

ENVIRONMENTAL QUALITY ACT 1974

ENVIRONMENTAL QUALITY (INDUSTRIAL EFFLUENT) REGULATIONS 2009

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IN exercise of the powers conferred by sections 21, 24, 25 and 51 of the Environmental Quality Act 1974 [Act 127], the Minister, after consultation with the Environmental Quality Council, makes the following regulations:

Citation

1. These regulations may be cited as the **Environmental Quality (Industrial Effluent) Regulations 2009**.

Interpretation

2. In these Regulations—

“best management practices” means practical, structural or non-structural methods for the purpose of preventing or reducing the discharge of industrial effluent or mixed effluent containing contaminants;

“industrial effluent” means any waste in the form of liquid or wastewater generated from manufacturing process including the treatment of water for water supply or any activity occurring at any industrial premises;

“mixed effluent” means any waste in the form of liquid or wastewater containing both industrial effluent and sewage;

“sludge” means any deposit of particulate matter settled from any liquid, including deposit resulting from physical, chemical, biological or other treatment of water or industrial effluent or mixed effluent;

“professional engineer” has the same meaning assigned to it in the Registration of Engineers Act 1967 [Act 138];

“sewage” means any liquid waste or wastewater discharge containing human, animal, domestic, or putrescible matter in suspension or solution, and includes liquids containing chemicals in solution either in the raw, treated or partially treated form;

“licence” means a licence referred to in regulation 15 pursuant to subsection 25(1) of the Act;

“parameter” means chemical oxygen demand or any of the factors shown in the first column of the Fifth Schedule or in the Ninth Schedule;

“authorized officer” means any officer appointed under section 3 of the Act or any other officer to whom the Director General has delegated his power under section 49 of the Act;

“batch discharge” means any controlled discharge of a discrete volume of industrial effluent or mixed effluent;

“licensed premises” means premises occupied by a person who is the holder of a licence issued in respect of the premises; and

“industrial effluent treatment system” means any facility including the effluent collection system, designed and constructed for the purpose of reducing the potential of the industrial effluent or mixed effluent to cause pollution.

Application

3. These Regulations shall apply to any premises which discharge or release industrial effluent or mixed effluent, onto or into any soil, or into inland waters or Malaysian waters, other than the premises as specified in the First Schedule.

Obligation to notify the Director General

4. (1) No person shall, without prior written notification to the Director General—

- (a) carry out any work on any premises that may result in a new source of discharge of industrial effluent or mixed effluent;
- (b) construct on any land, building or facility designed or used for a purpose that may cause the land or building or facility to result in a new source of discharge of industrial effluent or mixed effluent;
- (c) make or cause or permit to be made any change of, to, or in any plant, machine, or equipment used or installed at the premises that causes a material change in the quantity or quality of the discharge or release from an existing source; or
- (d) carry out upgrading work of an existing industrial effluent treatment system that may result in a material change in the quantity or quality of the discharge or release.

(2) The written notification to carry out any work, construction, or upgrading, or to make any change referred to in subregulation (1) shall be submitted to the Director General in the form as specified in the Second Schedule within thirty days before the work or construction or upgrading commences.

Design and construction of industrial effluent treatment system

5. (1) An owner or occupier of a premises shall conduct any design and construction of the industrial effluent treatment system to collect and treat the industrial effluent or mixed effluent generated within the premises in strict compliance with the specifications as specified in the Guidance Document on the Design and Operation of Industrial Effluent Treatment System issued by the Department of Environment.

(2) An owner or occupier of the premises shall appoint a professional engineer to undertake the design and supervision of the construction of the industrial effluent treatment system and the work performed shall meet the satisfaction of the Director General.

(3) An owner or occupier of the premises and the professional engineer referred to in subregulation (2) shall provide a written declaration, in a form as specified in the Third Schedule, certifying that the design and construction of the industrial effluent treatment system have complied with the specifications referred to in subregulation (1).

(4) As-built drawings that show the placement of any works or structures that form part of the industrial effluent treatment system shall be submitted to the Director General not later than thirty days from the date the premises commences operation.

(5) In this regulation, "as-built drawings" means any engineering drawing that shows the placement of facilities as measured after a work is completed.

Compliance with specifications of industrial effluent treatment system

6. (1) No person shall operate any industrial effluent treatment system unless it complies with the specifications as specified in subregulation 5(1).

(2) The Director General may issue a directive to the owner or occupier of a premises who does not comply with subregulation (1) requiring him to repair, alter, replace or install any additional equipment or instruments or to conduct performance monitoring of industrial effluent treatment system at his own expense, in any manner as the Director General may determine in such directive.

Monitoring of discharge of industrial effluent or mixed effluent

7. (1) An owner or occupier of a premises that discharges industrial effluent or mixed effluent onto or into any soil, or into any inland waters or Malaysian waters shall, at his own expense—

- (a) monitor the concentration of chemical oxygen demand (COD) and any parameter as specified in the Fifth Schedule; and
- (b) install flow-meters, sampling, monitoring and recording equipment.

(2) The owner or occupier of the premises shall maintain a record of industrial effluent or mixed effluent discharge monitoring data in the form as specified in the Tenth Schedule.

(3) The owner or occupier of the premises shall submit the first record of industrial effluent or mixed effluent discharge monitoring data to the Director General within thirty days after the date of coming into operation of these Regulations and the subsequent records shall be submitted within thirty days after the end of the calendar month for the report of the previous month.

(4) The record of industrial effluent or mixed effluent discharge shall also be made available for inspection by any authorized officer.

Proper operation of industrial effluent treatment system

8. (1) An owner or occupier of a premises shall operate and maintain industrial effluent treatment system in accordance with sound engineering practice for the treatment of the industrial effluent or mixed effluent and ensure that all components of the industrial effluent treatment system are in good working condition.

(2) In this regulation, “sound engineering practice” means the manner by which effluent treatment system is operated where the operational characteristics are maintained within the normal range of values commonly used for the treatment of industrial effluent or mixed effluent.

Performance monitoring of effluent treatment system

9. (1) An owner or occupier of a premises shall—

- (a) conduct performance monitoring of the components of the effluent treatment system in the manner as specified in the Guidance Document on Performance Monitoring of Industrial Effluent Treatment Systems issued by Department of Environment; and
- (b) equip himself or itself with facilities, relevant equipment or instruments for the purpose of conducting performance monitoring referred to in paragraph (a).

(2) In this regulation, “performance monitoring” means the routine monitoring of certain characteristics to provide an indication that a treatment process is functional and capable of treating the industrial effluent or mixed effluent.

Competent person

10. (1) The operation of an industrial effluent treatment system shall be supervised by a competent person.

(2) A competent person shall be any person who has been certified by the Director General that he is duly qualified to supervise the operation of an industrial effluent treatment system.

(3) An owner or occupier of a premises shall ensure that a competent person is on duty at any time the industrial effluent treatment system is in operation.

Acceptable conditions for the discharge of industrial effluent other than parameter of chemical oxygen demand (COD)

11. (1) No person shall discharge industrial effluent which contains any parameter in concentration greater than the limits of—

(a) Standard A, as shown in the third column of the Fifth Schedule, into any inland waters within the catchment areas as specified in the Sixth Schedule; or

(b) Standard B, as shown in the fourth column of the Fifth Schedule, into any other inland waters or Malaysian waters.

(2) Where two or more of the metals specified as parameters (xii) to (xvi) as specified in the Fifth Schedule, pursuant to subregulation (1), are present in the industrial effluent or mixed effluent, the concentration of these metals shall not be greater than—

(a) 0.5 milligrammes per litre in total, where Standard A is applicable; or

(b) 3.0 milligrammes per litre in total, and 1.0 milligramme per litre in total for soluble forms, where Standard B is applicable.

(3) Where Standard B is applicable and when both phenol and free chlorine are present in the same industrial effluent, the concentration of phenol individually, shall not be greater than 0.2 milligrammes per litre and the concentration of free chlorine individually, shall not be greater than 1 milligramme per litre.

Acceptable conditions for the discharge of industrial effluent for parameter of chemical oxygen demand (COD)

12. In relation to any trade or industry as specified in the Seventh Schedule, No person shall discharge industrial effluent which contains COD in concentration greater than the limits of—

(a) Standard A, as shown in the third column of the Seventh Schedule, into any inland waters within the catchment areas as specified in the Sixth Schedule; or

(b) Standard B, as shown in the fourth column of the Seventh Schedule, into any other inland waters or Malaysian waters.

Acceptable conditions for the discharge of mixed effluent for parameter of chemical oxygen demand (COD)

13. No person shall discharge mixed effluent which contains COD in concentration greater than the limits of—

(a) Standard A, as shown in the second column of the Eighth Schedule, into any inland waters within the catchment areas as specified in the Sixth Schedule; or

- (b) Standard B, as shown in the third column of the Eighth Schedule, into any other inland waters or Malaysian waters.

Best management practice for the discharge of industrial effluent or mixed effluent for other parameters

14. An owner or occupier of a premises shall adopt the best management practice for discharge of any industrial effluent or mixed effluent for any parameter as specified in the Ninth Schedule.

Licence to contravene the acceptable conditions for the discharge of industrial effluent or mixed effluent

15. (1) Any person may apply for a licence under subsection 25(1) of the Act to contravene the acceptable conditions of discharge of industrial effluent or mixed effluent as specified in regulations 11, 12 and 13.

(2) An application for a licence shall be made in accordance with the procedures as specified in the Environmental Quality (Licensing) Regulations 1977 [P.U. (A) 198/1977] and shall be accompanied by—

- (a) a report on industrial effluent characterization study in a format as specified in the Guidance Document on Industrial Effluent Characterization Study issued by Department of Environment; and
(b) a licence and effluent-related licence fee as specified in regulation 31.

Methods of analysis and sampling of industrial effluent or mixed effluent

16. (1) An authorized officer may carry out an *in-situ* or *ex-situ* analysis of industrial effluent or mixed effluent using any instruments approved by the Director General.

(2) An analysis of any industrial effluent or mixed effluent discharged or released onto or into any soil, or into any inland waters or Malaysian waters shall be carried out in accordance with the methods contained in the publications as specified in the Fourth Schedule.

(3) The analysis of the industrial effluent or mixed effluent referred to in subregulation (1) shall be based on grab samples.

(4) In this regulation—

- (a) “*ex-situ* analysis” means the analysis conducted on an industrial effluent or mixed effluent sample that has been removed from its location and conducted at the different site from the site the sample was taken;

- (b) “*in-situ* analysis” means the analysis conducted on an industrial effluent or mixed effluent sample that has not been removed from its location or conducted at the site where the sample was taken; and
- (c) “grab sample” means a discrete individual sample taken within a period of time of less than fifteen minutes.

Point of discharge of industrial effluent or mixed effluent

17. (1) The point of discharge of industrial effluent or mixed effluent shall comply with the specifications as specified in the Eleventh Schedule and shall be clearly indicated by the owner or occupier of a premises on the layout plans or engineering drawings certified by a professional engineer.

(2) An owner or occupier of the premises shall submit to the Director General the layout plans or engineering drawings referred to in subregulation (1) thirty days before the premises commence operation.

(3) Where an owner or occupier of the premises proposes to make any alteration or change to the location or position of the point of discharge or design of the outlet at the point of discharge of industrial effluent or mixed effluent, he or it shall notify the Director General within thirty days prior to the making of such alteration or change.

Prohibition against industrial effluent or mixed effluent discharge through by-pass

18. (1) No person shall discharge or cause or permit to be discharged any industrial effluent or mixed effluent onto or into any soil, or into any inland waters or Malaysian waters through a by-pass.

(2) In this regulation, “by-pass” means any diversion of industrial effluent or mixed effluent from any portion of an industrial effluent treatment system.

Dilution of industrial effluent or mixed effluent

19. (1) No person shall dilute, or cause or permit to be diluted, any industrial effluent or mixed effluent, whether raw or treated at any time or point after it is produced at any premises.

