

Kingdom of Cambodia

Nation Religion King

ROYAL GOVERNMENT

Council of Ministers

No : 27 ANRK.BK Phnom Penh, April 06, 1999

Sub-Decree On Water Pollution Contrl

- Has seen the Constitution of the Kingdom of Cambodia (1993);
- Has seen the Royal Decree No. NS.RKT 1198.72 dated 30 November, 1998 on the Formation of the Royal Government of Cambodia of the Kingdom of Cambodia;
- Has seen Preah Reach Kram No. 02 /NS/94 dated 20 July 1994, announcing to allow using the Law on the Establishment and Implementation of the Council of Ministers;
- Has seen Preah Reach Kram No. NS.RKM 0194/21 dated 24 January 1996, announcing to use the Law on the Establishment of the Ministry of Environment;
- Has seen Preah Reach Kram No. NS.RKM 1296/36 dated 24 December 1996, Announcing to use the Law on the Environmental Protection and Natural Resources Management;
- Has received an approval from meeting of the council ministers on March 12, 1999.

Decision

CHAPTER 1

General provisions

Article 1 : The purpose of this sub-decree is to regulate the water pollution control in order to prevent and reduce the water pollution of the public water areas so that the protection of human health and the conservation of bio-diversity should be ensured.

Article 2: This sub-decree applies to all sources of pollution and all activities that cause pollution of the public water areas.

Article 3 : Technical terms used in this sub-decree shall have the meaning ascribed there to :

- a. Public water areas refers to water areas that are for public use such as : tonle, stung (rivers), stream, gully, lake, pond, well, sea, peam (river mouth) and include canal irrigation system and other waterways that are for public use and ground water;
- b. Source of pollution refers to any type of places such as dwelling house, public administrative building, premise, transport facilities, business areas or service places from which effluent, pollutants or hazardous substances are directly or indirectly discharged into public water areas or public drainage systems;
- c. Wastewater refers to water discharged from any source of pollution into public water areas or public drainage systems either it is treated or untreated;

- d. Sewage refers to a contaminated water discharged from dwellings and public building.
- e. Solid waste refers to disable used substances or objects that are disposed of from pollution source;
- f. Garbage refers to disable use substances or objects that are disposed of from dwellings and public buildings;
- g. Pollutant refers to solid or liquid or gaseous substances or all kind of wastes that cause any changes of component or characteristic of water such as physical, chemical or biological when it is intentionally or unintentionally released into the water (public water areas);
- h. Pollution load refers to the load or the content of pollutant and heat containing in wastewater released from any sources of pollution into public water areas or public drainage systems;
- i. Hazardous substances refers to any substances that cause danger to living organisms, damage or break down any objects or building or adversely impact and damage the environment. The type of hazardous substances are listed in the Annex 1 of this sub - decree.

CHAPTER 2

Provisions on waste and hazardous discharge

Article 4 : Standards for effluent discharge from any sources of pollution shall be specified in the annex 2 of this sub-decree.

Article 5 : In the necessary cases or in response to the requirement of each area for the purpose of human health protection and the conservation of bio-diversity, the Ministry of Environment shall set up separated standard for effluent discharge for sources of pollution, that are located around the public water area.

The separated standard for effluent discharge as mentioned in the first paragraph of the article 5 of this sub-decree shall be specified by the Prakas of the Ministry of Environment.

Article 6 : The discharge of waste water from any sources of pollution that is not consistent with the standards for effluent discharge as mentioned in the article 4 and article 5 of this sub-decree shall be strictly prohibited.

Article 7 : In order to ensure the human health protection and bio-diversity conservation, the Ministry of Environment shall establish the standard of pollution load contained in liquid waste that could be allowed to be released from any sources of pollution into designated protected public water areas

The pollution load standard as mentioned in the paragraph 1 of the article 7 of this sub-decree shall be stated by the Prakas of the Ministry of Environment.

Article 8: The disposal of solid waste or any garbage or hazardous substances into public water areas or into public drainage system shall be strictly prohibited.

The storage or disposal of solid waste or any garbage and hazardous substances that lead to the pollution of water of the public water areas shall be strictly prohibited.

Article 9: The discharge of sewage from dwelling and public buildings in to public water areas without passing through public sewerage systems or other treatment systems shall be strictly prohibited.

CHAPTER 3

Effluent discharge permit

Article 10 : The discharge or transport of wastewater from any sources of pollution to other places for any purpose is subject to prior permit from the Ministry of Environment. The application for this permit shall be copied to the concerned ministries or agencies.

