THE REPUBLIC OF KENYA

LAWS OF KENYA

THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION (WATER QUALITY) REGULATIONS

NO. 120 OF 2006

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Environmental Management and Co-ordination Act

The Environmental Management and Co-ordination (Water Quality) Regulations

Legal Notice 120 of 2006

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The Environmental Management and Co-ordination (Water Quality) Regulations (Legal Notice 120 of 2006)

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ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT

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LEGAL NOTICE 120 OF 2006

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Part I – PRELIMINARY

1. Citation

These Regulations may be cited as Environmental Management and Co-ordination (Water Quality) Regulations.

2. Application

These Regulations shall apply to drinking water, water used for industrial purposes, water used for agricultural purposes, water used for recreational purposes, water used for fisheries and wildlife, and water used for any other purposes.

3. Interpretation

In these Regulations, unless the context otherwise requires—

"Act" means the Environmental Management and Co-ordination Act (Cap. 387);

"Authority" means the National Environment Management Authority established under section 7 of the Act;

"buffer zone" means distinct or established areas that separate potentially antagonistic entries between competing users that serve to lessen the danger of potential conflicts;

"Cabinet Secretary" means the Cabinet Secretary for the time being responsible for matters relating to environment;

"environmental management plan" means the plan referred to under section 42(3) of the Act;

"designated representative" means any person authorized by the Authority to act on its behalf;

"ground water" means the water of underground streams, channels, artesian basins, reservoirs, lakes and other bodies of water in the ground, and includes water in interstices below the water table;

"natural water body" means any river, stream, spring, lake, swamp, pond or other water source flowing in a natural water course;

"pH" means the negative base 10 logarithm of the hydrogen ion concentration;

"point sources" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, conduit, tunnel, well, discrete fissure, container, rolling stock, concentrated animal feeding operation or vessel or other floating craft from which pollutants are or may be discharged;

"resource quality" in relation to a water resource, means the quality of all the aspects of a water resource including—

(a) the character and condition of the in-stream and riparian habitat;

(b) the characteristics, condition and distribution of the aquatic biota;

(c) the physical, chemical and biological characteristics of the water;

(d) the quantity, pattern, timing, water level and assurance of in-stream flow; and

(e) the water quality stipulated for the reserves.

Part II – PROTECTION OF SOURCES OF WATER FOR DOMESTIC USE

4. Prevention of water pollution

(1) Every person shall refrain from any act which directly or indirectly causes, or may cause immediate or subsequent water pollution, and it shall be immaterial whether or not the water resource was polluted before the enactment of these Regulations.

(2) No person shall throw or cause to flow into or near a water resource any liquid, solid or gaseous substance or deposit any such substance in or near it, as to cause pollution.

5. Standards for sources of domestic water

All sources of water for domestic uses shall comply with the standards set out in the First Schedule to these Regulations.

6. Protection of lakes, rivers, streams, springs, wells and other water sources

No person shall—

(a) discharge, any effluent from sewage treatment works industry or other point sources without a valid effluent discharge licence issued in accordance with the provisions of the Act;

(b) abstract ground water or carry out any activity near any lakes, rivers, streams, springs and wells that is likely to have any adverse impact on the quantity and quality of the water, without an environmental impact assessment licence issued in accordance with the provisions of the Act; or

(c) cultivate or undertake any development activity within full width of a river or stream to a minimum of six metres and a maximum of thirty metres on either side based on the highest recorded flood level.

7. Bans, restrictions, etc., on use of water sources

The Authority in consultation with the relevant lead agency may impose bans and restrictions and other measures on the use of sources of water for domestic use in order to prevent and control their degradation.

8. Compliance with water quality standards

All operators and suppliers of treated water, containerized water and all water vendors shall comply with the relevant quality standards in force as may be prescribed by the relevant lead agencies.

9. Water quality monitoring

The Authority in consultation with the relevant lead agency, shall maintain water quality monitoring for sources of domestic water at least twice every calendar year and such monitoring records shall be in the prescribed form as set out in the Second Schedule to these Regulations.

Part III – WATER FOR INDUSTRIAL USE AND EFFLUENT DISCHARGE

10. Compliance with industrial standards

(1) No person shall use water for trade or industrial undertaking unless such person complies with the standards established by the competent lead agency in regard to that particular activity.

(2) The Authority in consultation with the relevant lead agencies shall ensure compliance with the said standards.

