A Review of South African Environmental and General

Legislation governing e-waste

FINAL Report

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

Unlike many other countries, South Africa currently does not have any dedicated legislation dealing with e-waste. As such a whole range of environmental, as well as health and safety, laws must be examined to provide answers. Such investigation will have to cover national, provincial and local legislation. Needless to say, this is an arduous and unsatisfactory situation, and certainly does not help to clarify matters.

This does not imply that South Africa has no legislation covering hazardous substances or waste, or the management and disposal thereof. Answers are certainly found in laws governing topics like the environment, water, air, waste, hazardous substances as well as health and safety. Each of these, however, examines the issue from a different perspective, thereby confusing the problem. A further difficulty is the fact that these laws are enforced by different government departments, alternatively levels of government, so that there is no uniform approach in dealing with e-waste or for that matter hazardous waste in general.

Since waste and the management thereof is a function delegated to local authorities by-laws differ from one municipality to the other. While this, in practical terms, does not affect e-waste management per se, some by-laws theoretically would allow greater control over same. Here too, e-waste would merely fall under the broad definition of hazardous waste, and as such requiring disposal or treatment. During the review of by-laws from the five municipalities it was also found that some have a potentially negative impact on recycling or collection activities insofar as hazardous waste, storage, collection and transport are concerned. While it is debatable to what extent e-waste should be treated in the same manner as other hazardous waste in terms of collection, storage and transport, it nonetheless poses a possible difficulty for e-waste recyclers.

The only exception where a definite answer may be found is under air pollution legislation as this imposes fairly uniform requirements; this would be relevant for smelters processing e-waste.

National and provincial government only oversee the waste management functions of local authorities in terms of their constitutional duties, but without becoming actively involved. In addition, there often is a rivalry and lack of cooperation between these two; this is since both share the constitutional power over pollution control (Schedule 4 Part A).

In terms of awareness and involvement by authorities, industry as a whole (and not only certain members of the IT industry) and the public the situation is still far from being as satisfactory as, for

instance, in the EU or Switzerland. These two have detailed legislation covering e-waste, and more importantly extended producer responsibility and legally required return systems.

This review also briefly examined legislation governing precious metals and second-hand goods as this is relevant for e-waste. Both are currently the subject of pending amendments, which if passed, will introduce new legislation.

The same holds true for the Draft Waste Management Bill, which although having several flaws and weaknesses, nonetheless promises potentially far reaching consequences for waste management, waste generators and product manufacturers or suppliers.

The absence of clear e-waste legislation or policies on all three levels of government is therefore seen as a definite obstacle in confronting the problem in a comprehensive and broad manner. Until such time as these are implemented the management of e-waste will continue to remain a voluntary initiative by certain organisations, NGOs or individuals.

1) INTRODUCTION

Unlike many other countries, South Africa currently does not have any dedicated legislation dealing with e-waste. As such a whole range of environmental, as well as health and safety, laws must be examined to provide answers. Such investigation will have to cover national, provincial and local legislation. Needless to say, this is an arduous and unsatisfactory situation, and certainly does not help to clarify matters.

In terms of awareness and involvement by authorities, industry as a whole (and not only certain members of the IT industry) and the public the situation is still far from being as satisfactory as in the EU, Switzerland or several other countries.

This review will examine national, provincial and particularly local legislation covering a range of legal topics from general environmental, water pollution, air and health legislation in order to extract relevant requirements.

A brief discussion of foreign legislation will also be provided.

2) NATIONAL LEGISLATION

The following is a brief overview of South African national environmental, health and safety, as well as general legislation having a relevance for e-waste purposes.

As pointed out, due to the absence of dedicated legislation a host of laws must be reviewed, each of which has relevance for waste and its management.

2.1) Constitution

Section 24 of the Constitution's Bill of Rights states that:

> *Everyone has the right-*
> *(a) to an environment that is not harmful to their health or well-being; and*
> *(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-*
> *(i) prevent pollution and ecological degradation;*
> *(ii) promote conservation; and*

secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

2.2) National Environmental Management Act, 107 of 1998

This Act (hereafter referred to as NEMA) is the framework legislation governing environmental matters and all other related legislation must be read subject to its provisions.

While NEMA does not deal much with waste management per se, it nonetheless sets out some important provisions. Thus sustainable development requires the consideration of, among other factors:

> *that waste is avoided, or where it cannot altogether be avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner* (section 2(4)(a)(iv)).

It also defines "pollution" as

> *any change in the environment caused by-*
>
> *(i) substances;*
> *(iii) noise, odours, dust or heat,*
>
> *emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future* (section 1).

There is a duty on persons to take reasonable measures to prevent pollution or degradation of the environment from occurring, continuing or recurring, or in so far as such harm is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment (section 28(1)). This duty rests on, among others, the land owner, person in control or user thereof (section 28(2)).

The Act also requires the application of integrated environmental management principles and objectives set out in Chapter 5.

2.3) Environment Conservation Act, 73 of 1989

According to this Act

> *"waste" means any matter, whether gaseous, liquid or solid or any combination thereof, which is from time to time designated by the Minister by notice in the Gazette as an undesirable or superfluous by-product, emission, residue or remainder of any process or activity* (section 1).

This definition is supplemented by the *Identification of Matter as Waste,* GN 1986 of 24 August 1990, according to which "waste" is an

> *undesirable or superfluous by-product, emission, residue or remainder of any process or activity, any matter, gaseous, liquid or solid or any combination thereof, originating from any residential, commercial or industrial area, which—*
>
> *(a) is discarded by any person; or*
> *(b) is accumulated and stored by any person with the purpose of eventually discarding it with or without prior treatment connected with the discarding thereof; or*
> *(c) is stored by any person with the purpose of recycling, re-using or extracting a usable product from such matter.*

but excludes broadly speaking, wastewater, effluent, mining waste, radioactive waste, and ash resulting from electricity production processes. Sewage sludge would, however, be classified as waste (albeit hazardous) as it is not wastewater.

It is prohibited to discard, dump or leave any litter on any land or water surface, street, road or site, or any place to which the public has access except in specifically designated containers (section 19(1)).

A permit must be obtained from DEAT to establish, provide or operate a disposal site, although the Minister may exempt any person or category of persons from obtaining a permit subject to such conditions as may be deemed fit (section 20). Waste may only be discarded or disposed of at permitted sites, or in an approved manner or by means of a facility or method and subject to any prescribed conditions.

Moreover, in terms of section 24 the Minister has the power to promulgate regulations for "the imposition of compulsory charging, deposits or related financial measures on waste types or

specified items in waste types with the concurrence of the Minister of Finance" (section 24(l)). To date no such Regulations were drafted or promulgated. E-waste may potentially be captured by such Regulations should the Minister ever choose to promulgate same.

2.4) DWAF Minimum Requirements

In 1998 the Department of Water Affairs and Forestry ("DWAF") published detailed Minimum Requirements dealing with

- Waste Disposal by Landfill
- Handling, Classification and Disposal of Hazardous Waste
- Water Monitoring at Waste Management Facilities

Waste is categorised into various groups (domestic, industrial, commercial), while hazardous waste falls into nine different classes. Landfill sites themselves are classified differently; this defines which waste types they may receive.

For present purposes the *Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste* are more relevant.

Certain hazardous components in e-waste, like eg. mercury, cadmium, lead etc, will probably be regarded as a Class 6.1 dangerous substance in terms of SANS 10228 (*The Identification and Classification of Dangerous Substances and Goods*). Disposal of hazardous waste may only take place at an authorised landfill (ordinarily rated as H:H), although current practice certainly is different due to lack of awareness, and possibly unwillingness, by authorities and the public, as well as little or no controls at landfill sites.

