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SERIES L: ENVIRONMENT AND ICTS, CLIMATE CHANGE, E-WASTE, ENERGY EFFICIENCY; CONSTRUCTION, INSTALLATION AND PROTECTION OF CABLES AND OTHER ELEMENTS OF OUTSIDE PLANT

E-waste and circular economy

Scheduled waste management for a base station (inclusive of e-waste)

Recommendation ITU-T L.1036

ITU-T L-SERIES RECOMMENDATIONS

ENVIRONMENT AND ICTS, CLIMATE CHANGE, E-WASTE, ENERGY EFFICIENCY; CONSTRUCTION, INSTALLATION AND PROTECTION OF CABLES AND OTHER ELEMENTS OF OUTSIDE PLANT

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Recommendation ITU-T L.1036

Scheduled waste management for a base station (inclusive of e-waste)

Summary

Recommendation ITU-T L.1036 has been developed following the general environment quality act of a member country. As the 5G era proceeds, a huge global discharge of telecommunication equipment and upgrading of equipment are expected at each base station (BS) globally. Recommendation ITU-T L.1036 is an extension to any requirement stipulated in national environment quality or protection acts, a technical requirement for the telecommunication industry to adopt as a practice to reduce scheduled waste including e-waste at a (BS. In addition, Recommendation ITU-T L.1036 provides guidance on how to dispose of e-waste from a BS including the shared responsibility of owners and third parties involved.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
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In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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Recommendation ITU-T L.1036

Scheduled waste management for a base station (inclusive of e-waste)

1 Scope

This Recommendation finalizes a previously proposed technical code to manage e-waste or waste electrical and electronic equipment (WEEE) in a systematic and zero waste approach. There will be continued efforts to minimize the pollution of waste disposal at a base station (BS), and subsequently enhance the sustainability of the telecommunication industry. Further management quality improvements in accordance with this Recommendation are expected to lead to zero waste disposal to BS, landfill, and incinerator.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

None.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 authorized person [b-ISO 21009-2]: Person authorized by the applicable regulations.

3.1.2 distributor [b-EPA 2022]: Any natural or legal person in the supply chain, who makes an EEE available on the market. A distributor may also be a producer.

3.1.3 electrical and electronic equipment (EEE) [b-EA]: Equipment:

– which is dependent on electric currents or electromagnetic fields in order to work properly;

– for generating, transferring and measuring these currents and fields;

– designed for use with a voltage rating not exceeding 1 000 V or less for alternating current, and 1 500 V or less for direct current.

3.1.4 e-waste or waste electrical and electronic equipment (WEEE) [b-BEC]: Electrical or electronic equipment which is any substance or object which the user dismantles or intends or is required to dismantle. Including all components, sub-assemblies, and consumables which part of the product at the time and location of disposal.

3.1.5 hazardous waste [EPC 2002]: Any natural or artificial substances including any raw material, whether in a solid or liquid form, or in the form of gas or vapour, or in a mixture of at least two of these substances, or any living organism intended for any environmental conservation and control activity, which can cause pollution.

3.1.6 recycling: [b-ISO 22628]: Reprocessing in a production process of the waste materials for the original purpose or for other purposes, excluding processing as a means of generating energy.

3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

3.2.1 audit: Systematic, independent, documented process for obtaining records, statements of fact or other relevant information and assessing them objectively to determine the extent to which specified requirements are fulfilled.

NOTE – Based on [b-ISO 17000].

3.2.2 base station (BS): Station consisting of telecommunication transmission structure, electrical and electronic equipment necessary to communicate with related equipment on site. Each base station covers a specified area, known as a cell. Point of generation of e-waste is specified under the asset policy of each respective organization.

Telecommunications transmission structure consists of self-supporting structures (self-supporting tower – a four-legged lattice tower or three-legged lattice tower), guyed mast, poles and booms, for the purpose of installing telecommunications facilities.

3.2.3 competent person: A certified environmental professional who has been certified by the authority body to be competent to supervise the operation of a pollution control system or the management of scheduled wastes.

The individual is required to go through the certification process and to comply with all the requirements of the authority body before the person can be certified as competent.

3.2.4 component: Element with electrical or electronic functionality connected together with other components, usually by soldering to a printed wiring board, to create an electronic circuit with a particular function (for example, an amplifier, radio receiver or oscillator). For a given component, or part of the component, waste handling requirements apply to the original equipment or part of the equipment to which it belongs.