11. Discharge into aquatic environment

No person shall discharge or apply any poison, toxic, noxious or obstructing matter, radioactive waste or other pollutants or permit any person to dump or discharge such matter into the aquatic environment unless such discharge, poison, toxic, noxious or obstructing matter, radioactive waste or pollutant complies with the standards set out in the Third Schedule to these Regulations.

12. Discharge into the environment

(1) Every local authority or person operating a sewage system or owner or operator of any trade or industrial undertaking issued with an effluent discharge license as stipulated under the Act shall comply with the standards set out in the Fourth Schedule to these Regulations.

(2) Every local authority or person operating a sewage system or owner or operator of any trade or industrial undertaking shall be guided by the monitoring guide for discharge into the environment as set out in the Third Schedule to these Regulations or as the Authority may prescribe.

13. Discharge into public sewers

Every owner or operator of a trade or industrial undertaking issued with a licence by a local authority or sewerage systems shall comply with the standards set out in the Fifth Schedule to these Regulations.

14. Discharge monitoring

(1) Every person who generates and discharges effluent into the environment under a licence issued under the Act shall carry out daily effluent discharge quality and quantity monitoring and shall submit quarterly records of such monitoring to the Authority or its designated representative.

(2) Such discharge monitoring record shall be in the prescribed form set out in the Sixth Schedule to these Regulations.

15. Review of records

The Authority shall review all monitoring records in order to verify compliance with these Regulations.

16. Application for effluent discharge licence

(1) An application for an effluent discharge licence under the Act shall be in Form A in the Seventh Schedule and accompanied by the prescribed fee as set out in the Eleventh Schedule to these Regulations.

(2) The decision of the Authority together with the reasons thereof shall be communicated to the applicant within thirty days from the date of submission of the application.

(3) Where the Authority approves an application for the grant of an effluent discharge licence, it shall issue an effluent discharge licence within twenty-one days of such approval.

17. Effluent discharge licence

(1) An effluent discharge licence issued under the Act shall be in Form B set out in the Seventh Schedule to these Regulations and shall be valid for one year from the date of issue.

(2) The Authority shall maintain a register for effluent discharge licences as prescribed in Form C in the Seventh Schedule.

18. Licence not transferable

An effluent discharge licence issued under the Act shall not be transferable.

Part IV – WATER FOR AGRICULTURAL USE

19. Use of wastewater for irrigation

No person shall be permitted to use wastewater for irrigation purposes unless such water complies with the quality guidelines set out in the Eight Schedule to these Regulations.

20. Abstraction from a water body under environmental management plan

Where the Cabinet Secretary, in exercise of his powers conferred under section 42(3) has issued an order for the management of a natural water body, no person shall abstract water from such body for irrigational purposes unless such water meets the standards set out in the Ninth Schedule to these Regulations.

21. Creation of buffer zone for irrigation scheme

Any owner or operator of an irrigation scheme shall create a buffer zone of at least fifty metres in width between the irrigation scheme and the natural water body into which such irrigation scheme discharges its waters.

22. Transitional provisions

All owners or operators of existing irrigation schemes shall within ninety days upon the coming into force of these Regulations take necessary steps to comply with these Regulations.

23. Compliance with regulations

The Authority in consultation with the relevant lead agency shall take all necessary measures to ensure compliance with these Regulations.

Part V – WATER FOR ANY OTHER USES

24. Water pollution prohibition

No person shall discharge or apply any poison, toxic, noxious or obstructing matter, radioactive wastes, or other pollutants or permit any person to dump or discharge any such matter into water meant for fisheries, wildlife, recreational purposes or any other uses.

25. Recreational uses

No person shall use or allow to be used any natural water body for recreational purposes unless the water body meets the quality standards for recreational standards as set out in Tenth Schedule to these Regulations.

Part VI – MISCELLANEOUS PROVISIONS

26. Inventory of water bodies

Within three years from the date of commencement of these Regulations, the Authority shall prepare and maintain an inventory of all natural water bodies and take measures including the development of environmental management plans, to prevent and control degradation of such sources.

27. Offences

(1) Any person who contravenes any of these Regulations commits an offence and shall be liable to a fine not exceeding five hundred thousand shillings.

(2) In addition to the above, the court may give such other orders as are provided for under the Act.

28. Fees

All applications and licences shall be accompanied by the prescribed fees as set out in the Eleventh Schedule to these Regulations.

