

INSPECTOR'S REPORT ON A LICENCE APPLICATION

To:	Directors
From:	Ciara Maxwell - Environmental Licensing Programme
Date:	4 th March 2008
RE:	Application for an IPPC Licence from Cooley Distillery PLC, Castletowncooley, Riverstown, Dundalk, Co. Louth, Reg. No. P0826-01.
Application Details	
Class of activity:	Class 7.3.2 Distilling in installations where the production capacity exceeds the equivalent of 1,500 tonnes per year measured as pure alcohol.
Licence application received:	28/05/2007
Notice under Article 11(2)(b)(ii) issued:	9/08/2007
Information under Article 11(2)(b)(ii) received:	8/10/2007, 26/11/2007, 24/01/2008, 27/02/2008
EIS:	Not applicable
Supplementary material submitted by applicant:	26/02/2008
Submissions received:	None
Site notice inspected:	5/07/2007
Site visits:	25/07/2006, 5/07/2007

Company

This application refers to an existing distillery, Cooley Distillery PLC, located in Castletowncooley, Riverstown, Dundalk, Co. Louth in a rural setting at the base of the Cooley Mountains. Alcohol production has been undertaken at the site since 1936, when the state-owned Irish Alcohol Factories Ltd., subsequently re-named as Ceimicí Teoranta, built a distillery on-site. Five such factories were established under the Industrial Alcohols Act, 1934 to assure an outlet for potatoes surplus to market requirements and to provide employment. Ceimicí Teo. went into liquidation in 1986. Cooley Distillery PLC purchased the distillery in 1987 and converted it to a whiskey distillery. Malt whiskey production commenced in 1989 and the production of grain whiskey began in 1990.

The applicant provided details of the planning history of the site, dating from 1968 to 1998. The most recent planning permission, received in 2004, relates to the construction of a whiskey storage warehouse and associated site works (Reg. Reference No. 03/1504).

The distillery employs 43 staff and is operational for approximately 48 weeks of the year. The normal hours of operation are 8a.m. Monday to 8a.m. Saturday. Production is continuous

during this period. Occasionally, bottling operations, in particular, may be extended to 9p.m. on Saturdays due to seasonal demand. The waste water treatment plant operates on a continual basis.

Cooley Distillery PLC was required to apply for an IPPC licence under the Environmental Protection Agency Act 1992 (Established Activities) Order 2006, S.I. No. 279 of 2006.

Process Description

The installation uses the raw materials, malted barley and IP (identity preserved) Maize, to produce malt and grain whiskey. The manufacturing process comprises the following main elements:

- A malt whiskey distillery with 4 fermenters & 2 stills; annual capacity 850,000 litres alcohol;
- A grain whiskey still with 4 fermenters & 2 stills; annual capacity 2.8M litres alcohol;
- Bulk spirits warehousing & cask filling;
- Whiskey warehousing; capacity 20,000 casks;
- Bottling capacity of 2.4M bottles per annum;
- Services including steam boiler, cooling water system, waste water treatment plant, laboratory and offices.

The production stages are divided into seven unit operations, described hereunder with a summary of the emissions associated with each operation.

1. Grain intake, storage and milling

Malted barley and maize grain is delivered by trucks and discharged into an unloading hopper. The grains are transported via closed chain conveyor and bucket elevator into separate silos. The grains are blown from the bottom of the silos to hoppers above the respective mills. The grains pass through a de-stoner (Malt barley) /screen (maize) to remove foreign objects (e.g., stones, cornhusks), and magnets prior to entering the mills. Cyclones are fitted on the hoppers to minimise dust emissions. There is a dust collection bag filter on the malt milling system.

2. Malt batch mashing and fermentation

Malt mashing and fermentation produces a sugar solution (worts), which is fermented to produce a beer or wass for subsequent distillation (Operation No. 4). Milled malted barley is mashed with hot water in a mash tun. The resultant worts is drained from the mash tun and is pumped to fermenters. Yeast is added to the fermenters to convert the sugars into alcohol and CO₂ giving a beer containing c. 8% alcohol by volume. Liquid effluent, (spent CIP washings, spills in the mashing area), is pumped to the main effluent collection pit.