Storage of hazardous waste is dealt with extensively in Section 10 of the *Minimum Requirements*, and certain precautionary measures and steps are outlined. Since e-waste is in an inert form the pollution potential insofar as storage and disassembly are concerned is probably minimal. Disposal, on the other hand, has a far greater long term effect since the hazardous components/materials may leach into the groundwater and/or soil. For this reason disposal will warrant special consideration (ie proper and safe disposal at an authorised landfill site).

The *Minimum Requirements* also set out storage times (Section 10.2) and volumes (depending on the hazard rating). If storage is in excess of ninety days a waste disposal site permit will need to be applied for by the *waste generator* in terms of section 20 of the Environment Conservation Act, although the Minister may grant an exemption from this requirement.

It is doubtful, whether a recycler, refurbisher or collector of e-waste will be regarded as a waste generator, as they are merely collecting and processing e-waste (cf also the definition in section 2.5 of the *Minimum Requirements*: "The Generator would be an individual, an industry or any other party whose activities result in the production of waste.")

Having said that, if hazardous waste results from their activities or operations, then they may possibly be regarded as generators, in which event the permit requirement referred to in the preceding paragraph may be applicable.

In closing, it should be pointed out that the *Minimum Requirements* are not a law, even though they carry significant persuasive value, and certainly represent good environmental practice.

The Requirements are in the process of being updated, although completion thereof will still take quite some time.

2.5) National Water Act, 36 of 1998

The Act defines "waste" as

> *any solid material or material that is suspended, dissolved or transported in water (including sediment) and which is spilled or deposited on land or into a water resource in such volume, composition or manner as to cause, or to be reasonably likely to cause, the water resource to be polluted* (section 1).

The land owner, person in control, user or occupier must take all reasonable measures to prevent water pollution from occurring, continuing or recurring (section 19(1)).

This Act lists a number of actions amounting to water use. For present purposes the following is most relevant: *Disposing of waste in a manner which may detrimentally impact on a water resource* (section 21(g)).

From the above it is clear that water use has a wide definition and that waste handling and/or disposal may also amount to such use.

2.6) Health Act, 63 of 1977

This Act was substantially repealed by the National Health Act, 61 of 2003, although certain sections still remain in force.

It contains a fairly lengthy definition of "nuisance", which, inter alia, means:

> *(c) any accumulation of refuse, offal, manure or other matter which is offensive or is injurious or dangerous to health*
> *(h) any area of land kept or permitted to remain in such a state as to be offensive* (section 1)

Local authorities must carry out all lawful, necessary and reasonably practicable measures to:

- maintain its district in a hygienic and clean condition (section 20(1)(a)
- prevent the occurrence of any nuisance, unhygienic or offensive condition, or any other condition which could be harmful or dangerous to the health of people (section 20(1)(b))
- prevent pollution of water intended for human use (section 20(1)(c))

In terms of the General Health Regulations (GN R 180 of 10 February 1967) the incorrect disposal and management of waste is prohibited unless

> *the dumping of any refuse, night-soil, litter, waste, manure, offensive matter or liquid [occurs] in a place specially set apart by the local authority for that purpose, in such an approved manner as not to be offensive, or a nuisance or injurious or dangerous to health* (Regulation 15(4)).

2.7) National Health Act, 61 of 2003

Very little coverage is given to waste or pollution related issues in this Act, although it does state that one of its objects is to protect, respect, promote and fulfill the rights of the people of South Africa to an environment that is not harmful to their health or well-being (section 2(c)(ii)).

2.8) Atmospheric Pollution Prevention Act, 45 of 1965

When the Air Quality Act, 39 of 2004 (see also below at 2.9), fully enters into force, this Act will be repealed. In the meantime it remains important for purposes of this review as it requires a registration certificate for certain so-called scheduled processes. For present purposes the following are potentially relevant, depending on the activity involved:

- Lead processes (No 23)
- Copper processes (No 31)
- Waste incineration processes (No 39)
- Cadmium processes (No 52)
- Metal recovery processes (No 54)
- Mercury process (No 62)
- Glass processes (No 65)

2.9) Air Quality Act, 39 of 2004

This Act only entered partially into force on 11 September 2005, and many of the core provisions, like the listing of specified activities and licences, are not yet operational or defined. The authorities now have to formulate standards and plans to control and improve air quality. It is quite likely that processes like those referred to in 2.8 above will be regarded as specified activities, thus requiring a licence, depending on the scope and nature of activities carried out.

At the very least, smelters are expected to be affected by the licensing provisions of this Act.

2.10) Hazardous Substances Act, 15 of 1973

This Act classifies certain types of hazardous substances into four groups and imposes detailed requirements (through the use of Regulations and Notices) dealing with the handling, selling, using, operating, applying and installation etc thereof.

SANS 10228 (The Identification and Classification of Dangerous Substances and Goods) is incorporated by reference into various Regulations and Notices, and as such this standard is given legal force insofar as these Regulations and Notices are concerned.

2.11) Chapter VIII (Transportation of Dangerous Goods and Substances by Road) of the Regulations in terms of the National Road Traffic Act, GN R 225 of 17 March 2000

These Regulations, as their name suggests, cover road transportation of dangerous and hazardous goods. They too incorporate various SABS (now SANS) standards dealing with, for instance, the identification of hazardous substances, emergencies and design requirements for vehicles, thus giving them legal force (see Regulations 273 and 273A).

The Regulations further set out requirements for operator fitness/training, documents to be carried, the appointment of a competent person etc.

It is submitted, that for present purposes, these Regulations are not relevant, since the transportation of e-waste does not pose a danger. Any hazardous incidents or emergencies resulting from the transportation or an accident are deemed highly unlikely in our opinion. For this reason, we are also of the opinion that no warning signs would be required on the vehicles. Were this the case, then every manufacturer, dealer, retailer, owner or service company would have to display signs whenever having any electrical or electronic equipment on board, irrespective of whether it is new, old or broken.

Transportation of e-waste would therefore be governed by the 'ordinary' traffic rules.

2.12) Occupational Health and Safety Act, 85 of 1993, and Regulations

This Act has relevance for environmental matters as it governs and regulates the health and safety of employees and the public in general. Employers, self-employed persons and employees are broadly speaking under a duty not to endanger or risk the health of others and to maintain a safe (working) environment (see e.g. sections 8, 9 and 15). Moreover, employers are obliged to carry out risk and hazard assessments on a regular basis to determine any dangers posed by the work or materials used. In certain instances periodic medical surveillance must also be done of workers exposed to harmful substances.

In addition, several Regulations promulgated in terms of the Act contain provisions dealing with the handling, use, control exposure, use of personal protective equipment, storage or disposal of hazardous substances/chemicals or waste in general. Examples are the:

- Lead Regulations, GN R 236 of 28 February 2003
- Hazardous Chemical Substances Regulations, GN R 1179 of 25 August 1995
- Environmental Regulations for Workplaces, GN R 2281 of 16 October 1987

- General Safety Regulations, GN R 1031 of 30 May 1986

The Lead Regulations as well as Hazardous Chemical Substances ("HCS") Regulations both deal in Regulations 17 and 15 respectively with disposal, and require that an employer, as far as is reasonably practicable, should recycle lead or HCS waste, alternatively dispose of it in a safe and lawful manner.

The other two Regulations set out general requirements for employers insofar as housekeeping, personal protective equipment and other safety measures are concerned.

2.13) White Paper on Integrated Pollution and Waste Management (2000); National Waste Management Strategy and Action Plans (1999)

One of the fundamental approaches in terms of the White Paper's policy is to prevent pollution, minimise waste and to control and remediate impacts. Waste management is to be implemented in an holistic and integrated manner, extending over the entire waste cycle from cradle to grave.

The White Paper advocates a shift from the present focus on waste disposal and impact control (ie end of pipe) to integrated waste management and prevention as well as minimisation. In terms of legal changes this will entail national government drafting legislation requiring the prevention and minimisation of waste (see below at 2.14 for the Draft National Waste Management Bill, 2006).

