

REPUBLIC OF RWANDA



RWANDA UTILITIES REGULATORY AGENCY

P.O BOX 7289 KIGALI, Tel: +250 252 584562, Fax : +250 252 584563

Email: arms@rwanda1.com

Website: www.rura.gov.rw

DIRECTIVES ON MINIMUM REQUIREMENTS FOR LIQUID WASTES DISPOSAL AND TREATMENT

The Regulatory Board of the Rwanda Utilities Regulatory Agency (RURA) in its meeting of 11/11/2009,

Pursuant to the Law n° 39/2001 of 13 September 2001 establishing the Rwanda Utilities Regulatory Agency (RURA) of certain Public Utilities, in its ARTICLE 1 highlighting its mandate to regulate sanitation services, and based on the responsibilities of a Regulatory Agency of:

1. Ensuring that certain utilities provide goods and services throughout the country to meet in transparency all reasonable demands and needs of all natural persons and organizations;
2. Ensuring that all utility suppliers have adequate means to finance their activities;
3. Continually promoting the interest of users and potential users of the goods and services provided by utilities so that there is effective competition when competition is introduced in each utility sector and protection of users from abuses of monopoly positions is ensured due to the fact that certain Public utility sectors have a monopoly over the market ;
4. Facilitating and encouraging private sector participation in investments in public utilities;
5. Ensuring compliance by public utilities with the laws governing their activities;

Considering the need of having regulatory tools so as to improve the delivery of sanitation services in terms of liquid waste management,

Hereby issues the following Directives:

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CHAPTER ONE: GENERAL PROVISIONS

Article 1: Definitions

- **Combined sewer** : Means a sewer intended to function simultaneously as a storm sewer and a sanitary sewer;
- **Effluent**: A substance that is discharged into water or onto land and that:
 - Injures or is capable of injuring the health or safety of a person
 - Injures or is capable of injuring property or any life form
 - Interferes or is capable of interfering with visibility
 - Interferes or is capable of interfering with the normal conduct of business
 - Causes or is capable of causing material physical discomfort to a person, or
 - Damages or is capable of damaging the environment
- **Environment**: The air, land, water and all other external conditions or influences under which human, animals and plants live or are developed
- **Environment Impact Assessment**: An evaluation which identifies effects that may be caused by human planned activities or a project.
- **Hauled sewage** : Means waste removed from a cesspool, a septic tank system, a privy vault or privy pit, a chemical toilet, a portable toilet, a sewage holding tank or any other sewage system
- **Landfill leach ate** : Means liquid that has percolated through the material buried in a landfill and is collected by an under drain liquid collection system
- **Municipal Liquid Waste**:
 - Effluent which originates from any source and is discharged into a municipal sewer system
 - Effluent from residential sources discharged to the ground
- **Municipality**: A city, town or village incorporated by or under a law, and includes cell, sector, district, that has as an object the disposal of sewage or refuse, or the provision of a system for the disposal of sewage or refuse or both.
- **Person** : Includes an individual, association/cooperative, company, corporation, District, Provincial or national agency, or an agent or employee thereof
- **Pollutant**: Any substance which causes or contributes to, or may cause or contribute to, environmental degradation when discharged into the environment.
- **Pollution**:
 - The presence in the environment of substances or contaminants that substantially alter or impair the usefulness of the environment
 - The contamination caused by waste, harmful biochemical products derived from human activities that may alter human's habitat and cause adverse effects on the environment like human's social well being, animals, flora and fauna and the world he or she lives in.
- **REMA**: Rwanda Environmental Management Authority
- **RURA**: Rwanda Utilities Regulatory Agency

- **Sanitary sewer** : Means a sewer for the collection and transmission of domestic, commercial, institutional and industrial sewage or any combination thereof;
- **Sewage** : Means any liquid waste containing animal, vegetable or mineral matter in solution or in suspension, except uncontaminated water
- **Storm sewer** : Means a sewer for the collection and transmission of uncontaminated water, stormwater, drainage from land or from a watercourse or any combination thereof;
- **Stormwater** : Means water from rainfall or other natural precipitation or from the melting of snow or ice;
- **Sustainable development** : An effective method of using the environment with an aim of exploiting it to support the present and plan for future generations in consideration of conserving biodiversity, play a role in what constitutes biodiversity and equal distribution of benefits derived from their use and the technology applied on them.