3. Continuous cooking, mashing and fermentation

Cooking at 150°C liquefies the milled grain starch and allows the enzymes present in the malted barley to break down the starch to sugars (worts). The yeast ferments the sugars to alcohol to produce a beer or wass, which is subsequently distilled (Operation No. 5). The cooker is run twice a week. All drains lead to a central pit from where effluent is pumped to the main effluent collection pit.

4. Malt pot still distillation

Distillation separates the alcohol from yeast and non-fermentable sugars and concentrates the alcohol to a suitable strength for maturation. There are two pot stills in operation; the first still produces intermediate distillates (low wines), which is further distilled in the second pot still to produce the spirit for maturation. Each pot still has a nominal operating capacity of 16,000 litres. The stills can distil 10.8M litres of wash per annum. Liquid waste arising from washings and the second pot still discharges to the main effluent collection pit. The first pot still discharges to the evaporator.

5. Grain spirit distillation

Grain spirit distillation separates alcohol from the yeast and non-fermentable sugars and concentrates it to an alcoholic strength for maturation. There are two column stills in operation. The columns are vented through condensers, which would discharge alcohol vapours to atmosphere in the event of over-pressurisation. Typical annual throughput is 40M litres of wash per annum. Liquid wastes produced include: washings (to effluent balance tank), spirit still discharge or lees (to effluent collection pit), and fusel oil^f which is collected in drums and sold as a by-product.

6. Spirit storage and warehousing

Spirits from the distillation operations are reduced in a vat by adding water to achieve the required alcoholic strength. The vats are bunged. The product is filled into wooden casks for maturation, which takes at least three years. The casks are numbered and stored on pallets in the warehouse. Annual throughput is typically 3.3M litres.

7. Bottling & case goods warehousing

Spirits are blended, reduced with water to bottling strength, chill filtered (to remove particulates) and coloured (with caramel) if required, prior to bottling and dispatch. Washings drain to the effluent collection pit. All packaging waste (pallets, cardboard, shrink wrap) and any glass breakages are sent off-site for recycling where possible. Annual throughput is c.2M litres.

Emissions

Air

• **Boiler emissions**

Medium fuel oil (a blend of heavy fuel oil and gas oil) is used to fuel the 10MW process steam boiler. Combustion gases from the boiler are vented through a 21m high stack. There are also two domestic boilers (0.1 MW and 0.04 MW) on-site, which are used for heating the offices and canteen. The applicant is required to assess the feasibility of using gas oil in the process steam boiler under Condition 2.2.2.2 of the Recommended Determination (RD). Gas Oil shall have maximum sulphur content 0.1%, in accordance with the Air Pollution Act, 1987 (Sulphur Content of Heavy Fuel Oil and Gas Oil) Regulations, 2001 (S.I. No. 13 of 2001).

SCREEN 3 Air dispersion modelling of emissions from the boiler, at emission point A1-1 was undertaken by the applicant in order to assess the potential impact of combustion gas emissions on the environment. Input data for the model included a NO_x emission rate; obtained from the oil usage rate and the concentration of NO_x in the flue gas. The SO₂ emission rate was calculated from the oil usage rate and maximum sulphur concentration in the oil. The emission values are in line with the emission limit values (ELVs) for *Furnaces fired with Heating Oil with a Firing Thermal Capacity of less than 50 MW* in TA Luft 1986 as demonstrated in Table 1.

^f**Fusel Oil:** Liquid with a characteristic unpleasant smell, obtained as a by-product of the distillation of the product of alcoholic fermentation, and used in paints, varnishes, essential oils, and plastics. It is a mixture of fatty acids, alcohols, and esters. A typical fusel oil contains 60-70% of amyl alcohol, smaller amounts of *n*-propyl and isobutyl alcohols, and traces of other components.

Parameter	Emission rate (g/s)	Mass Concentration (mg/m ³) at max. vol. of emission 11,300 m ³ /hr	TA Luft 1986 (mg/m ³)
NO _x	1.1	345	250 - 450
SO ₂	4.82	1513	1700

Table 1. Comparison of combustion gas emissions from the steam boiler with TA Luft 1986 emission limit values.