NOTE – Based on [b-BC 5 steps].

3.2.5 direct reuse: Any operation by which dismantled electrical or electronic equipment or components are used for the same purpose for which they were conceived, including the continued use of whole systems or components.

3.2.6 dismantled: State resulting from changes from a useful product to waste. Equipment that is dismantled cannot be directly re-used by someone else for the same purpose for which the product was originally designed.

3.2.7 disposal: The method of final disposition, final placement or destruction of scheduled waste. Material that cannot be recycled into raw material for use in manufacture of new electrical and electronic equipment or other products would need to be disposed of using other methods, such as energy recovery or landfill.

3.2.8 generated date: The date when scheduled wastes are first generated.

3.2.9 generation of waste electrical and electronic equipment: Quantity or weight of disposed products (waste) due to national consumption from a national territory in a given reporting year prior to any activity (collection, reuse, treatment, or export).

3.2.10 generator: The unit, individual or organization that owns and generates scheduled waste (SW) or waste electrical and electronic equipment, at the time and venue of its generation.

3.2.11 lifetime of electrical and electronic equipment; residence time of electrical and electronic equipment: The time the equipment spends in households, businesses and the public sector. This includes the exchange of second-hand equipment among and between households, and businesses.

3.2.12 off-site storage: Premises occupied or used for the storage, collection, or transfer of any scheduled waste.

3.2.13 on-site storage: Buildings or areas occupied to be used for the storage of any scheduled waste that is produced on those premises.

3.2.14 person in charge: A person who manages the operation of a pollution control system or the management of scheduled wastes.

3.2.15 producer: Any natural or legal person, established in a state, who manufactures or markets or resells electrical and electronic equipment (EEE) under their own name or trademark; places on the market of that state, on a professional basis, EEE from a third country or from another state; or sells EEE by means of distance communication directly to private households or to users other than private households in a state, and is established in another state or in a third country.

3.2.16 recovery: Any operation for the purpose of retrieval of valuable material or product from scheduled wastes.

Any operation the principal result of which is waste serving a useful purpose by replacing other materials that would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy.

3.2.17 re-use: For EEE or its components, continuation of their use for other purposes than those for which they were conceived beyond the point at which its specifications fail to meet the requirements of the current owner and the owner has ceased use of the product.

3.2.18 scheduled waste (SW): Any waste that possesses hazardous characteristics and has the potential to adversely affect public health and the environment.

NOTE – See Appendix I.

3.2.19 storage: The holding of scheduled waste for a temporary period prior to the waste being transported, treated and disposed of.

3.2.20 treatment: Recovery or disposal operations, including preparation prior to these operations.

3.2.21 used electrical and electronic equipment: Any electrical and electronic equipment that is discarded by the owner as waste with the intention of re-use for the same purpose for which it was conceived beyond the point at which its specifications fail to meet the requirements of the current owner and the owner has ceased use of the product. Products could be donated or traded before or in this phase.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

AC	Alternating Current
BBXX	Baseband Receiver Unit
BS	Base Station
CME	Civil, Mechanical and Electrical
DC	Direct Current
EEE	Electrical and Electronic Equipment
HDG	Hot-Dipped Galvanized
LED	Light-Emitting Diode
LRF	Licensed Recovery Facility
MRF	Material Recovery Facility

PCB	Polychlorinated Biphenyl
PCT	Polychlorinated Triphenyl
RFQ	Request for Quotation
RRU	Remote Radio Unit
SOP	Standard Operating Procedure
SW	Scheduled Waste
WEEE	Waste Electrical and Electronic Equipment

5 Conventions

None.

6 Requirements for scheduled waste management of a base station

6.1 Scheduled waste of a base station

SW or waste electrical and electronic equipment (WEEE) is a complex mixture of materials and components that due to their hazardous content, and if not properly managed, may contribute to major environmental and health problems.

Figure 1 illustrates the application of given scheduled wastes.