(2) Industrial effluent or mixed effluent becomes diluted when it undergoes a process to make it less concentrated by adding water or other liquids from external sources other than liquids or materials used for treating the industrial effluent or mixed effluent.

Spill, accidental discharge or leakage of industrial effluent or mixed effluent

20. (1) In the event of the occurrence of any spill, accidental discharge or leakage of any industrial effluent or mixed effluent which either directly or indirectly gains or may gain access onto or into any soil, or into any inland waters or Malaysian waters, the owner or occupier of the premises shall immediately and not more than six hours from the time of the occurrence inform the Director General of the occurrence.

(2) An owner or occupier of the premises shall, to every reasonable extent, contain, cleanse or abate the spill, accidental discharge or leakage or recover the industrial effluent or mixed effluent discharged in a manner that satisfies the Director General.

(3) The Director General may in any particular case, if he considers it necessary to do so, specify the manner in which the spill, accidental discharge or leakage is to be contained, cleansed or abated and the owner or occupier of the premises shall comply with such specification.

(4) The Director General shall determine any damage caused by any spill, accidental discharge or leakage and may recover all costs and expenses from the owner or occupier of the premises.

(5) Where the Director General undertakes to cleanse or abate the spill, accidental discharge or leakage, he shall determine the full costs and expenses incurred and may recover such costs and expenses from the owner or occupier of the premises in accordance with the provisions of section 47 of the Act.

Prohibition against discharge of industrial effluent or mixed effluent containing certain substances

21. No person shall discharge or cause or permit the discharge of any industrial effluent or mixed effluent containing any of the following substances onto or into any soil, or into any inland waters or Malaysian waters:

- (a) any inflammable solvent;
- (b) any tar or other liquids immiscible with water;
- (c) sawdust or wood waste; or
- (d) sludges.

Making changes that alter quality of industrial effluent or mixed effluent

22. (1) The holder of a licence shall not make, or cause or permit to be made, any changes to the premises or in the manner of running, using, maintaining or operating the premises or in any operation or process carried out at the premises, which cause, or is intended or is likely to cause, a material increase

in the quantity or quality of industrial effluent or mixed effluent, or both discharged from the premises, unless prior written permission of the Director General has been obtained for the change.

(2) For the purpose of subregulation (1), changes to licensed premises include—

- (a) any change in the construction, structure or arrangement of the premises or any building serving the premises;
- (b) any change in the construction, structure, arrangement, alignment, direction or condition of any channeling device, system, or facility serving the premises; and
- (c) any change of, to, or in any plant, machine or equipment used or installed at the premises.

Restriction on discharge or disposal of sludge

23. (1) No person shall discharge, or cause or permit the discharge or disposal of any sludge generated from any production or manufacturing process, any industrial effluent treatment system or water treatment plant onto or into any soil, or surface of any land, or into any inland waters or Malaysian waters without the prior written permission of the Director General.

(2) In this regulation, “water treatment plant” means any facility used or constructed for the treatment of water for domestic or industrial purpose.

Reporting changes in information furnished for purpose of application of licence

24. An applicant for a licence or for the renewal or transfer of such licence shall, within seven days of the occurrence of any material change in any information furnished in his application or furnished in writing pursuant to a request by the Director General under subsection 11(2) of the Act, give the Director General a report in writing of the change.

Display of licence

25. The holder of a licence shall display his licence, together with every document forming part of the licence, in a conspicuous place in the principal building of the premises.

Continuance of existing conditions and restrictions in case of change in occupancy

26. Where a person becomes the occupier of any licensed premises in succession to another person who holds an unexpired licence in respect of such premises, then—

- (a) for a period of fourteen days after the change in occupancy; or

(b) where the new occupier applies within the period specified in paragraph (a) for the transfer of the licence to him, for the period from the change in occupancy until the final determination of his application,

the conditions and restrictions of the licence shall be binding on the new occupier and shall be observed by him, notwithstanding that he is not yet the holder of the licence or that the licence may, during the period as specified in paragraph (a) or (b), as the case may be, have expired.

Maintenance of record

27. (1) An owner or occupier of a premises equipped with the industrial effluent treatment system shall maintain records of the manufacturing processes, operation, maintenance and performance monitoring of the industrial effluent treatment system.

(2) The records under subregulation (1) shall be made available for inspection by the authorized officer.

Personnel training

28. An owner or occupier of a premises—

- (a) shall ensure that his or its employees attend training on environmental requirements and the best management practices in the operation and maintenance of industrial effluent treatment system before they begin work;
- (b) shall ensure that the training for his or its employees include retraining on updates for new, revised and existing requirements and procedures; and
- (c) shall maintain records of training which shall include the training date, name and position of employee, training provider and a brief description of the training content.

Owner or occupier to render assistance during inspection

29. An owner or occupier of a premises shall provide the Director General or any authorized officer every reasonable assistance and facility available at the premises, including labour, equipment, appliances and instruments that the Director General or authorized officer may require for the purpose of inspection.

Prohibition order

30. (1) In the event of any undesirable occurrence as listed in the Twelfth Schedule, the Director General may issue a prohibition order to an owner or the occupier of a premises prohibiting the further operation of an industrial

plant or process absolutely or conditionally for such period as the Director General may direct or until remedial measures as directed by the Director General have been complied with.

(2) For the purpose of subregulation (1), a copy of the Director General's prohibition order shall be posted in a conspicuous place in the vicinity of the facility to which the said prohibition order refers and No person shall operate such industrial plant or process with effect from the date of the prohibition order until the prohibition order is withdrawn.

(3) Where a prohibition order has been issued to an owner or occupier of any premises prohibiting the further operation of an industrial plant or process, the Director General or any authorized officer shall render such industrial plant or process inoperative by any means as the Director General or authorized officer may determine.

Licence fee

31. (1) The fee for a licence shall be five hundred ringgit and an additional effluent-related licence fee computed in accordance with the method as specified in the Thirteenth Schedule.

(2) The fee for a licence and the additional effluent-related licence of five hundred ringgit shall accompany the application.

(3) If the Director General refuses to approve the application for a licence and the additional effluent-related licence, only the effluent-related licence fee shall be refunded.

(4) The fee for transfer of licence shall be one hundred ringgit.

Penalty

32. Any person who contravenes regulations 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 28, 29 and 30 shall be guilty of an offence and shall, on conviction, be liable to a fine not exceeding one hundred thousand ringgit or to a term of imprisonment for a period not exceeding five years or to both and to a further fine not exceeding one thousand ringgit a day for every day that the offence is continued after the notice by the Director General requiring him to cease the act as specified in the notice has been served upon him.

Revocation, transitional and savings provision

33. (1) The Environmental Quality (Sewage and Industrial Effluents) Regulations 1979 [P.U. (A) 12/1979] is revoked (hereinafter referred to as "the revoked Regulations").

(2) Any application made under this revoked Regulations for a licence to contravene the acceptable conditions, renewal or transfer of such licence, or written permission, which are pending immediately before the date of the coming into operation of these Regulations shall, after the date of the coming into operation of these Regulations, be dealt with under the revoked Regulations and for such purposes it shall be treated as if these Regulation have not been made.

(3) All licences issued and written permission granted under the revoked Regulations shall, after the date of the coming into operation of these Regulations, continue to remain in full force and effect until the licence expires, is amended, suspended or cancelled or the written permission expires or is revoked under the revoked Regulations and for such purposes it shall be treated as if these Regulation have not been made.

(4) The provisions of the revoked Regulations relating to the acceptable conditions for discharge of effluent shall continue to apply until twelve months after the date of the coming into operation of these Regulations where on the date of the coming into operation of these Regulations—

- (a) any work on any construction of any industrial effluent treatment system has not commenced within twelve months from date of the issuance of the written permission for its construction immediately before the date of the coming into operation of these Regulation;
- (b) any work on any construction of any industrial effluent treatment system has commenced but has not been completed immediately before the date of the coming into operation of these Regulations; or
- (c) any work on any construction of any industrial effluent treatment system has been completed but has not begun its operation before the date of the coming into operation of these Regulations.

(5) Where on the date of the coming into operation of these Regulations, any premises is discharging industrial effluent or mixed effluent into any inland waters which is not specified as a catchment area under the revoked Regulations immediately before the date of the coming into operation of these Regulations, the provisions of the revoked Regulations relating to acceptable conditions for discharge of effluent shall continue to apply to such effluent until twelve months after the date of the coming into operation of these Regulations.

(6) Any proceeding, whether civil or criminal, commenced under the revoked Regulations and are pending on the date of the coming into operation of these Regulations shall, on the date of the coming into operation of these Regulations, be continued and concluded under the revoked Regulations and for such purposes it shall be treated as if these Regulation have not been made.

FIRST SCHEDULE

(Regulation 3)

LIST OF PREMISES TO WHICH THESE REGULATIONS DO NOT APPLY

1. Processing of oil-palm fruit or oil-palm fresh fruit bunches into crude palm oil, whether as an intermediate or final product
2. Processing of natural rubber in technically specified form, latex form including prevulcanised or the form of modified and special purpose rubber, conventional sheet, skim, crepe or scrap rubber
3. Mining activities
4. Processing, manufacturing, washing or servicing of any other products or goods that produce industrial effluent or mixed effluent of less than 60 cubic meters per day
5. Processing, manufacturing, washing or servicing of any other products or goods that produce industrial effluent or mixed effluent of which does not contain oil and grease or those contaminants listed as parameters (v) to (xv) in the first column of the Fifth Schedule
6. Processing, manufacturing, washing or servicing of any other products or goods where the total load of biochemical oxygen demand (BOD_5 at $20^\circ C$) or suspended solids or both, shall not exceed 6 kilogrammes per day (concentration of 100 milligrammes per litre)

SECOND SCHEDULE

[Subregulation 4(2)]

NOTIFICATION FOR NEW OR ALTERED SOURCES OF DISCHARGE OF INDUSTRIAL EFFLUENT OR MIXED EFFLUENT

Please tick (✓) in appropriate box

- (i) New construction-Paragraph 4(1)(a) or (b)
- (ii) Change of equipment or machinery-Paragraph 4(1)(c)
- (iii) Upgrading of industrial effluent treatment system-Paragraph 4(1)(d)

A. IDENTIFICATION

1. (i) Name of owner or occupier :.....
 (ii) Identification card number:.....
 (iii) Address of owner or occupier:.....
 (iv) Telephone number:..... Fax number:.....
2. (i) Name of company:.....
 (ii) Company registration number:.....
 (Please attach certificate of registration of company)
 (iii) Address of company:.....
 (iv) Telephone number:..... Fax number:.....

3. (i) Name of premises:.....
- (ii) Address of premises:.....
- (iii) Telephone number:..... Fax number:.....
- (v) Latitude:..... degree.....minutes:.....second:.....
Longitude:.....degree..... minutes:.....second:.....

B. OPERATIONAL INFORMATION

4. Proposed commencement date of construction of premises or upgrading work:.....

5. Proposed date of occupation/use of premises or the date of the premises has been occupied/used or completion of upgrading work:.....

6. If the notification is to increase the capacity of industrial effluent treatment system, please state the reason:
.....

7. Schedule of operation

- (i) Number of shifts per day:.....average:.....maximum:.....
- (ii) Hour of operation:.....average:.....maximum:.....
- (iii) Number of operating days:.....per week:.....per month:.....per year:.....

8. List of raw materials/chemicals *

<u>Item/Name</u>	<u>Unit of quantity</u>	<u>Quantity per month</u>
.....
.....

9. List of products *

<u>Item/Name</u>	<u>Unit of quantity</u>	<u>Quantity per month</u>
.....
.....