The SCREEN 3 model estimates the maximum one-hour ground level concentrations for NO₂ and SO₂ at discrete points up to 5km around the source. The results of screening are compared with ambient air quality standards in Table 2. The model confirms that emissions from the steam boiler will not result in a breach of ambient air quality standards. *Schedule B.1* of the RD imposes emission limit values on the boiler and *Schedule C.1.2* stipulates annual monitoring of combustion gas emissions.

Parameter	Modelled Impact	Predicted Ground Level Concentration	National Air Quality Standards ^{Note 1}
Nitrogen dioxide (NO₂)	Maximum 1-hour concentration	17.7 µg/m ³ @ 445m from source	200 µg/m ³ ^{Note 2}
Sulphur dioxide (SO₂)	Maximum 1-hour concentration	77.7 µg/m ³ @ 445m from source	350 µg/m ³

Note 1: Air Quality Standards Regulations S.I. No. 271 of 2002.

Note 2: Reducing standard to be fully achieved by 2010 in accordance with S.I. No. 271 of 2002.

Table 2. Results of air dispersion modelling compared with National Air Quality Standards.

- ***Fugitive emissions***

Fugitive emissions include carbon dioxide from the fermentation vessels and steam from cooker. Fugitive dust emission during unloading of grains is minimised by the use of closed chain conveyor when unloading from trucks. Cyclones are fitted on both malt and maize hoppers. There is a dust collection bag filter on the malt milling system. These are housed within the Mill Building and there are no air emission points. Minor emissions of alcohol and CO₂ arise from the distillation process. Condition 6.8 requires that the applicant prepare a programme for the identification and reduction of fugitive emissions using an appropriate combination of best available techniques, and to include the programme in the Environmental Management Programme.

- ***Odour issues***

According to the applicant, there have been no complaints in relation to odours in the past and the distinctive distillery odour that prevails on-site does not extend beyond the boundary of the site. Condition 5.2 requires that no emissions, including odours, from the activities carried on at the installation shall result in an impairment of, or an interference with amenities or the environment beyond the installation boundary.

Sanitary Effluent

Domestic sewage is discharged to an on-site biological treatment plant and percolation area. Condition 3.13 requires that the applicant maintain the wastewater treatment plant at the installation for the treatment of sanitary effluent arising on-site.

Emissions to Waters

There are three surface water discharges from operations on-site:

- (i) Non-contact cooling water is discharged to the River Big (also known as the Piedmont River) via a cascade system, at emission point reference number SE-1. The River Big supports salmonids.
- (ii) Treated process effluent, mixed with a variable quantity of non-contact cooling water, is discharged via long sea outfall to Dundalk Bay. Treated effluent is monitored at SE-2, prior to mixing with cooling water in a mixing chamber. The final mixture is monitored at SE-3 at a point 145m downstream of the mixing chamber prior to discharge by gravity flow to sea.
- (iii) Surface water runoff from the site discharges to the River Big (Piedmont), via emission point reference number SW-1. [Discussed under *Surface Water* below.]

• **Description of on site treatment**

Process effluent is treated in the on-site waste water treatment plant (WWTP). The WWTP consists of flow balancing, neutralisation and biological treatment using a four-stage biotower. The WWTP has capacity to treat 12 m³/hr at a BOD of 3,000 mg/l. Final polishing is via a reed bed system. The reed bed system consists of two parallel beds of reeds (*Phragmites* sp.) with a liner of low density polyethylene laid on 50mm sand. Four layers of graded gravel are laid on top of the liner. *Schedule C.2.1* stipulates the control and monitoring required at the waste water treatment plant.

• **Cooling water discharge**

Non-contact cooling water is discharged to the Big (Piedmont) River via a cascade system; designed to cool and aerate the water prior to discharge to the river. This discharge is currently authorised under Licence to Discharge Trade Effluent to Waters (Ref. in Register: 37) from Louth County Council. EPA monitoring undertaken in 2003 at Riverstown Bridge downstream of the installation (Station code 06B010300) shows a Q4 rating. The licence from the Water Services Authority includes limits and monitoring on the abstraction and return of cooling water and these have been included in Conditions 5.4 and 5.5, and *Schedules C.2.2* and *C.6.1*.

