Non Technical Summary

Attachment A1

A1 NON TECHNICAL SUMMARY

A1.1 INTRODUCTION

This application for a Waste Licence for the operation of a Waste Electrical and Electronic Equipment (WEEE) recovery facility is submitted by TechRec Ireland Ltd, "*the Operator*" located at Unit 51 Park West Business Park, Nangor Road, Dublin 12, hereafter referred to as *the Site*. The location of the Site is shown on Drawings 01, 01a and 2.

The primary activity to be undertaken under the Waste Licence (as per the *Fourth Schedule* of the *Waste Management Act)* is Class 3 -"*Recycling or reclamation of metals and metal compounds*" with the secondary activity being Class 13 - "*Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced*". The site aims to process up to 30,000 tonnes of WEEE per year and store a further 8,000 tonnes per year (for subsequent offsite processing).

The operator is in the process of preparing a planning application for retention of changed use to be submitted to the local authority. The submission of an Environmental Impact Statement (EIS) is not included as part of this application. However, to help provide a comprehensive overview of the activity and its potential interactions with the local environment (as required under Section I of the Licence Application), this application is supported by an Environmental Report (*Attachment I*).

The process is currently operating under a valid Waste Permit (*WP 98099*) issued by the Dublin City Council for the 'pre-processing and storage of WEEE, including the recycling and reclamation of metals and plastics'. The Permit is valid for the receipt and processing of up to 5,000 tonnes of WEEE per year. A Waste Licence is being sought in order to allow the facility to increase its processing capacity above the current 5,000 tonnes limit. A copy of this Waste Permit is included in *Annex B3-2*.

A1.2 NATIONAL POLICY

The EU Directive on WEEE came into force on the 13th February 2003 and was transposed into Irish legislation on the 5th July 2005 by the *Waste Management (Waste Electrical and Electronic Equipment) Regulations 2005*, S.I. No. 340 of 2005. Under the Directive, a free system for the collection of all types of WEEE has been put in place and Member States must ensure that, by 31st December 2006, producers provide for the recovery of WEEE collected separately. The recovery rate for WEEE has been set between 70 – 80% for the different categories of WEEE.

The Government established a Taskforce 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".

The Environmental Protection Agency estimates that the total volume of WEEE arising in Ireland each year is close to 85,000 tonnes. This does not include the presence of historical WEEE which is already available for recovery and processing. Under the EU Directive on WEEE, Ireland is committed to collecting and recycling the equivalent of 15,200 tonnes of WEEE by 2006, (compared to the 2,400 tonnes which was recycled in 2001). The facility aims to process up to 30,000 tonnes of WEEE per year on site and to collect up to 8,000 tonnes of WEEE to be transferred to other appropriate treatment facilities. The site therefore will play a significant role in ensuring that Ireland as a whole meets, its WEEE recycling targets.

A1.3 SITE OVERVIEW

The Site is located on Henry road just off the main road of the Park West Industrial Estate. The Estate is located 8.5 kilometres south-west of Dublin City Centre and within 1.5 kilometres of the M50/Naas Road interchange. The Industrial Estate is accessed via the Nangor Road and Killeen Roads, which are directly connected to the Naas Road. 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. *Drawing 01* provides the location of the Site and surrounds and *Drawing 02* provides information on the road layout in the surrounding area.

The Site comprises a single warehouse-style building of 3,672 m². The building is a detached hi-bay warehouse/ industrial unit, incorporating a two storey office accommodation which fronts onto Henry Road. The building is of a steel portal-frame construction, and is finished externally with part rendered blockwork, part pre-coated insulated steel cladding, together with a power floated finished concrete floor. The building has an eaves height of approximately 10m. There are four dock level loading doors and three roller shutter doors along the northern frontage.

There are ten car and four truck parking spaces to the front (north) of the Site for management and visitors. Side access to the building is also available through a roller door on the western side of the site and there is road access via the western side of the Site, where there is an additional hard-standing area for the temporary parking of transport vehicles awaiting unloading.