Article 11: The types of any sources of pollution that shall be required to have a permit from the Ministry of Environment before discharging or transporting their effluent to other places as mentioned in the article 10 of this sub-decree shall be listed in the annex 3 of this sub-decree and are classified into two following categories :

- a. The sources of pollution of category I that are subject to the prior permit from the Ministry of Environment when the amount of their effluent exceed ten cubic meter per day (10 M³ /day) but not including the amount of water volume used for cooling the engine.
- b. The sources of pollution of category II that shall be necessarily required to apply for the permission from the Ministry of Environment.

Article 12: Permit requirement for discharge or transportation of effluent to other places as stipulated in the article 10 of this sub-decree shall apply to either the new sources of pollution project or to existing sources of pollution except any new project of pollution source that environmental impact assessment report of which has been approved may be exempt from the requirement of permit for discharge or transportation of effluent to other places.

Article 13: The owner or responsible person of the pollution source as mentioned in the article 11 of this sub-decree that intend to release or transport his/her effluent to other place shall be apply for permit to the Ministry of Environment :

- Forty days (40 days), before the beginning of the functioning, for the new source of pollution located in Phnom Penh, and sixty days (60 days) for the new source of pollution located in provinces and cities.

- Within thirty days (30 days), after being required by the Ministry of Environment, for existing source of pollution located in Phnom Penh, and forty days (40 days) for the new source of pollution located in provinces and cities.

Article 14: The effluent discharge or transportation permit from pollution source to other places could be provided if the application form meets the required technical guidelines determined by the Ministry of Environment.

Article 15: The owner or person responsible for the source of pollution that is holder of permit from the Ministry of Environment for discharge or transportation of effluent to other places and that have intention to modify the effluent discharge system shall reapply for the new permit to the Ministry of Environment within thirty days (30 days) before beginning the modification.

Article 16: Person that take on lease or ownership of source of pollution from the previous owner or the previous responsible person who already obtained the discharge or transportation permit from the Ministry of Environment shall continue to comply with criteria points described in the application form that was submitted to the Ministry of Environment.

The new owner or responsible person shall inform the Ministry of Environment about the lease or such possession within thirty days (30 days) after taking on lease or ownership.

Article 17: The permit of the discharge or transportation of effluent that is provided to the owner or responsible person of pollution source could be revoked temporarily or definitively by the Ministry of Environment after consultation with other concerned ministries or agencies, if they violate seriously the article 14, 15 and 16 of this sub-decree.

CHAPTER 4 Monitoring of the pollution sources

Article 18: The monitoring on the discharge or transportation of effluent from any sources of pollution is the responsibility of the Ministry of Environment.

Article 19: The Ministry of Environment shall take sample at every discharge point of pollution sources. The owner or responsible person of pollution sources shall collaborate with and facilitate the environmental official to take sample while carrying out their technical task.

Article 20: The analysis of effluent samples taken from any pollution sources during the monitoring or inspection shall be done in the Laboratory of the Ministry of Environment.

Article 21: The owner or responsible person of pollution sources shall bear the cost of the analysis of his/her own wastewater sample following the tariff determined by the Ministry of Environment and the Ministry of Economy and Finance. This income shall be included into the national budget in order to allocate to the Environmental Endowment Fund Account.

Article 22: The owner or responsible person of pollution sources may ask to have his/her effluent sample tested in other public or private laboratories which are recognized formally and such laboratories carry out the same analytical method those used in the Ministry of Environment.

Article 23: The owner or responsible person of the pollution sources as stipulated in the article 11 of this sub-decree shall :

- a. be responsible for determining the method of the treatment and the discharge of their effluent so that it responds to the effluent standard as stipulated in the article 4 and article 5 of this sub-decree as well as the standard of pollution load as stipulated in the article 7 of this sub-decree;
- b. have enough facilities and means to prevent the pollution of the public water area when there is eventual danger caused from his/her pollution source;
- c. hold the responsibility for installing an equipment for measurement of flow, concentration and amount of pollutant contained in his/her effluent and also keep the result for record keeping.

Article 24: Even if it is found out that the discharge of effluent from any pollution source do not respond to the effluent standard as stipulated in the article 4 and article 5 or is not in consistence with the pollution load standard as stipulated in the article 7 of this sub-decree, the Ministry of Environment shall:

- a. issue a written order requiring the owner or responsible person of such pollution source to correct the violation activities immediately within a specified time period, if that activity has not caused a harmful impact to human health or an adverse effect to the water quality yet;
- b. issue a written order requiring the owner or responsible person of such pollution source to stop his/her activities temporarily until the violation is corrected, if that activities cause an adverse impact to human health and water quality.

