



Environmental Requirements:

A Guide For Investors

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INTRODUCTION

1. In the promotion of environmentally sound and sustainable development, the Government of Malaysia has established the necessary legal and institutional arrangements such that environmental factors are considered at the early stages of project planning. With reference to the licensing requirements for establishment of business/industry in the country, environmental requirements and assessment constitute the second level of approval that need to be obtained after a business or industry has been registered.
2. Before a business can legally start operating, businesses are required to comply with some form of licensing, which could be a general licence, an industry/sector specific licence or activity specific licence. Business licences are required by the legislation and administered by various government agencies, statutory bodies and local authorities. Business licences includes registrations, approvals, licences and permits. The compliance requirements vary by industry, business activity and location. Business licences can be categorized into 3 different logical groups, namely:
 - (a) **General licences** - are licences that are required and shall be applicable once the investor has decided to incorporate a company and starts to employ staff. List of General licences, which may applicable to any business, include:
 - ✓ Company Registration
 - ✓ Company and Employees Income Tax Registration
 - ✓ Employees Provident Fund
 - ✓ Social Security Organisation
 - ✓ Human Resources Development Fund
 - (b) **Sector Industry Specific licences** - are licences unique to a particular industry or sector that is specified by the Government. This involves major policies that controlled the development of certain industries or sectors in line with the development policy of the country. Examples of Sector/Industry Specific licences are:

- ✓ Manufacturing licence
- ✓ Telecommunication licence
- ✓ Broadcasting licence
- ✓ Oil Exploration licence

(c) **Activity Specific licences** - are licences that regulate particular activity and could be applicable to one or more Industries or Sectors. This category of licence requires investor to comply with sets of specific guidelines designed to protect the interest of the citizen, employment, safety of workers, environment and general public. Examples of Activity Specific Licences are:

- ✓ Certificate of Fitness for Certified Machinery
- ✓ Approval for Expatriate Post
- ✓ Approval to install/resite/alter Air Pollution Control Equipment (bag filter and chimney)
- ✓ Building Plan Approval
- ✓ Sales Tax Licence

The above information is a general guide towards making the initial steps, decision and planning for the intended business by potential investors and business owners. Investors can obtain further and specific information on "Business in Malaysia" from Business Licensing Electronic Support System (BLESS) Portal (www.bless.gov.my). BLESS provides information and facilities for companies to apply licences or permits to start operating business in Malaysia. [*Note: To date, for the initial implementation (Phase 1), BLESS only covers application of business licences for the Manufacturing, Construction and Hotel Sectors and with manufacturing, construction and hotel facilities located within the Klang Valley*].

3. Environmental assessment is an important technique for ensuring that the likely impacts on the environment of proposed development are fully understood and taken into account before such development is allowed to go ahead. In Malaysia, Environmental Impact Assessment (EIA) is required for activities prescribed under the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987. Those industrial activities that are not subject to the mandatory EIA requirements are nevertheless subject to various regulations under the Environmental Quality Act, 1974 (EQA).

4. The set of guidelines, which is intended primarily for investors or project proponents and their consultants, sets out Malaysia's environmental policy objectives, and explains the environmental requirements for planning of industrial development projects in Malaysia. It also provides information on the relevant legislation and describes procedures for obtaining appropriate approvals from the Department of Environment, the regulatory agency which administers the EQA of 1974.

NATIONAL POLICY ON THE ENVIRONMENT

5. The National Policy on the Environment which integrates the three elements of sustainable development: economic, social and cultural development and environmental conservation was formulated and approved in 2002. The Policy aims at continued economic, social and cultural progress and enhancement of the quality of life of Malaysians through environmentally sound and sustainable development. It is based in eight (8) inter-related and mutually supporting principles set to harmonize economic development goals with environmental imperatives:-
 - (a) Stewardship of the Environment
 - (b) Conservation of the Nature's Vitality and Diversity
 - (c) Continuous Improvement in the Quality of the Environment
 - (d) Sustainable Use of Natural Resources
 - (e) Integrated Decision-making
 - (f) Role of the Private Sector
 - (g) Commitment and Accountability
 - (h) Active Participation in the International Community
6. In keeping abreast with the country's rapid economic development and to meet with the nation's aspiration for an improved quality of life, the National Policy on the Environment serves as an important guide to all stakeholders to ensure that the environment is clean, safe, healthy and productive.

ENVIRONMENTAL QUALITY ACT, 1974

7. The legislation that is related to the prevention, abatement, control of pollution and enhancement of the environment in Malaysia is the Environmental Quality Act, 1974. The Act restricts the discharge of wastes into the environment in contravention of the **acceptable conditions**. To date **38 sets** of Regulations and Orders as per **Appendix A** have been introduced and enforced. The Director General of Environmental Quality has been appointed by the Minister to administer this Act and any regulations and orders made thereunder.

ENVIRONMENTAL REQUIREMENTS

8. Under the Environmental Quality Act (EQA), 1974 and the Regulations thereunder, industrial activities are required to obtain the following approvals from the Director General of Environmental Quality prior to project implementation:
 - (a) **Environmental Impact Assessment reports** - under Section 34A of the EQA, 1974 **(for prescribed activities)**;
 - (b) **Site suitability evaluation (for non-prescribed activities)**;
 - (c) **Written permission to construct** - under Section 19 of the EQA, 1974 **(for prescribed premises-scheduled wastes treatment and disposal facilities, crude palm oil mills and raw natural rubber processing mills)**;
 - (d) **Written approval for installation of incinerator, fuel burning equipment and chimney** – under Environmental Quality (Clean Air) Regulation, 1978, EQA, 1974; and
 - (e) **License to use and occupy prescribed premises and prescribed conveyances** - under Section 18 of the EQA, 1974.

9. **Figure 1** outlines the application procedure for environmental requirements in Malaysia.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR PRESCRIBED ACTIVITIES

A. Prescribed Activities

10. All prescribed activities need to obtain EIA approval from the Director General of Environment prior to the giving of approval by the relevant Federal or State Government authority for the implementation of the project. The Approving Authority is the Government Authority that has the task of deciding, whether or not a project should proceed.
11. Every industrial proposal should be examined by the investor to see whether an environmental impact assessment (EIA) needs to be conducted. A prospective investor should therefore first of all determine whether or not a proposed venture is categorised as 'prescribed activity' as stipulated in the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987, (**Appendix B**).
12. If the proposed venture is categorised as a 'prescribed activity' under the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987 (**Appendix B**), an EIA study needs to be conducted and the EIA report has to be submitted to the Director General of Environmental Quality for approval. The project is not allowed to proceed unless approval of the EIA report has been granted.
13. Due to the sensitivity of the project and polluting potential (significant impacts) from the construction and/or operations, some of the prescribed activities have been required to go through the Detailed EIA Procedures which involves public participation. Those activities are as in **Appendix C**.

B. EIA Study and Report

14. An EIA Study has to be conducted by competent individuals who are registered with the Department of Environment under the EIA Consultant Registration Scheme. The DOE will reject EIA reports which are conducted by individuals who are not registered with the Department. As such, the project proponent or EIA study team leader has to ensure that all members in the EIA study team are registered with the Department of Environment. The list of registered EIA Consultants (including Subject Consultants and Assistant Consultants) is available at the Department of Environment website (www.doe.gov.my). Details on the registration scheme are also available at the website (EIA Consultant Registration Guidance Document).
15. The preparation of EIA reports by registered EIA consultants shall be in accordance with the guidelines prescribed by the Director General of Environment and other relevant guidelines published by other agencies. “A Handbook of Environmental Impact Assessment Guidelines” (fourth edition) 2007 has been prepared to assist project proponents understand the objectives of EIA, procedures for carrying out EIA studies and guidelines on preparation of EIA reports. Subsequently EIA Guidelines for specific activities were developed and published by the Department of Environment (list in **Appendix D**). The handbook can be obtained from the headquarters of the Department of Environment, Putrajaya, the State Offices of the Department of Environment and the office of the representative of the Department of Environment at the Malaysian Industrial Development Authority (MIDA). Addresses and telephone numbers of these offices are as per **Appendix E**.

C. EIA Procedure

16. There are two EIA procedures adopted in Malaysia, namely the Preliminary EIA and the Detailed EIA, that can be described as follows:
 - (a) Preliminary EIA

Preliminary EIA is assessment of impacts due to those activities that are prescribed. The Preliminary EIA report is reviewed by a Technical Committee consisting of the Department of Environment State Offices and other relevant government agencies.

The procedure for Preliminary EIA is as shown in **Appendix F1**. The number of Preliminary EIA report to be submitted to the Department of Environment State Offices for review is 12 copies, and 3 copies plus 2 softcopies of the Executive Summary of the Preliminary EIA report, to the Department of Environment Headquarters and relevant State Office.

(b) Detailed EIA

Detailed EIA is a procedure undertaken for those projects with major/significant impacts to the environment. The procedure for Detailed EIA is as shown in **Appendix F2**. The Detailed EIA involves EIA report display for the public and affected community to comment. Activities which need to go through the Detailed EIA procedure, are listed in **Appendix C**. Notwithstanding the list in **Appendix C**, the Director General of Environment may request a Detailed EIA for other prescribed activities as he deems necessary. For projects which have been determined to require a Detailed EIA, the project initiator must submit the terms of reference (TOR) for DOE's approval, in accordance to the format outlined in specific EIA guidelines. The number of copies of TOR to be submitted to the Department of Environment is 35 copies. The number of Detailed EIA report to be submitted to the Department of Environment Headquarters for review is 50 copies.

17. For an industrial project, the EIA generally would assist in determining site suitability as well as the necessary environmental control and mitigation measures. The objectives of EIA are summarised as follows:

- ✓ To examine and select the best from the project options available;
- ✓ To identify, predict and assess significant residual environmental impacts;
- ✓ To recommend and incorporate into the project plan, appropriate abatement and mitigating measures; and
- ✓ To identify the environmental costs and benefits of the project to the community.

SITE SUITABILITY EVALUATION FOR NON-PRESCRIBED ACTIVITIES

18. One of the most important procedures which have an immediate bearing on the period of processing and condition of approval on environmental ground is the SITE SUITABILITY for the proposed project. Irrespective of whether the proposed industrial activity is going to be sited within an industrial estate or otherwise, it should be developed and managed with environmentally sound control measures. Therefore, all potential industrial sites for the establishment of new industrial activities which are NOT subject to EIA Order, 1987, particularly the Small and Medium Scale Industries (SMLs), are advised to refer to the Department of Environment for consideration and advice on site suitability.
19. In considering the suitability, the site is evaluated in terms of its compatibility with respect to the gazetted structure/local plans, surrounding landuse, provision of set-backs or buffer zones, the capacity of the area to receive additional pollution load, and waste disposal requirements. Details on the appropriate buffer zone with respect to a specific category of industry can be obtained from 'Guidelines for the Siting and Zoning of Industries' prepared by DOE. An outline of the guidelines is given in **Appendix G**.
20. For potentially hazardous* type of industries, the project proponent may be required to submit a RISK ASSESSMENT study to the Department of Environment as part of the site consideration, in accordance with the *EIA Guidelines For Risk Assessment 2004, established by the DOE*. [Note: *Hazardous Industry: Any industry or installation which has the potential for causing injury threat to health, death and damage to property or the environment].
21. The Term of Reference for the preparation of an EIA report for proposed industrial projects located within gazetted and EIA approved industrial estates is as in **Appendix H**. The scopes to be studied in the EIA report are not restricted to the information in this Appendix. The EIA report has to be more specific in terms of the proposed site and project.

WRITTEN PERMISSION

22. Any person intending to carry out activities as listed below shall obtain prior written permission from the Director General of Environmental Quality:-
Construction on any land or any building; or carrying out works that would cause the land or building to become prescribed premises as stipulated under Section 19 of the Environmental Quality Act, 1974:-
- (a) scheduled wastes treatment and disposal facilities
 - (b) crude palm oil mills
 - (c) raw natural rubber processing mills
23. Such application has to be accompanied by a prescribed fee.