It defines "waste" (see Glossary to White Paper) as

> *an undesirable or superfluous by-product, emission, or residue of any process or activity which has been discarded, accumulated or been stored for the purpose of discharging or processing. It may be gaseous, liquid or solid or any combination thereof and may originate from a residential, commercial or industrial area. This definition includes industrial wastewater, sewage, radioactive substances, mining, metallurgical and power generation waste.*

The following waste management hierarchy is to be followed in future legislation and policies (cf point 4.2.4):

- Waste avoidance, minimisation and prevention
- Recycling and reuse
- Treatment and handling
- Storage and final disposal

As can be seen, the avoidance, minimisation and prevention of waste are accorded first priority.

A functional approach to integrated pollution and waste management is to be adopted by putting in place (cf point 4.2.5)

- Source-based controls
- Management of the receiving environment (impact management)
- Remediation

Identical provisions are found in the National Waste Management Strategy ("NWMS").

2.14) Draft National Waste Management Bill, 2006

This Draft Bill was finally published for comment in January 2007. Its aim is to give effect to the White Paper and NWMS. Having said that, it is generally speaking vague and broad, and in our opinion, poorly drafted and contradictory in places. It should also be kept in mind that in terms of Schedule 5B of the Constitution, local authorities have the function (which includes the power to promulgate and enforce by-laws) over, inter alia, the following areas:

- Cleansing
- Refuse removal, refuse dumps and solid waste disposal

As such, if the Draft Bill is approved in its current form, there will still be differences in terms of by-laws, control, enforcement, awareness etc between local authorities, unless more stringent measures are introduced by national (or provincial) government; this could be in the form of specific Regulations or other legislative requirements.

In a nutshell (since a full discussion would be beyond the scope of this review, and furthermore, as it still is only a Draft Bill and thus subject to change), it contains the following relevant provisions for e-waste:

- General duty in respect of waste management (section 22):

This repeats the waste management hierarchy as contained in the White Paper and NWMS.

It further requires that

> *Any person who sells a product that may be used by the public and which will result in the generation of hazardous waste must take reasonable steps to inform the public of the impacts of that waste on human health and the environment* (section 22(3)).

This could be important for e-waste purposes in terms of extended producer responsibility. See also section 30 below.

- General requirements for the storage of waste (section 25):

This includes the requirement that pollution of the environment and harm to health are prevented.

- Duties of persons transporting waste (section 29):

Other than stating that precautions must be taken during transportation, and that the destination must be authorised to accept hazardous waste, this section is introducing nothing new. It also disregards, in our opinion, recycling centres or other initiatives (eg waste exchange) which may well be capable of handling, treating or otherwise dealing with hazardous waste in a useful and environmentally beneficial manner (eg recycling of e-waste), as such centres or places would now seemingly (if a broad interpretation is adopted) have to be authorised.

- Recovery, re-use and recycling of waste (section 30):

One of the more relevant provisions for this study is subsection (2) which states that:

> *(2) The Minister may, by notice in the Gazette, require any person or category of persons to –*
>
> *(a) provide for the recovery, re-use or recycling of products or components of a product manufactured or imported by that person; or*
>
> *(b) a product to include a determined percentage of recycled material in a product that is produced, imported or manufactured by that person or category of persons.*

- Separation, treatment, processing, transformation and disposal of waste (section 31):

> *No person may establish, provide or operate any waste handling, treatment or disposal facility or close any such facility which was not permitted when this Act came into effect–*
>
> *(a) without obtaining a waste management licence; or*
>
> *(b) without complying with the relevant standard.*

This section is vague as it seems to imply that any facility dealing with waste would be required to possess a licence; this would then theoretically affect even schools and their recycling programs – a

clearly absurb consequence. The Draft Bill also does not define what constitutes “waste handling” nor the “relevant standard”.

“Treatment” is, however, defined as

> *any method, technique or process that is designed to change the physical, biological or chemical character or composition of a waste, or to remove, separate, concentrate or recover a hazardous or toxic component of a waste or to destroy or reduce the toxicity of the waste in order to minimise the impact of the waste on the environment* (section 1).

This could, strictly speaking affect e-waste recyclers or processors, meaning that same would need either a waste management licence, alternatively would have to comply with the undefined relevant standard.

- Industry waste management plans (sections 34 – 40):

In terms of these provisions the Minister of MEC may require any person, category of persons, industry or organ of state that produces waste other than during the course of normal government administration, to prepare and submit an industry waste management plan for approval (section 34(1)).

This could entail the IT industry being identified as an industry in terms of these sections with the result that a waste management plan must be drafted and submitted.

- Producer responsibility (section 48):

(1) The Minister or MEC may, by notice in the Gazette, identify –

(a) a product or class of products;

(b) the producer responsibility measures that must be taken in respect of that product or class of products; and

(c) the category of persons who must take those measures.

(2) The Minister or MEC may, in a notice published in terms of subsection (1) -

(a) specify the requirements in respect of the implementation and operation of a waste minimisation programme, including the requirements in respect of the avoidance of waste generation, recovery, re-use and recycling;

(b) determine the financial arrangements of a waste minimisation programme, after consultation with the Minister or MEC responsible for finance;

(c) establish institutional arrangements for the administration of a waste minimisation programme;

(d) indicate the percentage of products that must be recovered under a waste minimisation programme;

(e) specify labelling requirements;

(f) *prohibit or restrict the sale of any product or classes of products in such circumstances as may be prescribed;*

(g) *require the producer of a specified product or class of product to carry out a life cycle assessment in relation to the product, in such manner or in accordance with such standards or procedures as may be specified; and*

(h) *specify the requirements that must be complied with in respect of the design, composition or production of a product or packaging, including a requirement that –*

(i) *cleaner production measures be implemented;*

(ii) *the composition, volume or weight of packaging be restricted; and*

(iii) *packaging be designed, produced and used so as to be capable of being re-used.*

This section could have far reaching consequences for the IT industry.

- Regulations by Minister (section 74):

In terms of this section the Minister is empowered to pass Regulations covering an extensive list of topics, one of which is

> *the obligation of producers of a specified product or class of product to carry out a life cycle assessment in relation to the product, in such manner or in accordance with such standards or procedures as may be specified* (section 74(m)).

Should such Regulations be passed for the IT industry it could be required to conduct a life cycle assessment, which in turn would probably have beneficial consequences for the e-waste industry.

2.15) Precious Metals legislation

The following are regarded as precious metals: gold, silver, platinum and other platinum group metals, namely palladium, rhodium, iridium, ruthenium and osmium (see *The Precious Metals Trade – General Information Handbook*, Directorate Mineral Economics, Dept of Minerals and Energy ("DME") - downloaded from their website www.dme.gov.za); a copy hereof is included in the legislation folder on the CD).

At the outset it should be noted, that legislation governing precious metals is currently in a state of flux, in that the Precious Metals Act, 37 of 2005, was promulgated in 2006, although it has not yet entered into force. In addition, Draft Regulations in terms of this Act were published for comment in June 2006, but the drafting process does not seem to be finalised as no further information appeared in the Government Gazette since then. It is expected that once the Regulations are finalised that the

Act will then become law, thereby repealing current legislation like the remaining parts of the Mining Rights Act, 1967 (ie Chapter XVI).

The ensuing discussion should therefore be seen in the light of the pending changes, particularly those to be brought about by the, as yet, unfinished Regulations. For further and future clarity it is therefore suggested that the DME, as well as those bodies listed below, be contacted. Only provisions governing recovery of precious metals will be examined hereunder, as these are relevant for purposes of this review.

