air Pollution Act, 1987 (Sulphur Content of Heavy Fuel Oil and Gas Oil) Regulations, 2001, S.I. No. 13 of 2001. The RD also states that there shall be no alterations in the boiler fuel without prior notice to and the agreement of the Agency. Condition 6.9 of the RD requires that a programme for the identification and reduction of fugitive emissions e.g. odour, shall be prepared.

There are minor atmospheric emissions from the facility including vents from the offices, vents on storage buildings and the crumber and fryer stack. Monitoring is not required on these minor emission points.

Currently odour is not a major issue at this site. A site visit to the installation was carried out on the 9th of October 2007 and a slight odour was detected on site. To date the site receives on average one odour complaint per year, however the Agency has received no odour complaints in relation to this installation since receipt of the application. The RD requires that odour from site activities do not result in significant impairment of, and or significant interference with amenities or the environment beyond the installation boundary. Taking into consideration the potential sources of odour Condition 5.6 requires submission of an Odour Management Programme that shall be reviewed annually as part of the AER.
Emissions to Sewer

There are no existing or proposed emissions to sewer from this installation. Sanitary effluent from the site is collected in an on-site septic tank. The RD specifies that within six months of date of grant of licence any percolation area on site shall satisfy the criteria set out by EPA Wastewater Treatment Manuals (Condition 3.14).

Emissions to Waters

Process effluent is treated prior to discharge to the Blackwater River in the on-site WWTP. The process effluent primarily consists of general wash waters from the slaughter and processing activities. The River Blackwater rises to the east of Killarney and flows easterly through Mallow and Fermoy and Lismore, Co. Waterford before turning south at Cappoquin and discharging to the sea at Youghal.

The waste waters from the process currently only undergo screening and primary treatment in the WWTP. The treatment process has the following stages; crude sump with screen, balance tank, dissolved air floatation (DAF), and a final effluent sump prior to discharge. The resultant sludge (screening and DAF sludges) is stored in a sludge holding tank, dewatered and centrifuged before being sent off site for composting (McGill Environmental Systems (Ireland) Limited, W0180-01).

The Blackwater River is a designated salmonid river; therefore the discharge from the site must not cause an exceedence of the salmonid water quality standards (European Communities (Quality of Salmonid Waters) Regulations, 1988). The installation must also ensure compliance with the Water Framework Directive (Directive 2000/60/EC). The RD requires upgrade of the WWTP from primary to secondary treatment as a minimum, also a condition under the objectives and targets of the Environmental Management System requires the licensee to assess measures to reduce emissions to surface waters. These measures will aid in achieving the target of good water quality by 2015 under the WFD.

Currently Cappoquin Chickens holds a trade effluent discharge licence (TEDL) from the local authority, Waterford County Council, issued in March 2004 allowing them to discharge up to 500 m$^3$/day of trade effluent each day. The site has problems reaching the discharge limits set in this TEDL due to the lack of secondary treatment on site. The applicant proposes to have a secondary treatment plant installed on site by October 2009. Table 1 below shows the emission limits set by Waterford Co. Co. in the TEDL and the quality of the final effluent from Cappoquin Chickens.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>TEDL limit (mg/l)</th>
<th>Quality of final effluent (mg/l)</th>
<th>BAT Limits (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOD</td>
<td>25</td>
<td>500</td>
<td>20-40</td>
</tr>
<tr>
<td>Suspended Solids</td>
<td>35</td>
<td>100</td>
<td>60</td>
</tr>
<tr>
<td>Ammonia (as N)</td>
<td>10</td>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td>Nitrate (as N)</td>
<td>20</td>
<td>0.5</td>
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</tr>
<tr>
<td>Phosphorous (as P)</td>
<td>2</td>
<td>15</td>
<td>2-5</td>
</tr>
<tr>
<td>Orthophosphate (as P)</td>
<td>2</td>
<td>9</td>
<td>--</td>
</tr>
</tbody>
</table>