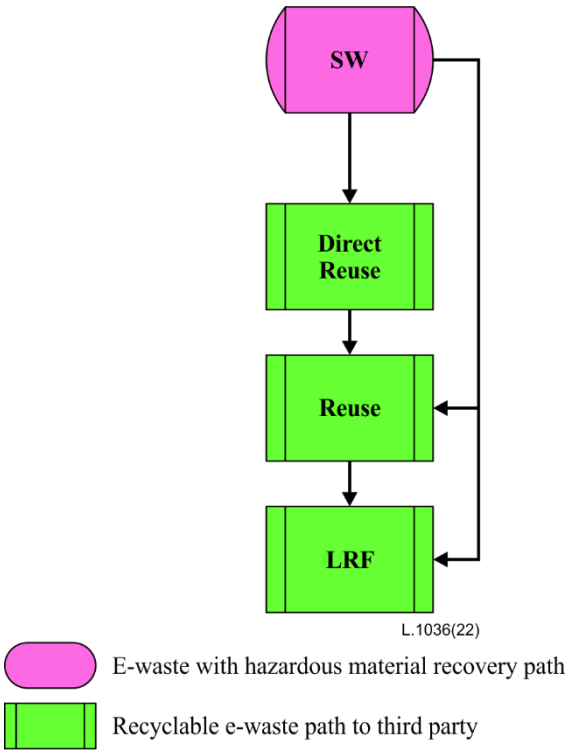


Figure 1 – Process flow for scheduled waste management

The SW generated from BS are categorized under SW 101, SW 102, SW 103, SW 109 and SW 110. Table 1 lists examples of SW and non-SW deployed in a typical BS.

Each competent person shall develop an asset policy relevant to their own SW categories (subject to authority body approval).

Table 1 – Example of scheduled waste and non-scheduled waste

Scheduled waste	List of equipment
SW 101, SW 109 and SW 110	a) circuit boards; b) power amplifiers; c) remote radio units (RRUs); d) antennae; e) power distribution boards; f) switches; g) microwave dishes; h) combiners; i) control units; j) clock modules; k) multiplexers; l) baseband receiver units (BBXXs); m) alarm extension systems and operation and maintenance modules; n) BS cabinets; o) cables (SW); and p) rectifier modules.
SW 101, SW 109 and SW 110	a) alternating current (AC) distribution boxes with switchgear; b) direct current (DC) power supplies; c) diesel generating sets; d) air conditioners; e) fire panels; f) computers; g) fluorescent lamps; h) secure; i) network ports; j) monitoring ports; and k) light-emitting diodes (LEDs).
SW 102 and SW 103	All types of battery including rechargeable and non-chargeable.
Non-SW	a) cables (non-SW); b) structural materials; c) civil, mechanical and electrical (CME) materials including but not limited to: i) hot-dipped galvanized (HDG) cable trays, ii) ladders, iii) poles, iv) booms, v) bolts, vi) nuts, vii) metal safety rods/rails/cages; d) towers; e) poles; and f) shelter cabins.

6.1.1 Appointing a competent person for the prescribed scheduled waste

An owner or occupier of premises shall employ a person who has been certified by the authority body as a competent person to conduct all or any of the following activities:

a) coordination for e-waste management;

b) management of SWs;

c) conduct of studies;

d) user or personnel oversight of dismantling works; or

e) preparation and submission of reports, plans, proposals or other documents relating to environmental matters.

6.1.2 Asset management for scheduled waste in a base station

The requirements for SW management of a BS consists of the processes shown in Figure 2. Each SW asset management shall define the path for each category for their own relevant disposal where it should consist the following phases:

a) generation (L1);

b) transport (L2);

c) collection (L3);
d) binning/storage at the site (L4);
e) dismantling (L5);
f) transfer (L6);
g) off-site storage (L7);
h) reuse (L8);
i) recycling (L9);
j) sanitary landfill (L10);
k) others (L11);
l) hazardous waste treatment (L12);
m) licensed recovery facility (LRF) (L13); or
n) authority body (L14).

Recycling is any recovery operation by which waste materials are reprocessed into products or materials whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for back-filling operations.