FIRST SCHEDULE [r. 5]

QUALITY STANDARDS FOR SOURCES OF DOMESTIC WATER

Parameter	**Guide Value (maximum allowable)**
pH	6.5–8.5
Suspended solids	30 (mg/L)
Nitrate – NO_3	10 (mg/L)
Ammonia – NH_3	0.5 (mg/L)
Nitrite – NO_2	3 (mg/L)
Total dissolved solids	1200 (mg/L
E.coli	Nil/100 ml
Fluoride	1.5 (mg/L)
Phenols	Nil (mg/L)
Arsenic	0.01 (mg/L)
Cadmium	0.01 (mg/L)
Lead	0.05 (mg/L)
Selenium	0.01 (mg/L)
Copper	0.05 (mg/L)
Zinc	1.5 (mg/L)
Alkyl benzyl sulphonates	0.5 (mg/L)
Permanganate value (PV)	1.0 (mg/L)

SECOND SCHEDULE [r. 9]

WATER QUALITY MONITORING FOR SOURCES OF DOMESTIC WATER

Name of water source .....

Sample Number .....

Description of sample (untreated) .....

Date and time sample received in laboratory .....

Date and time sample was examined .....

Parameter		**RESULTS**
	Observed value	Guide value (maximum allowable)
pH		6.5-8.5
Suspended solids		30 (mg/L)
Nitrate-NO_3		10 (mg/L)
Ammonia —NH_3		0.5 (mg/L)
Nitrite —NO_2		3 (mg/L)
Total Dissolved Solids		1200 (mg/L)
E.coli		Nil/100 ml
Fluoride		1.5 (mg/L)
Phenols		Nil (mg/L)
Arsenic		0.01 (mg/L)
Cadmium		0.01 (mg/L)
Lead		0.05 (mg/L)
Selenium		0.01 (mg/L)
Copper		0.05 (mg/L)

Parameter		RESULTS
Zinc		1.5 (mg/L)
Alkyl benzyl sulphonates		0.5 (mg/L)
Permanganate value		1.0 (mg/L)

Remarks.....

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THIRD SCHEDULE [rr. 11, 12]

STANDARDS FOR EFFLUENT DISCHARGE INTO THE ENVIRONMENT

Parameter	Maximum Allowable(Limits)
1,1,1-trichloroethane (m/1)	3
1,1,2-trichloethane (mg/1)	0.06
1,1-dichloroethylene	0.2
1,2-dichloroethane	0.04
1,3-dichloropropene (mg/1)	0.02
Alkyl Mercury compounds	Nd
Ammonia, ammonium compounds, NO_3 compounds and NO_2 compounds (Sum total of ammonia-N times 4 plus nitrate-N and Nitrite-N) (mg/1)	100
Arsenic (mg/1)	0.02
Arsenic and its compounds (mg/1)	0.1

Parameter	Maximum Allowable(Limits)
Benzene (mg/I)	0.1
Biochemical Oxygen Demand (BOD 5 days at 20°C) (mg/1)	30
Boron (mg/1)	1.0
Boron and its compounds — non marine (mg/1)	10
Boron and its compounds —marine (mg/1)	30
Cadmium (mg/1)	0.01
Cadmium and its compounds (mg/1)	0.1
Carbon tetrachloride	0.02
Chemical Oxygen Demand (COD (mg/1)	50
Chromium VI (mg/1)	0.05
Chloride (mg/1)	250
Chlorine free residue	0.10
Chromium total	2
cis —1,2- dichloro ethylene	0.4
Copper (mg/1)	1.0
Dichloromethane (mg/1)	0.2
Dissolved iron (mg/1)	10
Dissolved Manganese (mg/1)	10
E.coli (Counts / 100 ml)	Nil
Fluoride (mg/1)	1.5

Parameter	Maximum Allowable(Limits)
Fluoride and its compounds (marine and non-marine) (mg/1)	8
Lead (mg/1)	0.01
Lead and its compounds (mg/1)	0.1
n-Hexane extracts (animal and vegetable fats) (mg/1)	30
n-Hexane extracts (mineral oil) (mg/1)	5
Oil and grease	Nil
Organo-Phosphorus compounds (parathion,methyl parathion,methyl demeton and Ethyl parantrophenyl phenylphosphorothroate, EPN only) (mg/1)	1.0
Polychlorinated biphenyls, PCBs (mg/1)	0.003
pH (Hydrogen ion activity----marine)	5.0-9.0
pH (Hydrogen ion activity--non marine)	6.5-8.5
Phenols (mg/1)	0.001
Selenium (mg/1)	0.01
Selenium and its compounds (mg/1)	0.1
Hexavalent Chromium VI compounds (mg/1)	0.5
Sulphide (mg/1)	0.1
Simazine (mg/1)	0.03
Total Suspended Solids, (mg/1)	30
Tetrachloroethylene (mg/1)	0.1
Thiobencarb (mg/1)	0.1