Presently the DME, South African Police Services (Gold and Diamond Branch) and South African Revenue Services issue various licences for precious metals, depending on the nature of the intended activity. The SAPS processes permits for industry, trade, profession or scientific purposes, while SARS handles recovery works and jeweller's permits. This is in terms of the Minerals Act, 50 of 1991.

Once the Precious Metals Act, 2005, enters into force the above situation is set to change, in that the South African Diamonds and Precious Metals Regulator will be formed. All licences, permits and certificates will be issued by the Regulator, while the SAPS will process applications in consultation with the Regulator. Licences will have to be obtained for the refining and benefication of precious metals, while jewellers will require a permit.

The new Act does not expressly deal with second-hand or used fabricated precious metals, thus leading to the possible interpretation that same could be regarded as fabricated precious metals if its form has not changed. In this regard, the provisions of the Draft Second-Hand Goods Bill (examined below at 2.16) may become relevant (see the definition of "goods"). On the other hand, should this Act enter into force before the Bill becoming an Act, a possible conflict could arise as the 1955 Second-Hand Goods Act prohibits the smelting or melting of metals by dealers (see below).

Under the new Act an authorised dealer may buy precious metals in any form from a person authorised to dispose of semi-fabricated or unwrought metals. Dealers receive their authorisation from the National Treasury to deal in gold (see definition of ''authorised dealer" in section 1).

2.16) Second-Hand Goods legislation

Currently the situation regarding second-hand goods is also in an uncertain state. This is due to the fact that a Draft Second-Hand Goods Bill (first published in 2003 and again in 2005), and Draft Regulations (2003) in terms thereof were circulated for comment. Should same enter into force the current Second-Hand Goods Act, 23 of 1955, will be repealed. In the meantime, the latter remains applicable.

It is unsure to what extent the 1955 Act would cover e-waste recyclers and smelters.

Under the 1955 Act "goods" are defined as

> *any article of clothing, jewellery, any motor vehicle, including any motor cycle, or any part or accessory thereof, any bicycle or any part or accessory thereof, any office or household equipment, any photographic or optical instrument or any part thereof, any wrought article consisting wholly or principally of gold, silver or steel, any antique, any ferrous metal, lead, copper, tin, aluminium, brass or zinc or any article or substance consisting wholly or principally of one or more of these metals, and any other article or substance which the Minister may, by notice in the Gazette, declare to be goods for the purposes of this Act.*

A "dealer" means a person who deals in second-hand goods. A certificate to deal in second-hand goods is required under the Act (section 3 read together with section 4). The intent of the Act, in our opinion, seems to be the regulation of activities of pawn brokers and scrap yards, and the prohibition of the acquisition of stolen goods or materials. Consequently, it is possibly arguable whether an e-waste recycler or drop-off centre should be regarded as a dealer for purposes of this Act, unless they be regarded as scrap yards.

Section 8 (Smelting of metals and possession of smelting apparatus) states that

> *no dealer shall smelt or melt or cause to be smelted or melted any metal or any article or substance containing metal, or have in his possession any apparatus which can be used for the smelting or melting of metal or any such article or substance.*

Therefore, should an e-waste recycler or smelter be regarded as a dealer any smelting or melting activities would be regarded as illegal. Since this Act is administered by the Department of Safety and Security it is suggested that the Minister, alternatively the SAPS Commissioner, be approached for clarity.

The preamble to the Draft Bill states that its purpose is *to regulate the business of pawnbrokers and dealers in second hand goods, to limit the trade in stolen goods, [and] to promote ethical standards in the second-hand goods trade.*

"Goods" are defined as

> *any jewellery including unwrought precious metal as defined by the Mining Rights Act 1967 (Act No. 20 of 1967)…office or household equipment…communication equipment; photographic or optical instrument or any part or accessory thereof; any non-ferrous, ferrous or precious metal, or any wrought article, or any article or substance consisting wholly or*

principally of one or more of such metals…any other article or substance which the Minister may under section 2(2)(a)(ii) declare to be goods for the purposes of this Act.

"Household and office equipment" mean

any goods normally used in an office or household including but not limited to furniture, electric and electronic equipment, electronic software, tools, gardening equipment and works of art.

A "dealer" is *a person who carries on a business of dealing in second hand goods, and includes a scrap metal dealer.* A certificate is required to conduct business (section 3).

Section 12 (Provisions relating to non-ferrous and precious metals) states that
(1) No dealer or pawnbroker may smelt, melt or granulate or cause to be smelted, melted or granulated any non-ferrous and precious metal or any article or substance containing non-ferrous or precious metal, or have in his possession any apparatus which can be used for the smelting, melting or granulating of metal or any such article or substance. Unless in the case of precious metals, such a person is in possession of a permit in terms of section 145 of the Mining Rights Act, Act 20 of 1967.

The Draft Regulations deal with certificate requirements, format and contents and as such are not relevant for purposes of this review.

3) PROVINCIAL LEGISLATION

Currently there is very little environmental legislation on the provincial level. Most still have the old Nature Conservation Ordinances on their statute books, but as the name suggest, these deal with conservation issues, and not hazardous waste or the management thereof.

KwaZulu-Natal is presently discussing an internal Draft Prevention and Management of Waste Bill. This goes much further than the provisions of the national Draft Waste Management Bill in that it contains an entire chapter on waste minimisation, extended producer responsibility, compulsory waste audits, mandatory green procurement by the provincial and local authorities etc. Seeing that this is not yet a public document no further details can be furnished.

The Western Cape is also busy formulating a hazardous waste policy, but this is not yet finalised.

4) LOCAL LEGISLATION

For present purposes only by-laws from the following municipalities will be discussed, as this is where e-waste channels or activities are currently mainly operational:

- Cape Town
- Johannesburg
- Durban
- Tshwane
- Ekurhuleni

The by-law discussion will be more detailed than that covering national legislation as

- waste management
- water and sanitation services limited to potable water supply systems and domestic waste-water and sewage disposal systems
- refuse removal, refuse dumps and solid waste disposal
- air pollution

have been, and still are, a responsibility delegated to local authorities. National legislation is therefore purposely more general and phrased in such a manner that any form of pollution is covered. The actual practicalities are thus normally dealt with in terms of by-laws. It is also for this reason that there are local differences in waste management and enforcement.

4.1) Cape Town

4.1.1) Waste by-laws

Cape Town presently does not have a uniform city wide by-law dealing with waste and its management. As such the various by-laws from the disestablished former municipalities continue to apply. Needless to say, this makes any by-law evaluation or application a cumbersome exercise as different areas still have their own by-laws. Some of these are fairly old, and even the more recent ones do not pay detailed attention to hazardous or special waste, apart from prohibiting its incorrect disposal, and prescribing certain general disposal requirements. Broadly speaking, hazardous or special waste are only defined in very wide terms. E-waste does not specifically feature as hazardous waste, although it would, by virtue of its nature, be regarded as same.

None of the existing by-laws contain waste prevention, minimisation, reuse or recycling requirements and as such all are very much end-of-pipe. It is, however, understood that the City is currently working on a uniform waste by-law although no further details are available.

4.1.2) Water By-law, LA 18366 of 1 September 2006

- Section 59 (Prevention of Pollution of Water):

  (1) An owner must provide and maintain measures approved by the Director: Water to prevent the entry of a substance which may be a danger to health or adversely affect the potability of water into-

  (a) the water supply system, and

  (b) any part of the water installation on his or her premises.

  (2) The Director: Water must approve the appropriate level of backflow prevention required in each instance

4.1.3) Wastewater and Industrial Effluent By-law, LA 18367 of 1 September 2006

- Section 3 (Protection of municipal sewers):

This section sets out detailed and lengthy requirements for effluent quality. Discharge of hazardous substances from e-waste or related activities would fall under this. The section is reproduced in full in the folder containing the legislation referred to in this review.