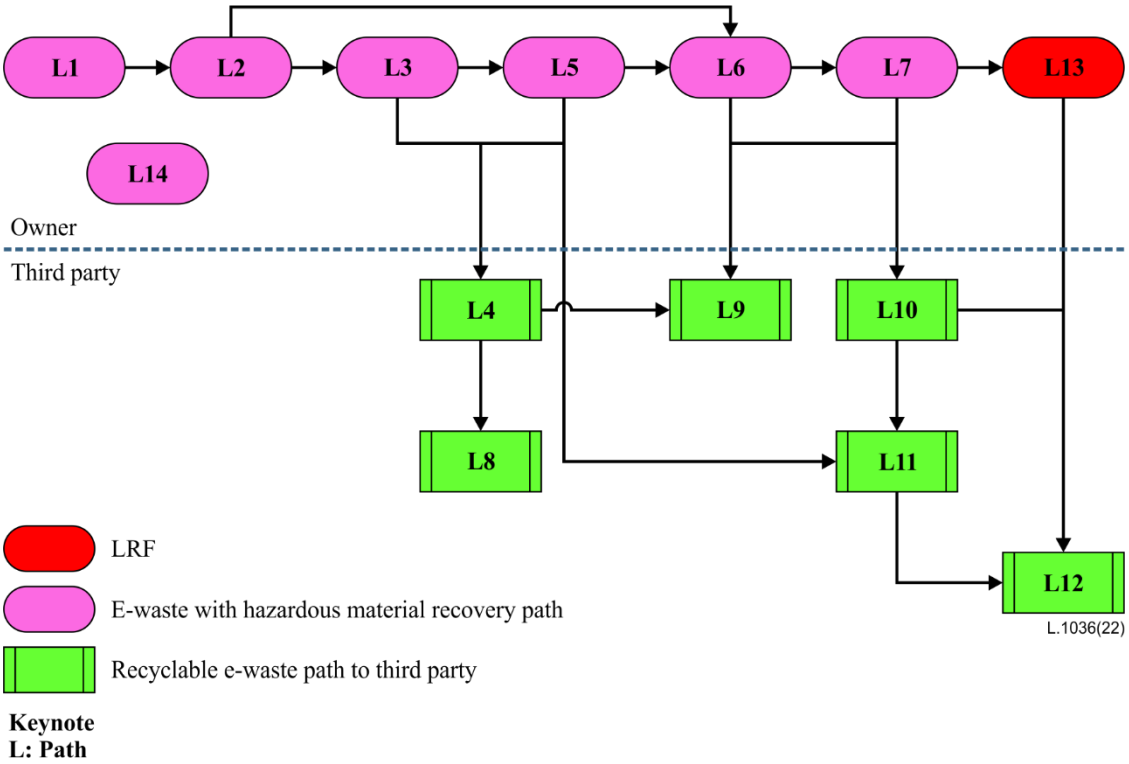


Figure 2 – General scheduled waste management processes

Referring to Figure 2, two examples of a disposal path follow. Example 1 shows the disposal path of e-waste when a third party is involved and Example 2 shows the disposal path of e-waste with hazardous material.

Example 1
For equipment classified under the third party vendor market, the policy specifying the path shall be L1, L2, L3 and L5. The waste generated at L1 is transferred via path L2 to vendor L3. It is segregated for resale.

Example 2

For equipment classified under e-waste with hazardous material recovery requirement, the policy specifying the path shall be L1, L2 and L8. L1 is transferred via path L2 to a recovery facility at L8.

In order to minimize exposure to and checking of contamination, the reporting shall be done through a local authority portal. Licensing controls refer to *local environmental authority guidelines* by the Department of Environment (local environmental authority).

6.1.3 Extended storage period

Every waste generator shall ensure that SWs generated are properly stored, treated on-site, recovered on-site for material or product from such SWs or delivered to and received at prescribed premises for treatment, disposal or recovery of material or product from SW.

Every waste generator shall ensure that SWs that are subjected to movement or transfer are packaged, labelled, and transported in accordance with the guidelines prescribed by authority body. The waste generator(s) shall be clearly indicated their respective responsibility in a typical leasing or renting contract.

Every generator, collection centre, dealer, dismantler, recycler and refurbisher should store the SW for a period not exceeding a specified number of days and shall maintain a record of collection, sale, transfer and storage of wastes, as well as making these records available for inspection. The storage shall not exceed 20 Mt (example only). Current environmental legislation may not be applicable to small tonnage in a typical solid waste condition in the BS, i.e., 10–100 kg per station.

6.1.4 Record keeping

Record keeping is required for 3 years from the date of SW generation or as specified by the local environmental authority.