• **Process effluent discharge**

Following treatment in the WWTP, process effluent is piped (c. 1.5 km) to a long sea outfall in Dundalk Bay at Mountbagnall (Grid Ref: 316101E, 304881N). Discharge is by gravity flow. A variable quantity of non-contact cooling water is mixed with the treated effluent in a mixing chamber on-site. The cooling water is added in order to maintain sufficient flow velocity in the pipeline to prevent seawater ingress. The discharge is currently authorised under Licence to Discharge Trade Effluent to Waters (Ref. in Register: 34) from Louth County Council and a Foreshore Licence from the Department of Communications, Marine and Natural Resources.

A report on the impact of the discharge of treated effluent to Dundalk Bay was commissioned by the applicant. The report includes water and sediment biological analyses, hydrodynamic/solute transport modelling and assimilative capacity assessment. The DIVAST model was run using five scenarios of BOD concentration/effluent discharge flow rates. The worst-case scenario used a BOD concentration of 100mg/l at a flow rate of 5 litres/second. For this scenario the model predicts a maximum BOD value of 0.028mg/l at the outfall during neap tides. Time trace data is presented for the maximum levels of BOD expected to be found at the nearest sensitive location, Giles Quay, part of Dundalk Bay SAC/SPA (see Habitats/Birds Directive below). A maximum concentration of c.0.0064 mg/l at Giles Quay was observed. The report concludes that from sediment and water chemistry,

sediment biology and the modelled output, the discharge of effluent is having no significant impact on the receiving marine environment.

Low levels of copper leach from the Still and are discharged in the treated effluent. Monitoring results obtained from EPA sampling undertaken 7/12/2007 show elevated levels of copper present in the reed bed discharge (877 µg/l). This exceeds the limit set in the current single media discharge licence (500 µg/l) and resulted in a final effluent concentration - following mixing with cooling water - of 614 µg/l.

Using the assimilative capacity demonstrated in the DIVAST modelling of BOD concentrations, it can be conservatively estimated that a discharge of 877 µg/l of copper, at a discharge rate of 100mg/l effluent, would be likely to give rise to a maximum concentration of 0.2µg/l at the outfall.

The existing standard (annual average) for copper in tidal waters is 5 µg/l under the Dangerous Substances Regulations (S.I. No. 12 of 2001). There are no BAT associated emission levels for copper for this sector. The RD imposes an ELV of 500 µg/l for copper on the discharge (prior to mixing with cooling water). This is the limit set under PARCOM Recommendation 92/4 for the prevention of marine pollution from the electroplating industry. Quarterly monitoring results (July 2006 – January 2008) supplied by the applicant show that compliance with this limit is achievable. Levels reported in that period were in the range 78 µg/l to 170 µg/l.

The applicant proposes increases in discharge limits for treated effluent based on BAT emission levels. Table 3 compares the applicant's requested limits and BAT levels with current licensed limits and the proposed limit in the RD. Impact assessment modelling has demonstrated that an emission of 100mg/l BOD at the discharge rate of 5 litres/sec will have no significant effect on the receiving waters. The applicant points out that current BOD/COD emissions comply with BAT. An influent BOD load of 3,000 mg/l is reduced to 100 mg/l, indicating >90% removal. The RD proposes an ELV of 100mg/l for BOD. The WWTP achieves a 90% reduction in COD (a reduction of influent load of 5,000 mg/l to 500 mg/l). The RD proposes a limit of 500 for COD.

The results of monitoring for the year July 2006 – July 2007 show that levels of suspended solids have exceeded the licensed limit (35mg/l) and the BAT level (50mg/l). The levels reported for the period July 2006 – July 2007 range from <5mg/l to 182mg/l with one result of 966mg/l (April 2007). According to the applicant, exceedances have occurred due to the formation of filamentous sludge in the final clarifier. The applicant proposes to install a sand pressure filter with a backwash facility. *Schedule C.2.1* requires the installation of a sand filter within three months of the date of grant of licence. The RD proposes the BAT emission limit of 50mg/l. BAT limits are also applied for ammonia, mineral oil, lead and zinc discharges. Given the low solubility of metals, Condition 6.11 requires toxicity testing of the undiluted final effluent and annual monitoring of the water column, sediments and biota in the vicinity of the outfall.