The subject Site was formerly used by *Roches Stores* as a warehouse facility.

Activities immediately surrounding the site include:

- North: *Thorntons Recycling*,
- South: *Goode Concrete and ALPI Ireland;*
- East: *Carroll Joinery*;
- West: *Bunzl Safety Equipment* distribution centre, *Shred-It and File Store* offices.

A1.4 PROCESS OVERVIEW

The Site currently accepts all categories of Waste Electrical and Electronic Equipment (WEEE) as specified in the First Schedule of the *Waste Management (Waste Electrical and Electronic Equipment) Regulations 2005*, S.I. No. 340 of 2005.

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. However, it is noted that some items of WEEE may need to be drained of oil or water prior to processing.

There are two proposed point source air emissions, which potentially vent low levels of particulates from the associated abatement systems. There are also a number of equipment items which vent treated air emissions inside the building.

The process is divided into four modules, which are described in more detail in *Section A1.5 Process Description* and are summarised as follows. The location of each module within the building is highlighted in *Drawing 03*:

- Module 1 – Goods receipt, sorting, dismantling and Cathode Ray Tube (CRT) processing;
- Module 2 – Preliminary breakdown and separation;
- Module 3 – Secondary breakdown and mechanical separation; and
- Module 4 – Fine separation.

Segregated recovery of up to 96% of WEEE received at the Site is anticipated on commencement of the activity, and this percentage will 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 feed stock and that the plastic will be recycled further at another facility.

As the WEEE arrives at the Site, it is weighed and entered into a purpose-designed computer system (referred to as WE^3), which will track and verify the recovery of the individual components within the WEEE. This is a patented and auditable tracking system, which has been developed specifically to assist WEEE facilities to meet their reporting obligations under the WEEE Directive. The system will help provide assurance to clients and the public, by allowing certification of both the receipt of the WEEE items and the recycling of the individual components.

The plant to be used at the Site was previously installed at a similar facility in Spain, where it operated for approximately three years. During this time, compliance monitoring was carried out on the emissions from the process and the Site is reported to have conformed to all relevant local and EU requirements. The results of these monitoring programs were not available at the time of the Licence Application, however results from a sister plant in Switzerland using the same technology are provided. The Operator commits to undertaking all monitoring required under the pending Waste Licence.

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. On this basis, the Operator is applying for permission to operate the Site on a 7 day, 24 hour basis. The Site further requests to be able to accept waste between the hours of 07:00 – 20:00, Monday to Friday and 08:00 – 18:00 on Saturdays. It is not anticipated that there will be a need to accept waste on Sundays or public holidays.

WEEE from all categories listed in Schedule 1 of the *Waste Management (Waste Electrical and Electronic Equipment) Regulations 2005* will be accepted at the site. White goods potentially containing Ozone Depleting Substances (ODS) (e.g. the refrigerant gases in fridges and freezers), will not be processed onsite, but will be stored in a designated area, prior to being sent to a licensed ODS recovery facility. Current records indicate that up to 8,000 tonnes of fridges and freezers may be received per year, although not all of these units will contain ODS gases. Additionally, the Site will not process WEEE that is known or suspected to contain PCBs or asbestos. Where possible, WEEE containing these materials will be directed to a specialist licensed waste contractor, prior to its receipt on site. Alternatively, it will be placed in the onsite *Quarantine Area,* prior to being transferred to an appropriately licensed waste contractor.