6.2 Assets management

6.2.1 Asset retirement approval

Every asset equipment to be disposed of shall have complete documentation and approval by an authorized person. An example of the documents necessary includes but is not limited to the following:

a) endorsed asset retirement forms;

b) asset retirement notification approval; and

c) SW material photographs.

For further documentation requirements, see Table 2.

Table 2 – Process of asset management for SW in a base station

Path	Process	Person in charge
L1	Generationr	Generator
L2	Transport	Generator, transporter
L3	Collection	Transporter, receiver
L4	Binning/Storage	Transporter, receiver
L5	Dismantling	Transporter, receiver
L6	Transfer	Generator
L7	Off-site storage	Receiver
L8	Reuse	Receiver
L9	Recycle	Transporter, receiver

Table 2 – Process of asset management for SW in a base station

Path	Process	Person in charge
L10	Sanitary Landfill	Transporter, receiver
L11	Others	Transporter, receiver
L12	Hazardous waste treatment	Transporter, receiver
L13	LRF	Transporter, receiver
L14	Authority body	Generator, transporter, receiver

6.2.2 Storage and warehouse

There are two types of storage:

a) on-site; and

b) off-site.

For more details of legal requirements for storage of SW, refer to clause 5 of [b-Mal 2014].

6.2.3 Selection criteria for storage area

Selection of storage area should take into consideration the following criteria.

a) On-site storage:

   i) a proper designated area in the waste generator premises, away from manufacturing, processing and employee activity areas;

   ii) storage area should be located away from sources of heat or fire;

   iii) the designated area should not be located in areas that have the potential for flooding or close to the edge of hill or slopes.

b) Off-site storage facility:

   i) siting should comply with requirement specified in [b-Mal 2010], by local environmental authority;

   ii) the facility should be within an industrial area;

   iii) the designated facility should not be located in a flood prone area.

For more details of storage design criteria, see clause 5.2 of [b-Mal 2014].

Upon verification, the user shall request asset retirement approval from the Asset Retirement Committee [b-CA 2020]. The user shall identify all approved SW based on the asset retirement notification approval received.

For SW that may cause hazard to the environment, be detrimental to health or impose danger to safety as a result of delay in physical disposal, the user shall proceed with the disposal process prior to asset retirement approval, subject to its internal asset retirement policy and process. Dismantling works shall be performed where necessary by the user prior to the disposal of SW.

6.2.4 Scheduled waste disposal process

The SW disposal process is listed as follows.

a) Upon obtaining asset retirement approval, the user makes a request for quotation (RFQ) for the SW disposal process with its panel material recovery facility (MRF).

b) The user shall coordinate completion of approval for MRF personnel to enter the user premises. A permit to collect SW materials shall be issued to MRF personnel.

c) The user shall monitor the disposal and weighing process with the MRF.

d) Upon completion, the user shall endorse the weighing receipt to formulate the calculation based on the actual and estimated value of SW materials. Complete documentation shall be prepared by the user, which includes but is not limited to items listed in clause 6.1.

e) Submission of complete documentation to the user for verification purposes. Upon verification, the user shall request asset retirement approval from the respective authority.

6.3 Standard operating procedure for scheduled waste management

The standard operating procedure (SOP) for SW management shall include the following items.

a) The method of disposal follows a process that complies with the authority's requirement.

b) All collection and disposal processes for SW shall be done by the LRF, according to clause 6.1.3.

c) Materials at high risk of leakages are given first priority for disposal. All SW shall be weighed using machines operated by the LRF.

d) SW materials shall be carted away from the storage area with proper handling by authorized personnel, packed (if necessary) appropriately for the designated location or storage approved by the authority.

e) An authorized person shall be appointed before the material is disposed of.

f) SW materials shall also be disposed of in an appropriate manner by the waste receiver.

g) The waste receiver shall submit the official endorsed forms, SW materials photo and the letter of agreement or confirmation prior to collection.

h) The receiver is responsible for safeguarding the equipment on their respective premises until the disposal process is complete.

6.4 Basic handling of scheduled waste

The status of each declared asset shall be verified as listed in clause 6. The status shall be specified accordingly but not limited to the reuse (functional, non-functional) and components of SW. Assets are treated based on the work order assigned to the competent person. Lifetime analysis shall be performed.

