

INSPECTORS REPORT

WASTE LICENCE REGISTER NUMBER 149-1

APPLICANT: The Minister for the Marine and Natural Resources

FACILITY: New quay development at Killybegs, Co. Donegal.

INSPECTOR'S RECOMMENDATION: That a waste licence is granted subject to conditions.

(1) Introduction:

The Minister for the Marine and Natural Resources (DoM&NR) proposes to dredge the entrance to Killybegs harbour. Suitable dredging spoils will then be recovered for land reclamation in order to construct a new quay area south of the existing quay in Killybegs harbour. This development will provide approximately 550m of new quay berthage in the port. Once the quay is complete structures such as boat repair sheds, cargo sheds, and a harbour office will be constructed. Future development may include infrastructure to service the oil and gas industry.

Approximately 385,000m³ of material will be dredged with 267,000m³ (550,000 tonnes) destined for recovery in this facility. The remaining material (primarily silt) is unsuitable for recovery and will therefore be dredged and dumped at sea in line with dumping at sea guidelines from the DoM&NR. It is unsuitable for recovery due to its settling characteristics and the presence of anthropogenic contamination (primarily TBT).

The recovery facility will be enclosed by a rock berm constructed of imported stone. The material dredged from the harbour will be pumped through a floating pipe to the facility where it will undergo a period of settlement. The resulting supernatant will discharge continuously through a weir box.

The applicant has indicated that they intend to commence dredging by the end of 2001. It is expected that dredging will take approximately 8-10 months to complete on a 24-hour basis. Once the dredged material has settled and been graded, the final quay wall will be constructed and the facility capped to prepare for the construction of buildings. The completion of the quay wall and associated fishing infrastructure including work sheds, administrative building *etc.* is expected to take 24 months.

This application was received on 7/2/01. The Minister has applied to undertake the recovery of inorganic material under *Class 4-4th Schedule* and the temporary storage of dredged material for recovery on-site *Class 13-4th Schedule*.

Quantity of waste to be accepted (Total)	550,000 tonnes for recovery.
Environmental Impact Statement Required	Yes
Number of Submissions Received	None

FACILITY VISITS:

DATE	PURPOSE	PERSONNEL
6/3/01	Site notice check	Cormac Mac Gearailt
16/8/01	Site visit	Cormac Mac Gearailt

(2) Facility development:

This site is currently undeveloped foreshore. The applicant has proposed to reclaim an area of foreshore for the purposes of constructing a new quay for the port. Only the recovery of dredging spoils is permitted in this licence.

It is proposed to operate the dredger on a 24-hour basis. This is common in this industry given the high rental cost for this specialised type of equipment. This Proposed Decision allows waste acceptance on a 24-hour basis. However, pile driving will be limited to 8am-6pm only, due to noise emissions and their potential impact on local residents and the town of Killybegs.

There will be diffuse seepage of supernatant through the rock bund walls and therefore this proposed decision requires the applicant to line the external bund walls with geotextile (Condition 3.3.1).

Given the short lifetime (completion expected in autumn 2003), and the fact that only recovery of dredging spoils is to be carried out at the facility, a Schedule of Objectives & Targets is not required. However, an Environmental Management System (EMS) remains a requirement of this licence, which includes corrective action procedures and an awareness and training programme. The applicant will also be required to produce a communications programme.

(3) Waste Types and Quantities

The applicant has applied to recover a maximum of 550,000 tonnes of dredging spoils. These spoils will consist of sands, gravels and clays. It is expected that little settlement will occur due to the nature of the materials (sands and gravels). Clays will be stockpiled separately as this material is of a consolidated nature and will be spread as a top layer over the sands and gravels. The dredging operation will take approximately 8-10 months, however there will be an initial period of construction of bunds and preparation of the site for acceptance of these spoils. Total construction time is estimated at 24 months (site preparation, waste recovery and site restoration). Other dredged material (estimated at approximately 250,000 tonnes of silt) will be disposed of at sea. This silt will not be recovered for use as infill due to the long time taken to settle satisfactorily. Some surface silts are also contaminated with TBT (Tributyl-tin). Contamination levels up to 5.1 mg/kg were noted during an extensive site survey. However the primary hot-spot of contamination is in a small area adjacent to the boat lift (syncrolift), and the applicant proposes to leave the most contaminated sediments *in situ*. The maximum levels of TBT in sediments to be dredged is 0.14mg/kg. However the main body of the silt fraction of the sediment is uncontaminated. The applicant will carry out the dredging operation in two phases. The first will concentrate on removing the surface silts. Upon completion a monitoring round will be carried out to ensure that the underlying sands, gravels and clays are free from TBT contamination. Upon satisfactory completion of this analysis the applicant will be permitted to commence recovery of these spoils in the facility.

SI 12 of 2001 [Water Quality (Dangerous Substances) Regulations, 2001] sets standards for certain metals, solvents and pesticides, including TBT in the aquatic environment. These regulations require that licences issued by the Agency shall determine the application on the basis of the specified standards. These regulations apply to licences applied for after the commencement date (i.e. 1 July 2001). This application was received on 7/2/2001, however due regard was given to these regulations.

Given that this permit requires that only sediments uncontaminated with TBT are recovered at this facility, the relevant water quality standard outlined in SI 12 of 2001 (i.e. TBT in water 0.001µg/l) will not be impacted or breached by the waste recovery activities permitted by this licence. For the purposes of this Proposed Decision any sediments with TBT concentration of <0.02mg/kg will be considered uncontaminated.

Due to the partitioning characteristics of TBT, sediments with TBT concentrations <0.02mg/kg will give rise to calculated water column concentration of TBT of less than 0.001µg/l.