WRITTEN APPROVAL

24. Applicants intending to carry out activities as listed below shall obtain prior written approval from the Director-General of Environment Quality:
- (a) New installation near dwelling area as detailed out in Regulation 4 and First Schedule of the Environmental Quality (Clean Air) Regulations 1978.
 - (b) Any erection (including incinerators), installation, resiting or alteration of fuel burning equipment that is rated to consume pulverised fuel or solid fuel at 30 kg or more per hour, or liquid or gaseous fuel at 15 kg or more per hour as stipulated in Regulations 36 and 38 of the Environmental Quality (Clean Air) Regulations 1978 (**Appendix I**).
 - (c) Any erection, installation, resiting, or alteration of any chimney from or through which air impurities may be emitted or discharged, respectively
25. No fee imposed for the application of written approval.

LICENCE TO OCCUPY PRESCRIBED PREMISES AND PRESCRIBED CONVEYANCES

26. A licence is required to occupy and operate prescribed premises namely as below:
- (a) crude palm oil mills,
 - (b) raw natural rubber processing mills, and
 - (c) treatment and disposal facilities of scheduled wastes
27. Application shall be made after obtaining written permission and written approval. Licensing fee will be charged for every licence issued for palm oil, raw natural rubber processing mills and facilities for treatment and disposal of schedule waste, and prescribed conveyances.
28. Starting from 15 August 2005, licence is required to use prescribed conveyances as stipulated in the Environmental Quality (Prescribed Conveyance) (Scheduled Wastes) Order 2005. Conveyance which is categorized as prescribed conveyance namely: any vehicle or ship of any description which is:-
- (a) propelled by a mechanism contained within itself;
 - (b) constructed or adapted to be used on land or water; and
 - (c) used for the movement, transfer, placement or deposit of scheduled wastes.
29. Applications for the licence shall be made after obtaining written permission and/ or written approval.

NOTIFICATION FOR A NEW SOURCE OF SEWAGE, INDUSTRIAL EFFLUENTS AND LEACHATE DISCHARGE OR RELEASE

30. Starting from October 2009:-
- (a) no person shall, without prior written notification to the Director General, discharge or release or permit the discharge or release of **sewage** onto or into any soil, or any inland waters or Malaysian waters. The written notification to the Director General shall be in the form as specified in the First Schedule of the Environmental Quality (Sewage) Regulations, 2009 (P.U.(A) 432/2009).

- (b) no person shall, without prior written notification to the Director General, carry out any work on any solid waste transfer station or landfill, or construct on any land any facility or building that may result in a new source of **leachate** discharge or release. The written notification to the Director General shall be accompanied by the information as specified in the First Schedule of the Environmental Quality (Control of Pollution From Solid Waste Transfer Station And Landfill) Regulations, 2009 (P.U.(A) 433/2009).
- (c) no person shall, without prior written notification to the Director General-
- carry out any work on any premises that may result in a new source of discharge of **industrial effluent or mixed effluent**;
 - 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;
 - 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
 - carry out upgrading work of an existing industrial effluent treatment system that may result in a material change in the quantity and quality of the discharge or release.

The written notification to carry out any work, construction, or upgrading, or to make any change shall be submitted to the Director General in the form as specified in the Second Schedule of the (Industrial Effluent) Regulations, 2009 (P.U.(A) 434/2009).

GASEOUS EMISSION

31. For industries emitting gaseous and air emission, they are required to comply with the following air emission standards for the control of air pollution and gaseous emissions:-

(a) Stack Gas Emission Standards from Environmental Quality (Clean Air) Regulations 1978 (**Appendix J1**)

(b) Recommended Malaysian Air Quality Guidelines (Ambient Standards) (**Appendix J2**)

32. All industrial projects subject to EIA shall be designed and operated using Best Available Techniques (BAT) in achieving a high and acceptable level of protection for the environment.

SEWAGE, INDUSTRIAL EFFLUENT AND LEACHATE DISCHARGE

33. Industries discharging sewage, industrial effluent and leachate are required to comply with the following relevant discharge limits as stipulated in their respective regulations:-

(a) Sewage discharge standards. (**Appendix K1**)

(b) Industrial effluent discharge limits. (**Appendix K2**)

(c) Leachate discharge standards (**Appendix K3**)

CONTROL USE OF OZONE DEPLETING SUBSTANCES (ODS)

34. ODS are categorised as environmental hazardous substance under the Environmental Quality Act, 1974 (Amendment) 1996. These substances are listed as per **Appendix L**. New investments relating to the use of these substances are prohibited. Existing industries are encouraged to develop and use substitutes and to change their ODS dependent processes as soon as possible.

SCHEDULED WASTES MANAGEMENT

35. Malaysia has developed a comprehensive set of legal provisions related to the management of toxic and hazardous wastes. The regulation was based on the cradle to grave principle. A facility which generates, stores, transports, treats or disposes scheduled waste is subject to the following regulations:
- (a) Environmental Quality (Scheduled Wastes) Regulations 2005;
 - (b) Environmental Quality (Prescribed Conveyance) (Scheduled Wastes) Order 2005;
 - (c) Environmental Quality (Prescribed Premises) (Scheduled Wastes Treatment and Disposal Facilities) Order 1989;
 - (d) Environmental Quality (Prescribed Premises) (Scheduled Waste Treatment and Disposal Facilities) Regulations 1989;
 - (e) Customs (Prohibition of Export) Order (Amendment)(No. 2) 1993, and;
 - (f) Customs (Prohibition of Import) Order (Amendment)(No. 2) 1993.
36. A summary of the environmental requirements on scheduled wastes is given in **Appendix M** and the list of scheduled wastes is as per **Appendix N**.

INCENTIVES FOR THE STORAGE, TREATMENT AND DISPOSAL OF TOXIC AND HAZARDOUS WASTES

37. To encourage proper industrial waste management, the following incentives are currently available:
- (a) Pioneer Status incentive for 5 years to companies which are principally engaged in an integrated operation for the storage, treatment and disposal of toxic and hazardous wastes;
 - (b) As a further incentive for both the above categories of companies, the Government also extends the current import duty and sales tax exemption scheme for machinery, equipment, raw materials and components.

38. All facilities for storage, treatment and disposal of toxic and hazardous wastes must be approved by the Department of Environment before the application is made for the incentives.

INCENTIVES FOR THE INSTALLATION OF POLLUTION CONTROL EQUIPMENT

39. Under Income Tax Act 1967, Income Tax (Qualifying Plant Allowances) (Control Equipment) Rules 1998, the Government has provided special capital allowance incentive for the Companies which install pollution control equipment in the setting up of the plants. This allowance is at initial rate 40% and an annual rate of 20% for the qualifying plants stipulate under Schedule 3 of Income Tax Act 1997.

CONCLUSION

40. Investors are advised to consult the Department of Environment for further clarification of the requirements. They may do so by contacting the officers in the DOE Headquarters, DOE State Offices and/or to the DOE representative at MIDA. A checklist and a summary of approvals issued by the Department of Environment are given in **Appendices O** and **P** respectively. Investors are advised to provide complete information to avoid any delay in processing.

41. Investors are also encouraged to give attention to some of the following aspects of pollution control during the early planning stage of their projects:

- look into pollution control measures as early as at the pre-feasibility study stage;
- find possible modifications in the process line that can minimise waste generation;
- pollution prevention to be viewed as important as production process;

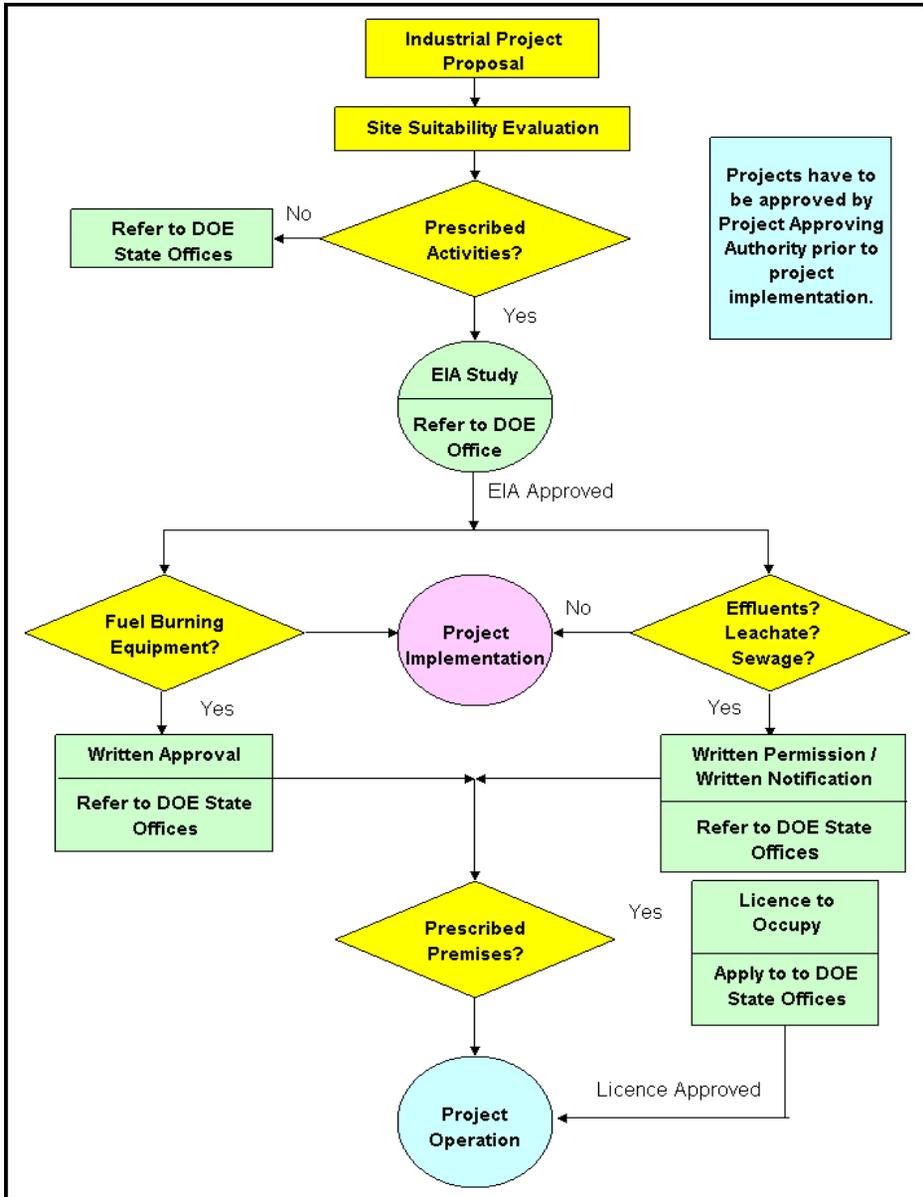
- engage in cleaner production; and
- consider recycling option as far as possible.

42. In conclusion, investors should be aware that environmental issues are now a growing concern all over the world. Today, the public demands a better quality of life and environment. Therefore, investors should not only work towards complying with the law but also to fulfil their public obligations.

*Department of Environment
Malaysia*

Figure 1

APPLICATION PROCEDURE FOR ENVIRONMENTAL REQUIREMENTS IN MALAYSIA



STEP 1

- **Site Suitability Evaluation** (for non-Prescribed Activities).
- **EIA Approval** (for Prescribed Activities).