Parameter	Maximum Allowable(Limits)
Temperature (in degrees celious) based on ambient temperature	± 3
Thiram (mg/1)	0.06
Total coliforms (counts /100 ml)	30
Total Cyanogen (mg/1)	Nd
Total Nickel (mg/1)	0.3
Total Dissolved solids (mg/1)	1200
Colour in Hazen Units (H.U)	15
Detergents (mg/1)	Nil
Total mercury (mg/1)	0.005
Trichloroethylene (mg/1)	0.3
Zinc (mg/1)	0.5
Whole effluent toxicity	
Total Phosphorus (mg/1)	2 Guideline value
Total Nitrogen	2 Guideline value

Remarks

Standard values are daily/monthly average discharge values. Not detectable (nd) means that the pollution status is below the detectable level by the measurement methods established by the Authority.

FOURTH SCHEDULE [r. 12]

MONITORING GUIDE FOR DISCHARGE INTO THE ENVIRONMENT DISCHARGING FACILITY

DISCHARGING FACILITY	Gas and Oil	Dairy Products	Grain Mills	Canned Fruits & Vegetables	Canned & Preserved Sea Foods	Sugar Processing	Textiles	Cement	Feedlots	Electroplating	Organic Chemicals	Inorganic Chemicals	Plastics & Synthetics	Soap & Detergents	Fertiliser Manufacturing	Petroleum Refining	Iron & Steel Manufacturing	Non-ferrous	Phosphate Manufacturing	Steam Electric Power Generating
Water quality parameters																				
Biochemical Oxygen Demand, BOD	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x				
Total Suspended Solids	x	x		x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x
pH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Faecal Coliforms	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Oil & Grease	x				x		x				x			x		x	x	x	x	x
Temperature	x	x	x	x	x	x	x	x	x		x	x	x	x		x	x	x	x	x
Chemical Oxygen Demand, COD						x	x				x	x	x	x		x		x		
Colour/Dye/ Pigment	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Elemental Phosphorus																			x	
Total Phosphorus						x				x					x				x	x
Ammonia (as N)												x			x	x	x	x		
Organic Nitrogen as N						x									x					
Nitrate						x									x		x			
Flow	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Phenols							x				x		x			x	x			

DISCHARGING FACILITY	Gas and Oil	Dairy Products	Grain Mills	Canned Fruits & Vegetables	Canned & Preserved Sea Foods	Sugar Processing	Textiles	Cement	Feedlots	Electroplating	Organic Chemicals	Inorganic Chemicals	Plastics & Synthetics	Soap & Detergents	Fertiliser Manufacturing	Petroleum Refining	Iron & Steel Manufacturing	Non-ferrous	Phosphate Manufacturing	Steam Electric Power Generating
Sulphide							x									x	x			
Total Chromium							x			x		x				x				
Chromium VI										x		x				x				x
Chrome																				
Copper										x		x	x							x
Nickel										x		x								
Zinc										x			x				x			x
Zinc												x								
Cn total										x		x								
Cyanide										x		x								
Fluorine										x		x	x					x	x	
Free Available Chlorine																				
Residual Chlorine	x																			x
Cadmium										x		x					x			
Lead										x		x					x	x		
Iron										x										
Tin										x		x								x
Silver										x										
Gold										x										
Iridium										x										
Palladium										x										
Rhodium										x										
Ruthenium										x										
Mercury												x								

DISCHARGING FACILITY	Gas and Oil	Dairy Products	Grain Mills	Canned Fruits & Vegetables	Canned & Preserved Sea Foods	Sugar Processing	Textiles	Cement	Feedlots	Electroplating	Organic Chemicals	Inorganic Chemicals	Plastics & Synthetics	Soap & Detergents	Fertiliser Manufacturing	Petroleum Refining	Iron & Steel Manufacturing	Non-ferrous	Phosphate Manufacturing	Steam Electric Power Generating
Total Organic Carbon												x					x			
Aluminium												x					x			
Arsenic												x					x		x	
Selenium												x								
Barium																				
Manganese																	x			
Tannin																				
Oil																				
Settleable Solids																				
Surfactants																				