The 95th percentile flow and the 50th percentile flows in the Blackwater River are 933,120 m$^3$/day and 3,680,640 m$^3$/day respectively. The maximum permissible flow from the WWTP is set at 500 m$^3$/day in the TEDL, this means that at 95th percentile flow in the river there are approx. 1866 dilutions of the WWTP effluent. The applicant carried out an assessment of the impact of discharging 350 m$^3$/day of the primary treated effluent to the Blackwater River, this was
updated by the Agency to assess the impact of discharging 500m³/day. The resultant concentration of BOD, suspended solids and nitrates are 2.267 mg/l, 10.05 mg/l and 3.4 mg/l respectively. These are in compliance with the water quality standards specified in the Salmonid Regulation, 1988 and the Surface Water Regulations, 1989. The upstream concentration of orthophosphate in the river is 0.08 mg/l. However, under the Local Government (Water Pollution) Act, 1977 (Water Quality Standards for Phosphorous) Regulations, 1998, S.I. No. 258 of 1998, there is a requirement for the river to have orthophosphate maximum levels of 0.03mg/l by 31st December 2007. Currently the impact of discharging 500m³/day of the treated effluent with a concentration of 9mg/l Orthophosphates (PO₄) to the Blackwater River at the 50%ile flow rate increases the PO₄ downstream to 0.081 mg/l. It is considered that the Cappoquin discharge results in a negligible impact on PO₄ concentration in the Blackwater River.

The RD recommends that, as the WWTP effluent discharge is currently not causing a breach of salmonid water quality standards or surface water regulations the applicant be set interim emission limit values (ELVs). The RD specifies that the applicant shall install a secondary WWTP on-site within twelve months of the date of grant of this licence. It was proposed in the licence application to have a secondary WWTP fully in place and operational by October 2009, however the Agency feels this timescale is not acceptable. From twelve months after the date of grant of licence BAT associated ELVs for discharges to water shall apply.

A condition under the objectives and targets of the Environmental Management System is included in the RD requiring the licensee to assess measures to reduce process emissions to surface waters. This will aid in achieving the target of good water quality by 2015 under the Water Framework Directive (Directive 2000/60/EC of the European Parliament and the Council establishing a framework for the Community action in the field of water policy).

Surface Water

A storm water drainage system serves the production site and directs all surface water run-off from roofs, roadways and paved areas to the Blackwater River. The surface water runoff passes through an oil interceptor before flowing out to the Blackwater River. No other water or effluent streams are connected to this system.

The RD requires appropriate containment measures (e.g. bunding) be used to prevent contamination of surface water due to leaks, spillages, etc. Integrity testing of bunding structures shall be carried out on site on a three-year cycle. Tank integrity testing shall also be carried out. The RD specifies that testing of pipes, bunding structures and tanks shall be undertaken at least once every three years. It is estimated that an average of 54.6m³ of storm water is discharged from the installation on a daily basis. Storm water discharges from the installation are variable and weather dependant.

The RD requires that there shall be no storm water emissions of environmental significance (Schedule B.4) and specifies weekly monitoring of suspended solids, COD, nitrates (as N), oils, fats and greases, monthly monitoring of BOD and a daily visual inspection of all the storm water emissions.

It is recommended that a firewater retention risk assessment study be carried out within six months of the grant of the licence to determine if the activity should have a firewater retention facility. If it is found that a significant risk exists for the release of contaminated firewater then the licensee shall prepare and implement a risk management programme.

Emissions to ground
The Cappoquin Chickens installation is located on a regionally important aquifer, with high to low vulnerability. There is one emission to ground from the on-site septic tank and associated percolation area. The septic tank has an overflow pipe which leads to a 20 year old stone-type percolation area. The RD requires any percolation area on site, shall within six months of date of grant of licence, satisfy the criteria set out in the *Wastewater Treatment Manual*, published by the EPA (Condition 3.15). There is one well on-site, from which water is extracted. This water is softened and used in the production process. The water supply on site is also supplemented by a mains supply.

The RD requires that all storage areas on-site shall be bunded and impervious to the materials stored within. Condition 6.13 specifies that the licensee shall within twelve months arrange for a hydrological assessment of the site. Schedule C.6 specifies biannual groundwater monitoring of the on-site supply well.

**Waste**

Waste materials generated on site include wastewater, sludge, WWTP screenings, feathers, offal, dead on arrival chickens, blood, packaging, oil and general waste. The Hazardous (waste oils) and non-hazardous wastes are sent off-site for disposal or recovery, to approved facilities, by licensed/permitted contractors. All the blood, feathers, offal, WWTP screenings, heads and dead on arrival chickens are sent off-site for rendering (Munster Proteins Limited, P0039-02). The sludge from the on-site WWTP is sent off-site for composting at a licensed facility. The RD requires the licensee to agree in advance any changes to the contractors used for the disposal/recovery of waste with the Agency.

Condition 8.10 of the RD requires all storage areas be constructed so that surfaces are impervious and laid to fall to drain to the WWTP or storage facility. Carcass wastes are stored at the back of the installation in skips. It was noted during the Agency site visit (9/10/07) that these skips were uncovered. The RD requires animal by-product storage containers located outside the process buildings to be covered at all times. The RD requires all vehicles, trailers and containers used for transport of animal by-products and WWTP screenings and sludge be totally enclosed (Condition 8.11).

