

BELIZE:

STATUTORY INSTRUMENT

No. 102 of 2009

REGULATIONS made by the Minister responsible for the Environment in exercise of the powers conferred upon him by Section 21 and 44 of the Environmental Protection Act (Cap. 328 of the Revised Laws of Belize 2000), and all other powers thereunto him enabling.

(Gazetted 8th August, 2009.)

1. These Regulations may be cited as the

Short title.

**ENVIRONMENTAL PROTECTION (EFFLUENT
LIMITATIONS) (AMENDMENT) REGULATIONS,
2009**

and shall be read as one with the Environmental Protection (Effluent Limitations) Regulations 1995, hereinafter referred to as the principal Regulations.

S.I.94/1995.

2. Regulation 2 of the principal Regulations is hereby amended by:

Amendment
of regulation
2.

(a) deleting the definition of “industrial effluent” and substituting therefore the following -

“industrial effluent” means any liquid water or waste water discharged from any industrial or commercial premises;

(b) by the addition of the following new definitions -

“Domestic effluent” means all discharges from households, commercial facilities, hotels, septage and any other entity whose discharge includes the following:

- (a) toilet flushing (black water);
- (b) discharges from showers, wash basins, kitchens and laundries (grey water); or
- (c) discharges from small industries, provided their composition and quantity are compatible with treatment in a domestic wastewater system.

“Class I waters” means waters that, due to inherent or unique environmental characteristics or fragile biological or ecological characteristics or human use, are particularly sensitive to the impacts of domestic effluent. Class I waters include, but are not limited to:

- (a) waters containing coral reefs, seagrass beds, or mangroves;
- (b) critical breeding, nursery or forage areas for aquatic and terrestrial life;
- (c) areas that provide habitat for species protected under the Protocol Concerning Specially Protected Areas and Wildlife to the Convention (the SPAW Protocol);
- (d) protected areas listed in the SPAW Protocol; and
- (e) waters used for recreation.

“Class II waters” means waters other than Class I waters, that due to oceanographic, hydrologic, climatic or other factors are less sensitive to the impacts of domestic effluent and where humans or living resources that are likely to be adversely affected by the discharges are not exposed to such discharges.

“Existing domestic wastewater systems” means a publicly or privately owned domestic wastewater collection systems, or collection and treatment systems, that were constructed prior to December 2000.

“New domestic wastewater systems” means a publicly or privately owned domestic wastewater collection systems, or collection and treatment systems, that includes existing domestic wastewater systems which have been subject to substantial modifications after such entry into force.

“Household systems” means on-site domestic wastewater disposal systems for homes and small commercial businesses in areas of low population density, or where centralized collection and treatment systems of domestic wastewater are not economically or technologically feasible. Household systems include, but are not limited to, septic tanks and drain fields or mounds, holding tanks, latrines and bio-digesting toilets.

“Wastewater collection systems” means any collection or conveyance system designed to collect or channel domestic wastewater from multiple sources.

3. Regulation 3 of the principal Regulations is amended by deleting the words “other than effluent discharged from premises” specified in the Third Schedule.

Amendment
of regulation
3.

4. The principal Regulations are hereby amended by the insertion after regulation 5 of the following new regulation 5A as follows:

New
regulation
5A.

5A. Every person who discharges domestic effluent that adversely affects Class I or Class II waters, shall ensure that such Class I or Class II waters are treated by an existing domestic wastewater system whose effluent achieves the effluent limitations set out in Schedule III.

Discharges
into Class I or
Class II
waters.

Third
Schedule.

Amendment
of regulation
9.

5. Regulation 9(2) of the principal Regulations is amended by adding immediately after (b). the following:

(c) to modify the operation or process at a facility to reduce the volume or quality of effluent generated.

Amendment
of regulation
14(2).

6. Regulation 14(2) of the principal Regulations is amended by adding immediately after the words "date of issue" the words "or for such period as is specified in the licence".

Amendment
of
regulation
14(4).

7. Regulation 14(4) of the principal Regulations is hereby amended by deleting the words "five hundred dollars or to imprisonment for a term not exceeding six months" and substituting therefor "five thousand dollars or to imprisonment for a term not exceeding two years".

8. Regulation 14 is hereby amended by the addition of sub-regulation (5):

(5) In imposing any fine, the magistrate may order that any such fine imposed be paid to an environmental fund established by the Department.

Amendment
of
regulation 15.

9. Regulation 15(2) of the principal Regulations is hereby amended by deleting the words "five hundred dollars or to imprisonment for a term not exceeding six months" and substituting therefor "five thousand dollars or to imprisonment for a term not exceeding two years".

Amendment
of
regulation 16.

10. Regulation 16 of the principal Regulations are hereby repealed and replaced as follows:

Furnishing
information
in certain
cases.