Parameter	Limits requested by Applicant	BAT Levels	Current licensed limit	Limits Proposed in RD
Flow & Volume	12m ³ /hr & 288m ³ /day (treated effluent only, i.e. not including cooling water addition)	N/A	18 m ³ /hr & 400m ³ /day incl. cooling water; max addition of cooling water 200m ³ /day @ max rate 2.5 l/s	18 m ³ /hr & 400m ³ /day (max. cooling water addition 200m ³ /day @ max rate 2.5 l/s; Condition 5.5)
Temperature	-	-	25 ⁰ C	25 ⁰ C
Unit	(mg/l)	(mg/l)	(mg/l)	(mg/l)
pH	6 - 9	6 - 9	6 - 8.5	6 - 9
BOD	100	>90% removal, or 20-40	25	100
COD	500	>75% removal or 125-250	-	500
Suspended Solids	50	50	35	50
Total Ammonia (as N)	10	10	6	10
Copper	0.5	-	0.5	0.5
Mineral Oil	20	1	-	1
Lead	-	-	0.2	0.2
Zinc	-	-	0.2	0.2

Table 3 Comparison of applicant's requested emission limit values for treated effluent and BAT levels, with current trade effluent licence limits and the proposed limits in the RD.

Storm Water

Storm water emissions from the site discharge via monitoring point SW-1 to the River Big. Storm water derives from a total area (roofs and yards) estimated at 8519m². There are no silt traps or oil interceptors in place on the drainage system. *Schedule C.2.3* stipulates the monitoring requirements at the storm water monitoring point, SW-1.

• **Storage/Bunding**

Current deficiencies in current storage/bunding arrangements on-site include:

- (i) the oil tank bund does not satisfy minimum capacity requirements;
- (ii) the integrity of remote bunding has not been tested;
- (iii) the storage areas for drums and intermediate bulk containers (IBCs) are not all banded;
- (iv) loading and unloading areas do not currently drain to effluent sewers.

These issues are addressed in Condition 3.6 and Condition 6 of the RD.

• **Fire-water Retention**

Since the applicant is involved in the production and storage of significant quantities of flammable liquids, Condition 3.8 requires the submission of a fire-water retention study.

Emissions to ground

There are no other emissions to ground at the installation other than the treatment of sanitary effluent in a biological treatment plant. The disposal of sludge from the waste water treatment plant by landspreading is discussed in the section *Organic Waste* below.

There are no groundwater wells in use, however there are four monitoring boreholes on the site. The groundwater classification is classed as Lm (Locally important aquifer that is moderately productive) and vulnerability is given as HL (High to Low) based on the Geological Survey of Ireland Interim Study. The applicant has submitted the results of groundwater monitoring dating from 23/03/2007. The results show elevated levels of ammoniacal nitrogen in each of the boreholes with results ranging from 0.4 mg/l to 13.3 mg/l NH₄-N. Ammonia is a List II substance under the Dangerous Substances Directive (76/464/EEC) and the Groundwater Directive (80/68/EEC).

Condition 6.13 requires that a comprehensive hydrogeological investigation of the site be undertaken within twelve months of the date of grant of licence. Schedule C.6.2 stipulates that biannual monitoring of the four monitoring boreholes be undertaken. The monitoring regime may be revised subject to the recommendations of the hydrogeological investigation.

Waste

- *Hazardous Waste*

Previous occupiers of the site, Ceimicí Teo., used an area of the site for the disposal of cinders from the coal-fired boiler. While no documented records exist, it is believed that in addition to the principal waste (coal cinders), demolition waste, including the brick chimney, and parts of a defunct coal fired boiler were also disposed of at that location. This included asbestos thermal lagging. The area is now covered with earth and in part by a concrete yard. Waste disposal by on-site landfill is no longer undertaken on-site. Condition 10.2 of the RD requires the applicant to submit a comprehensive proposal for the investigation, monitoring and remediation of soil contamination resulting from the historical disposal of asbestos waste at the installation.