4.1.4) Stormwater Management By-law, PG 6300 of 23 September 2005

- Section 3 (Prohibited discharges):

  No person may, except with the written consent of the Council and subject to any conditions it may impose, discharge, permit to enter or place anything other than stormwater into the stormwater system.

- Section 4 (Protection of stormwater system):

  No person may, except with the written consent of the Council and subject to any condition it may impose-

  (a) damage, endanger, destroy or undertake any action likely to damage, endanger or destroy, the stormwater system or the operation thereof;

(b) *discharge from any place, or place onto any surface, any substance other than stormwater, where that substance could reasonably be expected to find its way into the stormwater system;*

(c) *discharge, permit to enter or place anything likely to damage the stormwater system or interfere with the operation thereof or contaminate or pollute the water therein;*

(d) *construct or erect any structure or thing over or in such a position or in such a manner so as to interfere with or endanger the stormwater system or the operation thereof; or*

(e) *make an opening into a stormwater pipe, canal or culvert; or*

(f) *drain, abstract or divert any water directly from the stormwater system; or*

(g) *fill, excavate, shape, landscape, open up or remove the ground above, within, under or immediately next to any part of the stormwater system.*

- Section 7 (Water pollution incidents):

  In the event of an incident contemplated in Section 3 or Section 4(b) and (c)-

  (a) *the owner of the property on which the incident took place, or is still in the process of taking place, or*

  (b) *the person responsible for the incident, if the incident is not the result of natural causes,*

  shall immediately report the incident to the council, and at own cost, take all reasonable measures which, in the opinion of the Council, will contain and minimise the effects of the pollution, by undertaking cleaning up procedures, including the rehabilitation of the environment, as required by the Council.

This section is, in our opinion, aimed at larger spills into stormwater drains, as it is unlikely that pollution from e-waste recycling activities would be so drastic as to require cleaning up or rehabilitation measures. Having said that, this provision should be borne in mind.

4.1.5) Environmental Health By-law, LA 13333 of 30 June 2003

- Section 1 (Definitions):

  "objectionable material" means garden litter, rubbish, waste material, rubble, scrap metal, article or thing, disused machinery, motor cars or other vehicles, as well as the disused parts thereof, refuse from any building operations, or any refuse capable of being deposited on any land or premises, including new or used building materials not necessarily required in connection with bona fide building operations actually in progress on any land, and includes any solid, liquid or gas which is or may become a

nuisance or which materially interferes with the ordinary comfort or convenience of the public.

"health nuisance" means any activity, condition, premises or thing which, on account of effluent, vapours, chemical effluvia, odours, noise, vibration, radiation, refuse, waste products, dirt, chemical or biochemical material, microbial infection, vermin, vegetation, overcrowding, lack of proper general hygiene, ventilation, lighting, design, situation or on account of any other cause or practice whatsoever, is/are in the opinion of the Director: Health Service or a duly authorised council employee potentially injurious or dangerous to health or which is/are offensive, including, without affecting the generality of the aforegoing, any facility for the storage, distribution or handling of water that is likely to be used by man for domestic purposes or consumption, including such water itself, which is contaminated or polluted.

- Section 2:

  …no person shall-

  (7) Cause or permit any foul or polluted water or any foul liquid or objectionable material to run or flow from any premises to that owned or occupied by another person, whether occupied for trade, business, manufacturing, dwelling or other purposes, onto any land or into any stormwater, river or canal system.

  (8) Commit, cause or permit to be committed any act which may pollute any water to which inhabitants of the area of jurisdiction of the council have the right of use or access.

  These two subsections have relevance insofar as storm and groundwater pollution are concerned.

- Section 8:

  No person shall keep, cause or suffer to be kept on any premises any accumulation or deposit of filth, rubbish, refuse, manure, other offensive matter, or objectionable material or thing so as to be a health nuisance.

  It is submitted, that this section will not apply to e-waste recyclers since it is questionable whether old or dismantled equipment would qualify as filth, rubbish or refuse (none of these are in any event defined in the by-law, and as such the ordinary meaning should be applied to them).

4.1.6) Air Pollution Control By-law, LA 12649 of 4 February 2003

The provisions of this By-law would probably be more relevant for smelters, but as far as we understand, no smelters processing e-waste are operating in Cape Town. As such this discussion is purposely brief.

Section 2 requires the avoidance of air pollution, and if that is not possible, the minimisation thereof. Section 3 imposes a duty of care on significant air polluters to prevent or mitigate such emissions. Section 19 makes it an offence to create a nuisance.

4.1.7) Policies

Some inroads have been made on a policy level, with the City of Cape Town supporting the Green e-waste Channel and also providing or supporting drop-off facilities. Moreover, the City has adopted an Integrated Waste Management Policy in May 2006. This identified e-waste as well, albeit in passing, or under the general discussion of recyclable or hazardous waste.

4.2) Johannesburg

4.2.1) Waste Management By-laws, 2003

The following provisions of the City of Johannesburg's Waste Management By-laws are relevant.

- Section 1 (Definitions):

  "hazardous waste" means waste containing, or contaminated by, poison, any corrosive agent, any flammable substance having an open flash-point of less than 90 deg C, an explosive, radioactive material, any chemical or any other waste that has the potential even in low concentrations to have a significant adverse effect on public health or the environment because of its inherent toxicological, chemical and physical characteristics;

  "recyclable waste" means waste which has been separated from the waste stream, and set aside for purposes of recycling;

  "recycling" means the use, re-use or reclamation of material so that it re-enters an industrial process rather than becoming waste;

"waste" means any undesirable or superfluous matter, material, by-product or residue of any process or activity that has been discarded, accumulated or stored for the purpose of treatment, discarding or recycling and may be liquid or solid, may include products that contain a gaseous component and may originate from domestic, commercial, medical or industrial activities, but does not include any gas or gaseous product which may be regulated by national or Gauteng provincial legislation;

"waste handling facility" means any facility on or in which waste is accepted, accumulated, handled, recycled, sorted, stored or treated prior to its transfer for treatment by way of incineration or for final disposal;

Note the mention of recycling activities in the last two definitions. Oddly enough, despite it being defined, there is almost no mention of waste handling facilities in the By-law itself.

- Section 2 (Principles):

  (2) The underlying principle of these By-laws is to establish a waste management hierarchy in the following order of priority:

  (a) avoidance, waste minimisation and waste reduction;
  (b) re-use;
  (c) recycling, reprocessing and treatment; and
  (d) disposal.

- Section 3 (Main objects) (extract):

  (2) In pursuing the main objects of these By-laws, and in particular the object set out in subsection (1) the Council must –

  (a) endeavour to minimise the consumption of natural resources;
  (b) promote the re-use and recycling of waste;
  (c) encourage waste separation to facilitate re-use and recycling.

- Section 19 (Generation of special industrial, hazardous or health care risk waste):

  (1) No person may carry on an activity which will generate special industrial, hazardous or health care risk waste, without notifying the Council in writing, prior to the generation of such waste, of the composition of such waste, the estimated quantity to be generated, the method of storage, the proposed duration of storage, the manner in which it will be collected and disposed of, and the identity of the

licensee who will remove such waste: Provided that if such waste is being generated as a result of activities which commenced prior to the commencement of these By-laws, the generator must notify the Council as contemplated in this subsection within 180 days of the commencement of these By-laws.

This is probably not that relevant for e-waste recyclers, collectors or refurbishers, unless hazardous waste is being created, although it perhaps has more potential importance for smelters.

- Section 20 (Storage of special industrial, hazardous or health care risk waste):
  (1) Any person carrying on an activity which generates special industrial, hazardous or health care risk waste, must ensure that such waste generated on the premises is kept and stored thereon until it is collected from the premises.
  (2) Special industrial, hazardous or health care risk waste stored on premises, must be stored in such a manner that it does not become a nuisance or causes harm to human health or damage to the environment, and in accordance with the requirements of any applicable legislation relating to buildings.
  (3) Special industrial, hazardous or health care risk waste must be stored in an approved receptacle and for a period not exceeding 90 days or any other maximum period stipulated by the Department of Water and Environmental Affairs, Gauteng provincial government or Council, before collection.