Steps in the basic handling of SW follow.

a) The generator shall coordinate completion of approval for the transporter to enter the user premises.

b) A permit to collect SW materials shall be issued to the transporter.

c) The generator shall monitor the collection and weighing process with the transporter.

d) The receiver shall monitor at least the SW recovery or recycling process to ensure compliance.

Recycling is any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for back-filling operations.

6.5 Dismantling procedure for a base station

The generator and third party who are responsible for dismantling a BS shall proceed according to the following procedures.

a) The generator shall identify all approved SW based on the asset retirement notification approval received.

b) Dismantling works shall be performed where necessary by a third party who has been appointed by the generator through their respective internal processes and procedures.

c) The generator shall monitor the SW dismantling process to ensure compliance with statutory body procedures.

6.6 Transportation or haulage

The transportation shall comply with *Environmental Implementation Guidelines for Scheduled Waste (Management) Rules* by local environmental authority.

Under specific transport mode that routed to residential area, the procedure shall apply (refer to [b-Mal 1974]).

If specific equipment needs to be heavily lifted, the procedure in Table 2 shall apply.

6.7 Storage

The storage shall be based on the guidelines in [b-Mal 2014],which are as follows:

a) SWs shall be stored in containers that are compatible with its constituent materials, durable and able to prevent spillage or leakage of the content into the environment.

b) Incompatible SWs shall be stored in separate containers, and such containers shall be placed in separate secondary containment areas.

c) Areas for storage of the containers shall be designed, constructed, and maintained adequately in accordance with the guidelines prescribed by the Director General to prevent spillage or leakage of SWs into the environment. SW generated shall be stored for 180 days or less after its generation.

6.8 Selection of recovery facilities

The generator shall be appointed an LRF based on the following conditions.

a) SW materials or products shall be recovered at prescribed premises or at on-site national LRFs.

b) Residuals from SW material or product recovery shall be treated or disposed of at prescribed premises. The consignment note shall be retained as a record for at least 3 years from the date SWs are received by the prescribed premises. The consignment process is described in Appendix II.

c) The appointed vendor shall engage their respective LRF under a renting or leasing contract.

Appendix I

Scheduled waste

(This appendix does not form an integral part of this Recommendation.)

Table I.1 to Table I.5. are examples of types of waste and their code numbers according to a given local environmental authority [b-Mal 1974].

Table I.1 – Metal and metal-bearing wastes (SW 1)

Code	Type of waste
SW 101	Waste containing arsenic or its compound
SW 102	Waste of lead acid batteries in whole or crushed form
SW 103	Waste of batteries containing cadmium and nickel or mercury or lithium
SW 104	Dust, slag, dross or ash containing arsenic, mercury, lead, cadmium, chromium, nickel, copper, vanadium, beryllium, antimony, tellurium, thallium or selenium excluding slag from iron and steel factory
SW 105	Galvanic sludge
SW 106	Residues from recovery of acid pickling liquor
SW 107	Slags from copper processing for further processing or refining containing arsenic, lead, or cadmium
SW 108	Leaching residues from zinc processing in dust and sludge form
SW 109	Waste containing mercury or its compound
SW 110	Waste from electrical and electronic assemblies containing components such as accumulators, mercury switches, glass from cathode-ray tubes and other activated glass or capacitors containing polychlorinated biphenyls (PCBs) or contaminated with cadmium, mercury, lead, nickel, chromium, copper, lithium, silver, manganese or PCBs

Table I.2 – Wastes containing principally inorganic constituents which may contain metals and organic materials (SW 2)

Code	Type of waste
SW 201	Asbestos wastes in sludge, dust, or fibre forms
SW 202	Waste catalysts
SW 203	Immobilized scheduled wastes including chemically fixed, encapsulated, solidified, or stabilized sludge
SW 204	Sludge containing one or several metals including chromium, copper, nickel, zinc, lead, cadmium, aluminium, tin, vanadium and beryllium
SW 205	Waste gypsum arising from chemical industry or power plant
SW 206	Spent inorganic acids
SW 207	Sludge containing fluoride

Table I.3 – Wastes containing principally organic constituents which may contain metals and inorganic materials (SW 3)