10. Describe in detail the production processes and attach relevant flow diagrams:
.....

*(Please use attachment if necessary)

11. Has cleaner production concept been considered in the proposal? Please give details:
.....

C. INFORMATION ON WATER SUPPLY AND CONSUMPTION

12. Water use	Source	Average quantity, m ³ per day
(i) Potable water

- (ii) Process water
- (iii) Boiler feed water
- (iv) Cooling water
- (v) Others

13. Is the water treated before use?
(Please tick (✓) in appropriate box)

Yes No

14. If yes, please describe the method of managing the sludge generated*:

.....
*(Please use attachment if necessary)

D. INFORMATION ON INDUSTRIAL EFFLUENT TREATMENT SYSTEM AND EFFLUENT DISPOSAL

15. Submit the following information*:

- (i) Production process flow chart showing points of industrial effluent or mixed effluent generation and flow rate;
- (ii) (a) Industrial Effluent Characterization Study (IECS) Report based on the Guidelines on Industrial Effluent Characterization Study or information from secondary sources; and
 - (b) in the case of notification to upgrade the capacity of treatment system, IECS report shall include overall assessment of the causes contributing to the failure of the existing treatment system to comply with the discharge standard;
- (iii) Description of the industrial effluent treatment technologies proposed;
- (iv) Design basis and calculations of proposed industrial effluent treatment system;
- (v) Calculation and summary of mass balance and block diagram showing the efficiency of unit operations and unit processes for every treated parameter;
- (vi) Detailed engineering drawings of treatment system (layout, cross section, plan view and side view) including process and instrumentation (P&I) diagram and drainage system layout certified by a professional engineer preferably in the discipline of Environmental Engineering, Chemical Engineering or Civil Engineering with experience in the treatment of industrial effluents or mixed effluent;
- (vii) #Factory layout plan showing final industrial effluent or mixed effluent discharge point marked 'X';
- (viii) List of major equipment of industrial effluent treatment system including list of spare parts or stand by equipment such as pump, pH meter etc. Document or catalogue of relevant equipment should be submitted;
- (ix) Proposed measures or plans to ensure continuous compliance including period involving maintenance work taking into consideration the requirements at the design and operational stages;
- (x) Proposed implementation schedule for the construction of industrial effluent treatment system;
- (xi) Performance guarantee for the industrial effluent treatment system; and
- (xii) Consultant/contractor's appointment letter from the premises.

(All plans shall be in A1 size)

16. Industrial effluent or mixed effluent discharge

(i) Watercourse:

Type of watercourse

River or stream: Pond: Lake: Sea: Spring: Well:

Name of the watercourse:.....

Specify if other than the above*:.....

(ii) Sewer:

Name and address of Authority:.....

Name and address of the sewage treatment plant:.....

(iii) Recycle or reuse:

Percentage of process water recycled:.....

(iv) Others: specify:

*(Please use attachment if necessary)

17. Mode and characteristic of effluent discharged

(i) Mode of industrial effluent or mixed effluent discharged

(a) Batch discharge

Discharge frequency: times per day

..... times per week

..... times per month

Discharge quantity: m³ per day..... m³ per week..... m³ per month

Time of discharge:

(b) Continuous discharge

Quantity of continuous effluent discharge

Average quantity/maximum quantity

m³ per hour: / m³ per day: /m³ per month: / m³ per year: /

(ii) Quality of effluent discharged:

Parameter (in mg/L, unless otherwise specified)	Raw Effluent**	Treated Effluent
(1) Temperature °C
(2) pH value
(3) BOD ₅ at 20°C
(4) COD
(5) Suspended solids
(6) Mercury
(7) Cadmium
(8) Chromium, Hexavalent
(9) Arsenic
(10) Cyanide
(11) Lead
(12) Chromium, Trivalent
(13) Copper
(14) Manganese
(15) Nickel
(16) Tin
(17) Zinc
(18) Boron
(19) Iron
(20) Phenol
(21) Aluminium
(22) Barium
(23) Oil and Grease
(24) Cobalt
(25) Silver
(26) Fluoride (as F)
(27) Formaldehyde
(28) Molybdenum
(29) Chloride
(30) Chlorine (Free)
(31) Selenium
(32) Sulphide
(33) Sulphate
(34) Colour
(35) Ammoniacal Nitrogen
(36) Nitrate Nitrogen

- (37) Phosphate (as P)
 (38) Detergents, Anionic
 (39) Beryllium
 (40) Vanadium
 (41) Polychlorinated Biphenyls
 (42) Pesticides, fungicides, herbicides, insecticides, rodenticides, fumigants or any other biocides or any other chlorinated hydrocarbons
 (43) Any substance that either by itself or in combination or by reaction with other waste may give rise to any gas, fume or odour or substance which causes or is likely to cause pollution

** Information obtained from Industrial Effluent Characterization Study (IECS) as per item 15(ii)

18. State whether any inflammable solvents, tar or other liquids immiscible with water are used or generated in the production processes:
-

E. SLUDGE PRODUCTION AND DISPOSAL

19. Sludge generated from the production and industrial effluent treatment unit operations and unit processes:

Types of sludge (chemical/biological)	Source	Average quantity metric tons per day
.....
.....

20. Describe the proposed method of sludge storage or disposal:
-
-

F. PERFORMANCE MONITORING PROGRAMME FOR INDUSTRIAL EFFLUENT TREATMENT SYSTEM

21. Describe using additional attachment the detailed proposal on performance monitoring programme for each major unit process and unit operation including information on equipment, competent person, frequency, location, parameter, normal range of values of operational parameters and implementation method.

G. DECLARATION

I, ***the owner or occupier, or authorized agent of the owner or occupier hereby declare that all the information given in this application is to the best of my knowledge and belief true and correct.

Date:.....

Signature of owner or occupier:.....
or authorized agent ***

Telephone number:.....

Full name:.....

Identity card number:.....

Fax number:.....

Designation:.....

Official seal or stamp of the company:.....

***Delete whichever is not applicable

THIRD SCHEDULE

[Subregulation 5(3)]

WRITTEN DECLARATION ON DESIGN AND CONSTRUCTION OF
INDUSTRIAL EFFLUENT TREATMENT SYSTEM

Name of premises:.....

Address of premises:.....

File number of Department of Environment (if applicable):.....

Telephone number:..... Fax number:.....

We, the undersigned hereby declare that the industrial effluent treatment system has been designed and constructed in strict compliance with the minimum requirements and specifications as specified in the Guidance Document on the Design and Operation of Industrial Effluent Treatment Systems issued by the Department of Environment.

(Signature of the owner
or occupier of a premises)(Signature of the Engineer responsible
for the treatment process design)

Date:.....

Date:.....

Identity card number:.....

Identity card number:.....

* Discipline: chemical/environmental/
others (please specify):.....

B.E.M. registration number:.....

(Signature of the Engineer responsible
for the structural design)(Signature of the Engineer responsible
for the design of mechanical components)

Date:.....

Date:.....

Identity card number:.....

Identity card number:.....

Discipline: civil

Discipline: mechanical

B.E.M. registration number:.....

B.E.M. registration number:.....

(Signature of the Engineer responsible
for the design of electrical and electronic
components)

Date:.....

Date:.....

Identity card number:.....

Identity card number:.....

Discipline: electrical

Discipline: electrical

B.E.M. registration number:.....

Note: BEM stands for Board of Engineers, Malaysia

* Delete whichever is not applicable

FOURTH SCHEDULE

[Subregulation 16(2)]

METHODS OF ANALYSIS OF INDUSTRIAL EFFLUENT OR MIXED EFFLUENT

1. The 21st edition of "Standard Methods for the Examination of Water and Wastewater" published jointly by the American Public Health Association, the American Water Works Association and the Water Environment Federation of the United States of America; or
2. "Code of Federal Regulations, Title 40, Chapter 1, Subchapter D, part 136" published by the Office of the Federal Register, National Archives and Records Administration, United States of America.

FIFTH SCHEDULE

[Paragraph 11(1)(a)]

ACCEPTABLE CONDITIONS FOR DISCHARGE OF
INDUSTRIAL EFFLUENT OR MIXED EFFLUENT OF STANDARDS A AND B

Parameter (1)	Unit (2)	Standard	
		A (3)	B (4)
(i) Temperature	°C	40	40
(ii) pH Value	-	6.0-9.0	5.5-9.0
(iii) BOD ₅ at 20°C	mg/L	20	50
(iv) Suspended Solids	mg/L	50	100
(v) Mercury	mg/L	0.005	0.05
(vi) Cadmium	mg/L	0.01	0.02
(vii) Chromium, Hexavalent	mg/L	0.05	0.05
(viii) Chromium, Trivalent	mg/L	0.20	1.0
(ix) Arsenic	mg/L	0.05	0.10
(x) Cyanide	mg/L	0.05	0.10
(xi) Lead	mg/L	0.10	0.5
(xii) Copper	mg/L	0.20	1.0
(xiii) Manganese	mg/L	0.20	1.0
(xiv) Nickel	mg/L	0.20	1.0
(xv) Tin	mg/L	0.20	1.0
(xvi) Zinc	mg/L	2.0	2.0
(xvii) Boron	mg/L	1.0	4.0
(xviii) Iron (Fe)	mg/L	1.0	5.0
(xix) Silver	mg/L	0.1	1.0
(xx) Aluminium	mg/L	10	15
(xxi) Selenium	mg/L	0.02	0.5
(xxii) Barium	mg/L	1.0	2.0
(xxiii) Fluoride	mg/L	2.0	5.0
(xxiv) Formaldehyde	mg/L	1.0	2.0
(xxv) Phenol	mg/L	0.001	1.0
(xxvi) Free Chlorine	mg/L	1.0	2.0
(xxvii) Sulphide	mg/L	0.50	0.50
(xxviii) Oil and Grease	mg/L	1.0	10
(xxix) Ammoniacal Nitrogen	mg/L	10	20
(xxx) Colour	ADMI*	100	200

*ADMI—American Dye Manufacturers Institute

SIXTH SCHEDULE

[Paragraph 11(1)(a), Regulations 12 and 13]

LIST OF CATCHMENT AREAS WHERE STANDARD A APPLIES

1. The catchment areas referred to in these Regulations shall be the areas upstream of surface or above subsurface water supply intakes, for the purpose of human consumption including drinking water.
2. For the purpose of these Regulations, the water supply intake points shall include the public water supply intakes specified below:

(1) The State of Johor

<i>Location of Water Intake</i> (1)	<i>Name of River/Reservoir/Well</i> (2)	<i>Water Supply Scheme</i> (3)	
<i>Longitude (East)</i>	<i>Latitude (North)</i>		
102° 40' 12"	2° 39' 29"	Sg. Muar	Segamat
102° 55' 37"	2° 32' 57"	Sg. Segamat	Segamat
102° 03' 10"	2° 28' 02"	Sg. Jauseh	Segamat
102° 03' 10"	2° 28' 02"	Sg. Jauseh	Segamat
102° 39' 57"	2° 25' 29"	Sg. Jementah	Segamat
102° 49' 55"	2° 21' 01"	Sg. Muar	Muar
102° 47' 11"	2° 18' 11"	Sg. Muar	Muar
102° 48' 40"	2° 14' 59"	Sg. Muar	Muar
102° 44' 58"	2° 12' 04"	Sg. Muar	Muar
102° 44' 03"	2° 10' 49"	Sg. Muar	Muar
103° 05' 03"	1° 53' 09"	Sg. Sembrong/Sg. Bekok Transf	Batu Pahat
103° 32' 24"	2° 12' 03"	Sg. Kahang	Kluang
103° 26' 55"	2° 05' 27"	Sg. Kahang	Kluang
103° 40' 14"	2° 35' 15"	Labong Dam	Mersing
103° 47' 31"	2° 30' 22"	Conggok Dam	Mersing
103° 39' 22"	2° 23' 13"	Sg. Lenggor	Mersing
103° 54' 07"	2° 02' 11"	Sg. Sedili Besar	Mersing
103° 51' 16"	2° 16' 27"	Bekas Lombong	Mersing
104° 02' 52"	1° 53' 38"	Sg. Gembut	Kota Tinggi
103° 49' 50"	1° 49' 52"	Sg. Pelebah	Kota Tinggi
103° 43' 19"	1° 48' 01"	Sg. Linggiu	Kota Tinggi
103° 40' 05"	1° 48' 14"	Sg. Sayong	Kota Tinggi
103° 40' 05"	1° 48' 14"	Sg. Sayong	Kota Tinggi
103° 35' 28"	1° 51' 28"	Sg. Penggeli	Kota Tinggi
104° 08' 08"	1° 44' 39"	Sg. Sedili Kecil	Kota Tinggi