Article 2: Objective of these Directives

These Directives determine the modalities of providing good quality of services in handling liquid wastes. These Directives are aimed at:

- Providing guidance in the disposal of liquid wastes
- Setting up fundamental principles related to provision of good services in liquid waste management ie treatment and disposal
- Guarantee to all Rwandans sustainable development by promoting fair competition;
- Setting up strategies of protecting and reducing negative effects on the environment which are caused by bad services in liquid waste handling.

Article 3: The scope of these Directives

These Directives are not applied to hazardous wastes; they are particularly concerned with services provided for the management of:

- Municipal sewage;
- Sludge from septic tank;
- Sludge from wastewater treatment plants/systems;
- Industrial or commercial wastewater discharged to municipal sewers, septic tanks and other sewage disposal systems ;
- Liquid waste from garages and
- Any other effluent specified by a Regulator ie liquid wastes from slaughter houses, liquid waste from the car wash, etc

Article 4: License requirement

As a prerequisite, any person or organization wishing to provide Liquid Waste Management Services shall comply first acquire a license or authorization for the provision of any type of liquid waste management services.

The application shall be in writing addressed to the Director General of RURA.

Article 5: Application for the permit to transport and/or to dispose liquid wastes

An Application for a Permit to Transport and Dispose any type of Liquid waste must be submitted to RURA office and the operations shall be in accordance with the following conditions:

- Liquid sewage collected by a sewage transporter must be disposed off in an approved sewage system subject to conditions required by the owner of the sewage system, including written permission to do so
- Liquid waste shall not be deposited at solid waste disposal grounds unless otherwise approved by a Competent Authority
- Vehicles, tanks or tankers employed to transport hazardous waste shall not be employed to transport liquid domestic waste

Article 6: Requirements for registration

1. The requirements for individual persons or cooperatives:

- Have good willing and capacity as shown in the application letter requesting for authorization
- Show limits of his/her working areas (Umudugudu, Cell, Sector and district)
- Have registered in RURA
- Show the disposal site where will be deposit the waste and show an authorization allowing him/her to deposit in the same disposal site.
- Have a vehicle to transport the wastes collected. The vehicle can be his or hers or rent it from someone else. If it is a rent vehicle, should show the renting contract for at least one year.
- Show where his/her office is located.
- Present a business plan of the project
- For a cooperative, have legal personality

2. Requirements for companies:

- Register to RURA
- Have enough vehicles to transport the liquid wastes.
- Show the limits of its working places (Umudugudu, Cell, Sector and district)
- Show a trade certificate «certificat d'enregistrement au registre de commerce »
- Present a business plan of the project
- Show where the companies' office is located
- Show the disposal site where will be deposit the waste and show authorization allowing him/her to deposit in the same disposal site.

Article 7: Time required for getting an authorization or a permit:

After the submission of all the requirements to RURA, a response shall be available within a period not exceeding 15 days. If exceeded, explanation shall be given.

Article 8: Time of expiration of an authorization

Authorization for waste collection and transportation is expired after one year.

Article 9: Permit fees

The annual authorization fees for any liquid waste service such as collection, transportation, treatment and disposal will be fifty thousand Rwandan francs (50,000Rwf).

CHAPTER TWO: GENERAL OBLIGATIONS

Article 10: Quality of Service

Private institutions, international organizations, NGOs, Companies, Cooperatives and individuals providing services in liquid waste management are obliged to provide good quality services without polluting the environment at all possible levels

Article 11: Obligation of Treatment of Liquid Waste

The treatment of liquid waste is the obligation of all other parties that may perform activities that degrade the environment and those are: Industries, commercial buildings, prisons, hospitals, hotels, schools, population, slaughter houses, garages and etc

The treated wastewater shall comply with effluent standards as illustrated in article 19 and article 20 of these Directives

Article 12: Obligation for Garages

Garages shall provide the treatment system or dispose it elsewhere

Article 13: Disposal of Domestic liquid waste

Domestic Liquid waste is not usually an extreme environmental hazard unless discharged in a manner where it can impact surface water or shallow groundwater. With proper application, domestic liquid waste can be a resource (fertilizer, source of moisture) rather than becoming a pollutant. Domestic liquid waste should be disposed off properly following the appropriate standards for effluent disposal.

Any liquid waste, especially from hospitals, dispensaries and clinics, industries and any other dangerous liquid waste, shall be collected, treated and changed in a manner that does not degrade the environment in order to prevent, eliminate or reduce their adverse effects on human health, natural resources, flora and fauna and on the nature of the environment.

