



OFFICE OF CLIMATE,
LICENSING & RESOURCE USE.

**INSPECTORS REPORT ON A WASTE WATER DISCHARGE
LICENCE APPLICATION**

To: DIRECTORS

From: Ann Marie Donlon

**Environmental Licensing
Programme**

Date: 14TH OCTOBER 2008

RE: Application for a Waste Water Discharge Licence from Cork County Council for the Cobh Agglomeration, Reg. No. D0054-01.

Application Details

Schedule of discharge licensed:	Discharges from agglomerations with a population equivalent of more than 10,000.
Licence application received:	14/12/2007.
Site Notice checked	03/01/2008
Notices under Regulation 18(3)(b) issued:	04/04/2008.
Information under Regulation 18(3)(b) received:	30/06/2008, 07/10/08.
Submission Received:	24/02/08, 09/04/08

1. Agglomeration

This application relates to the Cobh agglomeration. The sewerage system in Cobh is very old and is a combined system. Although newer housing estates have been constructed as a separate system, they connect into the combined system.

There is no waste water treatment plant in Cobh and waste water discharges untreated to Cork Harbour through 12 outfall points. There are four pumping stations and each pumping station has an emergency overflow which also act as storm water overflow. There are five other pumping stations not yet taken in charge by Cork CC, which connect to the waste water works. None of these have emergency overflows. There is a significant volume of infiltration (25% of flow) into the sewerage system. Waste water is a mix of domestic, commercial (hotels) and institutional. There is no industrial effluent as Rushbrooke Commercial Park is not connected to the Cobh system. The current load from the agglomeration is estimated at 12,000PE.

As the agglomeration is greater than 10,000PE, secondary treatment was required under the Urban Waste Water Treatment Regulations, 2001 (S.I. No. 254 of 2001) (UWW Regulations)

by 31/12/05. It is proposed to upgrade the Cobh sewer network and pump waste water to the proposed urban WWTP at Shanbally which is expected to be operational in 2012. This proposal forms part of the Cork Harbour Main Drainage Scheme (also referred to as the Cork Lower Harbour Sewerage Scheme). The Cork Harbour Main Drainage Scheme is for the provision of collection systems and waste water treatment facilities in the Cork lower harbour area serving the agglomerations of Cobh (D0043-01), Passage West / Monkstown, and Ringaskiddy /Carrigaline/Crosshaven (D0057-01). An Environmental Impact Statement for the proposed WWTP and associated works is currently under consideration by An Bord Pleanála. Separate planning approval will be required for the construction of pumping stations, holding tanks or outfalls for waste water or storm water associated with the conveyance system that form part of the Cork Harbour Main Drainage Scheme.

The EIS for the Shanbally WWTP was received with this application as it relates to this waste water works. However an application for the combined agglomeration (Cobh/ Passage West / Monkstown/ Ringaskiddy /Carrigaline/Crosshaven) has not been received.

2. Discharges to Waters

The largest flow of waste water is discharged through Whitepoint outfall (primary discharge). This flow passes through a comminutor chamber, which is currently undergoing replacement.

There are 11 other secondary discharges of untreated waste water from the agglomeration. There are 4 emergency/storm water overflows associated with the pumping stations.

3. Receiving waters and Impact

The following table summarises the main considerations in relation to the Cork Harbour (receiving water).

Table 1. Receiving waters

Characteristic	Classification	Comment
Receiving water name and type	Cork Harbour	Coastal waters. Protected areas within the harbour.
Resource use	Shellfish production	Not a designated shellfish site but production occurs.
Amenity value	Fishing, water sports, bathing	
Applicable Regulations	Shellfish waters ¹	Not a designated site. Rostellan North, Rostellan South and Cork Great Island North Channel are proposed for designation ² .
	EU Regulation 854/2004	Class B 2008 (purification required before sale) for Oysters ³ .
	EU Regulation 853/2004	Cork Harbour mussel production area is currently closed due to biotoxins. ⁴
	Bathing Waters ⁵	No designated area within Cork harbour but some traditional bathing areas (Gobbin Head, Cuskinny, Aghada Pier).
	Dangerous Substances ⁶	Non-compliant 2005 report.
Trophic	Unpolluted 1995 –1999	Category ‘Bay’.

classification (Cork Harbour)	Intermediate 1999-2005	Dis-improvement from '95-99.
Target	Unpolluted	
WFD status	Ia (at risk of not achieving good status) '05	Cork Harbour (Coastal) Lough Mahon (Transitional) North channel (Transitional)
WFD Protected areas	pSPA (4030) Lee estuary/ Lough Mahon Owennacurra Estuary / North Channel	Water dependant habitat and species Nutrient sensitive area Nutrient sensitive area