<i>Location of Water Intake</i> (1)	<i>Name of River/ Reservoir/Well</i> (2)	<i>Water Supply Scheme</i> (3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
104° 12' 13"	1° 32' 30"	Lebam Dam
103° 46' 58"	1° 44' 47"	Sg. Johor
103° 27' 09"	1° 43' 12"	Sg. Pontian Besar
103° 54' 43"	1° 33' 22"	Layang Dam
103° 50' 14"	1° 44' 07"	Sg. Johor
103° 21' 54"	2° 03' 35"	Sg. Sembrong
103° 11' 01"	1° 58' 23"	Sembrong Dam
103° 17' 47"	1° 49' 33"	Sg. Benut
103° 03' 10"	2° 00' 57"	Sg. Bekok Transf
104° 03' 12"	2° 00' 54"	Sg. Bekok Transf
103° 05' 57"	1° 52' 33"	Sg. Sembrong
102° 44' 03"	2° 10' 49"	Sg. Muar
102° 44' 05"	2° 10' 48"	Sg. Muar
102° 44' 05"	2° 10' 48"	Sg. Muar
102° 34' 56"	2° 19' 37"	Ledang Dam
102° 50' 09"	2° 31' 07"	Sg. Segamat
102° 50' 17"	2° 31' 12"	Sg. Segamat
102° 49' 59"	2° 30' 55"	Sg. Segamat
103° 03' 11"	2° 28' 01"	Sg. Jauseh
103° 52' 24"	1° 44' 42"	Sg. Johor
103° 39' 40"	1° 33' 30"	Sg. Skudai
103° 34' 14"	1° 32' 30"	Pulai Dam
103° 44' 24"	1° 33' 00"	Sg. Tebrau

(2) The State of Pahang

<i>Location of Water Intake</i> (1)	<i>Name of River/ Reservoir/Well</i> (2)	<i>Water Supply Scheme</i> (3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
102° 27' 00"	3° 41' 00"	Sg. Pahang
102° 37' 00"	3° 26' 00"	Sg. Pahang
102° 36' 00"	3° 30' 00"	Sg. Pahang
102° 39' 00"	3° 44' 45"	Sg. Jempol
102° 40' 00"	3° 41' 00"	Sg. Jempol
102° 51' 00"	3° 38' 00"	Sg. Liut
		Kg. New Zealand

<i>Location of Water Intake</i>	<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>	
(1)	(2)	(3)	
<i>Longitude (East)</i>	<i>Latitude (North)</i>		
102° 39' 00"	3° 40' 00"	Sg. Jempol	Simpang Jengka
102° 40' 00"	3° 47' 00"	Sg. Jerik	Sg. Jerik Pump House
102° 56' 00"	3° 20' 00"	Sg. Mentiga	Cini
192° 59' 00"	2° 56' 00"	Sg. Keratung	Paluh Rumbeh
102° 32' 48"	3° 07' 63"	Sg. Aur	Aur
102° 51' 27"	2° 50' 51"	Sg. Keratung	Keratung
103° 23' 00"	3° 30' 15"	Sg. Pahang	Kg. Mengkasar
103° 10' 00"	3° 33' 00"	Sg. Pahang	Lepar/Pulau Manis
103° 26' 00"	3° 08' 00"	Ground Water	Nenasi
103° 23' 30"	3° 30' 54"	Sg. Pahang	Peramu
103° 19' 00"	3° 35' 00"	Sg. Pahang	Sekor
101° 53' 00"	3° 41' 00"	Sg. Bilut	Bilut
101° 45' 00"	3° 44' 00"	Sg. Hijau	Bukit Fraser Pump House
101° 49' 00"	3° 56' 00"	Sg. Cheroh	Cheroh
101° 58' 00"	3° 55' 00"	Sg. Keloi	Dong
101° 49' 00"	4° 19' 00"	Sg. Jelai	Kuala Medang Pump House
102° 01' 00"	3° 42' 00"	Sg. Pertang	Lembah Klau
101° 51' 30"	3° 45' 24"	Sg. Bilut	Raub
101° 59' 00"	3° 44' 30"	Sg. Chalit	Sg. Chalit Pump House
102° 00' 00"	3° 46' 00"	Sg. Kelau	Sg. Klau
101° 48' 30"	3° 44' 00"	Sg. Teras	Teras
101° 47' 45"	4° 12' 30"	Sg. Koyan	Sg. Koyan Pump House
103° 29' 36"	3° 48' 24"	Ground Water	Rompin
103° 26' 35"	2° 37' 15"	Empangan Sg. Anak Endau	Loji Air Seladang
102° 10' 30"	3° 31' 00"	Sg. Semantan	Bukit Damar
102° 18' 00"	3° 18' 00"	Sg. Teriang	Bukit Mendi
102° 30' 00"	2° 18' 00"	Sg. Bera	Bera
102° 33' 00"	3° 24' 00"	Sg. Pahang	Charuk Puting
102° 22' 00"	2° 45' 00"	Sg. Kerau	Jenderak Utara
102° 26' 00"	2° 30' 00"	Sg. Pahang	Lubuk Kawah
102° 23' 00"	3° 31' 00"	Sg. Semantan	Mentakab
101° 24' 30"	3° 14' 30"	Sg. Teriang	Triang (Baru)

<i>Location of Water Intake</i> (1)	<i>Name of River/ Reservoir/Well</i> (2)	<i>Water Supply Scheme</i> (3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
101° 55' 00"	3° 29' 00"	Sg. Benus
101° 53' 00"	3° 20' 00"	Sg. Benus
102° 03' 00"	3° 26' 00"	Sg. Temelong
101° 53' 00"	3° 41' 00"	Sg. Bilut
102° 07' 10"	3° 15' 20"	Sg. Gapoi
101° 54' 00"	3° 39' 00"	Sg. Penjuring
102° 00' 30"	3° 33' 00"	Sg. Kelau
101° 23' 30"	4° 31' 20"	Sg. Bertam
101° 25' 00"	4° 34' 00"	Sg. Perleng
101° 21' 00"	4° 27' 00"	Sg. Jasin
101° 24' 10"	4° 24' 35"	Sg. Bertam
101° 23' 50"	4° 26' 20"	Sg. Luchut
101° 24' 20"	3° 34' 40"	Sg. Ikan
101° 21' 40"	4° 24' 20"	Sg. Ringlet
101° 25' 3"	4° 30' 02"	Sg. Triangkap
102° 11' 00"	4° 00' 00"	Sg. Cheka
102° 21' 42"	3° 57' 30"	Sg. Pahang
102° 28' 00"	3° 53' 00"	Sg. Tekam
102° 19' 00"	4° 03' 00"	Sg. Retang
102° 31' 48"	3° 52' 00"	Sg. Tekam
102° 33' 42"	3° 50' 00"	Sg. Tekam
102° 16' 00"	4° 05' 00"	Sg. Jelai
102° 11' 00"	4° 12' 00"	Sg. Jelai
101° 58' 00"	4° 02' 00"	Sg. Lipis
101° 59' 00"	4° 14' 25"	Sg. Jelai
102° 02' 10"	4° 10' 20"	Sg. Lipis
102° 01' 00"	4° 38' 00"	Sg. Merapoh
102° 06' 00"	4° 19' 00"	Sg. Temau
103° 22' 00"	3° 51' 00"	Sg. Jabor
103° 21' 00"	4° 01' 00"	Sg. Ular
103° 12' 00"	3° 53' 00"	Sg. Riau

<i>Location of Water Intake</i>		<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)	
<i>Longitude (East)</i>	<i>Latitude (North)</i>		
103° 15' 34"	3° 49' 42"	Sg. Kuantan	Bukit Ubi/Kg. Kobat
103° 15' 00"	3° 15' 00"	Sg. Kuantan	Kg. Padang
103° 6' 00"	3° 33' 00"	Sg. Lepar	Lepar Hilir
103° 12' 00"	3° 53' 00"	Sg. Kuantan	Pasir Kemudi
103° 13' 00"	3° 53' 00"	Sg. Berkelah	Paya Bungor
103° 21' 00"	3° 50' 00"	Sg. Kuantan	Semambu
103° 02' 00"	3° 56" 0"	Sg. Kuantan	Sg. Lembing

(3) The State of Kelantan

<i>Location of Water Intake</i>		<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)	
<i>Longitude (East)</i>	<i>Latitude (North)</i>		
102° 14' 40"	6° 06' 50"	Kg. Puteh Wellfield	Kampong Puteh
102° 16' 40"	6° 05' 20"	Kubang Kerian Wellfield	Kubang Kerian
102° 17' 40"	6° 09' 40"	Pengkalan Chepa Wellfield	Pengkalan Chepa
102° 14' 15"	6° 05' 50"	Pintu Geng Wellfield	Pintu Geng
102° 16' 15"	6° 08' 30"	Tg Mas Wellfield	Tanjung Mas
102° 16' 44"	6° 05' 18"	Kubang Kerian Wellfield	Chicha
102° 15' 57"	6° 03' 53"	Kg. Seribong Wellfield	Chicha
102° 15' 03"	6° 04' 41"	Kg. Chicha Wellfield	Chicha
102° 15' 38"	6° 05' 12"	Kg. Pasir Hor Wellfield	Chicha
102° 16' 48"	6° 04' 01"	Kg. Pasir Tumbuh Wellfield	Chicha
102° 15' 44"	6° 04' 29"	Kg. Pdg. Penyadat Wellfield	Chicha
102° 17' 08"	6° 05' 38"	Kg. Kenali Wellfield	Chicha
102° 05' 20"	6° 12' 30"	Wakaf Bharu Wellfield	Wakaf Bharu
102° 10' 20"	6° 10' 00"	Wakaf Bharu Wellfield	Wakaf Bharu
102° 11' 50"	6° 07' 00"	Kg. Sedar Wellfield	Kg. Sedar
102° 09' 23"	6° 02' 50"	Sg. Kelantan	Kelar

<i>Location of Water Intake</i>	<i>Name of River/ Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
101° 58' 00"	6° 01' 10"	Rantau Panjang Wellfield
102° 08' 31"	6° 02' 15"	Sg. Kelantan
102° 20' 40"	6° 02' 30"	Kg. Chap Wellfield
102° 23' 10"	5° 00' 50"	Kg. Chap Wellfield
102° 24' 00"	6° 02' 50"	Jelawat Wellfield
102° 24' 50"	5° 49' 45"	Sg. Rasau
102° 13' 08"	5° 31' 17"	Sg. Kelantan
102° 13' 40"	5° 28' 20"	Sg. Lebir
102° 12' 20"	5° 29' 30"	Sg. Lebir
102° 08' 40"	5° 41' 50"	Sg. Kelantan
102° 05' 45"	5° 55' 50"	Sg. Muring
102° 09' 20"	5° 47' 20"	Sg. Kelantan
102° 05' 45"	5° 55' 50"	Sg. Jegor
101° 58' 30"	5° 50' 00"	Sg. Jedok
102° 05' 30"	5° 41' 00"	Sg. Kerila
101° 53' 25"	5° 46' 40"	Sg. Lanas
101° 50' 30"	5° 42' 00"	Sg. Pergau
101° 50' 10"	5° 29' 20"	Sg. Terang
102° 00' 00"	5° 18' 20"	Sg. Stong
102° 04' 14"	5° 04' 50"	Sg. Galas
102° 18' 29"	4° 57' 40"	Sg. Lebir
102° 02' 39"	5° 08' 50"	Sg. Nenggiri
102° 10' 36"	4° 53' 56"	Sg. Ciku
101° 59' 07"	4° 50' 35"	Sg. Ketil
101° 47' 25"	4° 54' 01"	Sg. Betis
		Panggung Lalat