CHAPTER THREE: LIQUID WASTES TRANSPORTERS AND OWNERS OF WASTEWATER TREATMENT SYSTEMS

Article 14: Requirement for transporters of liquid wastes

No person shall carry on the business of transporting of liquid waste without a permit issued by RURA.

The application for transportation of liquid waste shall be addressed to the Director General of RURA.

The application made by legal entities shall be accompanied by the company's bylaws (statute) and the business plan.

Transporters of Liquid waste shall;

- have appropriate vehicles as specified in the article 15 of these Directives
- sign written contracts with each individual customer/household or/and contracts with local authorities.
- respect tariff as agreed with RURA.
- pay to RURA an annual contribution equals to 1% of income as stated in the ministerial law no 4/DC/04 of 07/06/2004
- show the disposal site where to deposit the wastes transported
- comply with any law, regulation and or requirement as may be determined by RURA or any other competent organ.

Article 15: Standards for vehicles and other devices used in liquid waste collection and transportation

Any vehicle or device used in liquid waste collection and transportation including septic waste collection shall comply with the following;

- Liquid wastes shall be contained in controlled area such as a portable tank.
- Containment devices must be of structurally sound and leak free.
- Containment devices must be of sufficient quantity or volume to completely contain the liquid wastes generated.
- Containment areas or devices shall not be located where accidental release of contained liquid can threaten health or safety or discharge to water bodies, channels, or storm drains.

Article 16: Requirements for the owners of wastewater treatment systems

The system of wastewater treatment system shall be operational all the time, and its owner shall have maintenance plan for the plant.

CHAPTER FOUR: SPECIFIC OBLIGATIONS

Article 17: Preventive provision

The following are prohibited:

- Dumping or disposal of any liquid waste substances in a stream, river, lake and in their surroundings;
- Damaging the quality of the underground water;
- To dump wastewater in wetlands, except after treatment in accordance with standards and regulations that govern it;
- No one is permitted to dispose liquid waste in an unapproved place, except where it is destroyed from or in a treatment plant and after being approved by competent authorities.

Article 18: Discharge of domestic and industrial liquid waste to sanitary sewers

No person shall discharge or deposit or cause or permit the discharge or deposit of matter of a kind listed below into or in land drainage works, private branch drains or connections to any sanitary sewer or combined sewer:

Without limiting the generality of the foregoing, any of the following:

- Solid or viscous substances in quantities or of such size as to be capable of causing obstruction to the flow in a sewer, including but not limited to ashes, bones, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, ungrounded garbage, animal guts or tissues, paunch manure, and whole blood.
- Sewage that may cause an offensive odour to emanate from a sewage works, and without limiting the generality of the foregoing, sewage containing hydrogen sulphide, carbon disulphide, other reduced sulphur compounds, amines or ammonia in such quantity that may cause an offensive odour.
- Water other than storm water that has originated from a source separate from the water distribution system of the municipality.
- Sewage or uncontaminated water at a temperature greater than 65 degrees Celsius.
- Sewage containing dyes or colouring materials which pass through sewage works and discolour the sewage works effluent.
- The following materials or sewage containing any of the following in any amount : Fuels, Ignitable Waste, Pesticides

Article 19: Tolerance limits of discharged domestic wastewater

These tolerance limits are applied to the Physical, chemical and microbiological domestic wastewater discharged from households, business buildings, institutions etc.

Parameter	Limits
TDS mg/l	≤1500
TSS mg/l	≤50
pH	5.0-9.0
Total Nitrogen mg/l	≤30
Nitrite mg/l	≤2
Ammonium mg/l	≤5
Total phosphorus	≤5
Temperature variation of treated water compare to ambient temperature of water °C	≤3
BOD ₅ mg/l	≤50
COD mg/l	≤400
Coli forms number/100ml	≤400
Oil and grease mg/l	≤10
Chlorine mg/l	≤2
Sulfate mg/l	≤500
Color TCU	50
Turbidity NTU	30

Source: WHO (2006): Guidelines for wastewater reuse

Article 20: Tolerance limits of discharged industrial wastewater

These limits are applied to the physical, chemical and microbiological wastewater that results from industrial processes and manufacturing.