- Sections 21 & 22 (Collection and disposal of special industrial, hazardous or health care risk waste; Transportation of waste):
  This requires that the above waste types may only be collected and disposed of by a licensee and subject to the requirements of applicable SANS codes (essentially the same as those contained in the Regulations in terms of the National Road Traffic Act – see also above at 2.11). As already stated in that point, we are of the opinion that the collection of e-waste would generally not qualify as hazardous waste transport, although the disposal would be.

- Section 23 (Disposal of waste):
  (12)No person may store waste for more than 90 consecutive days, unless the person has a permit in respect of the premises concerned for a waste disposal facility from the Department of Water and Environmental Affairs in terms of section 20(1) of the Environment Conservation Act, 1989 (Act No. 73 of 1989).

Chapter 6 deals with licensees (ie waste transporters/disposers):

- Section 24 (Licence requirements):

  Subject to the provisions of section 32, no person may collect or transport any of the following waste streams listed in subsection (2) without having obtained from the Council, and being in possession of a licence authorising such collection and transportation:

  (d) hazardous waste;
  (e) recyclable waste.

  Potentially this could cover e-waste recyclers or smelters who collect and transport e-waste. However, as already stated, it is doubtful whether e-waste collection and transportation would be regarded as hazardous waste transport.

  In our opinion Chapter 6 is confusing and contradictory in that it requires any transporter of those waste types listed in section 24 to apply for a licence, but the bulk of the Chapter seems to be aimed at commercial services. A strict interpretation of section 24 would mean that any person transporting listed waste types (regardless of the quantity or frequency) would have to apply for a licence. It is submitted that this would be an unintended consequence, as it would then also apply to, for instance, individuals transporting their household recyclables to a local school or drop-off centre.

  Section 31 of the By-law makes provision for the Council, having regard to the main objects of the By-law contemplated in section 3(1), and its local waste plan, by notice in the Gauteng Provincial Gazette, to exempt any type of *commercial service* (our emphasis) from any provision of this Chapter to the extent and subject to the terms specified in such notice.

  It is further debatable whether an e-waste collection service should necessarily be regarded as a commercial service in terms of the By-law.

  It is unsure if such notice was ever published. If so, and should e-waste not have been excluded, then it is suggested that the Council be approached to establish if a licence would be needed to transport and dispose of e-waste). In our opinion, it would be highly doubtful if a licence would be needed in the first place. Were this the case, then a manufacturer or retailer would also theoretically have to apply for an authorisation to transport, for instance, new equipment. It would not make sense to require an e-waste

collector transporting old and still assembled equipment to obtain a licence, while a transporter of new or still working equipment would be exempted.

4.2.2) Water Services By-laws, PN 179 of 21 May 2004

The following sections are relevant:

- Section 43 (Owner to prevent pollution of water):

  An owner must provide and maintain effective measures to prevent the entry of any substance or matter, which may be a danger to health or may adversely affect the potability of water or affect its fitness for use, in -

  (a) the water supply system or plant; and

  (b) any part of the water installation on his or her premises.

  This would prohibit the pollution of water (ground, surface or stormwater) or effluent by hazardous substances found in e-waste.

  In terms of the By-law the owner has to prevent the pollution of water. This is a serious flaw in our opinion, as this excludes (at least under this By-law, but not under NEMA or the National Water Act) tenants or other occupiers of land. Having said that, this certainly does not mean that e-waste recyclers, handlers, smelters etc who are not the owners of the premises from which they operate, have no obligation to prevent the pollution of water.

- Section 62 (Objectionable discharge to sewage disposal system):

  This section sets out detailed and lengthy requirements for effluent quality. Discharge of hazardous substances from e-waste or related activities would fall under this. The section is reproduced in full in the folder containing the legislation referred to in this review.

4.2.3) Public Health By-law, PN 830 of 21 May 2004

This By-law has more limited application for present purposes as it deals with public health, and therefore only indirectly with environmental issues (although there is admittedly a large overlap between these two).

- Section 5 prohibits the causing of public health hazards, this includes the pollution of water supply for domestic consumption. Section 7 makes it unlawful to create public health nuisances; this extends to (domestic) water pollution as well.

- Section 36 (Pollution of sources of water supply) states that:

  No person may pollute or contaminate any catchment area, river, canal, well, reservoir, filter bed, water purification or pumping works, tank, cistern or other source of water supply or storage in a way that creates a public health nuisance or a public health hazard.

- Section 42 deals with stormwater runoff and requires the prevention of pollution thereof. E-waste collectors, recyclers etc should therefore ensure that no stormwater pollution takes place, or that hazardous substances can enter the drains.

- Chapter 7 deals with offensive trades, and e-waste activities may potentially fall under the definition thereof as section 44 defines such trades as including, inter alia:

  (b) operating a waste recycling plant including oil and petroleum product recycling;
  (c) scrap yard or scrap metal dealing.

- Section 45 requires offensive traders to obtain a permit.
  It is suggested that the Council be approached to establish if e-waste recyclers would also qualify as offensive traders. With the exception of smelters this is, in our opinion, doubtful.

- Section 46 sets out various building and structural requirements for premises from which an offensive trade is conducted, while section 47 describes the duties of such traders (for present purposes these would be restricted to the prevention of pollution or other nuisances/hazards).

- Chapter 9 deals with second hand goods, and defines same as, inter alia:

  any business in which used goods and materials are sold, including, without limitation –

  (a) clothing, furniture, scrapped motor vehicles, footwear, timber, building bricks or blocks, building material or fittings, machinery, drums, tins, bottles, packing cases, boxes, crates or other containers, metal, rags, plastic bags, paper or any other material, which has previously been used.

  Sections 58 and 59 prescribe premise requirements as well as duties of such traders.

  The provisions governing the Second-Hand Goods Act, 1955, and the Draft Bill and Draft Regulations should be kept in mind; these were discussed briefly above (at 2.16).

Here too the Council should be contacted to determine if e-waste recyclers are regarded as second hand goods traders; this is quite possible, seeing what other areas are covered by the definition, many of which are far less hazardous (if at all) than e-waste recyclers.

4.2.4) Policies

There are currently no official policies dealing specifically with e-waste which would therefore be regarded as hazardous waste. As such the legislation referred to in this report must be consulted for guidance. Pikitup has, however, made its 25 garden sites available as e-waste drop-off points.

4.3) Durban / eThekwini Municipality

4.3.1) Refuse Removal By-law, PN 47 of 2002

This By-law is vague and merely discusses various waste streams or types in general terms. There is an obligation to dispose of hazardous waste in a responsible and lawful manner, and to ensure that any waste is stored properly.

The same comments as for the situation governing Cape Town apply here (see 4.1 above), namely that e-waste could be regarded as hazardous waste.

There are no waste prevention, minimisation, reuse or recycling requirements and this By-law is very much end-of-pipe.

The accumulation of waste, so that it constitutes a nuisance, is prohibited (section 8).

4.3.2) Water Supply By-law, MN 104 of 26 September 1996

Water pollution is dealt with in section VIII/1:

> *An owner shall at his own cost, take the necessary steps, acceptable to the authorised delegate, to prevent the entry of a substance which may be a danger to health or adversely affect the potability of water into -*
>
> *(a) the water supply system; and*
>
> *(b) any part of the water installation on his premises.*

4.3.3) Scheduled Trades and Occupations By-laws, PN 134 of 22 March 1979

E-waste may potentially fall under the following listed activities:

- Refuse collection, storage, removal, processing or disposal
- Scrap yard
- Waste material salvaging, collecting, sorting, storing, treating, processing or recycling/reclaiming

A permit is required to conduct an offensive trade. This aspect was already discussed above, and the same comments apply her. For the sake of clarity it is, however, recommended that the Council be approached to establish if e-waste collectors/recyclers would be regarded as offensive traders.