Hazardous wastes currently generated on-site include fluorescent tubes, lead batteries from forklifts, and hydraulic/lubricating oils from compressors and plant machinery. Condition 11.8 requires the applicant to maintain records including written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site

- *Non-hazardous*

Any edible wastes that arise such as *draff* (spent malt), spent maize and syrups are sold as animal feed, e.g., spent wash is passed through the evaporator, the sugars are captured and sold as animal feed. Pallets are reused on-site or sent off-site for recycling. Glass waste from bottling is recycled. Cardboard and plastic packaging is segregated, baled and sent off-site for recovery. Condition 11.8 requires the applicant to keep records of all wastes materials sent off-site for disposal or recovery.

- *Organic Waste*

Approximately 5.5 m³ per day of sludge (4-6% solids) is generated at the waste water treatment plant. Sludge is currently stored in four Sludge Tanks (188m³), which would provide c.5 weeks storage. Condition 3.15 requires that the applicant provide a minimum of 18 weeks storage for sludge on-site or at an agreed storage location.

Sludge is disposed of by landspreading off-site. A Nutrient Management Plan (NMP) was submitted for the disposal of sludge, based on a nutrient content of 0.2 kgP/m³ and 0.03 kgN/m³. The NMP demonstrates that the five farms selected for landspreading have a total application capacity of 4,207 m³. Condition 8 specifies conditions to control landspreading activities. Condition 11.9 requires that an organic waste register be maintained on-site.

Schedule C.4 stipulates annual monitoring of sludge for nutrient and trace metal content and requires that the volume/mass of each load be recorded at the weighbridge. *Schedule C.6.3* requires soil testing of land used for landspreading every three years.

Noise

The installation is located in a rural setting and much of the site is screened from adjoining property by an established belt of coniferous trees. According to the applicant there have been no complaints in relation to noise in the past. Noise arises from various plant and equipment including the MVR evaporator fan, air compressors, the boiler, pumps and motors. The nearest noise sensitive locations (NSL) are a series of five houses opposite the site entrance and a single dwelling house located c.120m north of the evaporator, which the applicant has identified as the most significant noise source on-site. The evaporator and compressors operate 24 hours a day for 5 days a week.

The applicant submitted the results of daytime monitoring undertaken 27/03/2007 at four locations, including three boundary locations. Three of the four measurements taken show daytime levels exceeding 55dB(L_{Aeq}). Monitoring undertaken 25 metres from the Evaporator, gives a noise level of 63 dB(L_{Aeq}). According to the noise survey report, the distance between the NSL and the source would result in a loss of 6dB per doubling of distance. Therefore, the expected noise level at the NSL is estimated at 63-12 = 51 dB(L_{Aeq}). No impulsive or tonal qualities were recorded during the survey. In total three of the four locations showed noise levels exceeding 55 dB(L_{Aeq}).

Work was undertaken by the applicant since the initial noise survey (March 2007) to reduce noise emissions. This included upgrading the acoustic panel enclosure on the evaporator fan and relocating a compressor unit. Subsequently, noise readings were taken at the site boundaries and at nearby dwellings in November '07. All daytime results were below 55dB(L_{Aeq}). However, night-time levels at one boundary and at two NSLs exceeded 45 dB(L_{Aeq}), [levels ranged from 47 to 54 dB(A)]. These results compare unfavourably with the standard night-time emission limit value (45 dB(L_{Aeq}), which is considered to represent BAT.

Condition 6.14.1 requires that annual noise surveys be carried out in accordance with the methodology stipulated in 'Environmental Noise Survey Guidance Document', published by the Agency. Condition 6.14.2 of the RD requires the applicant to put in place a programme of noise reduction measures in order to meet a night-time noise limit of 45 dB(A)_{L_{eq}} at noise sensitive locations within eighteen months of the date of grant of licence.