Table A0.1 Waste Categories and EWC codes

Waste Category	EWC Code	Onsite Handling/Processing
Waste electrical and electronic equipment	***16 02***	
Transformers and capacitors containing PCBs	16 02 09*	Held in quarantine & transferred to licensed operator
Discarded equipment containing or contaminated by PCBs other than those mentioned in 16 02 09	16 02 10*	Held in quarantine & transferred to licensed operator
Discarded equipment containing chlorofluorocarbons, HCFC, CFC	16 02 11*	Held in quarantine & transferred to licensed operator
Discarded equipment containing free asbestos	16 02 12*	Held in quarantine & transferred to licensed operator
Discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12	16 02 13*	Processed & recovered onsite
Discarded equipment other than those mentioned in 16 02 09 to 16 02 13	16 02 14	Processed & recovered onsite
Hazardous components removed from discarded equipment	16 02 15*	Held in quarantine & transferred to licensed operator
Components removed from discarded equipment other than those mentioned in 16 02 15	16 02 16	Processed & recovered onsite
Batteries and accumulators	***16 06***	
Lead batteries	16 06 01*	Collected for offsite recycling
Ni-Cd batteries	16 06 02*	Collected for offsite recycling
Mercury containing batteries	16 06 03*	Collected for offsite recycling
Alkaline batteries (except 16 06 03)	16 06 04	Collected for offsite recycling
Other batteries and accumulators	16 06 05	Collected for offsite recycling
Packaging	***15 01***	
Paper and cardboard packaging	15 01 01	Collected for offsite recycling
Plastic packaging	15 01 02	Collected for offsite recycling
Wooden packaging	15 01 03	Collected for offsite recycling
Metallic packaging	15 01 04	Collected for offsite recycling
Composite packaging	15 01 05	Collected for offsite disposal
Mixed packaging	15 01 06	Collected for offsite disposal

* Indicates a hazardous waste code

Table A0.1 outlines the categories of WEEE potentially accepted at the Site and their respective EWC codes. Note that not all categories of WEEE received at the Site will be processed, some will be held in quarantine for transfer to an appropriately licensed contractor.

A1.5 PROCESS DESCRIPTION

Module 1 – Goods Receipt, Sorting and Manual Dismantling

WEEE will arrive primarily as bulk deliveries by road, in trucks or vans. It is anticipated that a high proportion of the WEEE arriving onto the Site will be pre-sorted by the collection contractors. The Operator proposes to provide cages to producers/collectors delivering WEEE to the Site, to help facilitate its pre-sorting prior to arrival. WEEE arriving from Business to Business (B2B) sources will typically arrive on pallets pre-sorted. The requirement to pre-sort WEEE items is being transposed as a condition of contract with those producers and collectors of WEEE who intend to use the WEEE facility.

When a vehicle arrives at the Site, it will be weighed on the weighbridge and the details entered into the WE^3 tracking system. The empty vehicle will also be weighed on exit and the total weight of the WEEE calculated.

Processing of the WEEE begins in Module 1, with the sorting of waste into different groups, depending on whether it requires manual or mechanical processing. The 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 mercury switches, oils and toner cartridges

CRTs will be collected and processed through a specialist CRT separation unit. This separates the two types of glass present in a CRT (funnel and plate), which allows for more efficient recycling of the component glass. The Operator is also considering the installation of an additional component which will clean the glass and increase its re-use value. (This unit was not present at the time of the Licence application).

Hazardous substances such as oil, toner cartridges and batteries/motors will be collected and transferred to appropriately licensed contractors for offsite treatment/disposal.

Following from the manual dismantling stage (Module 1) and prior to entering Module 2, the majority of the iron sheeting, and significant amounts of batteries, capacitors, glass, plastic, cables, toners, motors and deflector units (metal part of CRTs) will have been removed from the WEEE. These items are also removed where observed, at dedicated manual picking stations in Modules 2, 3, and 4.

WEEE that does not require manual dismantling will be delivered directly to Module 2.

Module 2 – Preliminary Breakdown

A purpose designed process has been developed to separate the WEEE, which uses using rotating chains, rather than blades, to shred it/ break it up. The equipment used is referred to as the '*QZ Machine*'.

This process helps to ensure that the end products are not contaminated with hazardous substances (such as may be released from batteries etc.) as these elements survive the process intact. The effect of the blows applied by the rotating chain mechanism and the items colliding together, is that the individual components within the equipment break off at the weakest points. For example, steel shafts are bent/torn from their mountings and batteries and capacitors lose adhesion at the clamping/solder points. After separation, these smaller parts no longer absorb enough energy from the process and leave the QZ Machine relatively undamaged. Larger metal parts and

components that cannot pass through the outlet to the next stage, (through the base of the QZ), will be re-processed in the QZ until they reach a suitable size.