X- Means parameters to be monitored

DISCHARGING FACILITY	Fero Alloy manufacturing	Leather tanning and finishing	Glass	Asbestos manufacturing	Rubber processing	Timber products	Pulp, Paper and paperboard	Builders paper and paperboard mills	Meat products	Paving and roofing materials	Intensive chemical agriculture farm	Edible vegetable oils and fats	Hotels, Restaurants and Game Lodges
Water quality parameters													
BOD		x	x		x	x	x	x	x	x		x	x
TSS	x	x	x	x	x	x	x	x	x	x			x
pH	x	x	x	x	x	x	x	x	x	x	x	x	x
Faecal Coliforms	x	x	x	x	x	x	x	x	x	x	x	x	x
Oil & Grease		x			x	x	x	x	x	x		x	x
Temparature	x	x	x	x	x	x	x	x	x	x		x	x

DISCHARGING FACILITY	Fero Alloy manufacturing	Leather tanning and finishing	Glass	Asbestos manufacturing	Rubber processing	Timber products	Pulp, Paper and paperboard	Builders paper and paperboard mills	Meat products	Paving and roofing materials	Intensive chemical agriculture farm	Edible vegetable oils and fats	Hotels, Restaurants and Game Lodges
COD			x	x	x							x	
Colour/Dye/ pigment	x	x	x	x	x	x	x	x	x	x	x	x	x
Elemental Phosphorus							x				x		
Total Phosphorus			x								x		x
Ammonia (as N)	x		x						x		x		x
Organic Nitrogen as N											x		x
Nitrate													
Flow	x	x	x	x	x	x	x	x	x	x	x	x	x
Phenols	x		x			x							
Sulphide													
Total Chromium	x	x			x								
Chromium VI	x												
Chrome		x											
Copper													
Nickel													
Zinc					x								
Zinc													
Cyanide total	x												
Cn													
Fluorine			x		x								
Free available Chlorine							x	x					
Residual Chlorine													
Cadmium													
Lead													
Iron			x										

DISCHARGING FACILITY	Fero Alloy manufacturing	Leather tanning and finishing	Glass	Asbestos manufacturing	Rubber processing	Timber products	Pulp, Paper and paperboard	Builders paper and paperboard mills	Meat products	Paving and roofing materials	Intensive chemical agriculture farm	Edible vegetable oils and fats	Hotels, Restaurants and Game Lodges
Tin													
Silver													
Gold													
Iridium													
Palladium													
Rhodium													
Ruthenium													
Mercury (total)													
Total organic Carbon													
Aluminium													
Arsenic													
Selenium													
Barium													
Manganese	x												
Tannin		x											
Oil		x											
Settleable Solids								x					
Surfactants											x	x	

X- Means parameters to be monitored

DISCHARGING FACILITY	Bakeries and wheat confectioneries	Breweries (malt)	Soft drinks and carbonated waters	Sugar confectionery	Tobacco processing	Distilling and blending of spirits	Motor vehicle assembly	Paints, varnishes and laquers	Batteries manufacture	Cosmetics	Printing, publishing and allied industry	Domestic sewage system	Pharmaceutical industries	Tea/Coffee Industries	Slaughter Houses	Combined sewage (Domestic + and Industrial effluent)
Water quality																
BOD	x	x	x	x	x	x	x	x			x	x	x	x	x	x
TSS	x	x	x	x				x	x			x	x	x	x	x
pH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Faecal Coliforms/ *Ecoll.*	x	x	x	x	x	x	x	x	x	x					x	x
Oil & Grease					x		x	x			x	x			x	x
Temperature	x	x	x	x	x	x	x	x	x	x	x				x	
COD		x	x	x		x	x	x	x	x	x	x	x	x	x	x
Colour/ Dye/ Pigment	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Elemental Phosphorus																
Total Phos phorus				x								x			x	x
Ammonia (as N)								x				x			x	x
Organic Nitrogen as N				x										x	x	x
Nitrate																
Flow	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Phenols																x
Sulphide/ Sulphur				x							x					x
Total Chromium								x								x
Chromium VI																x
Chrome																x

