



**OFFICE OF
LICENSING &
GUIDANCE**

INSPECTORS REPORT ON A LICENCE APPLICATION

To:	Directors	
From:	Dr Tom McLoughlin	- LICENSING UNIT
Date:	20 TH SEPTEMBER 2006	
RE:	Application for a Waste Licence from TechRec Ireland Ltd- Licence Register W0233-01	

Application Details

Type of facility:	Waste Electrical and Electronic Equipment (WEEE) recovery facility
Class(es) of Activity (P = principal activity):	3 rd Schedule: N/A 4 th Schedule: 3 (P) and 13
Quantity of waste managed per annum:	30,000 t of WEEE per year and store a further 8,000 t per year (for subsequent offsite processing).
Classes of Waste:	Recycling or reclamation of metals and metal compounds, plastics, and glass
Location of facility:	Unit 51 Park West Business Park, Nangor Road, Dublin 12.
Licence application received:	12 th July 2006
Third Party submissions:	None
EIS Required:	No
Article 14 Notices sent:	None
Article 14 compliance date:	11 th September 2006
Site Inspection:	4 th September 2006

1. Facility

TechRec Ireland Ltd is currently operating under a Waste Permit issued by Dublin City Council for the 'pre-processing and storage of Waste Electrical and Electronic Equipment (WEEE), including the recycling and reclamation of metals and plastics'. The company have applied for a waste licence to allow the facility to increase its processing capacity above the current 5,000t limit. The site comprises a single concrete-floored warehouse-style building of 3,672m². There are four dock level loading doors and three roller shutter doors along the northern frontage. The applicant has stated that ramping up of the process to its maximum capacity (approximately 30,000 tonnes per annum) is expected to take from early 2006 until the end of 2008. By the end of 2008, the site is anticipated to be running on a 24 hour, three-shift basis over five and a half days, from Monday to Saturday. Maintenance works, and internal sorting will be carried out on Saturdays and Sundays. The applicant is applying for permission to operate the site on a 7 day, 24 hour basis. I am of the opinion that such hours are required for such a facility as it could be best described as a low-impact factory type of operation. I have recommended hours of operation under Condition 1 of the RD.

This facility is the first of its kind in Ireland and it is my opinion that it will play an important role in processing WEEE in Ireland and in ensuring that Ireland as a whole meets its WEEE recycling targets.

2. Operational Description

According to information contained in the application the process involves the manual sorting and dismantling of incoming WEEE and its subsequent automated and manual separation into its component fractions. The process is dry and does not involve the generation of any process effluent.

The process is divided into four modules and are summarised as follows:

- Module 1- Goods receipt, sorting, dismantling and Cathode Ray Tube (CRT) processing- this manual processing allows for the removal of specific recoverable items such as CRTs, batteries, wiring and washing machine blocks. It also allows for the removal of potentially hazardous items such as mercury switches, oils and toner cartridges. CRTs will be collected and processed through a specialist CRT separation unit. This process separates the two types of glass present in a CRT (funnel and plate), which allows for more efficient recycling of the component glass. I wish to point out that the applicant is also considering the installation of an additional component which will clean the glass and increase its re-use value. Additionally, they plan to recycle fluorescent tubes at the facility in the future pending the Agency's agreement.
- Module 2 – Preliminary breakdown and separation- this is done by using a purpose designed process to separate the WEEE, which uses rotating chains to shred it/ break it up. The equipment used is referred to as the '*QZ Machine*'.

- Module 3 – Secondary breakdown and mechanical separation-once the material leaves Module 2, it is transferred on conveyor belts through several separation steps which include: magnetic separators; various grades of sieves; cyclone separators; and manual sorting stations. Initially, the material passes over a fork-sieve that separates the components based on size (i.e. <100 and >100 mm fractions). The larger fraction is transferred to another sorting stage, including magnetic separation, and any residual material from this stage is reintroduced at the beginning of Module 2. Material from the smaller fraction is transferred through a series of magnetic separators, sieves, cyclones and manual sorting, to remove any remaining hazardous substances.
- Module 4 – Fine separation- the residual material from Module 3 is further processed in an impact crusher, referred to as the ‘*Hammer Mill*’, to produce pellet-sized material. The material is passed through the Hammer Mill at least three times, to ensure that a consistent grade of material is delivered to the subsequent separation steps.

Segregated recovery of up to 96% of WEEE received at the site is anticipated on commencement of the activity and this percentage is expected to increase as the process is refined. The final products from the process include:

- non-metallic materials (e.g. plastic and CRT glass which is separated into two streams);
- metallic material including iron (Fe) and aluminium (Al);
- mixed precious metals (non-ferrous II) e.g. gold (Au), silver (Ag) and platinum (Pt); and
- other non-ferrous metals, typically copper (Cu), zinc (Zn) and brass.

It is intended that all of the recovered metals will be sold back to processing facilities as raw feedstock and that the plastic will be recycled further at another facility.

It should be noted that hazardous substances such as oil, toner cartridges and batteries/motors associated with the WEEE will be collected and transferred to appropriately licensed contractors for offsite treatment/disposal. The applicant also intends to use the site as a waste transfer station for up to 8,000 tonnes of CFC/HCFC containing equipment (e.g. fridges and freezers). Only very small quantities of liquids are anticipated to arise from this process and they will be stored in a secure bunded area pending off-site disposal/recovery.