Code	Type of waste
SW 301	Spent organic acids with pH less or equal to 2 which are corrosive or hazardous
SW 302	Flux waste containing mixture of organic acids, solvents or compounds of ammonium chloride
SW 303	Adhesive or glue waste containing organic solvents excluding solid polymeric materials
SW 304	Press cake from pre-treatment of glycerol soap lye
SW 305	Spent lubricating oil
SW 306	Spent hydraulic oil
SW 307	Spent mineral oil-water emulsion
SW 308	Oil tanker sludge
SW 309	Oil-water mixture such as ballast water
SW 310	Sludge from mineral oil storage tank
SW 311	Waste of oil or oily sludge
SW 312	Oily residue from automotive workshop, service station oil or grease interceptor
SW 313	Oil contaminated earth from re-refining of used lubricating oil
SW 314	Oil or sludge from oil refinery plant maintenance operation
SW 315	Tar or tarry residues from oil refinery or petrochemical plant
SW 316	Acid sludge
SW 317	Spent organometallic compounds including tetraethyl lead, tetramethyl lead and organotin compounds
SW 318	Waste, substances, and articles containing or contaminated with PCBs or polychlorinated triphenyls (PCTs)
SW 319	Waste of phenols or phenol compounds including chlorophenol in the form of liquids or sludge
SW 320	Waste containing formaldehyde
SW 321	Rubber or latex wastes or sludge containing organic solvents or heavy metals
SW 322	Waste of non-halogenated organic solvents
SW 323	Waste of halogenated organic solvents
SW 324	Waste of halogenated or un-halogenated non-aqueous distillation residues arising from organic solvent recovery processes
SW 325	Uncured resin waste containing organic solvents or heavy metals including epoxy resin and phenolic resin
SW 326	Waste of organic phosphorus compound
SW 327	Waste of thermal fluids (heat transfer) such as ethylene glycol

Table I.4 – Wastes which may contain either inorganic or organic constituents (SW 4)

Code	Type of waste
SW 401	Spent alkalis containing heavy metals
SW 402	Spent alkalis with pH greater than or equal to 11.5 that are corrosive or hazardous
SW 403	Discarded drugs containing substances that are psychotropic, toxic, harmful, carcinogenic, mutagenic or teratogenic
SW 404	Pathogenic wastes, clinical wastes or quarantined materials
SW 405	Waste arising from the preparation and production of pharmaceutical product
SW 406	Clinker, slag, and ashes from a scheduled wastes incinerator
SW 407	Waste containing dioxins or furans
SW 408	Contaminated soil, debris or matter resulting from cleaning-up of a spill of chemical, mineral oil or scheduled wastes
SW 409	Disposed containers, bags or equipment contaminated with chemicals, pesticides, mineral oil or scheduled wastes
SW 410	Rags, plastics, papers or filters contaminated by scheduled wastes
SW 411	Spent activated carbon excluding carbon from the treatment of potable water and processes of the food industry and vitamin production
SW 412	Sludge containing cyanide
SW 413	Spent salt containing cyanide
SW 414	Spent aqueous alkaline solution containing cyanide
SW 415	Spent quenching oils containing cyanides
SW 416	Sludge of inks, paints, pigments, lacquers, dyes or varnishes
SW 417	Waste of inks, paints, pigments, lacquers, dyes or varnishes
SW 418	Discarded or off-specification ink, paint, pigment, lacquer, dye, or varnish products containing organic solvent
SW 419	Spent di-isocyanates and residues of isocyanate compounds excluding solid polymeric material from foam manufacturing process
SW 420	Leachate from scheduled waste landfill
SW 421	A mixture of scheduled wastes
SW 422	A mixture of scheduled and non-scheduled wastes
SW 423	Spent processing solution, discarded photographic chemicals or discarded photographic wastes
SW 424	Spent oxidizing agent
SW 425	Wastes from the production, formulation, trade or use of pesticides, herbicides or biocides
SW 426	Off-specification products from the production, formulation, trade or use of pesticides, herbicides or biocides
SW 427	Mineral sludge including that containing calcium hydroxide, phosphates, calcium sulphite and carbonates
SW 428	Wastes from wood preserving operations using inorganic salts containing copper, chromium or arsenic or fluoride compounds or using compound containing chlorinated phenol or creosote
SW 429	Chemicals that are discarded or off-specification
SW 430	Obsolete laboratory chemicals
SW 431	Waste from manufacturing or processing or use of explosives
SW 432	Waste containing, consisting of, or contaminated with peroxides