WEEE that exits the QZ passes through additional mechanical (e.g. sieving mechanisms) and manual separation stations, prior to advancing to Module 3. The outputs from this Module include some non-ferrous metals, batteries, capacitors, printed circuit boards and dusts.

Module 3 – 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.

The outputs from this Module include some non-ferrous metals, iron, batteries, capacitors and motors.

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.

The residue from the Hammer Mill is sieved to create the necessary grade for the successful separation of metals and plastics (which is carried out on density separation tables). The metal particles are separated further on density separation tables, where the heavier materials are transported upwards by the shaking action of the table, and the lighter materials (aluminium, copper and plastic) move downwards on a cushion of air.

The lighter materials are separated further using cyclone technology and electrostatic separators.

A1.6 ANCILLARY OPERATIONS

An electricity sub-station has been installed on the Site, which will feed into a switch/control room. This will regulate the electrical supply for the onsite equipment.

Building heating will be provided via domestic-sized electrical heaters in the office and canteen areas. It is not anticipated that heating will be required in

the main processing area, as treated air from the processes will be circulated back into the building. However, space heaters are in place and use natural gas. A maintenance room will be provided for the storage of spare parts, maintenance equipment and associated materials.

The office and meeting room facilities are located on the northern wall of the main building. The rooms are internal to the building and comprise two floors. A temporary office/porta-cabin unit is currently located in front (to the south) of this area. However, it is anticipated that an additional floor will be added on top of the current two-floor office structure to remove the need for the porta-cabin. Canteen and changing areas have been provided along the western side of the building. *Drawing 04* shows the location of the offices and canteen/changing area.

A weighbridge will be used to track the volume of WEEE being delivered to the Site. The location of the Weighbridge is highlighted in *Drawing 04*.

A1.7 ENVIRONMENTAL EMISSIONS

Air Emissions

There are only two point-source emission vents from the process, one classified as a 'major' emission and the other as 'minor' emission.

The major emission 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 (A1-1). There is also a second smaller stack on the eastern side of the building (A2-1), which discharges emissions from the cyclone/filter associated with the CRT Machine. A brief description of each is provided below.

Emissions from the QZ and Hammer Mill will be passed individually through a Multicone Sifter, a High Performance Cyclone and a Jet Filter system, prior to combining to discharge through a single stack (A1-1). The Jet Filters are comprised of 'needle felt anti-static material'. The emissions specification from the filters states that the dust levels in the treated air will be less than 20 mg/m^3 at a nominal flow rate of 10,000m^3/hr. The use of the Multicone Sifter and High Performance Cyclone ensure that the filter efficiency is greatly improved and emissions will be less than 5 mg/m^3. Addition details regarding the air emissions abatement equipment and control mechanisms for Point A1-1 are provided in *Attachments E1 and F1* and the location is shown on *Drawing 20*.

Emissions monitoring has been previously undertaken on the Site's sister-facility, which uses the same processes and the same abatement equipment. The sister-facility is located in Regensdorf, Switzerland and is owned by *IMMARK AG*, (the company that supplied and installed the equipment at the subject Site). Particulate monitoring on the emissions from the stack after emission abatement indicated that none of the samples exceeded 1mg/m^3.

The minor emission point is from the CRT glass separation machine. There are two air emission sources from the CRT, which combine to exit through a single stack located on the roof in the eastern side of the building. The first source is from the cutting section, which passes through a cyclone and then a bag filter. The second is from the Hoover section, which also discharges through a dedicated filter cyclone. Both air streams combine prior to being discharged through stack A2-1 which is located at the south eastern corner of the building. Addition details regarding the air emissions abatement equipment and control mechanisms for Point A2-1 are provided in *Attachments E1 and F1* and the location is shown on *Drawing 20*. The filter specification states that more than 99% of the dust will be removed from the air stream.