DISCHARGING FACILITY	Bakeries and wheat confectioneries	Breweries (malt)	Soft drinks and carbonated waters	Sugar confectionery	Tobacco processing	Distilling and blending of spirits	Motor vehicle assembly	Paints, varnishes and laquers	Batteries manufacture	Cosmetics	Printing, publishing and allied industry	Domestic sewage system	Pharmaceutical industries	Tea/Coffee Industries	Slaughter Houses	Combined sewage (Domestic + and Industrial effluent)
Copper												x		x		x
Nickel													x			x
Zinc								x	x				x	x		x
Zinc A																
Cn total																x
Cn A																
Fluorine																x
Free Available Chlorine									x		x	x				x
Cadmium													x			x
Lead							x	x	x		x		x			x
Iron							x	x	x		x					x
Tin																x
Silver																x
Gold							x				x					x
Iridium																x
Palladium																x
Rhodium																x
Ruthenium																x
Mercury							x			x	x					x
Total organic Carbon, TOC																
Aluminium																x
Arsenic																x
Selenium																x
Barium																x
Mangan ese																x
Tannin																x
Oil										x						x
Settleable Solids							x				x					
Surfact ants								x						x		x

X- Means parameters to be monitored

FIFTH SCHEDULE [r. 13]

STANDARDS FOR EFFLUENT DISCHARGE INTO PUBLIC SEWERS

Parameter	**Maximum levels permissible**
Suspended solids (mg/L)	250
Total dissolved solids (mg/L)	2000
Temperature °C	20 - 35
pH	6-9
Oil and Grease (mg/L) - where conventional treatment shall be used	10
Oil and Grease (mg/L)- where ponds is a final treatment method	5
Ammonia Nitrogen (mg/L)	20
Substances with an obnoxious smell	Shall not be discharged into the sewers
Biological Oxygen Demand BOD_5 days at 20 "C (mg/L)	500
Chemical Oxygen Demand COD (mg/L)	1000
Arsenic (mg/L)	0.02
Mercury (mg/L)	0.05
Lead (mg/L)	1.0
Cadmium (mg/L)	0.5
Chromium VI (mg/L)	0.05
Chromium (Total) (mg/L)	2.0
Copper (mg/L)	1.0

Zinc (mg/L)	5.0
Selenium (mg/L)	0.2
Nickel (mg/L)	3.0
Nitrates (mg/L)	20
Phosphates (mg/L)	30
Cyanide Total (mg/L)	2
Sulphide (mg/L)	2
Phenols (mg/L)	10
Detergents (mg/L)	15
Colour	Less than 40 Hazen units
Alkyl Mercury	Not Detectable (nd)
Free and saline Ammonia as N (mg/L)	4.0
Calcium Carbide	Nil
Chloroform	Nil
Inflammable solvents	Nil
Radioactive residues	Nil
Degreasing solvents of mono-di-trichloroethylene type	Nil

and any other parameter as the Authority and the sewage services provider may prescribe

SIXTH SCHEDULE [r. 14]

MONITORING FOR DISCHARGE OF TREATED EFFLUENT INTO THE ENVIRONMENT

Lead Agency: .....

Name of organisation: .....

Nature of work: .....

Sample number: .....

Description of sample: .....

Date and time sample received in laboratory: .....

Date and time sample was examined: .....

Average Daily Flow Rate (m_3/day)

Parameter	**RESULTS**				
	Sample upstream	**Sample at discharge point**	**Sample downstream**	**Guide value**	**Remark**
pH				6.5–8.5	
Biological Oxygen Demand (5 days at 20 °C)				30 (mg/L) max	
Chemical Oxygen Demand				50 (mg/L) max	
Suspended solids				30 (mg/L) max	
Ammonia – NH_4 + Nitrate – NO_3 + Nitrite – NO_2				100 (mg/L) max	
Total Dissolved Solids				1200 (mg/L) max	
E.Coli				Nil/100 ml	
Total Coliform				1000/100 ml	

Others

1. .....

2. .....

3. .....

4. .....

As guided by the Fourth Schedule or as may be directed by the Authority.

SEVENTH SCHEDULE

FORMS

FORM A (r. 16)

APPLICATION FOR EFFLUENT DISCHARGE INTO AQUATIC ENVIRONMENT

PART A – DETAILS OF APPLICANT

A1. Name of applicant: .....

A2. Personal Identification Number: .....

A3. Address: .....

A4. Name of contact person: .....

.....

.....