16. Where due to accident or any unforeseen event in any industry, any poisonous, noxious or polluting matter is discharged or likely to be discharged into any land or inland waters, or the marine environment, the owner or operator of any such industry shall promptly notify the Department of any such occurrence and provide the Department with -

- (a) description of the discharge of poisonous, noxious or polluting matter;
- (b) an assessment of any damage or potential damage to the public health or the environment associated with the discharge of poisonous, noxious or polluting matter;
- (c) a description of the resources allocated or to be allocated to deal with the discharge; and
- (d) evidence that he has taken steps to mitigate damage or contamination resulting from the discharge of poisonous, noxious or polluting matter.

11. The principal Regulations are amended by adding immediately after section 22, the following:

Amendment
of section 22.

22A. The Department may collect samples from any industry or areas adjoining the premises of the industry and carry out independent tests and analyses on such samples and the owner and operator of any such industry shall be liable to reimburse the Department for the full cost of the testing and analysis of such samples.

Collection
etc.
of samples

12. Regulation 24 of the principal Regulations is hereby amended by deleting the words “ten dollars” and substituting therefor “one hundred dollars”.

Amendment
of regulation
24.

13. Regulation 25(1) of the principal Regulations is hereby amended by deleting the words “three hundred dollars” and substituting therefor “five hundred dollars”.

Amendment
of regulation
25.

14. Regulation 26 of the principal Regulations is hereby amended by deleting the words “three hundred dollars” and substituting therefor “five hundred dollars”.

Amendment
of regulation
26.

Amendment
of regulation

15. Regulation 27(1) of the principal Regulations is hereby amended by deleting regulation 27(1) and substituting therefor the following:

“27(1) Any person who contravenes the provisions of these Regulations for which no specific penalty is prescribed, shall be guilty of an offence and shall be liable on summary conviction to a fine not exceeding twenty thousand dollars or to imprisonment for a term not exceeding five years or to both such fine and imprisonment.”

Amendment
of First,
Second and
Third
Schedules.

16. The First, Second and Third Schedules of the principal Regulations are hereby repealed and replaced as follows:

Amendment
of First
Schedule

FIRST SCHEDULE

EFFLUENT

Plastic and Synthetics:

BOD ₅	10 mg/L
Total Suspended Solids (TSS)	30 mg/L
COD	40 mg/L
Phenolics Less Than	0.50 mg/L
Zinc Less Than	1.0 mg/L
Chromium Less Than	0.10 mg/L
Oil and Grease	10.0 mg/L
Fluoride (F-) Less Than	1.0 mg/L
Copper (Cu ²⁺) Less Than	0.05 mg/L

Food Processing:

BOD ₅	15 mg/L
Oil and Grease	15 mg/L
Suspended Solids	15 mg/L
PH	6-9 units
NO ₃	10 mg/L
PO ₄	5 mg/L
SO ₄	200 mg/L

Service Industry:

BOD ₅	15 mg/L
Oil and Grease	10 mg/L
COD	40 mg/L

EFFLUENT STANDARDS

PH	6-9 units
NO ₃	10 mg/L
PO ₄	5 mg/L

Garment Industry:

BOD ₅	50 mg/L
BOD Reduction	303:1
TSS	50 mg/L
Temp	35°C
PH	6-9 units
NO ₃	10 mg/L
PO ₄	5 mg/L
SO ₄	200 mg/L
COD	100 mg/L

Citrus Industry:

BOD ₅	50 mg/L
BOD Reduction	2500:1
TSS	50 mg/L
TSS Reduction	1176:1
Temp	35°C
PH	6-9 unit
NO ₃	10 mg/L
PO ₄	5 mg/L
SO ₄	200 mg/L
COD	100 mg/L

Battery Manufacturing:

BOD ₅	30 mg/L
TSS	30 mg/L
Temp	35°C
PH	6-9 units
NO ₃	10 mg/L
PO ₄	5 mg/L
SO ₄	200 mg/L
Pb	0.1 mg/L
Fe	20 mg/L
Cu	0.1 mg/L
Pb Reduction	10:1
COD	100 mg/L

Fish Processing:

BOD ₅	100 mg/L
TSS	100 mg/L
Temp	35°

PH	6-9 units
NO ₃	10mg/L
PO ₄	30mg/L
SO ₄	200mg/L
COD	100mg/L

Poultry Industry:

BOD ₅	50mg/L
BOD Reduction	2000:1
TSS	50mg/L
TSS Reduction	1500:1
Temp	35°C
PH	6-9 units
NO ₃	10.0mg/L
PO ₄	5.0mg/L
SO ₄	200mg/L
COD	100mg/L

Dairy Industry:

W.W. Concn.	50mg/L
BOD Reduction	500:1
TSS Concn.	50mg/L
Temp	35°C
PH	6-9 units
NO ₃	30mg/L
PO ₄	5mg/L
SO ₄	200mg/L
COD	100mg/L

Rum Refinery Industry:

BOD ₅	50mg/L
TSS	60mg/L
Temp	35°C
PH	6-9 units
NO ₃	10mg/L
PO ₄	1mg/L
SO ₄	500mg/L
COD	200mg/L

Brewery Industry:

BOD ₅	35 mg/L
BOD Reduction	175:1
TSS Concn.	50mg/L
Temp	35°C
PH	6-9 units

NO ₃	10.0 mg/L
PO ₄	5.0 mg/L
SO ₄	200 mg/L
COD	200 mg/L

Sugar Processing:

BOD ₅	50 mg/L
BOD Reduction	1000:1
TSS	50 mg/L
TSS Reduction	1500:1
Temp	35°C
PH	6-9 units
NO ₃	10 mg/L
PO ₄	5 mg/L
SO ₄	200 mg/L
COD	200 mg/L

Shrimp Processing:

BOD ₅	30 mg/L
TSS	30 mg/L
Temp	35°C
PH	6-9 units
NO ₃	10.0 mg/L
PO ₄	1.0 mg/L
SO ₄	200 mg/L
COD	200 mg/L

Soft Drinks Bottling Standards:

BOD ₅	35 mg/L
TSS	35 mg/L
TempPH	35°C 6-9 units
Oil and Grease	10 mg/L
NO ₃	10 mg/L
PO ₄	1 mg/L
SO ₄	200 mg/L

SECOND SCHEDULE**EFFLUENT LIMITATIONS FOR OTHER INDUSTRIES OR COMMERCIAL ACTIVITIES**

Amendment
of Second
Schedule.

<u>Parameter</u>	<u>Limitation / Standard</u>
Temperature	33 °C
Colour (LU)	7
pH	6-9 units
DO	5 mg/L
BOD at 20°C	50 mg/L

COD	100 mg/L
TSS	50 mg/L
TDS	2000 mg/L
Chloride (as Cl)	600 mg/L
Sulphate (as SO ⁴)	500 mg/L
Sulphide (as S)	0.2 mg/L
Cyanide (as CN)	0.1 mg/L
Detergent (LAS as Methyl Blue active subs.)	15 mg/L
Oil and Grease	10 mg/L
Arsenic	1 mg/L
Barium	5 mg/L
Tin	10 mg/L
Iron	20 mg/L
Beryllium	0.5 mg/L
Boron	5 mg/L
Manganese	5 mg/L
Phenolic Compounds (as Phenol)	0.2 mg/L
Cadmium **	0.1 mg/L
Chromium ** (Trivalent & Hexavalent)	1 mg/L
Copper **	1 mg/L
Lead **	0.1 mg/L
Mercury **	0.05 mg/L
Nickel **	1 mg/L
Selenium **	0.5 mg/L
Silver **	0.1 mg/L
Zinc **	1 mg/L
Total Metals **	2.0 mg/L
Chlorine	1 mg/L
Phosphates as (PO)	5 mg/L
Calcium	200 mg/L
Magnesium	200 mg/L
Nitrate as (NO)	3 mg/L
Total Coliform	0-10 MPN/100 ml
Faecal Coliform	0 MPN/100 ml
Fluoride	5 mg/L
Ammonia (NH ₄)	1 mg/L
Total Organic Carbon	200 mg/L

** The concentration of toxic metal should not exceed these limits, individually or in total.

THIRD SCHEDULE

Amendment
of Third
Schedule.DISCHARGES FROM DOMESTIC WASTEWATER TREATMENT
SYSTEMS (SEWAGE WATER AND GREY WATER)
INTO CLASS I WATERS

<u>Parameter</u>	<u>Effluent Limit</u>
Total Suspended Solids	30 mg/L *
Biochemical Oxygen Demand (BOD ₅)	30 mg/L
PH	5-10 pH units
Fats, Oil and Grease	15 mg/L
Faecal Coliform	Faecal Coliform: 200
(<i>E. coli</i> (freshwater) and	mpn/100 ml; or (a) <i>E. coli</i> :
<i>Enterococci</i> (saline water))	126 organisms/100 ml; (b)
	<i>Enterococci</i> : 35
	organisms/100 ml
Floatables	not visible

* Does not include algae from treatment ponds

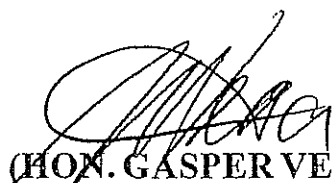
DISCHARGES FROM DOMESTIC WASTEWATER
TREATMENT SYSTEMS (SEWAGE WATER AND
GREY WATER) INTO CLASS II WATERS

<u>Parameter</u>	<u>Effluent Limit</u>
Total Suspended Solids	150 mg/L *
Biochemical Oxygen Demand (BOD ₅)	150 mg/L
PH	5-10 pH units
Fats, Oil and Grease	50 mg/L
Floatables	Not visible
Faecal Coliform	Not applicable

* Does not include algae from treatment ponds

17. The Fifth Schedule of the principal Regulations is amended by deleting the word “youthful” in paragraph 9 and substituting therefore “outfall”.

MADE by the Minister responsible for the Environment
this 27th day of July, 2009.



(HON. GASPER VEGA)

Minister of Natural Resources and the Environment