Table I.5 – Other wastes (SW 5)

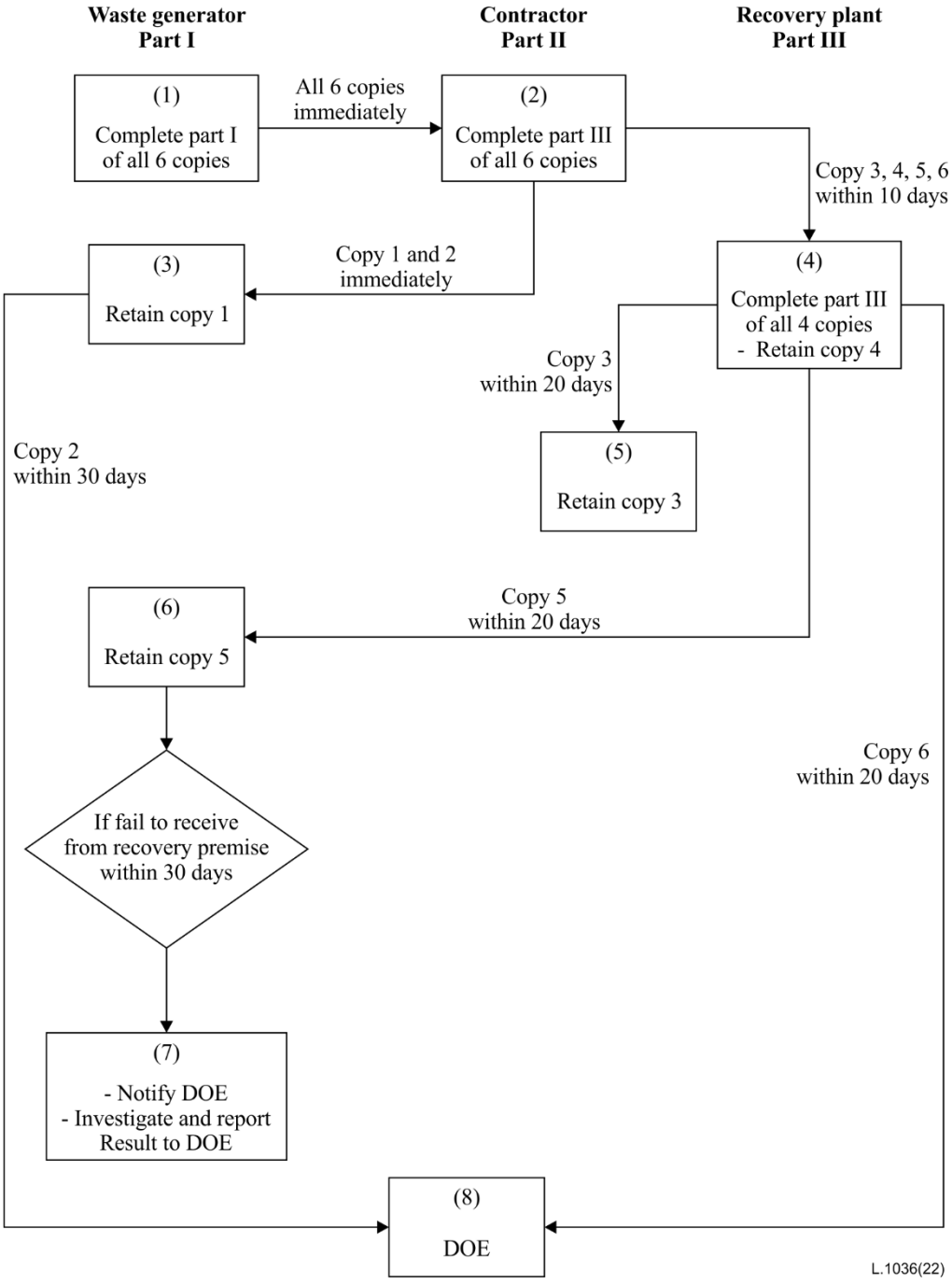
Code	Type of waste
SW 501	Any residues from treatment or recovery of scheduled wastes

Appendix II

Consignment note process

(This appendix does not form an integral part of this Recommendation.)

An example of consignment note process according to a given national regulation [b-Mal 1974].



DOE: Department of the Environment

Figure II.1 – Consignment note process

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