STEP 2

Activities subject to air and water pollution control:

- **Written Permission** (Air).
- **Written Notification** (Sewage, Industrial Effluent, Leachate).
- **Written Approval** (Prescribed Premises: Crude Palm Oil Mills, Raw Natural Rubber Mills, Scheduled Wastes Facilities)

STEP 3

Licence to occupy:

- Crude Palm Oil Mills.
- Raw Natural Rubber Factories.
- Scheduled Waste Treatment and Disposal Activities
- Prescribed Conveyance

APPENDICES



**LIST OF REGULATIONS AND ORDERS ENFORCED UNDER THE ENVIRONMENTAL QUALITY ACT,
1974 BY THE DEPARTMENT OF ENVIRONMENT**

NO.	REGULATIONS/ORDER	P.U.(A)	EFFECTIVE DATE OF ENFORCEMENT
1.	Environmental Quality (Prescribed Premises)(Crude Palm Oil) Regulations 1977	342	1 st July, 1977
2.	Environmental Quality (Licensing) Regulations 1977	198	1 st October, 1977
3.	Environmental Quality (Clean Air) Regulations 1978	280	1 st October, 1978
4.	Environmental Quality (Compounding of Offences) Rules 1978	281	1 st October, 1978
5.	Environmental Quality (Prescribed Premises)(Raw Natural Rubber) Regulations 1978	338	1 st December, 1978
6.	*Environmental Quality (Sewage and Industrial Effluents) Regulations 1979 (<i>Revoked by PU(A) 432/2009</i>)	12	1 st January 1981
7.	Environmental Quality (Control of Lead Concentration in Motor Gasoline) Regulations 1985	296	1 st August, 1986
8.	Environmental Quality (Motor Vehicles Noise) Regulations 1987	244	1 st July, 1987
9.	Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987	362	1 st April, 1988
10.	Environmental Quality (Scheduled Wastes) Regulations 1989 (<i>Revoked by PU(A) 294/2005</i>)	139	1 st May, 1989

NO.	REGULATIONS/ORDER	P.U.(A)	EFFECTIVE DATE OF ENFORCEMENT
11.	Environmental Quality (Prescribed Premises)(Scheduled Wastes Treatment And Disposal Facilities) Order 1989	140	1 st May, 1989
12.	Environmental Quality (Prescribed Premises)(Scheduled Wastes Treatment And Disposal Facilities) Regulations 1989	141	1 st May, 1989
13.	Environmental Quality (Prescribed Premises) (Crude Palm Oil) Order 1977	199	1 st July, 1978
14.	Environmental Quality (Prescribed Premises) (Raw Natural Rubber) Order 1978	250	1 st April, 1979
15.	Environmental Quality (Delegation of Powers on Marine Pollution Control) Order 1993	276	24 th September, 1993
16.	Environmental Quality (Prohibition on the use of Chlorofluoro-carbons and other Gases as Propellants and Blowing Agents) Order 1993	434	25 th October, 1993
17.	Environmental Quality (Delegation of Powers on Marine Pollution Control) Order 1994	537	18 th December, 1994
18.	Environmental Quality (Prohibition on the Use of Controlled Substance in Soap, Synthetic Detergent and other Cleaning Agents) Order 1995	115	15 th April, 1995
19.	Environmental Quality (Control of Emission from Diesel Engines) Regulations 1996	429	1 st September, 1996
20.	Environmental Quality (Control of Emission from Petrol Engines) Regulations 1996	543	1 st November, 1996

APPENDIX A

NO.	REGULATIONS/ORDER	P.U.(A)	EFFECTIVE DATE OF ENFORCEMENT
21.	Environmental Quality (Refrigerant Management) Regulations 1999	451	1 st January, 2000
22.	Environmental Quality (Halon Management) Regulations 1999	452	1 st Jan, 2000
23.	Environmental Quality (Delegation of Powers) Order 1999 <i>(Revoked by PU(A) 365/2005)</i>	501	15 th November, 1999
24.	Environmental Quality (Compounding of Offences)(Open Burning) Rules 2000	310	21 st August, 2000
25.	Environmental Quality (Delegation Of Powers)(Investigation of Open Burning) Order 2000	311	21 st August, 2000.
26.	Environmental Quality (Delegation of Power) (Halon Management) Order 2000	490	29 th December 2000
27.	Environmental Quality (Delegation of Powers) (Perbadanan Putrajaya) Order 2002	233	2 nd June 2002
28.	Environmental Quality (Appeal Board) Regulations 2003	115	21 st April 2003
29.	Environmental Quality (Declared Activities) (Open Burning) Order 2003	460	1 st January 2004
30.	Environmental Quality (Control of Emissions From Motorcycles) Regulations 2003	464	1 st January 2004

APPENDIX A

NO.	REGULATIONS/ORDER	P.U.(A)	EFFECTIVE DATE OF ENFORCEMENT
31.	Environmental Quality (Dioxin and Furan) Regulations 2004	104	1 st May 2004
32.	Environmental Quality (Prescribed Conveyance) (Scheduled Wastes) Order 2005	293	15 th August 2005
33.	Environmental Quality (Scheduled Wastes) Regulations 2005	294	15 th August 2005
34.	Environmental Quality (Delegation of Powers) Order 2005	365	2 nd September 2005
35.	Environmental Quality (Control of Petrol And Diesel Properties) Regulations 2007	145	1 st April 2007
36.	Environmental Quality (Sewage) Regulations 2009.	432	10 th December 2009
37.	Environmental Quality (Control of Pollution From Solid Waste Transfer Station and Landfill) Regulations 2009	433	10 th December 2009
38.	Environmental Quality (Industrial Effluent) Regulations 2009;	434	10 th December 2009

**LIST OF PRESCRIBED ACTIVITIES
[EXTRACT FROM THE ENVIRONMENTAL QUALITY (PRESCRIBED ACTIVITIES)
(ENVIRONMENTAL IMPACT ASSESSMENT) ORDER 1987]**

1. Agriculture

- (a) Land development schemes covering an area of 500 hectares or more to bring forest land into agriculture production.
- (b) Agriculture programmes necessitating the resettlement of 100 families or more.
- (c) Development of agricultural estates covering an area of 500 hectares or more involving changes in type of agricultural use.

2. Airport

- (a) Construction of airports (having an airstrip of 2,500 meters or longer).
- (b) Airstrip development in state and national parks.

3. Drainage And Irrigation

- (a) Construction of dams and man-made lakes and artificial enlargement of lakes with surface areas of 200 hectares or more.
- (b) Drainage of wetland, wild-life habitat or of virgin forest covering an area of 100 hectares or more.
- (c) Irrigation schemes covering an area of 5,000 hectares or more.

4. Land Reclamation

Coastal reclamation involving an area of 50 hectares or more.

5. Fisheries

- (a) Construction of fishing harbours.
- (b) Harbour expansion involving an increase of 50 per cent or more in fish landing capacity per annum.
- (c) Land based aquaculture projects accompanied by clearing of mangrove swamp forests covering an area of 50 hectares or more.

6. Forestry

- (a) Conversion of hill forest land to other land use covering an area of 50 hectares or more.
- (b) Logging or conversion of forest land to other land use within the catchments area of reservoirs used for municipal water supply, irrigation or hydropower generation or in areas adjacent to state and national parks and national marine parks.
- (c) Logging covering an area of 500 hectares or more.
- (d) Conversion of mangrove swamps for industrial, housing or agricultural use covering an area of 50 hectares or more.
- (e) Clearing of mangrove swamps in islands adjacent to national marine parks.

7. Housing

Housing development covering an area of 50 hectares or more.

8. Industry

- (a) Chemical -Where production capacity of each product or of combined products is greater than 100 tonnes / day.
- (b) Petrochemicals -All sizes.
- (c) Non-ferrous -Primary smelting:

- | | | |
|-----|-------------------------|---|
| | Aluminium | -all sizes |
| | Copper | -all sizes |
| | Others | -producing 50 tonnes/day and above of product. |
| (d) | Non-Metallic | - Cement - for clinker through put of 30 tonnes/hour and above.
- Lime - 100 tonnes/day and above burnt lime rotary kiln or 50 tonnes/day and above vertical kiln. |
| (e) | Iron and Steel | - Require iron ore as raw materials for production greater than 100 tonnes/day; or
Using scrap iron as raw materials for production greater than 200 tonnes/day |
| (f) | Shipyards | - Dead Weight Tonnage greater than 5000 tonnes. |
| (g) | Pulp and Paper Industry | - Production capacity greater than 50 tonnes/day. |

9. Infrastructure

- (a) Construction of hospitals with out fall into beachfronts used for recreational purposes.
- (b) Industrial estate development for medium and heavy industries covering an area of 50 hectares or more.
- (c) Construction of expressways.
- (d) Construction of national highways.
- (e) Construction of new townships.

10. Ports

- (a) Construction of ports
- (b) Port expansion involving an increase of 50 per cent or more in handling capacity per annum.

11. Mining

- (a) Mining of minerals in new areas where the mining lease covers a total area in excess of 250 hectares.
- (b) Ore processing, including concentrating for aluminium, copper, gold or tantalum.
- (c) Sand dredging involving an area of 50 hectares or more.

12. Petroleum

- (a) Oil and gas fields development.
- (b) Construction of off-shore and on-shore pipelines in excess of 50 kilometres in length.
- (c) Construction of oil and gas separation, processing, handling, and storage facilities.
- (d) Construction of oil refineries.
- (e) Construction of product depots for the storage of petrol, gas or diesel (excluding service stations) which are located within 3 kilometres of any commercial, industrial or residential areas and which have a combined storage capacity of 60,000 barrels or more.

13. Power Generation And Transmission

- (a) Construction of steam generated power stations burning fossil fuels and having a capacity of more than 10 megawatts.
- (b) Dams and hydroelectric power schemes with either or both of the following:
 - (i) dams over 15 meters high and ancillary structures covering a total area in excess of 40 hectares;
 - (ii) reservoirs with a surface area in excess of 400 hectares.
- (c) Construction of combined cycle power stations.
- (d) Construction of nuclear-fueled power stations.

14. Quarries

Proposed quarrying of aggregate, limestone, silica quartzite, sandstone, marble and decorative building stone within 3 kilometres of any existing residential, commercial or industrial areas, or any area for which a licence, permit or approval has been granted for residential, commercial or industrial development.

15. Railways

- (a) Construction of new routes.
- (b) Construction of branch lines.

16. Transportation

Construction of Mass Rapid Transport projects.

17. Resort And Recreational Development

- (a) Construction of coastal resort facilities or hotels with more than 80 rooms.
- (b) Hill station resort or hotel development covering an area of 50 hectares or more.
- (c) Development of tourist or recreational facilities in national parks.
- (d) Development of tourist or recreational facilities or islands in surrounding waters which are gazetted as national marine parks.

18. Waste Treatment And Disposal

- (a) Toxic and Hazardous Waste
 - (i) Construction of incineration plant
 - (ii) Construction of recovery plant (off-site)
 - (iii) Construction of wastewater treatment plant (off-site)
 - (iv) Construction of secure landfill facility
 - (v) Construction of storage facility (off-site)

- (b) Municipal Solid Waste
 - (i) Construction of incineration plant
 - (ii) Construction of composting plant
 - (iii) Construction of recovery/recycling plant
 - (iv) Construction of municipal solid waste landfill facility
- (c) Municipal Sewage
 - (i) Construction of wastewater treatment plant
 - (ii) Construction of marine out fall.

19. Water Supply

- (a) Construction of dams, impounding reservoirs with a surface area of 200 hectares or more.
- (b) Groundwater development for industrial, agricultural or urban water supply of greater than 4,500 cubic meters per day.

LIST OF PRESCRIBED ACTIVITIES WHICH REQUIRED DETAILED EIA PROCEDURES

1. Iron and steel Industry.
2. Pulp and paper mills.
3. Cement plant.
4. Construction of coal fired power plant.
5. Construction of dams and hydroelectric power schemes.
6. Land reclamation.
7. Incineration plant (scheduled waste & solid waste).
8. Sanitary landfill.
9. Project involving land clearing where 50% of the area or more having slopes exceeding 25 degrees (except quarry).
10. Logging involving an area exceeding 500 hectares.
11. Development of tourist or recreational facilities on islands in surrounding waters which are gazetted as national marine parks.
12. Construction of recovery plant (off-site) for lead-acid battery wastes.
13. Scheduled wastes recovery or treatment facility generating significant amount of wastewater which is located upstream of public water supply intake.
14. Non ferrous – primary smelting.