Also under Condition 2.2 and the Environmental Management System (EMS) the licensee is required to evaluate options for waste prevention, reduction and minimisation (e.g. for non-contaminated packaging) including waste reduction targets.

**Noise**

There have been no noise complaints received by the installation in the past five years. The nearest sensitive receptor to the installation is 50m from the front gate of the factory. Limits in accordance with Agency Guidance Note on noise, at off-site noise sensitive locations have been included in the RD. A noise survey shall be carried out annually.

**Use of Resources**

The main energy resources used on site are electricity and 35-second fuel oil. 4.4 million KWh of electricity are used on site on an annual basis. The boiler on site uses approximately 306,800 litres of 35 second oil per annum. There is one well on-site, from which water is extracted. This supply is supplemented by a mains supply. Approximately 93,600m³ of water is used on site annually. The RD as drafted specifies conditions for resource use and energy efficiency. Condition 7 includes conditions dealing with water, energy and raw material use, reduction and efficiency on site.

**Compliance with EU Directives**
IPPC Directive (91/61/EC)

This installation falls within the scope of category 6.4(a) (Slaughterhouses with a carcase production capacity greater than 50 tonnes per day) of Annex I of Council Directive 96/61/EC concerning integrated pollution prevention and control. The IPPC Directive requires that the competent authority take account of the general principles set out in Article 3 when determining the conditions of a permit. The RD as drafted takes account of the requirements of the Directive. In particular Condition 7, Resource Use and Energy Efficiency and Condition 10, Decommissioning and Residuals Management. BAT is taken to be represented principally by the guidance given in the EU reference document on Best Available Techniques in the Slaughterhouses and Animal By-Products Industries, (May 2005), and draft BAT Guidance Note on the Best Available Techniques for the Slaughtering Sector (final draft, October 2006). The process emission to water does not currently meet the BREF/BAT standards however impact assessment modelling indicated that the discharge is not causing pollution (see above). The RD requires the WWTP be upgraded within twelve months of date of grant of licence and BREF/BAT emission limit values are applicable from twelve months after grant of licence. This period to achieve BAT is in keeping with the principles articulated in the IPPC Directive (96/61/EC) and particularly in Annex IV of same. The RD as drafted ensures compliance with Article 3 of the IPPC Directive.

Water Framework Directive [2000/60/EC]

Process effluent is discharged to the River Blackwater. The RD requires upgrade of the WWTP from primary to secondary treatment as a minimum. A condition under the objectives and targets of the Environmental Management System is included in the RD requiring the licensee to assess measures to reduce emissions to surface waters. These measures will aid in achieving the target of good water quality by 2015 under the Water Framework Directive (Directive 2000/60/EC).

Groundwater Directive (80/68/EEC)

There is one emission to ground from this installation from the percolation area of the on-site septic tank. The RD requires this percolation area, within six months of date of grant of licence, to satisfy the criteria set out in the Wastewater Treatment Manual, published by the EPA. The RD also requires that all storage areas on-site shall be bunded and impervious to the materials stored within.

EU Animal By-Products Regulations (EC No. 1774/2002)


The Blackwater River is a Candidate SAC site. However, it is not anticipated that there will be any significant emissions which would impact of the designated site. Also as outlined above, the RD requires the installation of a secondary WWTP, which will improve the quality of emissions to water.
Best Available Techniques (BAT)

I have examined and assessed the application documentation and I am satisfied that the site, technologies and techniques specified in the application and as confirmed, modified or specified in the attached RD comply with the requirements and principles of BAT. I consider the technologies and techniques as described in the application, in this report, and in the RD, to be the most effective in achieving a high general level of protection of the environment having regard - as may be relevant - to the way the installation is located, designed, built, managed, maintained, operated and decommissioned.

Fit & Proper Person Assessment

The applicants experience, technical abilities, financial and legal standing would qualify them as fit and proper persons.

Submissions

None received.

Charges

The financial charge proposed in the RD is €12,552. This charge has been calculated based on the enforcement effort anticipated for the installation.

Recommendation

In preparing this report and the Recommended Determination I have consulted with Agency technical and sectoral advisors Dr. Jonathan Derham and Mr. Pat Byrne. The RD gives effect to the requirements of the POE Act 2003.

I recommend that a Proposed Determination be issued subject to the conditions and for the reasons as drafted in the RD.

Signed

Yvonne Furlong
Office of Climate, Licensing and Resource Use

Procedural Note

In the event that no objections are received to the Proposed Determination of the application, a licence will be granted in accordance with Section 87(4) of the Environmental Protection Agency Acts 1992 and 2003 as soon as may be after the expiration of the appropriate period.