Note 1: Quality of Shellfish Water, 2006 (S.I. 268 of 2006)

Note 2: Source: Department of Agriculture, Fisheries and Food website

Note 3: Source: Sea Fisheries Protection Authority website

Note 4: Source: Food Safety Authority of Ireland website

Note 5: Quality of Bathing Water Regulations, 1992 (S.I. 155 of 1992)

Note 6: Water Quality (Dangerous Substances) Regulations, 2001 S.I. No. 12 of 2001

Cork Harbour is the second largest natural harbour in the world. The harbour has a trophic classification of 'intermediate' having been an unpolluted area up to 1999. For this purpose, Cork Harbour is the area south of Great Island and north of the Camden Fort/Carlisle Fort line. It was reported in the Cork Harbour Main Drainage Scheme EIS, based on Cork City Council monitoring data 2005-2007 that dissolved inorganic nitrogen (DIN) exceeded the critical value in the area. EPA data (2004-2007) submitted as part of the application indicates that the standards for DIN and dissolved oxygen was exceeded. The exceedance for DIN singularly was confirmed by personnel communication with Shane O'Boyle of the EPA. The Cobh discharges have an average of approximately 100mg/l total nitrogen.

Cork Harbour was reported as non-compliant with the Dangerous Substances Regulations with regard to Cu, Cr, Pb and Zn. It was further reported in the EPA Dangerous Substances Regulations - National Implementation Report 2005, that pollution levels for Tributyl tin (TBT) in Cork Harbour were high. It is important to note that the monitoring was undertaken in the 1980's. Cobh discharges are predominantly domestic in nature and are not likely to contain significant quantities of dangerous substances.

Although Cork Harbour is not designated as a shellfish water, there are several oyster beds present and three areas are proposed for designation (Rostellan North, Rostellan South and Cork Great Island North Channel). Oysters grown in the area require purification prior to sale and are designated Class B. The harbour is currently closed for mussel production due to biotoxins. The Cork CC and UCC "*Modelling the Norovirus contamination of an oyster farm in Cork Harbour*", 2007 report submitted with the Midleton agglomeration (D0056-01) application, indicates that the untreated discharges from Cobh are a significant contributor (25-39% relative contribution) to the contamination of the oyster fishery in the outer harbour. Other discharges also contribute. Secondary treatment of waste water can reduce significantly (up to 90%) the level of pathogenic micro-organisms in discharges. It should be noted that the Quality of Shellfish Waters Regulations, 2006 does not specify a quality standard for *Norovirus*, faecal coliforms or nitrogen.

The nearest designated bathing area, Fountainstown, located in the outer harbour, currently complies with the bathing quality standard. There are areas within the harbour that are used for bathing but there is no water quality data available with regard to the bathing standards.

The National Parks and Wildlife Service (NPWS) advised Cork Co. Council that the discharges are not likely to have an effect on the downstream pSPA and an appropriate assessment is not necessary.

Untreated waste water discharges from Cobh are contributing to the current intermediate trophic status of Cork harbour and impacting on the local oyster fishery as discussed above. It may also be contributing to the designated nutrient sensitive areas. It is proposed to discontinue these discharges and redirect waste water to the Ringaskiddy agglomeration for treatment prior to discharge. The impact of discharging the Cobh treated waste water in combination with other treated waste water will be considered as part of the Ringaskiddy application (D0057-01).

Without prejudice to the outcome of the planning process (and EIA), the Recommended Licence (RL) aims to meet the requirements of the UWW Regulations and therefore requires all discharges to cease by the 1st January 2014 but does not require a WWTP. It should be noted that the Cobh agglomeration does not form part of the Ringaskiddy application (D0057-01) and a review or technical amendment to any licences that may be granted in regard to both agglomerations will be necessary prior to 2014. The implementation of the Cork Harbour Main Drainage Scheme will meet the requirements of the UWW Regulations with respect to Cobh.

The recommended licence requires an annual survey of Cork Harbour having regard to the Quality of Shellfish Water Regulations, 2006 (S.I. 268 of 2006), the Quality of Bathing Water Regulations, 1992 (S.I. 155 of 1992) and the Dangerous Substances Regulations as well as the Water Framework Directive. If a deterioration in the status of the receiving waters is noted, and is attributed to the discharge from the waterworks, Condition 2.2 requires that the Water Services Authority take 'such measures as are necessary' to prevent such deterioration.