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). These filters are associated with the "light fraction" separation in Module 3, as well as the feeding bin unit, the electrostatic separator and air jig unit in Module 4. The locations of these units are identified in *Drawing 04* and additional details are provided in *Attachment D.2* and *F.1*.

Emissions due to traffic are considered to be insignificant compared to the overall levels already in existence in the industrial park and local area. The emissions from traffic movements were considered in the original EIS for the redevelopment of the site and the previous operators of the site had similar operational vehicle movements. Therefore, no increased impact is anticipated.

Noise and Vibration

It is noted that the Site is located within a dedicated industrial estate and there are no potentially noise-sensitive receptors within 100m.

There are several items of equipment that could produce elevated levels of noise (e.g. the QZ Machine and Hammer Mill). Special noise abatement housing has been installed around these items to reduce noise levels to acceptable levels. The equipment has also been located on vibration-isolated slabs, which provide additional dampening. The specifications for the QZ and Hammer Mill, including the associated noise abatement measures are summarised separately in *Attachment D2*. The associated Design and Operating Manuals are provided as commercially sensitive information.

All process activities will be undertaken completely within the onsite building and all non-essential access points will be kept closed to minimise the potential for noise migration. Trucks used for the movement of WEEE and processed material will use the purpose-built docking stations and will be unloaded (internally) by forklift trucks. This operation is similar to what was undertaken at this location when it was used as a warehouse by *Roches Stores*

Ltd. Where delivery of WEEE is by means of a tipping truck, the truck will deposit its load within the building, in the designated waste acceptance area.

Baseline noise monitoring was carried out in the area prior to the commencement of the operation and repeated once the Site opened. The results indicate that the operation of the WEEE recycling plant will not impact on the noise levels in the surrounding area. The dominant noise source in the area is traffic and the nearest noise sensitive receptor is approximately 165m to the south-east of the Site.

Vehicle movements to/from the Site are predicted to peak at 21 lorries, trucks and/or small vans per day, which equates to 42 actual movements, when the facility is operating at maximum capacity. All deliveries and collection will occur between the hours of:

- 07:00 to 20:00, Monday to Friday;
- 08:00 to 18:00, Saturdays; and
- No deliveries or collections, Sundays and Public Holidays.

The number of vehicle movements is such that they will not have a significant impact on the noise levels in the area. The EIS for the original redevelopment of the area (25291999) predicted a baseline peak hour traffic flow of 2,100pcu (10% HGV/LGV), increasing to 3,800pcu (10% HGV/LGV) by 2005. The number of vehicle movements associated with the subject Site can therefore be considered insignificant compared to the overall predicted traffic flow for the business park.

Water Emissions

The activity is a dry process and there will be no process water emissions. The only liquid emissions from the site are as follows:

- sanitary water from the staff facilities;
- condensate from the air compressor; and
- surface water from the roof and paved areas.

There are no floor drains present within the production facility. There is one sealed manhole, (linked to the foul sewer), located in the floor, in the north-west corner of the building (refer *Drawing 09*). At the time of the Application, this manhole was being fitted with an air-tight seal, to prevent potential uncontrolled discharges.

Sanitary wastewater will be discharged from the onsite amenity facilities to the municipal foul sewer, without treatment.

Condensate emissions from the air compressor, which may potentially contain hydrocarbon material, will be discharged through a dedicated oil/water separator (an *Aquamat 2* system). This will separate residual dirt and oil from the wastewater. The dirt/oil will be collected within the unit (which is

provided with secondary containment) and will be disposed of by an appropriately licensed waste contractor. The remaining water will be collected in drums and disposed of by an appropriately licensed hazardous waste contractor. It is estimated that less than 20 litres of treated water per week will be generated from the compressor. There are no discharges to any drain from the compressor or *Aquamat* system.

Un-contaminated surface water runoff will be piped directly from the roof and external hardstanding areas to the municipal street collection system, without treatment.