LIST OF GUIDELINES (DEPARTMENT OF ENVIRONMENT)

1. *A Handbook of EIA Guidelines (latest edition 2007).*
2. *EIA Guidelines for Coastal Resort Development Projects (latest edition 2007).*
3. *Guidelines for Petrochemical Industries (latest edition 2008).*
4. *Guidelines for Industrial Estate Development (latest edition 2007).*
5. *Penilaian Kesan Kepada Alam Sekeliling Bagi Pembangunan Padang Golf 1994.*
6. *Guidelines for Groundwater and/Or Surface Water Supply Projects 1995*
7. *Guidelines for Thermal Power Generation and/Or Transmission Projects 1995 (latest edition) 2009.*
8. *EIA Guidelines for Drainage and/Or Irrigation Projects 1995.*
9. *EIA Guidelines for Fishing Harbours and/Or Land Based Aquaculture Projects 1995.*
10. *EIA Guidelines for Dam and/Or Reservoir Projects 1995.*
11. *EIA Guidelines for Mines and Quarries (latest edition) 2009.*
12. *EIA Guidelines for Development of Resort and Hotel Facilities in Hill Station (latest edition) 2009.*
13. *EIA Guidelines for Development of Tourist and Recreational Facilities in National Parks (latest edition 2008).*
14. *EIA Guidelines for Development of Tourist and Recreational on Island in Marine Parks (latest edition 2008).*
15. *EIA Guidelines for Industrial Projects (latest edition 2007).*
16. *EIA Guidelines For Municipal Solid Waste And Sewage Treatment And Disposal Projects (latest edition 2007)*
17. *EIA Guidelines for Toxic and Hazardous Waste Treatment and Disposal Projects (latest edition 2007).*
18. *EIA Guidelines for Petroleum Industries (latest edition 2008).*
19. *EIA Guidelines for Forestry 1998.*
20. *EIA Guidelines for Coastal and Land Reclamation (latest edition 2008).*
21. *EIA Guidelines for Housing and Township Development Project 2003.*
22. *EIA Guidelines for Agriculture 2003.*
23. *EIA Guidelines for Risk Assessment 2004.*
24. *Guidelines for the Siting and Zoning of Industries (latest edition 2008).*
25. *Guidelines for Prevention and Control of Soil Erosion and Siltation in Malaysia (latest edition 2008).*
26. *Environmental Requirements: A Guide for Investors (latest edition 2008).*

EIA Guidance Documents (*refer to www.doe.gov.my*)

1. *Sand Mining/Dredging*
2. *Housing Development*
3. *Coastal Reclamation*
4. *Construction of Scheduled Wastes Recovery Plant (Off-Site)*
5. *Establishment of Industries Located Within Gazetted and EIA Approved Industrial Sites.*

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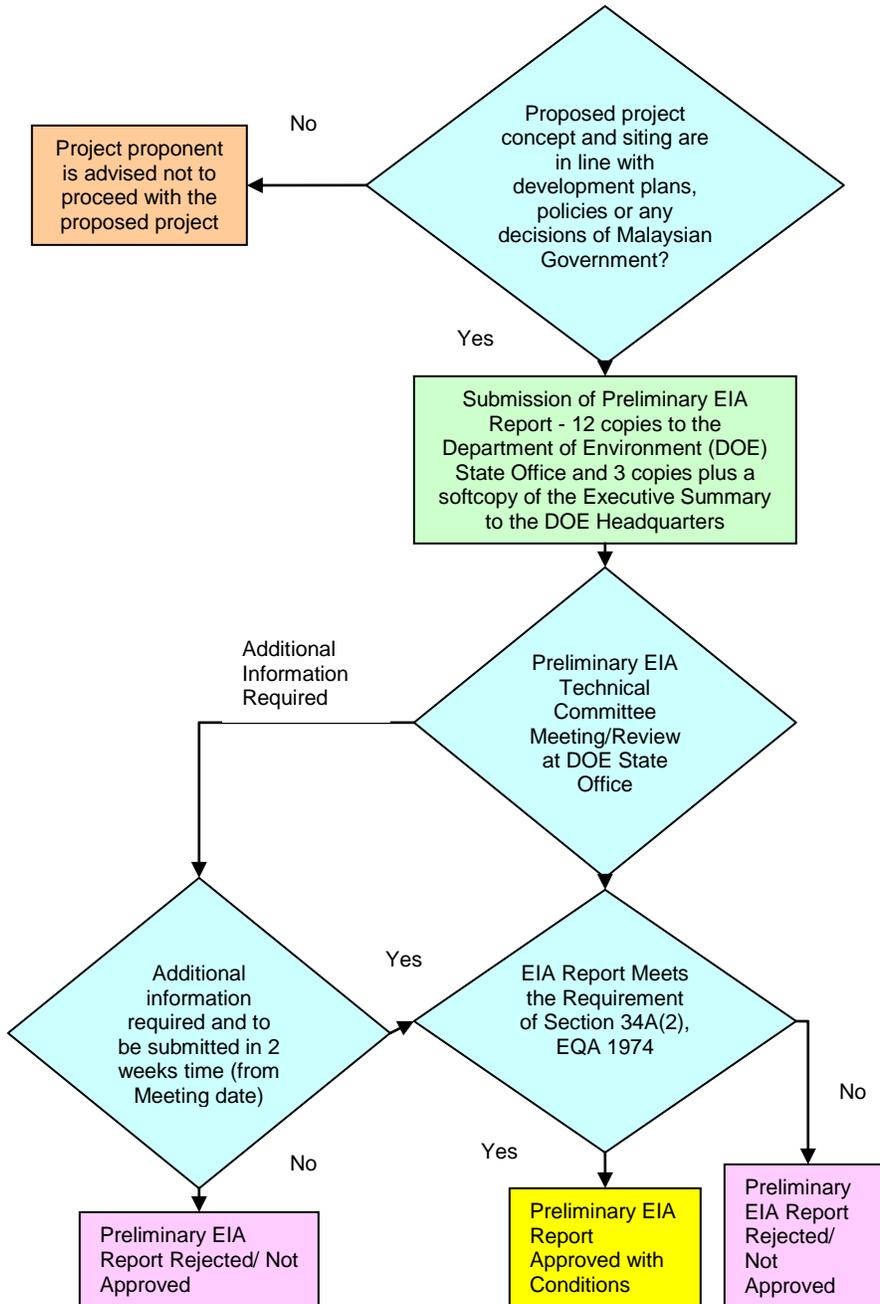
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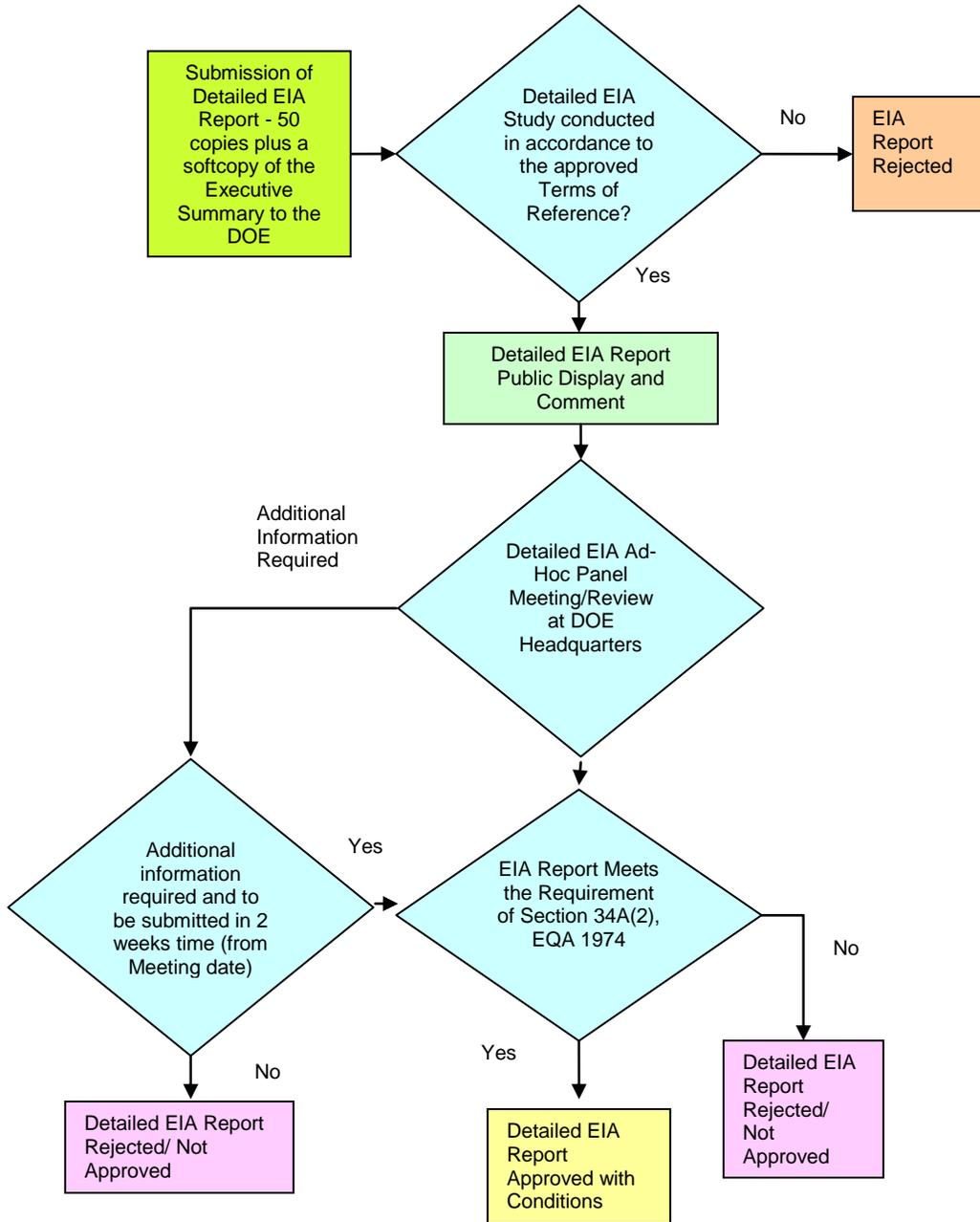
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The Procedure for Preliminary EIA



APPENDIX F2

The Procedure for Detailed EIA



Guidelines for the Siting and Zoning Of Industries

Table 1: TABLE OF SUMMARY ON THE SITING AND ZONING OF INDUSTRIES

INDUSTRIES	DESCRIPTIONS AND STANDARD REQUIREMENTS	BUFFER ZONE
Light Type A	<ul style="list-style-type: none"> • Industries shall not generate excessive noise. • Industries shall not accommodate stacks or chimneys thus producing no gaseous emissions. • Industries shall not discharge industrial effluent apart from sewage and kitchen waters and non-toxic solid wastes. • Industries shall not use any raw materials which are toxic and hazardous and therefore will not produce any scheduled wastes. • Industries shall have height restrictions determined by the Local Authority. • Industries shall use electricity and gas as fuels. • Industries shall not use any radioactive material and scheduled wastes. <p><i>Note: Light industries (Type A) shall not produce any industrial emissions and significant discharges.</i></p>	30 m
Light Type B	<ul style="list-style-type: none"> • Industries shall not generate excessive noise. • Industries shall not accommodate stacks or chimneys thus producing no gaseous emissions. • Industries shall not use any raw materials or produce any scheduled wastes. • Industries shall have height restrictions determined by the Local Authority. • Industries shall produce industrial effluent that can be treated on site before being discharged to meet Standard A or B of the Environmental Quality (Sewage and Industrial Effluent) Regulation 1979 depending on the site. • Compatibility in industrial mixing, eg. Between food based industries and leather-based industries. • Industries shall not use any radioactive materials or scheduled wastes. <p><i>Note: Industrial Effluent discharge and gaseous emissions shall meet the relevant Environmental Quality Regulations as stipulated in the Environmental Quality Act, 1974.</i></p>	50 m