This PD permits the applicant to accept 550,000t of dredging spoils for recovery at the facility.

(4) Emissions to Air

The only potential emissions to air of significance from this facility will be dust emissions. Condition 7.3 requires that site roads be sprayed with water to minimise dust emissions where required. Dust monitoring will be carried out on a monthly basis at three locations (as proposed by the licensee).

(5) Emissions to Groundwater/Hydrogeology

- **Geology/Hydrogeology**

The facility is primarily to be constructed on land reclaimed from the sea (below the high water mark). The bedrock in the vicinity of the facility is schist. Generally this bedrock is considered a poor aquifer. The deposited waste material will be in direct hydraulic connection with groundwaters. However, due to the inert nature of the dredge spoils, no emission to groundwater of environmental significance is expected, and no lining is required for this facility. This recovery activity is not a landfilling activity and therefore the requirements of the Landfill Directive do not apply.

(6) Emissions to Surface Water

There will be one emission point to the marine environment from the recovery site via a weir box (SW2). It is proposed that the supernatant liquid arising from the dredge spoils lagoon will be discharged by this route over the period of the recovery operation. Suspended solids are not expected in any seepages through the geotextile membrane, and therefore no specific control measures are required for this particular discharge route. Condition 5.2.1 requires that the spoils are delivered to the facility through the dredging pipe in a manner that will not damage this geotextile. Since the geotextile will be fixed only on the walls of the external bund, this should be easily achieved.

The primary issue for this facility in relation to surface waters is the control of the discharge of supernatant liquid through the proposed weir box. The main concern for water quality is the level of suspended solids that would be derived from the content of fine particulate material in the dredge spoils. Background levels of 1 to 60 mg/l suspended solids occur in the vicinity of the facility, with a median value of 4mg/l and an average of 10.5mg/l. Since suspended solids cannot be measured continuously, it is more appropriate to regulate this emission on the basis of continuous turbidity monitoring (using a photocell).

The following measures have been included in the Proposed Decision to control this discharge:

- A turbidity trigger value of 125 NTU [6-hour average] has been set in Schedule F for this supernatant discharge. This is as applied for by the applicant and as set in a previous dredge spoils recovery licence (Reg. 85-1). The applicant is required to monitor the turbidity of the discharge at the weir box continuously. Condition 6.3.2 requires the dredging operation to cease if this trigger value is exceeded. The emission may commence when the suspended solids level has stabilised to an average turbidity of 125 NTU as measured over a 30-minute period.

- The supernatant discharge from the dredge spoil lagoon and other surface water monitoring locations in the bay will be monitored throughout the recovery process for a range of parameters (Schedule D.4).
- Benthic (sediment) monitoring will be carried out prior to the commencement of and three months after completion of the dredging operations (Schedule D.5). This will allow assessment of the extent of any impact resulting from the dredge spoils recovery process.
- The above monitoring results will, in addition to providing a clear picture of the impact of this waste activity, contribute to a database of information for future activities of this nature.
- In the event that a bund wall collapses, Condition 9.3 will require the dredging process to cease until the Agency agrees to its resumption. This will allow the applicant to undertake corrective and preventative actions as required.

(7) Other Environmental Impacts of the Development

- **Restoration and Aftercare.**

The facility will be finished to provide infrastructure to service the fishing industry. The applicant will be required to submit a post-closure monitoring programme to the Agency within six months of date of grant of licence.

- **Noise**

Given that the nature of the activity to be carried out is construction, noise is to be regulated accordingly. A limit of 65dB(A) is to be applied for daytime (8am-10pm) periods and 45dB(A) for night-time periods, and will be applied at 6 noise monitoring locations. The licensee will be required to operate plant, and employ noise abatement measures, as outlined in “BS 5228 - *Noise control on construction and open sites*”. These measures would include for example use of well maintained plant and the maintenance of silencers on appropriate equipment. Pile driving shall only be carried out at the facility between the hours of 8am - 6pm.

- **Fauna**

The licensee has proposed to incorporate guillemot nesting boxes/cavities in to the quay development. Condition 5.7 requires that at least 25 of these are incorporated into the quay wall. In addition, some potential otter holts were identified during the preparation of the EIS, and the applicant proposed to liaise with Dúchas in relation to any works which may disturb these holts (Condition 5.6).

(8) Waste Management Plans

Not applicable, as the facility is outside the jurisdiction of the local authority (below high water mark).

(9) Submissions/Complaints

No submissions were received.

(10) Reasons for the Recommendation.

I recommend that a waste licence, subject to conditions, be **granted** for the waste activities and reasons outlined below;

- **Class 4-4thSchedule** [*Recycling or reclamation of inorganic materials (not metals)*]

The applicant applied to recover 550,000 tonnes of dredging spoils (primarily sand, gravel and clay) at this facility. The recovery of these spoils is permitted under the terms of the proposed decision.

- **Class 13 - 4th Schedule** [*Storage of dredge spoil at the facility prior to placing it behind the constructed quay wall*]

This will involve the stockpiling of dredge spoils prior to deposition behind the quay wall.

I am satisfied that the waste activities permitted above, if carried on in accordance with the conditions in the proposed decision, will comply with the requirements of Section 40(4) of the Waste Management Act 1996.

Signed _____

Dated:

Cormac Mac Gearailt,
Inspector, Environmental Management & Planning.

APPENDIX 1

LOCATION MAP & LAYOUT PLAN

- Aerial photo of site [Plate 15.1 EIS Pg. 163]
- and
- Figure 15.1 Site location Map [EIS Pg. 164]