CHATER 5

Water Pollution Monitoring in Public Water Areas

Article 25: The water quality standards of public water areas for the purpose of the conservation of the bio-diversity is stipulated in the Annex 4 of this sub-decree.

The water quality standards of public water areas for the purpose of the protection of the public health is stipulated in the Annex 5 of this sub-decree.

Article 26: The Ministry of Environment shall regularly control and monitor the situation of the water pollution at public water areas throughout the Kingdom of Cambodia in order to take measure to prevent and reduce the water pollution in public water areas.

Article 27: The Ministry of Environment shall manage data relating result of the water quality testing and to assess the status of the quality of public water areas throughout the Kingdom of Cambodia.

Article 28: The Ministry of Environment shall disseminate publicly the status of the water quality and the situation of the pollution of public water areas of the Kingdom of Cambodia.

Article 29: Even if it is found that any public water areas is suffering of pollution which could threaten human life or bio-diversity the Ministry of Environment shall immediately notify the public about this danger and shall take measure to prevent the water pollution and to restore the water quality of such public water areas.

CHATER 6

Inspection Procedure

Article 30: The Ministry of Environment's inspectors, while conducting environmental inspection, shall comply with the following procedures:

- a. To present his / her identity card and mission letter while entering into the premise or any site of point source of pollution for conducting inspection or taking sample or for checking record;
- b. Primary record and report of the inspection or sample taking shall be done at the site of inspection with participating from any witness if necessary;
- c. The inspectors may ask question and require the owner of the source of pollution to provide them with information and other relevant documents which are used for report making and for evidence;
- d. One copy of record or report shall be given to the owner or the responsible person of the source of pollution and one copy to the representatives of concerned ministries (who collaborate with) and other one copy shall be kept at the Ministry of Environment.

Article 31: Where if there is complaint or report that any source of pollution discharges effluent containing substance which cause danger to animal or human health or public property or causes pollution to any public water area, the Ministry of Environment, in collaboration with concerned ministries, may enter the site of this source of pollution and conduct inspection and take sample for testing.

Article 32: In the case of serious accident or imminent danger resulting from pollution at public water area, the Ministry of Environment shall make urgent inspection on the above problem and shall inform the concerned ministries and local authority.

Article 33: In the case of clear offense that cause water pollution, the inspector of the Ministry of Environment shall:

- A. take statement, collect and detain evidence of such offense and make an administrative fine, if the offense has not contaminated seriously water, human health, animal, plants or public properties yet;
- B. collect and detain evidence of such offense for making statement and forward the case file to the competent agency, if this violation causes serious pollution of water or injure to human health, animal, plants or public properties.

CHAPTER 7

Penalty

Article 34: Violations of this Sub-decree shall be fined and punished according to the articles 20, 21, 22, 23 and the article 25 of the chapter 9 of the Law on Environmental Protection and Natural Resource Management.

Article 35: The Ministry of Environment's official is responsible for making a report of prosecution for any person who violate any article of this sub-decree. The Ministry of Environment shall take legal action against any offense of this sub-decree.

Article 36: Any environmental inspection official or agent who is negligent, fails to pay attention to, or fails to comply with the Ministry's regulations, or conspires with a violator or facilitates the commission of a violation, shall be subject to administrative sanction or face prosecution before the court.

CHAPTER 8

Final provisions

Article 37: Any provision contrary to this sub-decree shall be annulled.

Article 38: The minister in charge of the cabinet of the council of Ministers, Minister of Environment and concerned institutions shall implement this Sub-decree according to their duty.

Article 39: This sub-decree shall be in force from the date of its signature.

Annex 1

Type of the hazardous substances

1. Organophalogen compounds and substances which may form such compounds in the aquatic environment.
2. Organophosphorous compounds
3. Organotin compounds
4. Substances that possess carcinogenic (cancer causing) properties in or via the aquatic environment.
5. Mercury and its compounds.
6. Cadmium and its compounds.

7. Persistent mineral oil and hydrocarbons of petroleum origin.
8. Persistent synthetic compounds which may float, remain in suspension or sink and which may interfere with any use of waters.
9. Radio activated substances
10. Metals and their compounds

Zinc (Zn)	Selenium (Se)	Tin (Sn)	Vanadium (V)
Copper (Cu)	Arsenic (As)	Barium (Ba)	Cobalt (Co)
Nickel (Ni)	Antimony (Sb)	Beryllium (Be)	Tellurium (Te)
Lead (Pb)	Titanium (Ti)	Uranium (U)	Silver (Ag)

1. Toxic or persistent organic compounds of silicon.
2. Inorganic compounds of phosphorous and elemental phosphorous.
3. Non-persistent mineral oils and hydrocarbons of petroleum origin.
4. Cyanides and fluorides