- Physical and microbiological requirements

Determinants	Units	Upper limit and ranges
Temperature increase	°C	3 (variation)
pH		6.0-9.0
Dissolved Oxygen (min.)	% sat.	60
BOD ₅ (max.)	mg/l à 20°C	50
COD (max)	mg/l	250
Oil and grease	Mg/l	10
Colour	TCU	50
Turbidity	NTU	30
Total dissolved solids (TDS)	mg/l	2000
Total suspended solids(TSS)	mg/l	50
Faecal coliform	Counts/100ml	1000
Coliforms	Number/100ml	400

Source: WHO/UNEP Environmental Program: Technical Report, 1998

- Chemical Requirements - Macro determinants

Determinants in mg/l	Upper limit and ranges
Free and saline ammonia (as N)	50
Ortho phosphate (as P) or soluble phosphate	1.5
Phenol	2.0
Calcium as Ca	500
Chloride as Cl	600
Chlorine residual	1
Fluoride as F	1.5
Potassium as K	100
Sodium as Na	400
Sulphate as SO ₄	400
Sulphide	1.0
Zinc as Zn	5.0

Source: EPA Manual: Wastewater Treatment/ Disposal for small communities, September 1992

- Chemical requirements: Micro-determinants

Determinants in mg/l, unless otherwise stated	Upper limit and ranges
Arsenic as A	0.01
Benzine mg/l	0.00
Boron as B	0.5
Cadmium as Cd	0.01
Chromium total (Cr)	0.05
Chromium as Cr (total)	0.5
Cobalt as Co	1
Copper as Cu	3
Cyanide as CN	0.1

Iron as Fe	3.5
Lead as Pb	0.1
Manganese as Mn	0.1
Mercury as Hg (total)	0.002
Nickel as Ni	2
Selenium as Se	0.02

Source: Source: EPA Manual: Wastewater Treatment/ Disposal for small communities, September 1992

Article 21: Compliance Test

The industries, the population and all other parties ie commercial buildings, prisons, hospitals, hotels, schools, slaughter houses, garages that may perform activities that degrade the environment/ discharge wastewater to sanitary sewers should perform test in compliance with the above standards twice a year and give report to a competent authority (RURA). The tests are to be done in competent/recognized laboratory.

Remark: Additional tests can be done in case of complaints

Article 22: Compliance programs for owner and operator of industrial premises

The owner or operator of industrial premises may submit to RURA a program to prevent or to reduce and control the discharge or deposit of sewage into or in land drainage works, private branch drains or connections to any sanitary sewer or combined sewer from premises.

The industries, the population and all other parties ie commercial buildings, prisons, hospitals, hotels, schools, slaughter houses, garages and etc that may perform activities that degrade the environment and pollute human's life due to poor liquid waste services, are requested to have a program to prevent and or to reduce and control the discharge of sewage into or in land drainage works, private branch drains or connections to any sanitary sewer or combined sewer from their premises.

The competent Authority in charge of environmental conservation (REMA) may issue an approval for a compliance program to the person who submitted the program.

CHAPTER FIVE: INSPECTIONS AND PENALTIES

Article 23 Inspections

The owner or operator with one or more connections to a sewage works shall install and maintain in good repair in each connection a suitable manhole to allow observation and sampling of the sewage and measurement of the flow of sewage therein, provided that where installation of a manhole is not possible, an alternative device or facility may be substituted.

Article 24: Penalties

1. Discharge of liquid waste that may have harmful effects on the environment (not in compliance with effluent disposal standards) is punished by one of the following:
 - Suspension of his or her activities from 3 to 6 months and / or to pay a fine ranging from one million (1,000,000) to ten million (10,000,000) Rwandan francs.
 - Closure of his or her business
2. Anyone who transports, dumps or treats without authorization, any liquid waste that is subject to prior authorization provided for by these Directives is punished by a fine ranging from five hundred thousand Rwandan francs (500,000) to two millions (2,000,000) Rwandan francs.
3. Anyone who pollutes inland water masses by dumping, spilling or depositing chemicals of any nature that may cause or increase water pollution is punished by a fine ranging from two million (2,000,000) to five million (5,000,000) Rwandan francs.
4. Any person who deposits, pours sewage in an unapproved place, is punished by a fine ranging from fifty thousand (50,000) to five hundred thousand (500,000) Rwandan francs.

CHAPTER SIX: FINAL PROVISIONS

Article 25: Repealing Provision

All previous provisions contrary to this order are hereby repealed.

Article 23: Coming into force

This decision shall come into force on the date of its signature.

Kigali, on 11/11/2009

Signed

MUKASINE Marie-Claire
Chairperson