Guidelines for the Siting and Zoning Of Industries

Table 1: TABLE OF SUMMARY ON THE SITING AND ZONING OF INDUSTRIES

INDUSTRIES	DESCRIPTIONS AND STANDARD REQUIREMENTS	BUFFER ZONE
Medium	<ul style="list-style-type: none"> • These industries could generate significant noise from machineries, generators etc but which could be controlled to meet the level not exceeding 65dB (A) Leq at the factory boundary, and not exceeding 55 and 45 dB(A) Leq at the residential/buffer zone boundary during day and night time respectively. • Industries could emit some gaseous emission but which can be controlled to comply with the Environmental Quality (Clean Air) Regulation 1978. • The industries could produce some industrial effluent that can be treated on site before being discharged to meet the Environmental Quality (Sewage and Industrial Effluent) Regulation 1979, standard A or B depending on the site. • These industries could use toxic and hazardous raw materials in its productions. • The industries could produce scheduled wastes but which can be treated on site to comply with the Environmental Quality (Scheduled Wastes) Regulation (Amendment) 2007 or disposed off from their premises. • These industries could produce fumes and odors that can possibly affect the workers health and the neighbouring plant, but for which design solutions are available for prevention and shall comply with the Environment Quality (Clean Air) Regulation 1978. • The stack height shall conform to the production capacity of the specific plant to be based on air quality modeling and simulation with the DOE approval. • The industries shall be located in designated industrial estates or zones with good compatibility within the industrial estates and zones to ensure good industrial mixing. • These industries shall not use any radioactive materials. <p><i>Note: All discharges and emissions shall meet the relevant Environmental Quality Regulations stipulated in the Environmental Quality Act, 1974.</i></p>	250 m

Guidelines for the Siting and Zoning Of Industries

Table 1: TABLE OF SUMMARY ON THE SITING AND ZONING OF INDUSTRIES

INDUSTRIES	DESCRIPTIONS AND STANDARD REQUIREMENTS	BUFFER ZONE
Heavy	<ul style="list-style-type: none"> • Heavy industries must be sited in designated industrial estates or designated industrial zones with sufficient buffer zones from residential areas, livestock farm, agricultural farms, recreation areas and tourist designated areas. A minimum distance from the fence of the industry to the nearest residential area is 500 meters, to be finalised by the EIA Report. • These industries could generate excessive noise from its operations but for which design solutions are incorporated in the form of appropriate high technologies to reduce the noise level generated to a level to meet the WHO recommended level of not greater than 65 dB(A) at the factory boundary and not exceeding 55 and 45 dB(A) at the residential/buffer zone boundary during day and night time respectively. • These industries could produce gaseous emissions at rates, volumes and concentrations that will require detailed engineering design incorporated into the operation and control mechanisms and other mitigation measures to reduce these emissions to comply with the Environmental Quality (Clean Air) Regulation 1978. • Stack heights shall be determined by detailed air quality modelling and simulations within the EIA Report. • These industries could produce industrial effluent at rates, volumes and concentrations that will require detailed engineering design incorporated into the operation and control mechanisms to meet the Environmental Quality (Sewage and Industrial Effluent) Regulation 1979 and/or to dispose such wastes to the Central Treatment Facilities. • The industries could use radioactive materials and scheduled wastes which are toxic and hazardous for which pollution control technology, design solution and mitigation measures shall meet the necessary approvals. • These industries could generate scheduled wastes which cannot be treated on-site or which exceed the levels recommended in the Environmental Quality (Scheduled Wastes) Regulation (Amendment) 2007. 	500 m

Guidelines for the Siting and Zoning Of Industries

Table 1: TABLE OF SUMMARY ON THE SITING AND ZONING OF INDUSTRIES

INDUSTRIES	DESCRIPTIONS AND STANDARD REQUIREMENTS	BUFFER ZONE
	<p>The scheduled wastes generation to the acceptable level or they can be disposed for treatment at a centralized scheduled wastes treatment plant, or recycled within its premise, or sold to other parties for the purpose of recycling.</p> <ul style="list-style-type: none"> • Siting within an industrial estate or zones should take into consideration the compatibility in industrial mixing. • Hot water discharges shall be supported by thermal plume modelling and simulations to be clearly presented in the EIA Report. <p><i>Note: All discharges and emissions shall meet the relevant Environmental Quality Regulations as stipulated in the Environmental Quality Act, 1974 and using appropriate control measures.</i></p>	
Special	<ul style="list-style-type: none"> • Industries that by their process description and plant outputs are involved in the manufacturing of products that are generally accepted as being categorized as high technology based products. • Industries that utilize high/advanced and clean technology in their process and control mechanisms, as verified by EIA documents, and backed up by examples of parent plants or other plants operating elsewhere. • Industries that will eliminate or minimize emissions, wastewater discharges and schedule waste production. • Industries shall be located within designated special industries zones, being compatible with the neighbouring plants, which are designed to be environmentally friendly. <p><i>Note: Near-zero emissions and discharges shall be achieved by incorporating clean technologies.</i></p>	200 m

GUIDANCE DOCUMENT FOR THE PREPARATION OF ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT

ESTABLISHMENT OF INDUSTRIES LOCATED WITHIN GAZETTED AND EIA APPROVED INDUSTRIAL SITES

INTRODUCTION

1. This document is prepared as a guidance to investors, project proponents and environmental consultants in defining the key issues and outlining the scope in the preparation of an environmental (EIA) impact assessment study for the establishment of industries located within gazetted and EIA approved industrial areas.
2. This document is also intended to complement other guidance given in the following guidelines where terms and procedures are defined:
 - a. A Handbook of Environmental Impact Assessment Guidelines;
 - b. Guidelines for the Siting and Zoning of Industries;
 - c. Environmental Impact Assessment Guidelines for Industrial Projects.
 - d. Environmental Impact Assessment Guidelines for Risk Assessment.

CATEGORIES OF INDUSTRIAL SECTOR – PRESCRIBED ACTIVITIES

3. All industrial sector projects as listed below are prescribed activities under the Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987 (EIA Order, 1987) and are subject to an EIA study:

Activity 8. Industry

- | | |
|---------------------------|--|
| <i>(a) Chemical</i> | <i>- Where production capacity of each product or of combined products is greater than 100 tonnes/day.</i> |
| <i>(b) Petrochemicals</i> | <i>- All sizes.</i> |
| <i>(c) Non-ferrous</i> | <i>- Primary smelting:</i>

<i>Aluminium -all size</i>
<i>Copper - all sizes</i>
<i>Others - producing 50 tonnes/day and above of product.</i> |

- (d) *Non-Metallic* - Cement - for clinker through put of 30 tonnes/hour and above.
 - Lime - 100 tonnes/day and above burnt lime rotary kiln or 50 tonnes/day and above vertical kiln.
- (e) *Iron and Steel* - Require iron ore as raw materials for production greater than 100 tonnes /day;
 or
 Using scrap iron as raw materials for production greater than 200 tonnes/day
- (f) *Shipyards* - Dead Weight Tonnage greater than 5000 tonnes.
- (g) *Pulp and Paper Industry* - Production capacity greater than 50 tonnes/day.

4. Due to the sensitivity of the project and polluting potential from the operations, proposal for Iron and steel mills and Pulp and paper industries have been required to go through the Detailed EIA Procedures which involves public participation.

SUMMARY OF RELEVANT ENVIRONMENTAL REGULATIONS

5. The Environmental Quality Act 1974 and its accompanying regulations call for environmental impact assessment, pollution control assessment, monitoring and self-enforcement. In addition to the requirement for an EIA for prescribed activities, various provisions under specific regulations relating to industry are as below:

A. Written Permission

Any person intending to carry out activities as listed below must obtain prior written permission from the Director-General of Environmental Quality:

- i. *Construction of any building or carrying out of any work that may result in a new source of effluent or discharge as stipulated under Regulation 4, Environmental Quality (Sewage and Industrial Effluents) Regulations 1979; (not applicable - revoked by Regulations PU(A) 432/2009, 433/2009 and 434/2009)*

- ii. *Construction on any land or any building; or carrying out work that would cause the land or building to become prescribed premises (crude palm oil mills, raw natural rubber processing mills, and treatment and disposal facilities of scheduled wastes), as stipulated under Section 19 of the Environmental Quality Act, 1974.*

** Such application has to be accompanied by a prescribed fee.*

B. Written approval

Applicants intending to carry out activities as listed below shall obtain prior written approval from the Director-General of Environment Quality:

- i. *New installation near dwelling area as detailed out in Regulation 4 and First Schedule of the Environmental Quality (Clean Air) Regulations 1978.*
- ii. *Any erection (including incinerators), installation, resiting or alteration of fuel burning equipment that is rated to consume pulverised fuel or solid fuel at 30 kg or more per hour, or liquid or gaseous fuel at 15 kg or more per hour as stipulated in Regulations 36 and 38 of the Environmental Quality (Clean Air) Regulations 1978.*
- iii. *Any erection, installation, resiting, or alteration of any chimney from or through which air impurities may be emitted or discharged, respectively.*

** No fee imposed for the application of written approval.*

- C. Gaseous Emission And Effluent Standards** *Industries are required to comply with both air emission and effluent discharge standards which are regarded as acceptable conditions allowed in Malaysia, as stipulated in the Environmental Quality (Clean Air) Regulations 1978 and the Environmental Quality (Sewage and Industrial Effluents) Regulations 1979 (revoked by Regulations PU(A) 432/2009, 433/2009 and 434/2009)*

*Air emission and effluent discharge standards are as per **Appendix J** and **K** respectively.*

D. Control On Ozone Depleting Substances

Control On Ozone Depleting Substances (ODS) are categorised as environmentally hazardous substances under the Environmental Quality (Refrigerant Management) Regulations 1999 and the Environmental Quality (Halon Management) Regulations 1999. New investments relating to the use of these substances are prohibited.

E. Scheduled Wastes Management

A comprehensive set of legal provisions related to the management of toxic and hazardous wastes were developed based on the “cradle to grave principle”; whereby toxic and hazardous waste generators are responsible for their wastes throughout their disposal process. A facility which generates, stores, transports, treats or disposes scheduled waste is subject to the main following regulations:

- i) Environmental Quality (Scheduled Wastes) Regulations 2005;
- ii) Environmental Quality (Prescribed Conveyance)(Scheduled Wastes) Order 2005;
- iii) Environmental Quality (Prescribed Premises) (Scheduled Wastes Treatment and Disposal Facilities) Order 1989;
- iv) Environmental Quality (Prescribed Premises) (Scheduled Waste Treatment and Disposal Facilities) Regulations 1989;
- v) Customs (Prohibition of Export) Order 2008, and;
- vi) Customs (Prohibition of Import) Order 2008.

SITE SELECTION

6. One of the most important factors in obtaining environmental approval is the site suitability of the proposed project. Site suitability is evaluated based on the compatibility of the project with respect to the gazetted structure or local plans, surrounding land-use, provision of set-backs or buffer zones, the capacity of the area to receive additional pollution load, and waste disposal requirements.
7. Details on the appropriate buffer zone with respect to a specific category of industry can be obtained from “*Guidelines for the Siting and Zoning of Industries*”. An outline of the guidelines is given in **Appendix E**. For potentially hazardous* industries, the project proponent may be required to submit a Risk Assessment to the DOE as part of the site consideration.
 - *Hazardous industry: Any industry or installation which has the potential for causing injury threat to health, death, and damage to property or the environment.*
8. Based on the above factors, industries are advised to locate project activities within gazetted and EIA approved industrial sites. This is to ensure proper planning has been taken into consideration which leads to less environmental problems in the future, especially during operation.

PROJECT OPTIONS

9. For industrial sector, project alternatives should include appropriate alternative technologies and operating methods covering:
 - i. **Sources and supply of raw materials** including proximity, sustainability, transport routes and means etc.
 - ii. **Process options:** in respect of the technologies available in relation to “Best Available Technologies” of integrated pollution control and cost, hazard potential of alternatives (i.e. relative hazards of the raw materials and intermediates required/produced) and beneficial components such as energy recovery/waste minimization.
 - iii. **Treatment and disposal systems:** including options for treatment of airborne emissions, liquid effluents, solid wastes and scheduled wastes (including sale or beneficial utilization)

KEY ISSUES AND SCOPE

10. In preparing an EIA report for the establishment of industries located within gazetted and EIA approved industrial sites, the project proponent and EIA consultant shall be able to identify key issues related to the industrial activities being proposed. Below are the key issues and information to be made available to the assessor of the EIA report:
 - (a) Existing Environment

Since the industrial activity proposed is to be located within gazetted and EIA approved industrial site, the explanation and description on the existing environment shall cover the existing air quality conditions at the industrial site and noise level conditions
 - (b) Layout Plan

Complete layout plan among other include where appropriate of:

 - Reception area with weighbridge and laboratory unit for sampling purposes.
 - Special raw materials reception area and adjacent storage area.
 - Plant buildings, machinery, and related infrastructure.
 - Truck cleaning area.
 - Bund walls and drainage systems isolating handling/storage/cleaning and operational areas.