15. Substances which may have an adverse effect on the oxygen balance, particularly ammonia, and nitrites ----- etc.

Annex 2
Effluent standard for pollution sources
discharging wastewater to public water areas or sewer

Nº	Parameters	Unit	Allowable limits for pollutant substance discharging to	
			Protected public water area	Public water area and sewer
1	Temperature	°C	< 45	< 45
2	pH		6 – 9	5 - 9
3	BOD ₅ (5 days at 200 C)	mg/l	< 30	< 80
4	COD	mg/l	< 50	< 100
5	Total Suspended Solids	mg/l	< 50	< 80
6	Total Dissolved Solids	mg/l	< 1000	< 2000
7	Grease and Oil	mg/l	< 5.0	< 15
8	Detergents	mg/l	< 5.0	< 15
9	Phenols	mg/l	< 0.1	< 1.2
10	Nitrate (NO ₃)	mg/l	< 10	< 20
11	Chlorine (free)	mg/l	< 1.0	< 2.0
12	Chloride (ion)	mg/l	< 500	< 700

13	Sulphate (as SO ₄)	mg/l	< 300	< 500
14	Sulphide (as Sulphur)	mg/l	< 0.2	< 1.0
15	Phosphate (PO ₄)	mg/l	< 3.0	< 6.0
16	Cyanide (CN)	mg/l	< 0.2	< 1.5
17	Barium (Ba)	mg/l	< 4.0	< 7.0
18	Arsenic (As)	mg/l	< 0.10	< 1.0
19	Tin (Sn)	mg/l	< 2.0	< 8.0
20	Iron (Fe)	mg/l	< 1.0	< 20
21	Boron (B)	mg/l	< 1.0	< 5.0
22	Manganese (Mn)	mg/l	< 1.0	< 5.0
23	Cadmium (Cd)	mg/l	< 0.1	< 0.5
24	Chromium (Cr) ⁺³	mg/l	< 0.2	< 1.0
25	Chromium (Cr) ⁺⁶	mg/l	< 0.05	< 0.5
26	Copper (Cu)	mg/l	< 0.2	< 1.0
27	Lead (Pb)	mg/l	< 0.1	< 1.0
28	Mercury (Hg)	mg/l	< 0.002	< 0.05
29	Nickel (Ni)	mg/l	< 0.2	< 1.0
30	Selenium (Se)	mg/l	< 0.05	< 0.5
31	Silver (Ag)	mg/l	< 0.1	< 0.5
32	Zinc (Zn)	mg/l	< 1.0	< 3.0
33	Molybdenum (Mo)	mg/l	< 0.1	< 1.0
34	Ammonia (NH ₃)	mg/l	< 5.0	< 7.0
35	DO	mg/l	>2.0	>1.0
36	Polychlorinated Byphenyl	mg/l	<0.003	<0.003
37	Calcium	mg/l	<150	<200
38	Magnesium	mg/l	<150	<200
39	Carbon tetrachloride	mg/l	<3	<3
40	Hexachloro benzene	mg/l	<2	<2
41	DTT	mg/l	<1.3	<1.3
42	Endrin	mg/l	<0.01	<0.01

43	Dieldrin	mg/l	<0.01	<0.01
44	Aldrin	mg/l	<0.01	<0.01
45	Isodrin	mg/l	<0.01	<0.01
46	Perchloro ethylene	mg/l	<2.5	<2.5
47	Hexachloro butadiene	mg/l	<3	<3
48	Chloroform	mg/l	<1	<1
49	1,2 Dichloro ethylene	mg/l	<2.5	<2.5
50	Trichloro ethylene	mg/l	<1	<1
51	Trichloro benzene	mg/l	<2	<2
52	Hexachloro cyclohexene	mg/l	<2	<2

Remark: The Ministry of Environment and the Ministry of Agriculture, Forestry and Fishery shall collaborate to set up the standard of pesticides which discharged from pollution sources.