A5. Telephone No.: .....

A6. Fax No.: .....

A7. E-mail: .....

A8. Previous Licence Number: .....

PART B – DETAILS OF DISCHARGING FACILITY

B1. Location of discharging facility:

.....

B2. Activity of discharging facility (e.g. coffee factory, sewage plant, tea factory):

.....

B3. Nature and composition of effluent:

.....

B4. Does the facility have effluent treatment plant? (Yes or No)

.....

B5. Maximum quantity of effluent which is proposed to discharge on any one day (in m_3/day)

.....

B6. The highest rate at which it proposes to discharge the effluent (in m_3/hr.)

.....

B7. Source of processing water to the facility:

.....

B8. Does the facility have access to a laboratory for monitoring the quality of discharged effluent?

(Yes or No) .....

B9. Description of the activities of the facility:

.....

.....

B10. Point of discharge:

.....

PART C – DECLARATION BY APPLICANT

I hereby certify that the information given above is correct and true to the best of my knowledge:

.....

Signature of Applicant

.....

Full names in Block letters

.....

Position On behalf of: .....

(Firm name and seal) Date: .....

PART D - FOR OFFICIAL USE

Approved/Not Approved .....

COMMENTS .....

Official Signature .....

Date .....

Important Notes:

Please submit the following:

(a) Application form in duplicate; and

(b) Prescribed fee to:

Director General

The National Environment Management Authority (NEMA)

Kapiti Road, South C,

P. O. Box 67839-00200, Nairobi, Kenya

Tel.: 254-02-605522/6/7, or 601945 Fax: 254-02-608997

E-mail: dgnema@swiftkenya.com

THE ENVIRONMENTAL MANAGEMENT AND COORDINATION ACT EFFLUENT DISCHARGE LICENCE

FORM B (r. 16)

Application Reference No. .....

Licence No. .....

FOR OFFICIAL USE

This is to certify that the application for discharge to aquatic environment received from ..... (name of applicant) of .....(address) to the National Environment Management Authority in accordance with the Environmental Management and Co-ordination (Water Quality) Regulations, 2005 for .....(facility) located at ..... (locality and district) to discharge effluent to ..... has been evaluated and a permit is hereby issued for discharge, subject to the attached conditions.

Dated this ..... day of ....., 20 .....

Signature: .....

(Official Stamp)

.....

Director General

National Environment Management Authority

CONDITIONS OF LICENCE

1. This Licence is valid for a period of ..... from the date hereof.

2. .....

3. .....

4. .....

5. .....

FORM C

REGISTER FOR EFFLUENT DISCHARGE LICENCE INTO THE ENVIRONMENT

Name of discharging facility	**Location of facility**	**Licence No.**	**Date of issue**	**Expiry date**	**Conditions of Licence**	**Discharging into**	**Date and name of filing officer**	**Date**	**Remarks**

Status Status of Licence

1. New

2. Cancelled

3. Variation

EIGHTH SCHEDULE [r. 19]

MICROBIOLOGICAL QUALITY GUIDELINES FOR USE OF WASTEWATER FOR IRRIGATION

Reuse conditions	***Exposed group***	***Intestinal nematodes (MPN/L)***	***Coliforms (MPN/100 ml)***
Unrestricted irrigation (crops likely to be eaten uncooked, sports fields, public parks)	Workers, consumers, public	<1	<1000**

Reuse conditions	***Exposed group***	***Intestinal nematodes (MPN/L)***	***Coliforms (MPN/100 ml)***
Restricted irrigation (cereal crops, industrial crops, fodder crops, pasture and trees***)	Workers	<1	No standard recommended

* Ascaris lumbricoides, Trichuris trichiura and human hookworms.

** A more stringent guideline (<200 coliform group of bacteria per 100 ml) is appropriate for public lawns, such as hotel lawns, with which the public may come into direct contact.

*** In the case of fruit trees, irrigation should cease two weeks before fruit is picked and fruit should be picked off the ground, overhead irrigation should not be used.