- Emergency on-site storage pond for liquid wastes.
- Lined storm water retention pond/ storm water system as a contingency for excessive runoff from contaminated areas.
- Floor linings of adequate design, incorporating a surface concrete layer, usually underlying a sand layer and a final PVC layer.
- Roofing of potentially contaminated areas and storage areas with separate drainage.
- Processing/manufacturing areas.
- Storage areas for residual wastes and scheduled wastes.
- Wastewater treatment systems (if any).
- Good ventilation systems.
- Fire-fighting system, sprinkler systems and facilities.
- Security fencing, boundary fencing and controlled access.

(c) Landuse map

A clear cadastral map showing the site location of the proposed project site and a description of the surrounding industrial activities. This is to ensure that the location of the proposed site is compatible with the industrial activities within the gazetted industrial site.

(d) Project Concept and Components

A clear description on the project concept and project components.

(e) Process Description

A comprehensive flow chart of the process production and detailed explanation on the process including criterias involved and the maximum capacity.

(f) Physical and Chemical Characteristic of the Raw Materials

Chemical or Material Safety data sheets of the raw materials used in the process.

(g) Mass Balance Calculation

Every single process should be attached with mass balance calculations which means the quantification of total materials into and out of a process with the difference between inputs and outputs being accounted for as a release to the environment or as part of the facility's waste.

(h) Potential Significant Impacts

Based on the critical issues perform in the industrial process and type of industries, the impact analysis should be mentioned in the EIA report among others are:

- Gaseous emissions from the stack; ambient and ground level concentration;
- Discharge of process effluent in terms of the quality and quantity;
- Accidental spills and leakages;
- Noise emissions;
- Health and safety;
- Management of scheduled wastes;
- Transportation of raw materials and products;
- Risk.

Each key issue should be addressed in terms of predicted impacts, proposed mitigation and residual impacts. Rate each key issue by magnitude and duration.

Predictions of impacts are normally based on commonly used methodologies and models. The significance of the predicted adverse impacts can be evaluated based on one or more of the following:

- comparison of laws, regulations or accepted national or international standards
- consistency with the pre-set policy objects (such as land use, economic development, and others)

(i) Pollution Control – Mitigation and Abatement Measures

Mitigation of impacts is the stage to determine possible preventative, remedial or compensatory measures for each of the adverse impacts evaluated as significant. Mitigation measures shall take into account, but not limited to, the following:

- (a) Adequate buffer zones;
- (b) Adequate air pollution controls, and comprehensive wastewater treatment systems;
- (c) Need for separate drainage systems for spillage;
- (d) Storage and handling of raw materials and products;
- (e) Alternative process technology and raw materials which are safer and more environment friendly;
- (f) Minimization of wastes e.g by closed loop processing;
- (g) Recycling and recovery of wastes.

Mitigation measures should be described and mapped for each adverse impact, according to specifications and location. Mitigation should be specific to the impact and linked to the activity by schedule of occurrence.

Commitments from project proponents to adopt significant pollution control equipment can reduce negative impacts on environment. All the design measures which have been adopted into the project plan should be discussed in the EIA report. The pollution control technology chosen by the project proponent must be able to meet the relevant emission standards stipulated under the Environmental Quality Act, 1974 and other subsequent guidelines ie. Recommended Ambient Air Quality Standards.

The Emergency Response Plan (ERP) will be prepared by the proponent or his operator prior to start-up of the facility. In essence, the risk assessment report should provide an outline ERP indicating all issues that must be addressed by the ERP itself and specify minimum levels of safety provisions needed at the facility. Person involved in the recovery of hazardous wastes must be capable and adequately trained.

(j) Residual Impacts

Potential environmental impacts may remain after mitigating measures have been adapted in to a project plan. These are described as residual impacts which generally require further studies during the detailed assessment stage. The residual wastes (highly toxic and dangerous) produced from the recovery process shall be disposed at the Central Waste Treatment and Disposal Facility, licensed from DOE. The residual waste cannot be recovered at all.

(k) Monitoring

The project proponent should describe the monitoring program needed which includes the monitoring program for ambient air quality, gas and hazardous emissions from the stacks, sewage (effluent), noise, scheduled waste analysis plan and products must be taken into account including the objective, target and compliance with applicable regulations.

CONCLUSIONS

11. Project proponents are encouraged to give attention to the following aspects of pollution control during the early planning stage of their projects:

- (a) Look into pollution control measures as early as at the pre-feasibility study stage. The pollution control technology chosen by the project proponent must be able to meet the relevant emission standards stipulated under the Environmental Quality Act, 1974;
- (b) Find possible modifications in the process line that can minimise waste generation;
- (c) Pollution prevention to be viewed as important as production process;
- (d) Engage in cleaner production; and
- (e) Consider recycling option as far as possible.

In conclusion, project proponents and EIA Consultants should be aware that environmental issues are now a growing concern all over the world. Today, the public demands a better quality of life and environment. Therefore, investors should not only work towards complying with the law but also to fulfil their public obligations.

ENVIRONMENTAL QUALITY (CLEAN AIR) REGULATIONS 1978 P.U.(A) 280

New Installations Within Residential Areas Not Permitted Without Prior Approval (Regulation 4)

- Any equipment, plant or facility that may discharge or emit smoke as dark as or darker than shade No. 1 on a Ringelmann Chart.
- Any equipment, plant or facility used for the purpose of heating or generating of power that is rated to consume;
 - (i) pulverized fuel;
 - (ii) any solid fuel at 20 kilograms or more per hour; or
 - (iii) any liquid or gaseous matter at 10 kilograms or more per hour.
- Any equipment, plant or facility that emits any solid particle exceeding 0.5 kilograms per hour.
- Any equipment, plant used for grain milling or polishing and consumes 1.5kw and above.
- Any wood working machinery that consumers 0.75kw and above.

APPENDIX I

- Any equipment plant or facility used in the manufacture, packing or repacking of paints, varnishes, lacquers and all pesticides listed in the First Schedule of the Pesticides Act, 1974.
- Any equipment or facility used in the manufactures, packing or repacking of industrial chemicals, in the process of which mercury, antimony, arsenic, cadmium, zinc, lead, copper or any compound thereof is emitted.
- Any equipment, plant or facility used in the manufacture, packing or repacking of fish manure or animal feed or fertilizer.
- Any equipment or plant in the manufacture of asbestos-containing products.

STACK GAS EMISSION STANDARDS
[Extract from Environment Quality (Clean Air) Regulations 1978]

Pollution	Emission Sources	Standards	
1. Dark Smoke*	(1.1) Solid Fuel Equipment to Facilities	Ringlemann Chart No.2	
	(1.2) Equipment using other types of fuel	Ringlemann Chart No.1	
2. Dust	(2.1) Facilities used for the heating of metal other than Cold Blast Foundry Cupola	0.2 gm/Nm ³	
	(2.2) Facilities discharging dust containing asbestos and free silica	0.12 gm/Nm ³	
	(2.3) Portland Cement Manufacturing:	(2.3.1) Kiln	0.2 gm/Nm ³
		(2.3.2) Clinker, cooler, grinder, others	0.1 gm/Nm ³
	(2.4) Asphalt concrete/bituminous mixing plant:	(2.4.1) Stationary Plant	0.3 gm/Nm ³
		(2.4.2) Mobile Plant	0.4 gm/Nm ³
	(2.5) Other source	0.4 gm/Nm ³	
3. Metal and Metallic Compound			
	3.1 Mercury	Industry	0.01 gm/Nm ³
	3.2 Cadmium	Industry	0.015 gm/Nm ³
	3.3 Lead	Industry	0.025 gm/Nm ³
	3.4 Antimony	Industry	0.025 gm/Nm ³
	3.5 Arsenic	Industry	0.025 gm/Nm ³
	3.6 Zinc	Industry	0.1 gm/Nm ³
	3.7 Copper	Industry	0.1 gm/Nm ³

Pollution	Emission Sources	Standards
4. Gases		
(a) Acid Gases	Sulphuric Acid Manufacturing	3.5 gm of SO ₃ /Nm ³ and no persistent mist
(b) Sulphuric Acid Mist or SO ₃	Any sources other than (a)	0.2 gm of SO ₃ /Nm ³ and no persistent mist
(c) Chlorine gas	Any source	0.2 gm of HCl/ Nm ³
(d) HCl	Any source	0.2 gm of HCl/ Nm ³
(e) Fluorine, Hydrofluoric acid, inorganic compound	Aluminium manufacturing from alumina	0.2 gm of Hydrofluoric acid / Nm ³
(f) - do -	Any source other than (e)	0.10 gm of Hydrofluoric acid / Nm ³
(g) Hydrogen Sulphide	Any source	5 ppm (Vol%)
(h) NO _x	Acid Nitric manufacturing	1.7 gm of SO ₃ /Nm ³ and Substantially Colourless
(i) SO _x	Any source other than (h)	2.0 gm SO ₃ / Nm ³

- Allowable to exceed both standards not longer than 5 minutes in any period of one hour and 15 minutes in any period of 24 hours.
- Note: All industrial projects subject to EIA shall be designed and operated using Best Available Techniques (BAT) in achieving a high and acceptable level of protection for the environment.

**RECOMMENDED MALAYSIAN AIR QUALITY GUIDELINES
(Ambient Standards) (at 25⁰Celsius and 101.13 kPa)**

Pollutant and Method	Averaging Time	Malaysia Guidelines	
		(ppm)	(ug/m ³)
Ozone AS 2524	1 Hour	0.10	200
	8 Hour	0.06	120
Carbon # Monoxide AS2695	1 Hour	30	35
	8 Hour	9	10
Nitrogen Dioxide AS 2447	1 Hour	0.17	320
Sulfur Dioxide AS 2523	10 Minute	0.19	500
	1 Hour	0.13	350
	24 Hour	0.04	105
Particles TSP AS 2724.3	24 Hour		260
	1 Year		90
PM ₁₀ AS 2724.6	24 Hour		150
	1 Year		50
Lead AS 2800	3 Month		1.5

Recommended Malaysian Secondary Guidelines

Pollutant and Method	Averaging Time	Malaysia Guidelines (mg/m ² /day)
Dustfall AS 2724.1	1 year	133

#mg/m³

SECOND SCHEDULE
(Regulation 7)
ACCEPTABLE CONDITIONS OF SEWAGE DISCHARGE OF STANDARDS A AND B

(i) New sewage treatment system

	Parameter (1)	Unit (2)	Standard	
			A (3)	B (4)
(a)	Temperature	°C	40	40
(b)	pH Value	-	6.0-9.0	5.5-9.0
(c)	BOD5 at 20°C	mg/L	20	50
(d)	COD	mg/L	120	200
(e)	Suspended Solids	mg/L	50	100
(f)	Oil and Grease	mg/L	5.0	10.0
(g)	Ammonical Nitrogen (enclosed water body)	mg/L	5.0	5.0
(h)	Ammonical Nitrogen (river)	mg/L	10.0	20.0
(i)	Nitrate – Nitrogen (river)	mg/L	20.0	50.0
(j)	Nitrate – Nitrogen (enclosed water body)	mg/L	10.0	10.0
(k)	Phosphorous (enclosed water body)	mg/L	5.0	10.0

Note : Standard A is applicable to discharges into any inland waters within catchment areas listed in the Third Schedule, while Standard B is applicable to any other inland waters or Malaysian waters.