Programme of Improvements

As stated above, Cobh agglomeration comes within the Cork Harbour Main Drainage Scheme. The upgrading of the existing sewer network will aim to eliminate excessive infiltration, remediate structural damage and separate storm water as far as practicable. It is proposed to pump Cobh waste water across the Passage West Channel and the combined flow of Cobh, PassageWest/Monkstown is pumped forward to the proposed WWTP. It is proposed to provide a major pumping station at West Beach, Cobh. It is proposed that pumping stations and associated overflows will be designed in accordance with the DoEHLG 'Procedures and Criteria in relation to Storm water Overflows', 1995. These works are due for completion in 2013.

Without prejudice to the decision on the EIS for the proposed WWTP and associated works at Shanbally, the RL requires that discharges from Cobh will cease from 1st January 2014. Given that there will be no longer a primary discharge from the Cobh agglomeration from 2014, the licence will cease to have effect as the agglomeration is integrated into a larger agglomeration. The specifics of the improvement works are not yet finalised and therefore the RL makes no reference to them.

Compliance with EU Directives

In considering the application, regard was had for the requirements of Regulation 6(2) of the Waste Water (Discharge) Authorisation, Regulations, 2007 (S.I. No. 684 of 2007) notably;

- Water Framework Directive,
- Dangerous Substances Directive,
- Shellfish Waters Directive,
- the UWW Regulations,
- the Birds Directive,
- Bathing Water Directive.

This agglomeration is not in compliance with the UWW Regulations and the RL requires discharges to discontinue by the 1st January 2014.

Submissions

Two submissions were received in relation to this application.

1. Mr. Keith Prowse

Mr. Prowse is a local resident and angler and is concerned about water quality in Cork Harbour. Mr. Prowse sought information regarding outfall locations, water exchange rate, water quality data, drinking water supply details, progress on the Cork Harbour Main Drainage Scheme and its effect on water quality.

Comment: In acknowledging this submission, the Agency advised Mr. Prowse that information sought and progress of the application was available on the EPA website. The RL requires the untreated waste water discharges from Cobh to be discontinued from 1st January 2014. This will result in an improvement in water quality in the vicinity of Cobh.

2. Mr. Hugh-Jones, Atlantic Shellfish Limited

Mr. Hugh-Jones objects to the licensing of discharges of raw sewage from Cobh as they are in contravention of the UWW Directive and Regulations and, in danger of infraction proceedings.

The company is the holder of the Oyster Fishery (Cork Harbour) Order, 1963, which covers waters to the east of Cuskinny Bay and Long Point and they have oyster trestles on the foreshore of Rostellan and also extensive subtidal layings. They believe the area is to be shortly designated under the Shellfish Waters Directive following European Court of Justice proceedings and trust that the requirements of this Directive will be observed in setting consent for the future treated discharge.

In the hydrodynamic survey, "*Modelling the norovirus contamination of an oyster farm in Cork Harbour*", submitted as supporting information for the County Council's Application for a WWDL for the Midleton WWTP discharges (D0056-01), Prof. O'Kane devotes Appendix C to looking at the effect of sewage discharges on the oyster beds covered by this Oyster Fishery Order in the Lower Harbour and concludes that, at present, the discharge of sewage from Cobh is a dominant source of pollution (figs. 8.24 - 8.31) to these beds.

Comment: The untreated Cobh discharges are a significant contributor of contamination to the oyster fishery in the outer harbour but are not the only contributor. The proposal to redirect Cobh discharges to the Ringaskiddy agglomeration (D0057-01) for secondary treatment will fulfill the requirements of the UWW Regulations. The secondary treatment of waste water reduces significantly (up to 90%) pathogenic micro-organisms levels. Although this area is proposed for designation under Shellfish Waters Directive and Regulations, the designation has not yet been confirmed. The RL requires the untreated discharges to cease by 1st January 2014 and that the Water Services Authority shall, at all times prior to this date, take such measures as are necessary to ensure that no deterioration in the status of the receiving water is caused as a result of the discharge. The RL further requires the monitoring of waters in accordance with the Quality of Shellfish Water, 2006 (S.I. 268 of 2006).

Charges

The RL sets an annual charge for the installation at €3,724.00 and is reflective of the monitoring and enforcement regime being proposed for the agglomeration.

Recommendation

I recommend that a Final Licence be issued subject to the conditions and for the reasons as set out in the attached Recommended Licence.

Signed

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PP / Ann Marie Donlon
Office of Climate, Licensing and Resource Use