Use of Resources

- ***Fuel***

Medium fuel oil is used in the boiler. Approximately 100 tonnes of oil is stored on-site and 3,000 tonnes is used annually. 3 tonnes of diesel is stored on-site and is to fuel vehicles.

- ***Electricity***

Energy savings are achieved by using heat transfer during the production process and using the latent heat of condensation of evaporate in the MVR Evaporator to evaporate incoming spent wash.

- ***Water***

The installation uses water from three sources:

- (a) Louth County Council Mains Supply,
- (b) Mountain Reservoir Supply and
- (c) Abstraction from the Big (Piedmont) River.

The mains supply is used for domestic purposes only. The Mountain Reservoir and river supplies are used in the process. The Mountain Reservoir is a County Council collection system located on the south side of Slievenaglogh. The Distillery is the only user of this

supply, which is fed to the installation via dedicated pipeline. Filtered river water from the Big (Piedmont) River is used to supplement the Mountain Reservoir supply when necessary. River water is also used as non-contact cooling water for processes such as spirit cooling (which requires cooling below 20°C). Abstracted river water is also used as make-up water for the steam boiler, the cooling tower and the reverse osmosis unit (which produces water for reducing whiskey to casking and bottling strengths). Condition 3.14 requires that all water supplies are metered within six months of the date of grant of licence and that a summary report of water usage be submitted annually as part of the AER.

Compliance with EU Directives

IPPC Directive (91/61/EC)

The installation does not fall within the scope of Annex I of Council Directive 96/61/EC concerning integrated pollution prevention and control. *Schedule A* limits the finished product production capacity to less than 300 tonnes per day, in terms of the production of food product from vegetable raw materials. Production at the latter scale would bring this installation within the scope [Category 6.4(b)] of the IPPC Directive.

The Recommended Determination (RD) as drafted takes account of the requirements of the Protection of the Environment Act 2003. BAT is taken to be represented by the Draft BAT Guidance Note on Best Available Techniques for the Brewing, Malting & Distilling Sector (Final Draft Oct. 2006) and guidance given in the IPPC Reference Document on BAT in the Food, Drink and Milk Industries (August 2006).

Large Combustion Plant Directive (2001/80/EC)

The Large Combustion Plant Directive 2001/80/EC applies to combustion plants with a rated thermal input of equal to or greater than 50 MW, irrespective of the fuel used (solid, liquid or gaseous). The steam boiler on this site is rated at 10MW. Therefore the Directive does not apply.

Seveso Directive (96/82/EC)

In Section B.9 of the IPPC licence application the applicant has given details of the assessment of on-site storage with the requirements of S.I. No. 74 of 2006. The assessment concludes that the activity is classified as not requiring compliance with Articles 6,7 and 9 of Seveso II.

Air Quality Directive (1999/30/EC)

SCREEN 3 air dispersion modelling has been used by the applicant to model combustion gas emission from the boiler. The results of modelling show that boiler emissions will not result in a breach of ambient air quality standards.

Emissions Trading Directive (2003/87/EC)

The thermal input for the steam boiler at this installation is rated at 10MW. The European Communities (Greenhouse Gas Emissions Trading) Regulations 2004, (S.I. No. 437 of 2004) do not apply to this installation.

Environmental Liability Directive (2004/35/EC)

Condition 10 makes provision for the proper closure of the activity ensuring protection of the environment.

Water Framework Directive 2000/60/EC

The installation is located within the Neagh-Bann International River Basin District (IRBD). Ireland's Water Framework Directive Article 5 Characterisation Report classifies the Outer Dundalk Bay as 'Possibly at risk of not achieving Good Status'. The coastal waters assessment classifies this area as 'Probably at Significant Risk' (1b) and 'Probably at

Significant risk from Morphology Pressures' (1b). The 2005 Characterisation Report notes a lack of data for this area in relation to impact from pollution and states that where there is a lack of confidence in the outcome of the risk assessment further characterisation will be required.

The trophic status of the Outer Dundalk Bay has been classified as 'Unpolluted' for the period 2002 – 2006 in the Water Quality in Ireland 2006 report (EPA, 2007). The emission of treated process effluent in accordance with the limits specified in Schedule B.2 will not have an adverse effect on the quality of the receiving waters.