(ii) Existing sewage treatment system (approved before January 1999)

This category refers to all sewerage treatment systems which were approved before the Guidelines for Developers: Sewerage Treatment Vol. IV, 2nd edition and were enforced by the Department of Sewerage Service, Ministry of Housing and Local Government, beginning January 1999. Below are the acceptable conditions for sewerage discharge according to type of sewage treatment systems:

Parameter (1)	Communal Septic Tank Unit (2)	Type of Sewage Treatment System									
		Imhoff Tank		Aerated Lagoon				Oxidation Pond		Mechanical System	
		A (3)	B (4)	A (5)	B (6)	A (7)	B (8)	A (9)	B (10)	A (11)	B (12)
(a) BOD ₅ at 20 ^o C	mg/L	20 0	20 0	175	175	100	100	120	120	60	60
(b) COD	mg/L	-	-	-	-	300	300	360	360	180	240
(c) Suspended Solids	mg/L	18 0	18 0	150	150	120	120	150	150	100	120
(d) Oil and Grease	mg/L	-	-	-	-	-	-	-	-	20	20
(e) Ammoniacal Nitrogen	mg/L	-	-	100	100	80	80	70	70	60	60

Note :

1. Standard A is applicable to discharge into any inland waters within catchment areas listed in the Third Schedule, while Standard B is applicable to any other inland water or Malaysian waters.
2. These standards are applicable to the sewerage treatment systems that may have been constructed prior to 1999 based upon approval given by other agency, other than the Department of Sewerage Services, Ministry of Housing and Local Government.

(iii) Existing sewage treatment system (approved after January 1999)

All sewerage treatment systems which were approved after the Guidelines for Developers: Sewerage Treatment Vol. IV, 2nd edition and were enforced by the Department of Sewerage Service, Ministry of Housing and Local Government, beginning January 1999 and up to date of coming into operation of these Regulations.

<i>Parameter</i>	<i>Unit</i>	<i>Standard</i>	
		A	B
(a) BOD ₅ at 20°C	mg/L	20	50
(b) COD	mg/L	120	200
(c) Suspended Solids	mg/L	50	100
(d) Oil and Grease	mg/L	20	20
(e) Ammoniacal Nitrogen	mg/L	50	50

Note:

Standard A is applicable to discharge into any inland waters within catchment areas listed in the Third Schedule, while Standard B is applicable to any other inland waters or Malaysian waters.

Extracted from Environmental Quality (Industrial Effluents) Regulations 2009
(PU (A) 434)

FIFTH SCHEDULE
[Paragraph 11(1) (a)]

ACCEPTABLE CONDITIONS FOR DISCHARGE OF INDUSTRIAL EFFLUENT FOR 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	40
(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 Manufactures Institute

Extracted from Environmental Quality (Industrial Effluents) Regulations 2009 (PU(A) 434)

SEVENTH SCHEDULE

(Regulation 12)

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

(1) Trade/Industry	(2) Unit	(3) Standard	(4) Standard
(a) Pulp and paper industry			
(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

**Environmental Quality (Control of Pollution From Solid Waste Transfer Station and Landfill) Regulations 2009
(PU(A) 433)**
**SECOND SCHEDULE
(Regulation 13)**
ACCEPTABLE CONDITIONS FOR DISCHARGE OF LEACHATE

	Parameter (1)	Unit (2)	Standard (3)
(i)	Temperature	°C	40
(ii)	pH Value	-	6.0-9.0
(iii)	BOD ₅ at 20°C	mg/L	20
(iv)	COD	mg/L	400
(v)	Suspended Solids	mg/L	50
(vi)	Ammoniacal Nitrogen		5
(vii)	Mercury	mg/L	0.005
(viii)	Cadmium	mg/L	0.01
(ix)	Chromium, Hexavalent	mg/L	0.05
(x)	Chromium, Trivalent	mg/L	0.20
(xi)	Arsenic	mg/L	0.05
(xii)	Cyanide	mg/L	0.05
(xiii)	Lead	mg/L	0.10
(xiv)	Copper	mg/L	0.20
(xv)	Manganese	mg/L	0.20
(xvi)	Nickel	mg/L	0.20
(xvii)	Tin	mg/L	0.20
(xviii)	Zinc	mg/L	2.0
(xix)	Boron	mg/L	1.0
(xx)	Iron (Fe)	mg/L	5.0
(xxi)	Silver	mg/L	0.10
(xxii)	Selenium	mg/L	0.02
(xxiii)	Barium	mg/L	1.0
(xxiv)	Fluoride	mg/L	2.0
(xxv)	Formaldehyde	mg/L	1.0
(xxvi)	Phenol	mg/L	0.001
(xxvii)	Sulphide	mg/L	0.50
(xxviii)	Oil and Grease	mg/L	5.0
(xxix)	Colour	ADMI*	100

ADMI- American Dye Manufactures Institute

SCHEDULE
(Regulation 2) Refrigerant Environmentally Hazardous Substances

Group	Chemical Formula	Substance
1	CFCl_3	Trichlorofluoromethane (CFC – 11)
	CF_2Cl_2	Dichlorodifluoromethane (CFC – 12)
	$\text{C}_2\text{F}_3\text{Cl}_3$	Trichlorotrifluoroethane (CFC – 113)
	$\text{C}_2\text{F}_4\text{Cl}_2$	Dichlorotetrafluoroethane (CFC – 114)
	$\text{C}_2\text{F}_5\text{Cl}$	Chloropentafluoroethane (CFC – 115)

SCHEDULE 1 (Regulation 2) List of Halon

Group	Chemical Formula	Common Name
Bromochlorodifluoromethane	CF_2BRC_1	Halon 1211
Bromotrifluoromethane	CF_3Br	Halon 1301
Dibromotetrafluoroethane	$\text{C}_2\text{F}_4\text{Br}_2$	Halon 2402

A SUMMARY OF ENVIRONMENTAL REQUIREMENTS ON SCHEDULED WASTES

I Control of Scheduled Wastes – Section 34B, Environmental Quality Act 1974. Prohibition against placing, deposit, etc. of scheduled wastes.

1. No person shall –
 - (a) place, deposit or dispose of, or cause or permit to place, deposit or disposed of, except at prescribed premises only, any scheduled wastes on land or into Malaysian waters;
 - (b) receive or send, or cause or permit to be received or sent any scheduled wastes in or out of Malaysia; or
 - (c) transit or cause or permit the transit of scheduled wastes, without any prior written approval of the Director General.
2. The Director General may grant the written approval either subject to conditions or unconditionally.
3. For the purpose of this Act, any act of receiving or sending, or transit of any scheduled wastes with an approval obtained through falsification, misrepresentation or fraud or which does not conform in a material way with the relevant documents in such as may be prescribed, shall be an offence.
4. Any person who contravenes this section shall be guilty of an offence and shall on conviction be punished with imprisonment for a term not exceeding five years and shall also be liable to a fine not exceeding five hundred thousand Ringgit (RM 500,000.00).

II Environmental Quality (Schedules Wastes) Regulations 2005

1. The Environmental Quality (Scheduled Wastes) Regulations 2005 came into force since 15 August 2005, and is replacing the Environmental Quality (Scheduled Wastes) Regulations 1989. In 20 March 2007, the Environmental Quality (Scheduled Wastes) Regulations 2005 are then amended in the First Schedule, in relation to the particular appearing against code SW 104, by inserting after the word “containing” the words “aluminium”.

APPENDIX M

2. Under these new regulations, scheduled wastes listed in the First Schedule are divided into 5 categories as per Appendix L. Waste generators should determine whether their wastes are classified under scheduled wastes. New generators of scheduled wastes are required to notify the Department of Environment within one month from the date of generation of wastes.
3. Scheduled wastes can be stored, recovered and treated within the premises of the waste generators. Such activities do not require licensing by the Department of Environment. A waste generator may store scheduled wastes generated by him for 180 days or less after its generation provided that the quantity of scheduled wastes accumulated on site shall not exceed 20 metric tonnes. However, waste generators may apply to the Director General in writing to store more than 20 metric tonnes of scheduled wastes. The containers that are used to store scheduled wastes shall be clearly labelled with the date when the scheduled wastes are first generated, name, address and telephone number of the waste generator.
4. Land farming, incineration, disposal and off-site facilities for recovery, storage and treatment can only be carried out at prescribed premises licensed by the Department of Environment. However with the signing of the concession agreement between the Government of Malaysia and Kualiti Alam Sdn. Bhd, all off-site treatment and disposal (incineration, wastewater treatment, storage and secure landfill) of scheduled wastes is not allowed. The agreement is from 18 December 1995 to 18 December 2010.
5. On-site incineration of scheduled wastes is not encouraged. If it is deemed necessary, application for the installation of such incinerator must strictly adhered to the Guidelines On the Installation of On-site Incinerator for the Disposal of Scheduled Wastes in Malaysia” (published by the Department of Environment), including carrying out a detailed environmental impact assessment and display of the EIA report for public comments.
6. Waste generators shall also keep an up to-date inventory of scheduled wastes generated, treated and disposed off. Proper labelling, containers and storage areas as well as prohibition of storage of incompatible waste are also required by law.
7. In the case of transporting the scheduled waste from the waste generator to the treatment and disposal facilities, the transporting of waste shall conform to the consignment note system whereby the movement of waste is monitored until it reaches the approved destination. It is the responsibility of a waste generator to monitor and ensure that the waste transported from his factory reaches the approved destination. The waste generator is responsible to inform the transport contractor regarding the nature of the waste and what actions to be taken during accidents to minimise damage to human life and the environment. Schedule wastes transporters should also be licensed by the Department of Environment.

8. Every waste generator shall ensure that all his employees involved in the identification, handling, labelling, transportation, storage and spill response of scheduled wastes, attend training programme.

III Environmental Quality (Prescribed Premises)(Scheduled Wastes Treatment and Disposal Facilities) Order 1989

There are six types of premises prescribed under the Order that require written permission and a licence from the Department of Environment. The premises include:

- a. Land treatment facilities such as sludge farming of oily wastes or sludges;
- b. Off-site recovery facilities such as solvent recycling plant;
- c. Off-site treatment facilities such as centralised physical/chemical wastewater treatment plant;
- d. Scheduled wastes incinerators;
- e. Off-site storage facilities including the premises of waste transport contractors; and
- f. Secure landfills designated for the disposal of scheduled wastes.

IV Environmental Quality (Prescribed Premises) (Scheduled Wastes Treatment and Disposal Facilities) Regulations 1989

1. These regulations list the procedures for licence application, renewal and ownership transfer as well as requirements for record keeping and submission to the Department of Environment. Every owner or occupier of prescribed premises is responsible to keep accurate an up-to-date records of wastes handled and to submit these record within 14 days at the end of every period of 3 months to the Department of Environment.
2. Offences under these Regulations can be compounded up to a maximum of RM2, 000.00 or offenders can be prosecuted in court and the maximum penalty is RM50, 000.00 or imprisonment for a period not exceeding 2 years or both and to a further fine not exceeding RM1000.00 per day for every day the offence is continued.

FIRST SCHEDULE ENVIRONMENTAL QUALITY (SCHEDULED WASTES) REGULATIONS 2005**SW 1 Metal and metal-bearing wastes**

- SW 101 Waste containing arsenic or its compound
- SW 102 Waste of lead acid batteries in whole or crushed form
- SW 103 Waste of batteries containing cadmium and nickel or mercury or lithium
- SW 104 Dust, slag, dross or ash containing aluminium, arsenic, mercury, lead, cadmium, chromium, nickel, copper, vanadium, beryllium, antimony, tellurium, thallium or selenium excluding slag from iron and steel factory
- SW 105 Galvanic sludges
- SW 106 Residues from recovery of acid pickling liquor
- SW 107 Slags from copper processing for further processing or refining containing arsenic, lead or cadmium
- SW 108 Leaching residues from zinc processing in dust and sludges form
- SW 109 Waste containing mercury or its compound
- SW 110 Waste from electrical and electronic assemblies containing components such as accumulators, mercury-switches, glass from cathode-ray tubes and other activated glass or polychlorinated biphenyl-capacitors, or contaminated with cadmium, mercury, lead, nickel, chromium, copper, lithium, silver, manganese or polychlorinated biphenyl

SW 2 Wastes containing principally inorganic constituents which may contain metals and organic materials

- SW 201 Asbestos wastes in sludges, dust or fibre forms
- SW 202 Waste catalysts
- SW 203 Immobilized scheduled wastes including chemically fixed, encapsulated, solidified or stabilized sludges.