(4) The State of Perlis

<i>Location of Water Intake</i>	<i>Name of River/ Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
100° 09' 14"	6° 20' 11"	Anak Sungai
100° 16' 15"	6° 25' 15"	Telaga Gerek/ Mada Canal
		Arau

<i>Location of Water Intake</i> (1)	<i>Name of River/ Reservoir/Well</i> (2)	<i>Water Supply Scheme</i> (3)	
<i>Longitude (East)</i>	<i>Latitude (North)</i>		
100° 19' 00"	6° 31' 25"	Telaga Gerek	Felda Chuping
100° 12' 00"	6° 42' 30"	Sungai Rasa	Wang Kelian
100° 12' 00"	6° 34' 00"	Empangan Timah Tasoh	Timah Tasoh
100° 14' 30"	6° 33' 15"	Telaga Gerek	Semadong

(5) The State of Kedah

<i>Location of Water Intake</i> (1)	<i>Name of River/ Reservoir/Well</i> (2)	<i>Water Supply Scheme</i> (3)	
<i>Longitude (East)</i>	<i>Latitude (North)</i>		
100° 25' 48.3"	6° 12' 20.5"	Ter. MADA Utara	Alor Star
100° 27' 34.8"	6° 13' 11.9"	Sg. Padang Terap	Jitra
100° 36' 56.0"	6° 14' 48.0"	Kuala Nerang	Kuala Nerang
100° 41' 18.0"	6° 20' 27.5"	Sg. Ahming	Padang Sanai
100° 45' 10.5"	6° 03' 16.3"	Sg. Muda	Nami
100° 29' 2.47"	5° 55' 29.1"	Ter. MADA Selatan	Bukit Jenun
100° 43' 53.8"	6° 00' 05.8"	Sg. Muda	Lubuk Merbau
100° 26' 6.2"	6° 23' 48.0"	Sg. Temin	Changloon
100° 38' 43.4"	5° 54' 26.2"	Sg. Muda	Jeneri
100° 29' 47.3"	5° 34' 13.8"	Sg. Muda	Pinang Tunggal
100° 29' 59.6"	5° 34' 13.8"	Sg. Muda	Pinang Tunggal
100° 37' 13.8"	5° 49' 26.8"	Sg. Muda	Jeniang
100° 26' 28.3"	5° 46' 04.7"	Gunung Jerai	Tupah
100° 24' 54.1"	5° 44' 36.6"	Gunung Jerai	Merbok
100° 41' 37.8"	5° 47' 40.0"	Sg. Chepir	Sik
100° 30' 24.5"	5° 34' 15.6"	Sg. Muda	Kulim Hi- Tech
100° 30' 24.5"	5° 34' 15.6"	Sg. Muda	Bukit Selambau
100° 29' 47.3"	5° 39' 39.7"	Sg. Ketil	Baling
100° 29' 59.6"	5° 40' 23.0"	Gunung Inas	Baling
100° 37' 13.8"	5° 40' 52.4"	Gunung Inas	Baling
100° 26' 28.3"	5° 36' 30.6"	Kuala Ketil	Kuala Ketil
100° 24' 54.1"	5° 43' 24.8"	Sg. Muda	Teloi Kanan
100° 29' 47.3"	5° 19' 40.7"	Sg. Kerian	Mahang
100° 29' 59.6"	5° 28' 57.0"	Sg. Sedim	Bikan
100° 37' 13.8"	5° 21' 50.5"	Sg. Kulim	Sg. Ular

<i>Location of Water Intake</i>		<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)	
<i>Longitude (East)</i>	<i>Latitude (North)</i>		
100° 26' 28.3"	5° 08' 18.0"	Sg. Krian	Lubuk Buntar
100° 29' 47.3"	6° 22' 45.8"	Sg. Raga	Langkawi
100° 29' 59.6"	6° 22' 47.3"	Sg. Melaka	Langkawi
100° 37' 13.8"	6° 21' 09.4"	Empangan Malut	Langkawi
100° 26' 28.3"	6° 15' 16.5"	Sg. Teluk Bujur	Pulau Tuba
100° 24' 54.1"	6° 20' 24.3"	Ter. MADA, Arau	Langkawi
100° 11' 10"	6° 20' 26"	Mada Canal (Arau Canal)	Sg. Baru

(6) The State of Perak

<i>Location of Water Intake</i>		<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)	
<i>Longitude (East)</i>	<i>Latitude (North)</i>		
100° 55' 15"	4° 56' 25"	Sg. Biong	Sauk
100° 57' 04"	4° 48' 04"	Sg. Perak	Kota Lama Kiri
100° 51' 33"	4° 45' 04"	Sg. Kangsar	Padang Rengas
100° 51' 23"	4° 36' 17"	Sg. Guar	Manong
101° 04' 33"	4° 49' 21"	Sg. Kerbau	Sg. Siput
101° 04' 10"	4° 47' 42"	Sg. Bemban	Sg. Siput
101° 04' 19"	4° 59' 00"	Sg. Kucha	Felda Lasah
101° 10' 45"	4° 54' 40"	Sg. Kerbau	Perlop I
101° 01' 09"	5° 42' 36"	Sg. Kuak	Pengkalan Hulu
101° 00' 20"	5° 45' 33"	Sg. Semangga	Pengkalan Hulu
101° 04' 11"	5° 42' 00"	Sg. Kuak	Lepang Nenering
101° 01' 02"	5° 38' 08"	Sg. Kajang	Klian Intan
101° 08' 03"	5° 31' 51"	Sg. Berok	Kg. Jong
101° 21' 02"	5° 33' 10"	Sg. Perak - Tasek Temenggor	Pulau Banding
101° 12' 43"	5° 25' 48"	Sg. Perak - Tasek Bersia	Grik V
101° 09' 45"	5° 21' 40"	Sg. Perak	Air Ganda
101° 03' 11"	5° 18' 55"	Sg. Pulau	Lawin Kinayat
101° 00' 41"	5° 11' 43"	Sg. Ibol	Sumpitan
100° 57' 38"	5° 06' 55"	Sg. Lenggong	Lenggong
100° 28' 38"	5° 03' 54"	Terusan Besar	Jalan Baru

<i>Location of Water Intake</i>	<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
100° 39' 06"	4° 57' 38"	Terusan Selinsing
100° 46' 15"	4° 52' 45"	Sg. Ranting
100° 46' 15"	4° 52' 53"	Sg. Anak Ranting
100° 46' 29"	4° 50' 39"	Sg. Batu Teguh
100° 46' 16"	4° 50' 06"	Sg. Tupai
100° 45' 53"	4° 52' 05"	Sg. Air Terjun
100° 49' 23"	5° 14' 47"	Sg. Seputeh
100° 51' 25"	5° 15' 40"	Sg. Selama
100° 52' 30"	5° 09' 10"	Sg. Klian Gunung
100° 50' 30"	5° 00' 55"	Sg. Air Hitam
100° 49' 58"	4° 54' 27"	Sg. Kurau
100° 45' 25"	4° 41' 27"	Sg. Terong
100° 42' 56"	4° 37' 48"	Sg. Wang
100° 46' 07"	4° 37' 38"	Sg. Nyior
100° 46' 10"	4° 36' 32"	Sg. Pulai
100° 46' 13"	4° 48' 47"	Sg. Larut
100° 44' 45"	4° 48' 41"	Sg. Buluh
101° 09' 41"	4° 22' 02"	Sg. Kampar
101° 10' 38"	4° 21' 24"	Sg. Palai
101° 02' 42"	4° 37' 45"	Sg. Tapah
100° 54' 57"	4° 29' 17"	Sg. Perak
101° 12' 03"	4° 40' 07"	Sg. Kinta
100° 53' 00"	4° 19' 19"	Sg. Perak
100° 53' 00"	4° 24' 19"	Sg. Perak
100° 54' 12"	4° 22' 40"	Sg. Perak
100° 47' 00"	4° 31' 11"	Sg. Lichin
100° 47' 07"	4° 32' 29"	Sg. Beruas
100° 56' 11"	4° 11' 02"	Sg. Perak
101° 19' 40"	4° 17' 25"	Sg. Btg. Padang
101° 21' 45"	4° 13' 04"	Sg. Who
101° 31' 48"	3° 47' 52"	Sg. Behrang
101° 16' 27"	3° 56' 38"	Sg. Sungkai
101° 25' 39"	3° 57' 17"	Sg. Trolak
101° 25' 39"	3° 57' 17"	Sg. Trolak
101° 24' 41"	4° 00' 54"	Sg. Tesong
101° 30' 28"	3° 53' 30"	Sg. Gelinting
		Tg. Malim (Proton City)

(7) The State of Penang

<i>Location of Water Intake</i> (1)	<i>Name of River/Reservoir/Well</i> (2)	<i>Water Supply Scheme</i> (3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
100° 16' 10"	5° 24' 00"	Sg. Air Hitam Pulau Pinang
100° 15' 56"	5° 24' 13"	Sg. Air Itam (Sg. Tepi) Pulau Pinang for Kolam Air, Air Itam
100° 16' 58"	5° 26' 25"	Sg. Air Terjun Pulau Pinang
100° 14' 41"	5° 26' 53"	Sg. Batu Ferringhi Pulau Pinang
100° 14' 28"	5° 26' 51"	Sg. Batu Ferringhi Pulau Pinang for Kolam Air Guilemard and Kolam Air Batu Ferringhi
100° 14' 20"	5° 27' 17"	Sg. Batu Ferringhi Pulau Pinang for Kolam Air Guilemard and Kolam Air Batu Ferringhi
100° 14' 42"	5° 26' 52"	Sg. Batu Ferringhi Pulau Pinang for Kolam Air Guilemard and Kolam Air Batu Ferringhi
100° 14' 45"	5° 26' 55"	Sg. Batu Ferringhi Pulau Pinang for Kolam Air Guilemard and Kolam Air Batu Ferringhi
100° 14' 45"	5° 27' 12"	Sg. Batu Ferringhi Pulau Pinang for Kolam Air Guilemard and Kolam Air Batu Ferringhi
100° 14' 45"	5° 27' 27"	Sg. Batu Ferringhi Pulau Pinang for Kolam Air Guilemard and Kolam Air Batu Ferringhi
100° 17' 32"	5° 26' 04"	Highlands Pulau Pinang
100° 17' 28"	5° 25' 02"	Highlands Bekalan for Kolam Air, Air Terjun
100° 16' 23"	5° 27' 39"	Sg. Kecil Pulau Pinang
100° 16' 18"	5° 27' 44"	Sg. Kecil Pulau Pinang for Kolam Air Guilemard and Kolam Air Batu Ferringhi
100° 16' 37"	5° 27' 23"	Sg. Klean Pulau Pinang
100° 15' 49"	5° 26' 23"	Talian Kuasa Sg. Klean Pulau Pinang for Kolam Air Guilemard and Kolam Air Batu Ferringhi
100° 13' 33"	5° 24' 15"	Sg. Pinang Barat Pulau Pinang
100° 13' 40"	5° 24' 16"	Sg. Pinang Barat Bekalan for Kolam Air Balik Pulau