Annex 3

Type of pollution sources required having a permission from Ministry of Environment before discharging or transporting their wastewater

N^o	Type of pollution sources	Category
1	Canned food and meat manufacturing	I
2	Canned vegetable and fruit manufacturing	I
3	Aquatic production processing	I
4	Frozen manufacturing	I
5	Flour manufacturing	I
6	Sugar manufacturing	I
7	Pure drinking water manufacturing	I
8	Brick manufacturing	I
9	Soft drink manufacturing and brewery	I
10	Wine and alcohol manufacturing	I
11	Feed mill manufacturing	I
12	Oil and fat manufacturing	I
13	Yeast manufacturing	I
14	Cake and sweet manufacturing	I

15	Cigarette manufacturing	I
16	Garment manufacturing without chemical washing	I
17	Hotel	I
18	Restaurant	I
19	Animal farm	I
20	Slaughter – house	I
21	Garage and car cleaning	I
22	Business center	I
23	Hospital and clinic	I
24	Plastic manufacturing	I
25	Sewage treatment plant	I
26	Gelatin and Glue manufacturing	I
27	Natural resin manufacturing	I
28	Glass manufacturing	I
29	Cement manufacturing	I
30	Macadam quarrying	I
31	Gravel quarrying	I
32	Wood processing	I
33	Fertilizer manufacturing	I
34	Mixed concrete manufacturing	I
35	Ship carrying liquid substances	II
36	Acetylene derivative manufacturing	II
37	Leather manufacturing	II
38	Soap and detergent manufacturing	II
39	Oil store house and filling station	II
40	Landfill site	II
41	Textile or synthetic textile	II
42	Garment manufacturing with using chemical wash	II
43	Pulp and paper manufacturing	II
44	Printing house	II

45	Mining and coal washing	II
46	Battery manufacturing	II
47	Inorganic pigment manufacturing	II
48	Electronic manufacturing	II
49	Coal tar product manufacturing	II
50	Film product manufacturing	II
51	Chemical organic substance manufacturing	II
52	Pharmaceutical manufacturing	II
53	Solvent (for cleaning) manufacturing	II
54	Pesticide manufacturing	II
55	Oil refining factory	II
56	Iron and steel industry	II
57	Non-ferrous metals manufacturing	II
58	Metal product manufacturing	II
59	Plating factory	II
60	Incinerator or waste recycling plant	II
61	Night soil treatment plant	II
62	Waste oil treatment plant	II
63	Industrial waste treatment plant	II
64	Laboratory and Research center	II
65	Power plant	II
66	Wood processing manufacturing	II
67	Shrimp farm	II

Annex 4
Water Quality Standard in public water areas
for bio-diversity conservation

1- River

No	Parameter	Unit	Standard Value
1	pH	mg/l	6.5 – 8.5
2	BOD ₅	mg/l	1 – 10
3	Suspended Solid	mg/l	25 – 100
4	Dissolved Oxygen	mg/l	2.0 - 7.5

5	Coliform	MPN/100ml	< 5000
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2- Lakes and Reservoirs

No	Parameter	Unit	Standard Value
1	pH	mg/l	6.5 – 8.5
2	COD	mg/l	1 – 8
3	Suspended Solid	mg/l	1 – 15
4	Dissolved Oxygen	mg/l	2.0 - 7.5
5	Coliform	MPN/100ml	< 1000
6	Total Nitrogen	mg/l	1.0 – 0.6
7	Total Phosphorus	mg/l	0.005 – 0.05

3- Coastal water

No	Parameter	Unit	Standard Value
1	pH	mg/l	7.0 – 8.3
2	COD	mg/l	2 – 8
4	Dissolved Oxygen	mg/l	2 - 7.5
5	Coliform	MPN/100ml	< 1000
5	Oil content	mg/l	0
6	Total Nitrogen	mg/l	1– 1.0
7	Total Phosphorus	mg/l	0.02 – 0.09

Annex 5

Water Quality Standard in public water areas for public health protection

No	Parameter	Unit	Standard Value
1	Carbon tetrachloride	µg/l	< 12
2	Hexachloro-benzene	µg/l	< 0.03
3	DDT	µg/l	< 10
4	Endrin	µg/l	< 0.01
5	Dieldrin	µg/l	< 0.01
6	Aldrin	µg/l	< 0.005
7	Isodrin	µg/l	< 0.005
8	Perchloroethylene	µg/l	< 10
9	Hexachlorobutadiene	µg/l	< 0.1

10	Chloroform	µg/l	< 12
11	1,2 Trichloroethylene	µg/l	< 10
12	Trichloroethylene	µg/l	< 10
13	Trichlorobenzene	µg/l	< 0.4
14	Hexachloroethylene	µg/l	< 0.05
15	Benzene	µg/l	< 10
16	Tetrachloroethylene	µg/l	< 10
17	Cadmium	µg/l	< 1
18	Total mercury	µg/l	< 0.5
19	Organic mercury	µg/l	0
20	Lead	µg/l	< 10
21	Chromium, valent 6	µg/l	< 50
22	Arsenic	µg/l	< 10
23	Selenium	µg/l	< 10
24	Polychlorobiohenyl	µg/l	0
25	Cyanide	µg/l	< 0.005