The river, into which non-contact cooling water and storm water discharges, the Big (Piedmont) River is classified as 'Expected to achieve Good Status'. It is joined by a tributary – the Little River - upstream of the installation, which is classified as 'Possibly at risk of not achieving Good Status'. The River Big is assigned the classification of 'Not at Significant Risk' (2b) of pollution. The proposed discharge of stormwater and non-contact cooling water in accordance with the conditions of the RD will not adversely impact the river water quality.

EU Nitrates Directive (91/676/EEC)

The European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2006, S.I. No. 378 of 2006, gives effect to the Nitrates Directive. These Regulations include measures such as set periods when land application of fertilisers is prohibited, limits on the land application of fertilisers and storage requirements for manures. The RD takes account of the requirements of the Nitrates Regulations as follows:

- Condition 3.15 requires the provision of a minimum of 18 weeks storage for organic waste on-site or at an agreed storage location off-site. This storage period refers specifically to livestock manures, and is considered an appropriate timeframe in order to ensure sufficient capacity for over-winter storage of organic waste prior to landspreading;
- Condition 8.11 requires that landspreading be carried out in accordance with Article 17 (buffer zones to water bodies), Article 18 (application of fertilisers, soiled water, etc.) and Article 19 (periods when application of organic fertilisers is prohibited).

Habitats Directive (92/43/EC) & Birds Directive (79/409/EEC)

There are no designated areas in the vicinity of the installation. Dundalk Bay is an important shallow sea bay with extensive salt marshes and intertidal sand/mudflats. The long sea outfall which discharges treated effluent from the installation is located to the east of Dundalk Bay Special Protection Area [SPA], (Site Code 4016). It lies approximately 5 km east of Dundalk Special Area of Conservation [SAC], Site Code 445 and the RAMSAR Site (Reference No. 31E026). The bay is one of the most important wintering waterfowl sites in the country and regularly supports more than 20,000 waterfowl.

As part of the impact assessment undertaken on behalf of the applicant, analysis of sediment samples was undertaken to assess the biological quality of sediments in the vicinity of the discharge point. The report concludes that it can be *“quite categorically stated that the effluent from Cooley Distillery is not having any noticeable negative impacts on the benthic assemblages of Dundalk Bay”*. The ongoing discharge of treated effluent from the installation is unlikely to pose a threat to the flora and fauna of Dundalk Bay.

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 Recommended Decision 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 facility is located, designed, built, managed, maintained, operated and decommissioned.

Environmental Impact Statement

Not applicable.

Fit & Proper Person Assessment

The Fit & Proper Person test requires three elements of examination:

- Technical Ability
- Legal Standing
- Financial Standing

The applicant has provided the Management Structure and the details of the qualifications and experience of relevant staff which demonstrate that the applicant fulfils the requirements in terms of technical ability.

On 15th June 2000, the applicant pleaded guilty and was fined £200 in Carlingford District Court for failing to file monthly reports as required under its Trade Effluent Discharge Licences (Case No. 23841).

The applicant has supplied a copy of the Consolidated Balance Sheet for the Year Ended 31st December 2006. This document shows the good financial standing of the company and shows that the applicant is likely to be in a position to meet any financial commitments or liabilities that may have been or will be entered into or may be incurred in carrying on the activity to which the application relates or in consequence of ceasing to carry out the activity.

It is my view, and having regard to the provisions of Section 84(5) of the EPA Acts and the Conditions of the RD, that the applicant can be deemed a Fit & Proper Person for the purpose of this licence.

Submissions

There were no submissions received in relation to this licence application.

Recommended Determination (RD)

The RD gives effect to the requirements of the POE Act 2003.

Charges

An annual charge of €11,574 is proposed based on the enforcement effort anticipated for this installation.

Recommendation

In preparing this report and the Recommended Determination I have consulted with Agency technical and sectoral advisor Dr. Jonathan Derham. I recommend that a Proposed Determination be issued subject to the conditions and for the reasons as drafted in the RD.

Signed,

Ciara Maxwell

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 to 2007 as soon as may be after the expiration of the appropriate period.