<i>Location of Water Intake</i>	<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
100° 14' 17"	5° 28' 15"	Anak Sg. Sebelah 3Vs
100° 16' 33"	5° 27' 41"	Sg. Siru
100° 16' 45"	5° 24' 55"	Anak Sg. Tats
100° 14' 55"	5° 25' 09"	Kolam Air Tiger Hill
100° 15' 51"	5° 23' 46"	Empangan Air Itam
100° 30' 13"	5° 26' 05"	Sg. Kulim
100° 29' 15"	5° 33' 24"	Sg. Muda
100° 29' 52"	5° 22' 33"	Kolam Air Bukit Berapit/Sg. Mengkuang
100° 30' 39"	5° 21' 02"	Kolam Air Cherok Tok Kun
100° 32' 11"	5° 09' 35"	Kolam Air Bukit Panchor
100° 17' 00"	5° 25' 00"	Sg. Air Putih
100° 14' 41"	5° 26' 53"	Sg. Batu Ferringhi
100° 14' 35"	5° 28' 00"	Sg. Batu Ferringhi
100° 34' 00"	5° 10' 00"	Sg. Kecil Hilir
100° 32' 00"	5° 09' 00"	Simpang Hantu
100° 13' 00"	5° 26' 30"	Empangan Teluk Bahang

(8) The State of Selangor

<i>Location of Water Intake</i>	<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
101° 04' 48"	3° 43' 48"	Sg. Bernam
101° 40' 06"	3° 27' 54"	Sg. Batang Kali
101° 23' 54"	3° 40' 30"	Sg. Dusun
101° 26' 48"	3° 44' 24"	Sg. Bernam
101° 25' 30"	3° 37' 30"	Sg. Tengi
101° 35' 42"	3° 38' 54"	Sg. Inki

<i>Location of Water Intake</i> (1)	<i>Name of River/ Reservoir/Well</i> (2)	<i>Water Supply Scheme</i> (3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
101° 41' 30"	3° 36' 42"	Sg. Gerachi
101° 34' 00"	3° 24' 30"	Sg. Darah
101° 26' 48"	3° 24' 00"	Sg. Selangor/Sg. Tinggi
101° 25' 20"	3° 23' 20"	Sg. Selangor/ Empangan Sg. Tinggi
101° 25' 20"	3° 23' 20"	Sg. Selangor/ Empangan Sg. Tinggi
101° 25' 20"	3° 23' 20"	Sg. Selangor/ Empangan Sg. Tinggi
101° 10' 30"	3° 32' 30"	Sg. Sireh
101° 41' 10"	3° 16' 05"	Sg. Batu/Empangan Batu
101° 40' 00"	3° 17' 00"	Sg. Kanching
101° 44' 00"	3° 18' 30"	Sg. Gombak
101° 36' 50"	3° 14' 15"	Sg. Buloh
101° 44' 18"	3° 17' 54"	Sg. Rumput
101° 37' 36"	3° 14' 18"	Sg. Keroh
101° 33' 00"	3° 01' 05"	Sg. Pusu
101° 48' 06"	3° 09' 42"	Sg. Ampang
101° 29' 00"	3° 10' 00"	Sg. Subang/ Empangan Subang
101° 47' 18"	3° 04' 42"	Sg. Langat/ Empangan Langat
101° 46' 36"	3° 02' 36"	Sg. Langat/ Empangan Langat
101° 47' 12"	3° 05' 48"	Sg. Serai
101° 53' 25"	3° 13' 15"	Sg. Lolo
101° 53' 15"	3° 12' 50"	Sg. Pangsoon
101° 45' 36"	3° 14' 16"	Sg. Klang/Empangan Klang Gates
101° 40' 48"	2° 50' 48"	Sg. Langat/ Empangan Langat
101° 43' 05"	2° 46' 45"	Sg. Labu
101° 44' 20"	2° 53' 20"	Sg. Semenyih/ Empangan Semenyih
101° 25.2' 15.9"	3° 23.2' 19.9"	Batang Berjuntai/Sg. Selangor
101° 26' 20.5"	3° 23' 10.2"	Batang Berjuntai/Sg. Selangor
101° 38' 7.7"	3° 30' 30.4"	Rasa/Sg. Selangor
		Kuala Selangor

<i>Location of Water Intake</i>	<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
101° 44' 10"	2° 53' 30"	Sg. Semenyih
101° 42' 50"	2° 53' 23"	Sg. Semenyih
101° 48' 10"	3° 09' 15"	Sg. Ampang
101° 41' 56"	3° 28' 45"	Sg. Batang Kali
101° 20' 05"	3° 40' 50"	Sg. Bernam
101° 26' 48"	3° 44' 30"	Sg. Bernam
101° 31' 42"	3° 24' 24"	Sg. Darah
101° 23' 54"	3° 40' 30"	Sg. Dusun
101° 41' 30"	3° 36' 42"	Sg. Gerachi
101° 44' 00"	3° 18' 30"	Sg. Gombak
102° 44' 00"	3° 17' 06"	Sg. Gombak
101° 36' 10"	3° 39' 05"	Sg. Inki
101° 40' 18"	3° 16' 24"	Sg. Kepong
101° 37' 36"	3° 14' 18"	Sg. Keroh
101° 30' 48"	3° 34' 05"	Sg. Kubu
101° 42' 05"	2° 47' 05"	Sg. Labu
101° 40' 48"	3° 50' 48"	Sg. Langat
101° 46' 36"	3° 02' 36"	Sg. Langat
101° 50' 18"	3° 44' 42"	Sg. Lolo
101° 50' 24"	3° 44' 36"	Sg. Pangsoon
101° 43' 48"	3° 17' 48"	Sg. Pusu
101° 40' 00"	3° 17' 00"	Sg. Rangkap
101° 45' 05"	3° 18' 00"	Sg. Rumput
101° 26' 48"	3° 24' 00"	Sg. Selangor
101° 26' 48	3° 22' 06"	Sg. Selangor
101° 47' 12"	3° 05' 48"	Sg. Serai
101° 25' 40"	3° 38' 15"	Sg. Tengi
101° 45' 36"	3° 14' 16"	Empangan Klang Gates
102° 45' 36"	4° 14' 16"	Empangan Klang Gate
101° 47' 30"	3° 04' 42"	Empangan Sg. Langat (discharge into Sg. Langat)
101° 41' 10"	3° 17' 05"	Empangan Sg. Batu
101° 28' 48"	3° 10' 00"	Empangan Tasik Subang

(9) The State of Sarawak

<i>Location of Water Intake</i>	<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
111° 52' 47"	Sg. Batang Rajang	Sibu
111° 52' 27"	Sg. Batang Rajang	Sibu
110° 16' 42"	Sg. Sarawak Kiri	Batu Kitang, Kuching
110° 16' 44"	Sg. Sarawak Kiri	Batu Kitang, Kuching
110° 16' 33"	Sg. Sarawak Kiri	Batu Kitang, Kuching
110° 16' 31"	Sg. Sarawak Kiri	Batu Kitang, Kuching
110° 12' 30"	Empangan Matang	Matang, Kuching
110° 11' 14"	Sg. Cina	Matang, Kuching
110° 12' 53"	Sebubut Basin Intake	Matang, Kuching
112° 02' 05"	Sg. Liku	Miri
114° 02' 05"	Sg. Liku	Miri
114° 06' 05"	Sg. Liku	Miri
114° 01' 58"	Sg. Liku	Miri
114° 07' 40"	Sg. Bakong	Buri
114° 58' 10"	Sg. Berawan	Limbang
115° 02' 27"	Sg. Pendaruan	Limbang
112° 25' 45"	Sg. Krat	Bako
110° 08' 47"	Sg. Sarawak Kanan	Kuching
109° 51' 11"	Sg. Lundu	Kuching
110° 28' 50"	Sg. Selabat	Kuching
110° 24' 04"	Sg. Tapah	Siburan, Tapah and Beratok
109° 47' 44"	Sg. Sebat Besar	Sematan
110° 01' 56"	Sg. Siniawan	Kuching
111° 31' 10"	Sg. Batang Undup	Sri Aman
111° 25' 00"	Sg. Dor	Melugu
111° 37' 10"	Sg. Dor	Skrang
111° 49' 51"	Sg. Batang Ai	Lubuk Antu
111° 38' 13"	Sg. Marup	Engkili
111° 23' 05"	Sg. Seterap	Pantu
111° 10' 16"	Sg. Stugok	Lingga
112° 50' 05"	Sg. Lemanak	Lubuk Antu LDS
111° 32' 16"	Sg. Stumbin	Stumbin/Bijat
113° 06' 33"	Sg. Sibiu	Bintulu
113° 06' 32"	Sg. Sibiu	Bintulu

<i>Location of Water Intake</i>	<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
111° 02' 09"	1° 39' 38"	Sg. Meludam
111° 07' 00"	1° 10' 00"	Sg. Batang Layar
111° 23' 57"	1° 39' 12"	Sg. Obar
111° 12' 19"	1° 38' 01"	Sg. Dumit
111° 17' 15"	1° 38' 39"	Sg. Undai
111° 19' 34"	1° 47' 15"	Sg. Sebelak
111° 41' 11"	2° 04' 54"	Sg. Bintangor
111° 30' 05"	2° 01' 35"	Sg. Bintangor
111° 40' 45"	1° 53' 35"	Sg. Julau
111° 54' 15"	2° 01' 41"	Sg. Julau
111° 15' 42"	2° 00' 54"	Sg. Kerubong
115° 23' 11"	4° 49' 34"	Sg. Gaya
114° 55' 48"	4° 49' 34"	Sg. Menuang
115° 19' 17"	4° 50' 32"	Sg. Batang Trusan
115° 16' 15"	4° 47' 08"	Sg. Batang Trusan
110° 33' 45"	1° 09' 45"	Sg. Sadong
110° 37' 0"8	1° 08' 03"	Sg. Sinyaru
110° 47' 61"	1° 22' 03"	Sg. Melanjok
110° 30' 21"	1° 05' 53"	Sg. Kayan
110° 40' 00"	1° 12' 23"	Sg. Batang Krang
110° 37' 01"	1° 32' 31"	Sg. Nonok
110° 56' 06"	1° 31' 08"	Sg. Sebuyau
110° 21' 18"	1° 01' 45"	Sg. Suhu
110° 45' 58"	1° 33' 36"	Sg. Sebangan
110° 48' 26"	1° 03' 04"	Sg. Krang
113° 16' 08"	3° 06' 43"	Sg. Sebangat
112° 51' 32"	2° 53' 13"	Sg. Sap Kiri
113° 29' 49"	3° 15' 39"	Sg. Batang Kemena
113° 42' 49"	3° 09' 54"	Sg. Jelalang
112° 47' 05"	3° 04' 08"	Ground Water
112° 47' 15"	3° 04' 08"	Sg. Anap
113° 56' 42"	3° 09' 52"	Sg. Koyan
114° 19' 06"	4° 10' 40"	Sg. Batang Baram
114° 24' 43"	3° 45' 56"	Sg. Batang Baram
113° 55' 44"	4° 06' 26"	Sg. Kejapil
114° 06' 15"	3° 58' 02"	Sg. Bakong
		Beluru

<i>Location of Water Intake</i> (1)	<i>Name of River/Reservoir/Well</i> (2)	<i>Water Supply Scheme</i> (3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
113° 47' 02"	3° 44' 00"	Sg. Niah
112° 11' 26"	2° 46' 08"	Sg. Kanowit
112° 35' 09"	3° 00' 47"	Sg. Mukah
112° 23' 28"	2° 22' 28"	Sg. Ulu Mukah
112° 04' 19"	2° 52' 26"	Sg. Kanowit
112° 04' 46"	2° 17' 15"	Sg. Bawang Assan
111° 58' 30"	2° 41' 15"	Sg. Ngemah
111° 18' 21"	1° 53' 08"	Sg. Kabah
112° 09' 08"	2° 55' 18"	Sg. Ngemah
112° 56' 15"	2° 00' 51"	Sg. Batang Rejang
113° 46' 02"	2° 42' 33"	Sg. Belaga
113° 40' 57"	1° 49' 08"	Sg. Batang Baleh
112° 32' 24"	2° 56' 17"	Sg. Suyung
112° 09' 05"	2° 05' 57"	Sg. Batang Mukah
111° 43' 10"	2° 50' 05"	Sg. Lasai Dagan
111° 50' 28"	2° 44' 11"	Sg. Nangar
112° 21' 36"	2° 05' 16"	Sg. Setuan Besar
111° 30' 42"	2° 38' 14"	Sg. Mabun
111° 23' 32"	2° 25' 05"	Sg. Muara Serdang
111° 15' 12"	2° 24' 48"	Ground Water
111° 35' 08"	2° 04' 49"	Sg. Batang Jemoreng
111° 27' 54"	2° 37' 57"	Sg. Daro
111° 27' 50"	2° 30' 00"	Ground Water
		Saai