NINTH SCHEDULE [r. 20]

STANDARDS FOR IRRIGATION WATER

Parameter	*Permissible Level*
pH	6.5–8.5
Aluminium	5 (mg/L)
Arsenic	0.1 (mg/L)
Boron	0.1 (mg/L)
Chloride	0.01 (mg/L)
Chromium	1.5 (mg/L)
Cobalt	0.1 (mg/L)
Copper	0.05 (mg/L)
E.coli	Nil/100 ml
Fluoride	1.0 (mg/L)
Iron	1 (mg/L)

Lead	5 (mg/L)
Selenium	0.19 (mg/L)
Sodium Absorption Ratio (SAR)	6 (mg/L)
Total dissolved solids	1200 (mg/L)
Zinc	2 (mg/L)

TENTH SCHEDULE [r. 25]

QUALITY STANDARDS FOR RECREATIONAL WATERS

Parameter	*Maximum Permissible Level*
Arsenic (mg/L)G	0.05
Fecal Coliform (counts/100 ml)	Nil
Total Coliform (counts/100 ml)	500
Cadmium	0.01
Chromium	0.1
Colour (True Colour Units)	100
Light Penetration (meters)	1.2
Mercury (mg/L)G	0.001
Odour (Threshold Odour Number, TON)	16
Oil and Grease (mg/L)G	5
pH	6–9
Radiation, Total (Bq/L)G	0.37
Surfactant, MBAs (mg/L)G	2

Temperature (°C)	30
Turbidity (NTU)	50

ELEVENTH SCHEDULE [r. 28]

FEES

	Ksh.
The fees chargeable under these Regulations shall be as specified hereafter:	
1. Application for discharge of effluent into the environment	
(a) Sewerage service providers	5,000
(b) Discharging facility in Schedule 4 other than (a) above	5,000
(c) Any other institution	5,000
2. Annual License fee for discharge of effluent into the environment	
(a) Sewerage service providers sector—	
Category (I) ⩾80,000 M^3 DWF Design Capacity	500,000
Category (II) ⩾60,000<80,000m^3 DWF Design Capacity	400,000
Category (III) ⩾40,000<60,000m^3 DWF Design Capacity	300,000
Category (IV) ⩾20,000<40,000m^3 DWF Design Capacity	200,000
Category (V) 20,000m^3 DWF Design capacity	100,000

Discharging facility in Schedule 4 other than (a) above - and for- *(i) Petroleum sector*	100,000
Category (I) Depots, pump stations and refineries	100,000
Category (II) Service station (Filing station + Vehicle service + carwash)	75,000
Category (III) Service station (Filling station + Vehicle service)	50,000
Category (IV) Filling station ⩾50M^3 (Tank Storage)	30,000
Category (V) Filling Station <50M^3(Tank storage)	25,000
(ii) Hotels, Camps and lodges sector	
Category (I) ⩽ 25 persons bed capacity	25,000
Category (II) >25 ⩽50 persons bed capacity	30,000
Category (III)>50⩽75 persons bed capacity	50,000
Category (IV) >75⩽100 Persons bed capacity	75,000
Category (V) >100 Persons bed capacity	100,000
(iii) Agro-based Processing Industries	
Category (i) ⩾ 2,000 M^3 DWF Design capacity	100,000
Category (i) ⩾ 1500 <2,000 M^3 DWF Design capacity	75,000
Category (i) ⩾ 1000 <1500 M^3 DWF Design capacity	50,000
Category (i) ⩾1,000 M^3 DWF Design capacity	30,000
(iv) Abbartoirs/slaughterhouses	
Category (i) ⩾40 animals per day	100,000

Category (ii) ⩾ 20<40 animals per day"	75,000
Category (iii) ⩾6 <20 animals per day	50,000
Category (iv) < animals per day	20,000
(v) Chemical-based Processing Industries	
Category (i) ⩾ 2,000 m^3 DWF Design Capacity	100,000
Category (ii) ⩾1500<2,000 m^3 DWF Design Capacity	75,000
Category (iii) 1000<1500 m^3 DWF Design Capacity	50,000
Category (iv) <1,000 m^3 DWF Design Capacity	30,000
(vi) Intensive Chemical Agriculture	
Category (i) ⩾ 240 HA Acreage	100,000
Category (ii) ⩾ 230<40 HA Acreage	75,000
Category (iii) ⩾ 20<30 HA Acreage	50,000
Category (iv) ⩾10<20 HA Acreage	30,000
Category (v) < 10 HA Acreage	20,000
(a) Institutions, commercial or residential premises with population > 100 persons	20,000
(b) Commercial or residential premises with populations ⩽ 50 ⩽ 100 persons	10,000
(c) Others.	
3. Inspection of records/effluent register	200
4. Variation of effluent discharge licence 10% of the Annual Licence fee	