4.3.4) Draft By-laws

In closing it should be mentioned that the municipality is currently drafting an extensive new by-law dealing with waste, effluent, air pollution, noise pollution, as well as other matters. A copy may be viewed on the City's website at www.durban.gov.za.

This draft is still very rough, and far from finalised, and as such will not be discussed here.

4.3.5) Policies

The eThekwini Municipality compiled an Integrated Waste Management Plan ("IWMP") (August 2004), but it is unsure to what extent it has been implemented. No mention of e-waste was found in the IWMP. The City's Solid Waste Department did, however, confirm that it made its drop-off facilities available for e-waste, and that discussions with other departments are planned to pave a possible way for an e-waste policy.

4.4) Tshwane

4.4.1) Solid Waste By-laws, 2005

The following provisions are relevant:

- Section 1 (Definitions):

  "Hazardous waste" means waste which contains or is contaminated by poison, a corrosive agent, a flammable substance having an open flash-point of less than 100

°C, an explosive, radioactive material, a chemical or any other substance that is classified as a hazardous substance in terms of the Hazardous Substances Act, 1973 (Act 15 of 1973), or in terms of the National Road Traffic Act, 1996 (Act 93 of 1996).

"recycling" means the collection, selection or removal of waste for the purpose of reselling or reusing selected materials in a manufacturing or other process;

"recyclable" means any material intended for recycling or a remanufacture process and which was never part of the waste stream at the point of removal, but was managed as a potential resource by the originator of such material and never contaminated with any other material.

- Section 18 (Notification of generation of special industrial waste, hazardous waste or medical waste):

  (1) A person or other legal entity must not, within the area of jurisdiction of the Municipality, operate or conduct a service for the removal of any type of waste contemplated in this chapter from premises, irrespective of whether such service is rendered for payment or not, unless such natural person or other legal entity is registered by the Municipality.

  (2) An authorized service provider engaged in an activity or activities which generate special industrial waste, hazardous waste or medical waste to be generated must notify the Municipality, before commencement of such generation, of -

  (a) the composition of the waste;
  (b) the quantity of the waste;
  (c) the method of storage of the waste;
  (d) the proposed duration of the storage of the waste; and
  (e) *in terms of the provisions of section 20(4), the manner in which the waste will be removed.*

  As already discussed above, the issue of whether the transportation or removal of e-waste may be regarded as hazardous should be taken up with the authorities.

- Section 19 deals with the storage of special industrial waste, hazardous waste and medical waste and requires that same be stored in a responsible manner.

- Section 20 (Removal and disposal of special Industrial waste, hazardous waste and medical waste) requires that:

  (1) A person must not, without the written consent of the Municipality and subject to such terms and conditions as the Municipality may deem fit, remove or have special industrial waste, hazardous waste or medical waste removed from the premises on which it was generated.

  (2) The occupier of premises must only have special industrial waste, hazardous waste or medical waste removed by a contractor approved by the Municipality in compliance with the relevant legislation.

  As pointed out above, the issue of whether the transportation or removal of e-waste may be regarded as hazardous, and thus requiring registration as waste contractor, should be taken up with the authorities.

- Section 27 (Recycling):

  (1) Recyclable material for the purpose of recycling must not be stored at any premises resulting in risks or nuisance conditions;

  (2) A person involved in any way in recycling, must comply with all applicable statutory requirements;

  (3) Separation of waste or sorting of recyclables shall be performed on the premises of the point of generation of the recyclable waste stream;

  (4) All facilities where separation and classification of recyclable material is performed, must comply with the applicable statutory requirements.

  It is felt that the provisions of subsection (3) are absolutely counterproductive to overall recycling efforts, and that it represents a serious drafting flaw, as it theoretically, if strictly applied, results in any recycling centres, or activities carried out elsewhere, being declared unlawful. Besides that, it is in clear conflict with the provisions of the White Paper, the NWMS and NEMA.

  For this reason, the authorities should be contacted to establish how they would regard e-waste recycling centres.

- Section 32 (Permitting of private service providers by the Municipality):
  This section provides that any natural person or other legal entity which operates or conducts waste recycling activities of any nature or extent must be permitted by the Council, irrespective of whether such service is rendered for payment or not.

4.4.2) Sanitation By-laws, 2003

Section 32 (Sewage or other pollutants not to enter stormwater drains) states that leakages or spills may not enter any street, stormwater drain or other watercourse except with the written permission of Council.

4.4.3) Water Supply By-laws, 2003

Section 18 (Pollution of water) provides that

An owner of premises must take and maintain approved measures to prevent the entry into -

(a) the water supply system; and

(b) any part of the water installation on his or her premises;

of a substance that may be harmful or a danger to the health or well-being of any human or other living organism or may adversely affect the potability of water or its fitness for use.

4.4.4) Policies

It was confirmed by the municipality that it currently does not have any programs or policies dealing specifically with e-waste and that same would therefore be regarded as hazardous waste. As such the legislation referred to in this report must be consulted for guidance.

4.5) Ekurhuleni

4.5.1) Solid Waste By-law, PG 51 of 6 March 2002

The following sections are relevant:

- Section 1 (Definitions):
  "hazardous waste" means waste which can, even in low concentrations, have a significant adverse effect on public health and/or the environment because of its

inherent chemical and physical characteristics such as toxic, ignitable, corrosive, carcinogenic or other properties.

- Section 18 (Notification of generation of special industrial, hazardous, medical and infectious refuse):

  (1) A person engaged in an activity which causes special industrial, hazardous, medical or infectious refuse to be generated, shall notify the Council within seven days of such generation of the composition thereof, the quantity generated, method of storage, the proposed duration of storage, and the manner in which it will be removed.

- Section 19 (Storing of special, industrial, hazardous, medical and infectious refuse):

  (2) Special industrial, hazardous, medical or infectious refuse stored on premises shall be stored in such manner that it cannot become a nuisance, safety hazard or pollute the environment.

- Section 20 (Removal of special industrial hazardous, medical and infectious refuse):

  (1) (a) No person may, without or not in accordance with the Council's written approval of conditions, remove special industrial, hazardous, medical and infectious refuse from a premises at which it has been generated.

4.5.2) Wastewater By-laws, PN 274 of 6 March 2002

The following sections are relevant:

- Section 33 (Sewage or other prohibited discharges not to enter storm-water drains):

  (1) No owner or occupier or any other person shall discharge or cause or permit to be discharged any sewage directly or indirectly into a storm-water drain, river, stream or other watercourse, whether natural or artificial.

- Section 37 (Prohibited discharges):

  This section sets out detailed and lengthy requirements for effluent quality. Discharge of hazardous substances from e-waste or related activities would fall under this. The section is reproduced in full in the folder containing the legislation referred to in this review.

4.5.3) Water Supply By-law, PN 276 of 6 March 2002

The following section is relevant:

- Section 43 (Pollution of surface water):

  (1) No person shall -

  (e) cause or permit the water from any sink, sewer, drain, engine, boiler or any other polluted water or liquid or oil for the control of which he or she is responsible, to run or be brought into any such stream, reservoir aqueduct, or other place; or

  (f) do any other act whereby the supply of water to the inhabitants of the Council's area of supply may be polluted.

4.5.4) Policies

It was confirmed by the municipality that it currently does not have any programs or policies dealing specifically with e-waste and that same would therefore be regarded as hazardous waste. As such the legislation referred to in this report must be consulted for guidance.