(10) Federal Territory of Labuan

<i>Location of Water Intake</i> (1)	<i>Name of River/Reservoir/Well</i> (2)	<i>Water Supply Scheme</i> (3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
115° 11' 00"	5° 21' 00"	Sg. Kina Benuwa
115° 10' 00"	5° 19' 00"	Sg. Kina Benuwa
115° 13' 00"	5° 19' 00"	Sg. Kina Benuwa
115° 12' 59"	5° 18' 13"	Sg. Kina Benuwa

<i>Location of Water Intake</i>	<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
115° 14' 59"	5° 17' 36"	Telaga Tiub Borehole No. A19
115° 15' 01"	5° 17' 27"	Telaga Tiub Borehole No. M
115° 15' 02"	5° 17' 19"	Telaga Tiub Borehole No. B
115° 15' 17"	5° 17' 21"	Telaga Tiub Borehole No. A 21
115° 15' 26"	5° 17' 24"	Telaga Tiub Borehole No. M 11
115° 15' 34"	5° 17' 38"	Telaga Tiub Borehole No. B 23
115° 15' 20"	5° 17' 42"	Telaga Tiub Borehole No. A 12
115° 15' 16"	5° 10' 05"	Telaga Tiub Borehole No. W 5
115° 15' 11"	5° 17' 53"	Telaga Tiub Borehole No. A 20
115° 15' 01"	5° 10' 16"	Telaga Tiub Borehole No. B 24
115° 15' 01"	5° 10' 01"	Telaga Tiub Borehole No. 10
115° 14' 59"	5° 10' 30"	Telaga Tiub Borehole No. W 4
115° 14' 48"	5° 18' 45"	Telaga Tiub Borehole No. W 3
115° 14' 26"	5° 19' 51"	Telaga Tiub Borehole No. B 27
115° 14' 26"	5° 19' 52"	Telaga Tiub Borehole No. A 14
115° 14' 13"	5° 19' 36"	Telaga Tiub Borehole No. A 17
115° 14' 29"	5° 19' 18"	Telaga Tiub Borehole No. A 13
115° 14' 38"	5° 19' 28"	Telaga Tiub Borehole No. B 26
115° 14' 33"	5° 19' 05"	Telaga Tiub Borehole No. W 1
115° 14' 39"	5° 19' 12"	Telaga Tiub Borehole No. B 25
115° 14' 40"	5° 18' 56"	Telaga Tiub Borehole No. W 2
115° 14' 44"	5° 18' 28"	Telaga Tiub Borehole No. A 8

<i>Location of Water Intake</i>		<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)	
<i>Longitude (East)</i>	<i>Latitude (North)</i>		
115° 14' 28"	5° 18' 28"	Telaga Tiub Borehole No. A 15	
115° 15' 09"	5° 17' 32"	Telaga Tiub Borehole No. B 22	
115° 14' 46"	5° 18' 00"	Telaga Tiub Borehole No. A 18	

(II) The State of Sabah

<i>Location of Water Intake</i>		<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)	
<i>Longitude (East)</i>	<i>Latitude (North)</i>		
116° 09' 24.2"	5° 55' 21.4"	Sg. Moyog	Penampang
116° 11' 16.2"	5° 54' 47.6"	Empangan Babagon	Penampang
116° 06' 33.6"	5° 54' 52.4"	Sg. Moyog	Penampang
116° 00' 00.1"	5° 41' 06.6"	Sg. Papar	Papar
115° 56' 51.9"	5° 42' 52.9"	Sg. Papar	Papar
115° 56' 52.2"	5° 42' 50.2"	Sg. Papar	Papar
116° 02' 12.5"	5° 42' 31.4"	Sg. Papar	Papar
116° 14' 34.3"	6° 08' 49.9"	Sg. Tuaran	Tamparuli
116° 16' 09.9"	6° 07' 54.9"	Sg. Tuaran	Tamparuli
116° 14' 14.3"	6° 09' 12.2"	Sg. Tuaran	Tamparuli
116° 13' 56.6"	6° 08' 24.9"	Sg. Tuaran	Tamparuli
116° 17' 55.7"	6° 11' 20.4"	Sg. Damit	Tuaran
116° 13' 43.2"	6° 10' 26.1"	Sg. Tuaran	Tuaran
118° 06' 49.7"	5° 51' 14.2"	Boreholes	Sandakan
118° 06' 47.9"	5° 51' 22.0"	Boreholes	Sandakan
118° 06' 29.0"	5° 51' 21.4"	Boreholes	Sandakan
118° 06' 12.9"	5° 51' 27.6"	Boreholes	Sandakan
118° 05' 51.5"	5° 51' 21.6"	Boreholes	Sandakan
118° 04' 41.3"	5° 51' 17.0"	Boreholes	Sandakan
118° 03' 45.1"	5° 49' 58.8"	Boreholes	Sandakan
118° 03' 49.1"	5° 50' 04.1"	Boreholes	Sandakan
118° 04' 07.6"	5° 50' 36.7"	Boreholes	Sandakan
118° 04' 14.1"	5° 50' 45.5"	Pond	Sandakan
118° 04' 19.8"	5° 50' 57.5"	Boreholes	Sandakan

<i>Location of Water Intake</i>		<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)	
<i>Longitude (East)</i>	<i>Latitude (North)</i>		
118° 04' 31.8"	5° 51' 14.1"	Boreholes	Sandakan
118° 03' 03.6"	5° 50' 36.5"	Boreholes	Sandakan
118° 03' 01.2"	5° 50' 24.9"	Pond	Sandakan
118° 02' 41.5"	5° 50' 13.6"	Boreholes	Sandakan
118° 02' 46.4"	5° 50' 00.0"	Boreholes	Sandakan
118° 02' 50.8"	5° 49' 57.9"	Pond	Sandakan
118° 02' 26.5"	5° 49' 34.2"	Boreholes	Sandakan
118° 02' 24.3"	5° 49' 20.8"	Boreholes	Sandakan
118° 02' 11.6"	5° 49' 59.1"	Boreholes	Sandakan
118° 01' 44.8"	5° 50' 18.7"	Boreholes	Sandakan
118° 01' 56.1"	5° 49' 39.3"	Boreholes	Sandakan
118° 01' 35.2"	5° 49' 30.1"	Boreholes	Sandakan
118° 01' 22.4"	5° 49' 25.5"	Boreholes	Sandakan
118° 01' 19.2"	5° 48' 53.9"	Boreholes	Sandakan
118° 04' 42.1"	5° 51' 16.0"	Boreholes	Sandakan
117° 50' 11.3"	5° 29' 07.2"	Sg. Kinabatangan	Kinabatangan
117° 32' 00"	5° 53' 00"	Sg. Muanad	Beluran
117° 52' 48.3"	4° 16' 47.0"	Sg. Tawau	Tawau
117° 53' 52.2"	4° 21' 00.4"	Sg. Tawau	Tawau
117° 46' 31.7"	4° 27' 10.0"	Sg. Merotai	Tawau
118° 10' 09.6"	5° 00' 11.4"	Empangan Sepagaya	Lahad Datu
118° 13' 28.0"	5° 06' 01.2"	Sg. Segama	Lahad Datu
118° 49' 50.8"	5° 04' 24.5"	Sg. Tungku	Lahad Datu
118° 14' 34.7"	4° 28' 52.3"	Sg. Kalumpang	Semporna
118° 11' 04.4"	4° 35' 10.9"	Sg. Kalumpang	Kunak
116° 08' 48.8"	5° 22' 39.9"	Sg. Liawan	Keningau
116° 10' 01.6"	5° 26' 18.0"	Sg. Bayayo	Keningau
116° 20' 04.4"	5° 41' 49.6"	Sg. Tondulu	Tambunan
115° 56' 06.0"	5° 06' 58.7"	Sg. Padas	Tenom
115° 55' 01.8"	4° 53' 38.8"	Sg. Padas	Tenom
116° 25' 59.4"	5° 02' 01.5"	Sg. Panawan	Pensiangan
116° 18' 12.6"	5° 08' 38.2"	Sg. Sook	Sook
115° 46' 10.9"	5° 20' 36.2"	Sg. Padas	Beaufort
115° 34' 37.5"	5° 06' 31.0"	Sg. Lukutan	Sipitang
115° 48' 04.0"	5° 28' 19.7"	Sg. Membakut	Membakut
116° 48' 04.4"	6° 56' 20.5"	Empangan Pinangsoo	Kudat

<i>Location of Water Intake</i> (1)	<i>Name of River/Reservoir/Well</i> (2)	<i>Water Supply Scheme</i> (3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
116° 44' 56.6"	6° 28' 01.1"	Sg. Bandau
116° 44' 54.1"	6° 27' 57.1"	Sg. Pengapunya
117° 01' 50.1"	6° 40' 45.1"	Sg. Bengkoka
116° 26' 05.4"	6° 21' 31.8"	Sg. Tempasuk
116° 37' 43.4"	5° 57' 16.1"	Sg. Liwagu
117° 06' 00"	5° 37' 00"	Sg. Maliau
116° 59' 00"	5° 16' 00"	Sg. Milian
116° 50' 00"	5° 12' 00"	Sg. Melikop

(12) The State of Terengganu

<i>Location of Water Intake</i> (1)	<i>Name of River/Reservoir/Well</i> (2)	<i>Water Supply Scheme</i> (3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
103° 21' 20"	4° 40' 40"	Loji Air Bukit Bauk
103° 20' 18"	4° 47' 40"	Loji Air Serdang
103° 10' 20"	4° 49' 10"	Loji Air Tepus
103° 19' 10"	4° 13' 00"	Loji Air Bukit Sah
103° 11' 50"	4° 06' 35"	Loji Air Cherul
103° 03' 50"	5° 15' 55"	Loji Air Kepong
103° 05' 40"	5° 17' 37"	Loji Air Bukit Losong
103° 00' 35"	5° 04' 30"	Loji Air Kuala Berang
103° 02' 45"	4° 55' 45"	Loji Air Gunung
102° 58' 05"	5° 09' 10"	Loji Air Telemong
103° 12' 15"	4° 50' 38"	Loji Air Jerangau
102° 30' 00"	5° 38' 05"	Loji Air Bukit Bunga (new and old)
102° 45' 00"	5° 05' 00"	Loji Air Pulau Perhentian
102° 45' 00"	5° 31' 50"	Sg. Setiu
102° 49' 42"	5° 26' 18"	Sg. Chalok
102° 51' 42"	5° 20' 12"	Sg. Nerus