3. Use of Resources

Fuel: The facility will use approximately 15,000 liters of fuel oil and 1,800 liters grease/hydraulic oil annually. The fuel tank which is purposely designed 1,200 liters in capacity is provided with integrated secondary containment for both tank and fill point.

Electricity: The plant proposes to use approximately 90 kWh per tonne of WEEE processed, when all Modules are in operation. The site is committed to the conduct of annual energy audits and the development of an Energy Management Programme.

Water:

There will be very little water used at this facility for the WEEE processing.

4. Emissions

Air

There are two point-source emission vents from the process. The first emission point to atmosphere is from two filters (serving the QZ Machine, Hammer Mill and other process areas) which discharge through a single combined stack, located on the roof at the southern end of the building. There is also a second smaller stack on the eastern side of the building which discharges emissions from the cyclone/filter associated with the CRT Machine. The Best Available Technology (BAT) for the abatement of these emissions, which will be predominantly fine-grained particulates, has been taken into account in the development of the abatement systems. The air streams discharged from both the QZ and Hammer Mill are passed through an abatement train, which operates in series, and incorporates a Multi-Cone Sifter, a High Performance Cyclone and a Jet Tube Filter. The use of a cyclone and filter in series is considered BAT for the abatement of particulates under the EU BREF Note for the Waste Sector.

In addition, the BAT emission level for particulates is 20mg/m^3 , while the aforementioned abatement system has been demonstrated to consistently achieve 1mg/m^3 . The applicant is seeking a Licence limit of 5mg/m^3 for particulates which is 25% of the BAT limit. There are also four internal air filtering systems which filter air from various processing equipment and return it into the building, (i.e. there are no external discharge points).

The RD requires the measurement of dust deposition rates at the facility. The metallic element of the dust must be determined at both emissions points and there is also a requirement to measure specified metals in the ambient air.

Noise

The RD sets limits for noise impact at noise sensitive locations and these are not envisaged to be a problem due to; (a) the location of the facility within an industrial estate, and; (b) the carrying out of all process activities within the warehouse. Also, it should be noted that noise emissions from potentially noisy equipment (e.g. the QZ Machine and Hammer Mill), have been minimised by the installation of purpose-designed noise abatement housings around each of these units and anti-vibration concrete flooring beneath the equipment.

The RD requires the measurement of noise levels at the facility.

Emissions to Sewer

Emissions to the sewer are from the site's sanitary facilities only. No process wastewater or trade wastes are discharged from the site. The drainage system was upgraded with the redevelopment of the Park West Industrial Estate and was designed to have the capacity to accommodate sanitary discharges from all the units within the Industrial Estate.

Groundwater:

There are no direct or indirect discharged to ground or groundwater from the site. The production building is less than six years old (the site was originally occupied by a retail store (from 2002-2005), and was used as a warehouse and distribution centre for their retail stock) and the floor is comprised of concrete in good condition. There are no internal floor drains in the building. There will be no storage (of raw materials or wastes) or processing activities undertaken outside of the building. Also the processing of WEEE waste is effectively a dry process

Surface water

Emissions to the surface water drainage system arise solely from the on site rainwater collection system. No process waters are produced or discharged from the site. Surface waters within the Industrial Estate eventually discharge to Gallanstown Stream. A separate surface water drainage system was installed and upgraded with the redevelopment of the Park West Industrial Estate, as part of the original planning application and was designed to have the capacity to accommodate rainfall from the roof and hard-standing areas of the site.

The RD requires surface water monitoring to be carried out.

5. Decommissioning

The RD requires decommissioning of the facility to the satisfaction of the Agency.

6. Cultural Heritage, Habitats & Protected Species

The facility is located within an industrial zone. The surrounding area is one of the main focal points for industrial and distribution facilities in Dublin and there are no potentially environmentally sensitive receptors within 100m of the Site boundary.

7. Waste Management Plans

After transposition of the WEEE Directive into Irish law in 2005 a Taskforce was established by Government to draw up recommendations and proposals for implementing the Directive. The Taskforce identified that further investment in collection and treatment facilities was needed so that Ireland can meet its recycling targets and that the development of efficient and innovative solutions should be encouraged. The Taskforce concluded that “the establishment and support of recycling facilities in Ireland should be encouraged to the extent possible”. In my opinion this WEEE recovery proposed facility is in keeping with Government policy in this regard.

8. Environmental Impact Statement

This development does not require an EIS but the applicant has submitted an Environmental report which I have examined.

9. 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.

10. Compliance with Directives/Regulations

This installation does not fall within the scope of the IPPC Directive.

11. Fit & Proper Person Assessment

The licensee is technically competent, free of relevant convictions and financially capable of operating the RD. In this regard, the licensee satisfies the relevant criteria with regard to the WMA Acts 1996 to 2003.

12. Submissions

No submissions were received on this application.

13. Charges

The RD requires the applicant to pay a contribution of €7761.00 for the year 2006.

14. Recommendation

I have considered all the documentation submitted in relation to this application and recommend that the Agency grant a licence subject to the conditions set out in the attached RD and for the reasons as drafted.

Signed

Inspectors name

Dr Tom McLoughlin

Procedural Note

In the event that no objections are received to the Proposed Decision on the application, a licence will be granted in accordance with Section 43(1) of the Waste Management Acts 1996-2005.