5) INTERNATIONAL LEGISLATION

International legislation - in the form of Conventions, Agreements, Treaties etc – has, in our opinion, only limited application for present purposes in South Africa since the majority of e-waste would probably be from local sources, as opposed to imported old or broken electronic/electrical equipment entering the country for recycling or treatment purposes.

Of importance would be the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989) since it covers several toxic components found in e-waste (see eg. Annexes I, III and IV). South Africa is a signatory to the Convention. It is, unfortunately, still a grey area whether e-waste strictly speaking must be regarded as hazardous waste for purposes of this Convention, although there is no reason why it should not be seen as such.

The EU has the following legislation:

- Directive on Waste Electrical and Electronic Equipment (known as WEEE Directive)
- Directive on the Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment (known as RoHS Directive)

According to the WEEE Directive, Member States must encourage the design and production of equipment which take into account and facilitate dismantling and recovery, in particular the reuse and recycling of WEEE, their components and materials (Art 4). For WEEE from private households, Member States shall ensure that by 13 August 2005 systems are set up allowing final holders and distributors to return such waste at least free of charge. Member States must implement the availability and accessibility of the necessary collection facilities, taking into account in particular the population density. Producers are, however, allowed to set up and operate individual and/or collective take-back systems for WEEE from private households provided that these are in line with the objectives of this Directive (Art 5). Producers or third parties acting on their behalf, in accordance with Community legislation, must set up systems to provide for the treatment of WEEE using best available treatment, recovery and recycling techniques (Art 6). Priority must be given to the reuse of whole appliances, and in this regard the Directive sets out recovery targets (Art 7).

Users of equipment in private households must be given the necessary information about:
(a) the requirement not to dispose of WEEE as unsorted municipal waste and to collect such WEEE separately;
(b) the return and collection systems available to them;
(c) their role in contributing to reuse, recycling and other forms of recovery of WEEE;
(d) the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment;
(e) the meaning of the symbol shown in Annex IV to the Directive (ie separate collection) (Art 10).

The RoHS Directive requires Member States to ensure that new equipment put on the market does not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE) (Art 4(1)). The Annex to this Directive exempts the use of lead, mercury, cadmium, hexavalent chromium in certain equipment, although maximum permissible levels are set.

In Switzerland we find the:

- Ordinance on the Return, the Taking Back and the Disposal of Electrical and Electronic Equipment (ORDEE), 1998

The purpose of the Ordinance is to ensure that equipment does not enter the municipal refuse stream and that it is disposed of in an environmentally friendly manner (Art 1). A person disposing of equipment shall return it to a retailer, manufacturer or importer or to a disposal facility. The return is also permissible to a public collection or disposal facility (Article 3). To this end, traders, manufacturers and retailers are required to take back free of charge any equipment (Art 4). If they

cannot guarantee safe disposal they must contribute financially to a permitted disposer who can do so on their behalf, and at their expense (Arts 5 and 7). The disposer must ensure that their activities are conducted in an environmentally friendly manner (Art 6).

6) CONCLUSION

As could be seen, the legislation governing hazardous waste, and in particular e-waste, in South Africa is far from clear. A range of laws, ranging from national, provincial to local, must be consulted to obtain an answer. Naturally this is an unsatisfactory status quo. Furthermore, seeing that waste removal and disposal is largely regulated on a local level there are differences in terms of strictness and enforcement.

A fundamental problem is that e-waste is not mentioned in any legislation, nor is it identified anywhere as being hazardous. Compounding the problem is the general lack of awareness by the public, and to an extent by authorities, regarding the nature and danger of e-waste. On a practical level is the current general absence of infrastructure to deal with e-waste, and to an extent its toxic components, and treatment or recycling is almost entirely a voluntary initiative either by individuals, organisations or small enterprises, although there is some support from local authorities.

What clearly is needed is more active involvement by the authorities, either in the form of legislation or policies dealing specifically with e-waste.

It is very encouraging to see that some members of the IT industry have joined the current e-waste initiative, and that they agreed to become actively involved in addressing the situation.

However, in our opinion, until such time as the authorities fully acknowledge the e-waste problem and introduce controls or incentives the progress towards a nationwide, wholescale and integrated solution will be a slow one. What is, furthermore, needed is the active buy-in by other role players (eg manufacturers, dealers or suppliers of all electronic and electrical equipment) so that comprehensive systems are in place as, for instance, in Europe or Switzerland.

APPENDIX

LIST OF LEGISLATION AND DOCUMENTS REFERRED TO

National legislation:

Constitution, Act 108 of 1996

National Environmental Management Act, 107 of 1998

Environment Conservation Act, 73 of 1989

National Water Act, 36 of 1998

Health Act, 63 of 1977

National Health Act, 61 of 2003

National Health Act, 61 of 2003

Atmospheric Pollution Prevention Act, 45 of 1965

Air Quality Act, 39 of 2004

Hazardous Substances Act, 15 of 1973

Chapter VIII (Transportation of Dangerous Goods and Substances by Road) of the Regulations in terms of the National Road Traffic Act, GN R 225 of 17 March 2000

Occupational Health and Safety Act, 85 of 1993, and Regulations

Draft National Waste Management Bill, 2006

Precious Metals Act, 37 of 2005

Draft Regulations Precious Metals Act

Mining Right Act, 20 of 1967

Second-Hand Goods Act, 23 of 1955

Draft Second-Hand Goods Bill

Draft Regulations

Provincial legislation:

KwaZulu-Natal Draft Prevention and Management of Waste Bill, 2006

By-laws:

City of Cape Town Water By-law, LA 18366 of 1 September 2006

City of Cape Town Wastewater and Industrial Effluent By-law, LA 18367 of 1 September 2006

City of Cape Town Stormwater Management By-law, PG 6300 of 23 September 2005

City of Cape Town Environmental Health By-law, LA 13333 of 30 June 2003

City of Cape Town Air Pollution Control By-law, LA 12649 of 4 February 2003

City of Johannesburg Metropolitan Municipality Waste Management By-laws, 2003

City of Johannesburg Metropolitan Municipality Water Services By-laws, PN 179 of 21 May 2004

City of Johannesburg Metropolitan Municipality Public Health By-law, PN 830 of 21 May 2004

eThekwini Metropolitan Municipality Refuse Removal By-law, PN 47 of 2002

eThekwini Metropolitan Municipality Integrated Waste Management Plan, August 2004

Durban Transitional Metropolitan Council Water Supply By-law, MN 104 of 26 September 1996
City of Durban Scheduled Trades and Occupations By-laws, PN 134 of 22 March 1979

City of Tshwane Metropolitan Municipality Solid Waste By-laws, 2005
City of Tshwane Metropolitan Municipality Sanitation By-laws, 2003
City of Tshwane Metropolitan Municipality Water Supply By-laws, 2003

Ekurhuleni Metropolitan Municipality Solid Waste By-law, PG 51 of 6 March 2002
Ekurhuleni Metropolitan Municipality Wastewater By-laws, PN 274 of 6 March 2002
Ekurhuleni Metropolitan Municipality Water Supply By-law, PN 276 of 6 March 2002

Policies, Guidelines etc:

White Paper on Integrated Pollution and Waste Management (2000)
National Waste Management Strategy and Action Plans (1999)
Department of Water Affairs and Forestry, *Minimum Requirements for the* Handling, Classification and Disposal of Hazardous Waste, 2nd Edition, 1998
Directorate Mineral Economics, Dept of Minerals and Energy, *The Precious Metals Trade – General Information Handbook*, 4th Edition, 2006

International and foreign legislation:

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989)
EU Directive on Waste Electrical and Electronic Equipment , 2002/96/EC
EU Directive on the Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment , 2002/95/EC
Swiss Ordinance on the Return, the Taking Back and the Disposal of Electrical and Electronic Equipment, 14 January 1998

NB: include full copies of legn on CD