(13) The State of Negeri Sembilan

<i>Location of Water Intake</i>	<i>Name of River/Reservoir/Well</i>	<i>Water Supply Scheme</i>
(1)	(2)	(3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
102° 20' 32"	2° 34' 06"	Empangan Gemencheh
102° 34' 18.0"	2° 38' 35"	Sg. Muar
102° 32' 21"	2° 38' 23"	Sg. Muar
102° 21' 10"	2° 40' 14"	Sg. Dangi
102° 23' 49"	2° 36' 16"	Telaga Tiub Bukit Rokan
102° 03' 17"	2° 39' 40"	Sg. Beringin
102° 34' 18"	2° 38' 59"	Empangan Batu Hampar
102° 22' 01"	2° 43.00'	Sg. Jelai
102° 14' 79"	2° 44' 02"	Sg. Muar
102° 14' 22"	2° 44' 25"	Sg. Muar
102° 04' 3"	2° 42' 44"	Sg. Batang Terachi
102° 08' 51.7"	2° 47' 10"	Empangan Talang/Sg. Muar
102° 24.090'	2° 44' 24"	Sg. Muar
102° 22' 0.05"	2° 48' 59"	Sg. Muar
102° 22' 24.8"	2° 47' 59"	Sg. Muar
102° 0.1' 26.4"	2° 48' 14"	Hutan Simpan Berembun
101° 55' 04.5"	2° 56' 06"	Sg. Broga
101° 59' 43.4"	2° 45' 31"	Sg. Batang Benar
101° 00' 14.3"	2° 45' 33"	Empangan Sg. Terip
102° 14.784'	2° 44' 25"	Sg. Mahang
101° 50.000'	2° 48' 14"	Sg. Ngoi-Ngoi
102° 56.927	2° 36' 12"	Sg. Linggi
102° 03' 59"	02° 56' 13.1"	Sg. Kemin
102° 13' 04.7"	3° 04' 31"	Sg. Triang
102° 06' 40.0"	3° 04' 02"	Sg. Kenaboi
102° 13' 36"	02° 57' 54"	Sg. Pertang

(14) The State of Melaka

<i>Location of Water Intake</i> (1)	<i>Name of River/Reservoir/Well</i> (2)	<i>Water Supply Scheme</i> (3)
<i>Longitude (East)</i>	<i>Latitude (North)</i>	
102° 15' 50"	2° 17' 55"	Sg. Melaka Jasin, Melaka Tengah and Alor Gajah
102° 18' 40"	2° 20' 00"	Empangan Durian Tunggal Melaka Tengah, Alor Gajah and Jasin
102° 15' 50"	2° 17' 55"	Sg. Melaka Melaka Tengah, Alor Gajah and Jasin
102° 15' 25"	2° 24' 35"	Sg. Batang Melaka Alor Gajah, Masjid Tanah and Lubuk Cina
102° 29' 12"	2° 16' 00"	Sg. Kesang Jasin
102° 28' 15"	2° 11' 50"	Sg. Kesang Jasin and Merlimau
102° 22' 15"	2° 26' 35"	Empangan Jus Alor Gajah, Masjid Tanah and Lubuk Cina
102° 35' 16"	2° 24' 23"	Empangan Asahan Asahan, Simpang, Bekoh, Nyalas and Bukit Senggeh
102° 45' 02"	2° 12' 10"	Sg. Muar Melaka Tengah, Alor Gajah and Jasin

SEVENTH SCHEDULE

(Regulation 12)

ACCEPTABLE CONDITIONS FOR DISCHARGE OF INDUSTRIAL EFFLUENT CONTAINING CHEMICAL OXYGEN DEMAND (COD) FOR SPECIFIC TRADE OR INDUSTRY SECTOR

<i>Trade/Industry</i> (1)	<i>Unit</i> (2)	<i>Standard</i> (3)	<i>Standard</i> (4)
		A	B
<i>(a) Pulp and paper industry</i>			
(i) pulp mill	mg/L	80	350
(ii) paper mill (recycled)	mg/L	80	250
(iii) pulp and paper mill	mg/L	80	300

(b) Textile industry	mg/L	80	250
(c) Fermentation and distillery industry	mg/L	400	400
(d) Other industries	mg/L	80	200

EIGHTH SCHEDULE

(Regulation 13)

ACCEPTABLE CONDITIONS FOR DISCHARGE OF MIXED EFFLUENT
CONTAINING CHEMICAL OXYGEN DEMAND (COD)

(1) Unit	(2) Standard A	(3) Standard B
		mg/L
	80	200

NINTH SCHEDULE

(Regulation 14)

LIST OF PARAMETERS FOR DISCHARGE OF INDUSTRIAL EFFLUENT OR MIXED
EFFLUENT WHICH BEST MANAGEMENT PRACTICE TO BE ADOPTED

- (i) Nitrate Nitrogen
- (ii) Sulphate
- (iii) Chloride
- (iv) Cobalt
- (v) Detergent, Anionic
- (vi) Molybdenum
- (vii) Phosphate (as P)
- (viii) Polychlorinated Biphenyls
- (ix) Beryllium
- (x) Vanadium
- (xi) Pesticides, fungicides, herbicides, rodenticides, fumigants or any other biocides or any other chlorinated hydrocarbons
- (xii) Any substance that either by itself or in combination or by reaction with other waste may give rise to any gas, fume or odour or substance which causes or is likely to cause pollution
- (xiii) Total Organic Carbon
- (xiv) Whole Effluent Toxicity (WET)
- (xv) Dioxin
- (xvi) Endocrine disruptors

TENTH SCHEDULE

[Subregulation 7(2)]

MONTHLY INDUSTRIAL EFFLUENT OR MIXED EFFLUENT
DISCHARGE MONITORING REPORT

SECTION I

IDENTIFICATION

1. (i) Name and address of premises:
-
.....
.....

Telephone number: Fax number:

(ii) File reference number (if applicable):

2. (i) Name and address of accredited analytical laboratory:
-
.....
.....

Telephone number: Fax number:

(ii) Name of analyst:
.....
.....

3. (i) Reporting year:

(ii) Reporting month:

SECTION II

INFORMATION ON INDUSTRIAL EFFLUENT OR MIXED EFFLUENT

4. (i) Flowrate*

Minimum: m³/d, Maximum: m³/d

(ii) Quality of effluent discharged (unit in mg/L)

Parameter***	First Week Date:	Second Week Date:	Third Week Date:	Fourth Week Date:
Temperature				
pH Value				
BOD _s at 20°C				
COD				
Suspended Solids				
Mercury				
Cadmium				

Parameter***	First Week Date:	Second Week Date:	Third Week Date:	Fourth Week Date:
Chromium, Hexavalent				
Arsenic				
Cyanide				
Lead				
Chromium, Trivalent				
Copper				
Manganese				
Nickel				
Tin				
Zinc				
Boron				
Iron				
Silver				
Aluminium				
Selenium				
Barium				
Fluoride				
Formaldehyde				
Phenol				
Free Chlorine				
Sulphide				
Oil and Grease (n-hexane extract)				
Ammoniacal Nitrogen				
Colour**				

* The flowrate and concentration of industrial effluent or mixed effluent at the point of discharge as determined in accordance with the sampling procedure and method of analysis as specified in regulation 16.

** ADMI unit

*** Choose only the significant parameters

SECTION III
DECLARATION

I, hereby declare that all information given in this form is to the best of my knowledge and belief true and correct.

Signature of responsible person:

.....
Name:

Designation:

Date :

(Affix official seal or stamp of the company)

ELEVENTH SCHEDULE

[Subregulation 17(1)]

**SPECIFICATIONS OF POINT OF DISCHARGE OF
INDUSTRIAL EFFLUENT OR MIXED EFFLUENT**

1. The discharge point is located within the boundary of the premises, immediately after the final unit operation or unit process of the industrial effluent treatment system.
2. The location of the discharge point is easily accessible and does not pose any safety hazards to personnel performing site inspection or effluent sampling.
3. The industrial effluent or mixed effluent is discharged through a pipe, conduit or channel to facilitate effluent sampling.
4. The discharge point is physically identified by installing a metal identification sign which reads "Final Discharge Point".
5. The discharge point and its surrounding are properly maintained to be free from any obstruction that may pose difficulty or hazards during site inspection or effluent sampling.

TWELFTH SCHEDULE

[Subregulation 30(1)]

LIST OF UNDESIRABLE OCCURRENCES

1. Pollution cases that seriously threaten the environment or public health and safety which warrant immediate halt.

2. Premises that experience industrial disaster such as fire, explosion and the like which may pose serious risk to the environment or the public in the vicinity.
3. Serious environmental pollution which gives rise to frequent complaints and upon investigation, the complaints are found to be justified and the premises are flouting the directives of the Director General.
4. Premises which frequently commit similar offences despite having been subject to various legal actions by the Director General such as notices, directives, compounds or court action.
5. Pollution cases which cause serious negative impacts to aquatic life and there is evidence indicating that the premises do not make sufficient effort to overcome the pollution problems.
6. Serious environmental pollution with wide coverage in the mass media and there is evidence indicating that the pollution occurred as a result of absence, non-operation or malfunctioning of industrial effluent treatment system in the premises.
7. Premises which discharge untreated or partially treated industrial effluent or mixed effluent or which discharge industrial effluent or mixed effluent through a by-pass and based on measurements or analysis of industrial effluent or mixed effluent quality using *in-situ* methods, there is evidence indicating that the industrial effluent or mixed effluent is grossly non-compliant.

THIRTEENTH SCHEDULE

[Subregulation 31(1)]

METHOD OF COMPUTING EFFLUENT-RELATED LICENCE FEE

Parameter	Fee per kg of contaminant discharged into inland waters as specified in paragraph 11(1)(a)	Fee per kg of contaminant discharged onto any soil or into other inland waters
(i) BOD ₅ at 20°C	RM 0.50	RM 0.05
(ii) Mercury	RM 2500.00	RM 250.00
(iii) Cadmium	RM 2500.00	RM 250.00
(iv) Chromium, Hexavalent	RM 2500.00	RM 250.00
(v) Chromium, Trivalent	RM 2500.00	RM 250.00
(vi) Arsenic	RM 2500.00	RM 250.00
(vii) Cyanide	RM 2500.00	RM 250.00
(viii) Lead	RM 2500.00	RM 250.00
(ix) Copper	RM 2500.00	RM 250.00
(x) Manganese	RM 2500.00	RM 250.00
(xi) Nickel	RM 2500.00	RM 250.00
(xii) Tin	RM 2500.00	RM 250.00
(xiii) Silver	RM 2500.00	RM 250.00

Parameter	Fee per kg of contaminant discharged into inland waters as specified in paragraph 11(1)(a)	Fee per kg of contaminant discharged onto any soil or into other inland waters
(xiv) Selenium	RM 2500.00	RM 250.00
(xv) Barium	RM 2500.00	RM 250.00
(xvi) Fluoride	RM 2500.00	RM 250.00
(xvii) Formaldehyde	RM 2500.00	RM 250.00
(xviii) Zinc	RM 2500.00	RM 250.00
(xix) Boron	RM 500.00	RM 50.00
(xx) Iron	RM 500.00	RM 50.00
(xxi) Phenol	RM 500.00	RM 50.00
(xxii) Sulfide	RM 500.00	RM 50.00
(xxiii) Oil and Grease (n-hexane extract)	RM 500.00	RM 50.00
(xiv) Ammoniacal Nitrogen	RM 500.00	RM 50.00

Made 12 October 2009
 [AS(S) 91/110/919/026; PN(PU²)280/XII]

DATUK DOUGLAS UGGAH EMBAS
Minister of Natural Resources and the Environment

Hakcipta Pencetak 

PERCETAKAN NASIONAL MALAYSIA BERHAD

Semua Hak Terpelihara. Tiada mana-mana bahagian jua daripada penerbitan ini boleh diterbitkan semula atau disimpan di dalam bentuk yang boleh diperolehi semula atau disiaran dalam sebarang bentuk dengan apa jua cara elektronik, mekanikal, fotokopi, rakaman dan/ atau sebaliknya tanpa mendapat izin daripada Percetakan Nasional Malaysia Berhad (Pencetak kepada Kerajaan Malaysia yang dilantik).



DICETAK OLEH
 PERCETAKAN NASIONAL MALAYSIA BERHAD,
 KUALA LUMPUR
 BAGI PIHAK DAN DENGAN PERINTAH KERAJAAN MALAYSIA