It is noted that minor quantities of water are used for dampening of glass dusts in the CRT machine (<5ml per unit). This water evaporates and is collected through the air filtration system. There are no drains associated with the CRT machine and its current and historical operation has demonstrated that there is no residual wastewater discharge.

There are also two emergency water quench systems associated with the QZ Machine and the Hammer Mill. This system is used only in the event of an emergency (i.e. the equipment overheating or a fire). There is no catchment system or discharge point associated with either quench system. The quench system is controlled by a temperature probe and PLC system. Additional details are provided in *Attachment D1, section D1.o*, while the Design and Operating Manuals for both the QZ Machine and the Hammer Mill are submitted separately as commercially sensitive information.

Both the foul sewer and surface waters systems are provided with dedicated drainage lines which were installed during the development of the site in early 2000. There are no direct points of assess to any drains, other than standard hand sinks, from within the building.

Groundwater Protection

The production building is less than six years old 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.

There is one above ground storage tank located within the building, which is used to store diesel for the refuelling of the forklifts. This is located internally north east corner of the building, as shown on *Drawing 04*.

The tank is of metal construction and has a capacity of 1,200 L. The tank has an integral metal bund which has sufficient capacity to contain 110% of the tanks contents. It also has an interstitial leak detection system and associated alarm, a level gauge, flow meter and anti-tamper compartment. Further details are provided in *Attachment D.1 – section D1.g.*

There are no underground storage tanks present at the Site, either currently or historically.

Waste oil and other liquids (e.g. oily water) which may be removed from some items of WEEE will be stored in drums within a dedicated and contained area in the *Hazardous Storage Area* (refer *Drawing 04*). This material will be transferred to a licensed hazardous waste contractor for recycling or disposal as appropriate. The *Hazardous Storage Area* will be provided with secondary containment for the drums (i.e. bunded pallets), spill kits and fire extinguishers.

Soil Protection

All internal and external areas are sealed with either concrete or tarmacadam, with the exception of a small grassed area along the public footpath on the northern, southern and eastern boundary.

There will be no storage (of raw materials or wastes) or processing activities undertaken outside of the building.

Storage Areas

The incoming WEEE receipt and storage area is located in the north-eastern corner of the building as shown on *Drawing 04*. As WEEE arrives, it will be unloaded, inspected and segregated according to the Site's internal Waste Acceptance Criteria. This area is located on a solid concrete floor and has sufficient floor space to allow the initial storage of the incoming WEEE. The WEEE will then move directly from the initial receipt/storage area to the appropriate step in the process (either Module 1 or 2). There are no internal drainage points. The WEEE inspection/storage area will be provided with an appropriate spill kit and fire extinguisher.

WEEE which cannot be processed on the Site will be stored temporarily in the *Waste Quarantine Area*. The Quarantine Area is located in the north-western side of the building (refer *Drawing 04*).There are no floor drains present in this area and the floor is comprised of a high grade finished concrete. Items which may potentially be stored in this area include, items containing PCB oils/resins, ODS, asbestos or radioactive materials.

All finished (processed) materials will be maintained as discrete product streams and will be stored in segregated and labelled 'bays' inside the building (refer *Drawing 04*). This will include various grades of metals, plastics, glass etc. The end products will typically be dry granulated materials, and will be stored in purpose-designed sealed bins and fabric/plastic bags. (Most product lines will be up stored in bins/bags of up to 1 tonne). These will be palletised prior to transport for ease of handling. There will be no external storage of any items.

Hazardous substances which are removed during processing (e.g. oils, batteries, mercury switches etc) will be stored in a designated area within the *Hazardous Storage Area.* Appropriate containers will be used for the storage and transport of each hazardous waste stream (e.g. metal lamp coffins for fluorescent tubes, bunded drums for waste oils, sealed plastic boxes for batteries etc).

Fridges and freezers will be stored as whole items in a designated area in the north-west corner of the building.

Dust recovered from the air abatement equipment will be collected in drums and/or "Bulky Bags", depending on the abatement system. This material will also be stored in the *Hazardous Storage Area*.