- SW 204 Sludges containing one or several metals including chromium, copper, nickel, zinc, lead, cadmium, aluminium, tin, vanadium and beryllium
- SW 205 Waste gypsum arising from chemical industry or power plant
- SW 206 Spent inorganic acids
- SW 207 Sludges containing fluoride
- SW 3 Wastes containing principally organic constituents which may contain metals and inorganic materials**
- SW 301 Spent organic acids with pH less or equal to 2 which are corrosive or hazardous
- SW 302 Flux waste containing mixture of organic acids, solvents or compounds of ammonium chloride
- SW 303 Adhesive or glue waste containing organic solvents excluding solid polymeric materials
- SW 304 Press cake from pre-treatment of glycerol soap lye
- SW 305 Spent lubricating oil
- SW 306 Spent hydraulic oil
- SW 307 Spent mineral oil-water emulsion
- SW 308 Oil tanker sludges
- SW 309 Oil-water mixture such as ballast water
- SW 310 Sludge from mineral oil storage tank
- SW 311 Waste of oil or oily sludge
- SW 312 Oily residue from automotive workshop, service station oil or grease interceptor
- SW 313 Oil contaminated earth from re-refining of used lubricating oil

- SW 314 Oil or sludge from oil refinery plant maintenance operation
- SW 315 Tar or tarry residues from oil refinery or petrochemical plant
- SW 316 Acid sludge
- SW 317 Spent organometallic compounds including tetraethyl lead, tetramethyl lead and organotin compounds
- SW 318 Waste, substances and articles containing or contaminated with polychlorinated biphenyls (PCB) or polychlorinated triphenyls (PCT)
- SW 319 Waste of phenols or phenol compounds including chlorophenol in the form of liquids or sludges
- SW 320 Waste containing formaldehyde
- SW 321 Rubber or latex wastes or sludges containing organic solvents or heavy metals
- SW 322 Waste of non-halogenated organic solvents
- SW 323 Waste of halogenated organic solvents
- SW 324 Waste of halogenated or unhalogenated non-aqueous distillation residues arising from organic solvents recovery process
- SW 325 Uncured resin waste containing organic solvents or heavy metals including epoxy resin and phenolic resin
- SW 326 Waste of organic phosphorus compound
- SW 327 Waste of thermal fluids (heat transfer) such as ethylene glycol
- SW 4 Wastes which may contain either inorganic or organic constituents**
- SW 401 Spent alkalis containing heavy metals
- SW 402 Spent alkalis with pH more or equal to 11.5 which are corrosive or hazardous
- SW 403 Discarded drugs containing psychotropic substances or containing substances that are toxic, harmful, carcinogenic, mutagenic or teratogenic

SW 404	Pathogenic wastes, clinical wastes or quarantined materials
SW 405	Waste arising from the preparation and production of pharmaceutical product
SW 406	Clinker, slag and ashes from scheduled wastes incinerator
SW 407	Waste containing dioxins or furans
SW 408	Contaminated soil, debris or matter resulting from cleaning-up of a spill of chemical, mineral oil or scheduled wastes
SW 409	Disposed containers, bags or equipment contaminated with chemicals, pesticides, mineral oil or scheduled wastes
SW 410	Rags, plastics, papers or filters contaminated with scheduled wastes
SW 411	Spent activated carbon excluding carbon from the treatment of potable water and processes of the food industry and vitamin production
SW 412	Sludges containing cyanide
SW 413	Spent salt containing cyanide
SW 414	Spent aqueous alkaline solution containing cyanide
SW 415	Spent quenching oils containing cyanides
SW 416	Sludges of inks, paints, pigments, lacquer, dye or varnish
SW 417	Waste of inks, paints, pigments, lacquer, dye or varnish
SW 418	Discarded or off-specification inks, paints, pigments, lacquer, dye or varnish products containing organic solvent
SW 419	Spent di-isocyanates and residues of isocyanate compounds excluding solid polymeric material from foam manufacturing process
SW 420	Leachate from scheduled waste landfill
SW 421	A mixture of scheduled wastes
SW 422	A mixture of scheduled and non-scheduled wastes

- SW 423 Spent processing solution, discarded photographic chemicals or discarded photographic wastes
- SW 424 Spent oxidizing agent
- SW 425 Wastes from the production, formulation, trade or use of pesticides, herbicides or biocides
- SW 426 Off-specification products from the production, formulation, trade or use of pesticides, herbicides or biocides
- SW 427 Mineral sludges including calcium hydroxide sludges, phosphating sludges, calcium sulphite sludges and carbonates sludges
- SW 428 Wastes from wood preserving operation using inorganic salts containing copper, chromium or arsenic or fluoride compounds or using compound containing chlorinated phenol or creosote
- SW 429 Chemicals that are discarded or off-specification SW 430 Obsolete laboratory chemicals
- SW 431 Waste from manufacturing or processing or use of explosives
- SW 432 Waste containing, consisting of or contaminated with peroxides
- SW 5 Other wastes**
- SW 501 Any residues from treatment or recovery of scheduled wastes

CHECKLIST OF ACTIVITIES, PROJECTS OR INSTALLATIONS WHICH REQUIRE APPROVAL FROM THE DOE

Activities/ Installation	Licences or approvals	Tick appropriate required boxes	Activities/ Installation	Licences or approvals	Tick appropriate required boxes
I. Industrial or Project Site Planning Stage			III. Prior to Operational Stage		
(1) Prescribed Activities	Site Suitability Evaluation	<input type="checkbox"/>	(6) Installation of Air Pollution Control and Wastewater Treatment System	Prior to consultation with DOE	<input type="checkbox"/>
	EIA Report preparation and approval	<input type="checkbox"/>			
(2) Non-Prescribed Activities	Site Suitability Evaluation	<input type="checkbox"/>	(7) A facility that generates scheduled wastes	Consultation with DOE on waste management	<input type="checkbox"/>
II. Prior To Construction Stage			III. Prior to Operational Stage		
(3) Premise which generates industrial effluent, sewage, lechate	Written Notification to construct	<input type="checkbox"/>	(8) Palm Oil, Natural Rubber Processing Mills, Scheduled Waste Treatment and Disposal Facilities, Prescribed Conveyance.	License to occupy and use	<input type="checkbox"/>
(4) Raw palm oil and raw natural rubber mills	Written Permission to construct (for palm oil and rubber mill, scheduled waste treatment facilities)	<input type="checkbox"/>			
(5) Fuel Burning Equipment			(9) New additional source of discharge as a result of expansion of industrial activity (increase production capacity) for existing industry	Permission to dispose new or additional sources of discharges	<input type="checkbox"/>
Boilers	Installation approval	<input type="checkbox"/>			
Incinerators	Installation approval	<input type="checkbox"/>			
Generator Set	Installation approval	<input type="checkbox"/>			
Furnaces	Installation approval	<input type="checkbox"/>			
Ovens	Installation approval	<input type="checkbox"/>			
Dryers	Installation approval	<input type="checkbox"/>			
Chimney/ outlet / vent discharge air impurities	Installation approval	<input type="checkbox"/>			

SUMMARY OF APPROVALS ISSUED BY THE DEPARTMENT OF ENVIRONMENT

TYPE OF APPLICATION	PROCESSING FEE	LEGISLATION	APPLICATION CENTRE	TIME TAKEN FOR APPROVAL	MAIN TERMS/ CONDITIONS FOR APPLICATION/ SUPPORTING DOCUMENT
1. Preliminary Site Suitability Assessment	-	All Industries/ activities / project referred to DOE	DOE State Offices	2 weeks	<p><u>Form</u></p> <p>Preliminary screening form for new industries AS PAT form.</p> <p>Compatibility of industries with the surrounding land use and the land use planning.</p> <p><u>Information required</u></p> <ul style="list-style-type: none"> Information on the industry, site, raw materials, products and inventory of materials stored on the premises.
2. Environmental Impact Assessment (EIA)	-	Section 34A, Environmental Quality Act, 1974 (Act 127) Environmental Quality (Prescribed Activities) (EIA) Order, 1987	<p><u>Preliminary EIA</u></p> <p>DOE State Offices</p> <p><u>Detailed EIA</u></p> <p>DOE Headquarters</p>	<p><u>Preliminary EIA</u></p> <p>5 weeks</p> <p><u>Detailed EIA</u></p> <p>12 weeks (including public display and comments)</p>	<p><u>EIA report</u> which meets DOE's requirements (Section 34A).</p> <p>Site selection is important and is evaluated in terms of its compatibility with respect to the gazetted structure/local plans, surrounding landuse, provision of set-backs or buffer zones, the capacity of the area to receive additional pollution load, and waste disposal requirements.</p> <p>Risk analysis shall be included for projects involved with handling of dangerous and hazardous goods.</p>

TYPE OF APPLICATION	PROCESSING FEE	LEGISLATION	APPLICATION CENTRE	TIME TAKEN FOR APPROVAL	MAIN TERMS/ CONDITIONS FOR APPLICATION/ SUPPORTING DOCUMENT
<p>3. Written Permission</p> <p>To construct any building which will result in a new source of effluent discharge?</p> <p>To increase production capacity which will cause material change in quality/ quality of effluent</p>	<p><u>Palm Oil Palm, Rubber Mill and other Industries</u></p> <p>RM100.00</p> <p><u>Treatment and disposal facilities of scheduled wastes</u></p> <p>RM1000.00</p>	<p>Environmental Quality Regulation:-</p> <p>i. Crude Palm Oil), 1977.</p> <p>ii. Raw Natural Rubber, 1978</p> <p>iii. Scheduled Wastes Treatment and Disposal, Order 1989.</p>	<p>DOE State Offices</p>	<p>3 weeks</p>	<p>Able to treat the effluent discharged to the standard required under the regulations.</p> <p><u>Information required</u></p> <p>Information on the site, industries, raw materials, products, design of the treatment systems and the quality/quality of effluent.</p> <p><u>Forms</u></p> <p>AS 3 - Palm Oil Mill AS 6 - Rubber Mill AS 9 - Industries other than Palm Oil and Rubber Mill Off-site treatment facilities AS 10 - Land treatment facilities AS 11 - Off-site recovery facilities AS 12 - Secure landfill AS 13 - Off-site storage facilities AP/E/INC - Scheduled waste incinerators.</p>

TYPE OF APPLICATION	PROCESSING FEE	LEGISLATION	APPLICATION CENTRE	TIME TAKEN FOR APPROVAL	MAIN TERMS/ CONDITIONS FOR APPLICATION/ SUPPORTING DOCUMENT
<p>4. Written Notification</p> <p>(i) To construct or carry out any work on any premises that may result a new sources of discharge of industrial effluent or mixed effluent.</p> <p>(ii) To construct any transfer stations and landfills</p> <p>(iii) To construct any premises that may result a new sources of discharge sewage (other than any housing or commercial development or both having a population less than 150)</p>	<p>-</p> <p>-</p> <p>-</p>	<p>Environmental Quality Regulations 2009:-</p> <p>(i) Industrial Effluent,2009</p> <p>(ii) Control of Pollution From Solid Waste Transfer Station and Landfill, 2009.</p> <p>(iii) Sewage, 2009.</p>	<p>DOE State Offices</p>		<p>Able to treat the effluent discharge to the standard required under the regulations.</p> <p><u>Information required</u></p> <p>Information on the site, raw materials, products, design of the treatment systems and the quality / quantity of effluents.</p> <p><u>Forms</u></p> <p>(i) <u>Second Scheduled</u> Sub-regulation 4(2) – Notification For New or Altered Sources of Discharge of Industrial Effluent or Mixed.</p> <p>(ii) <u>Third Scheduled</u> Written Declaration on design and Construction or Industrial Effluent Treatment System</p> <p>(iii) <u>First Scheduled</u> Written Notification of New Sources of Leachate Discharge</p> <p>(iv) <u>First Scheduled</u> Notification For New Sources of Sewage Discharge or Release.</p>

TYPE OF APPLICATION	PROCESSING FEE	LEGISLATION	APPLICATION CENTRE	TIME TAKEN FOR APPROVAL	MAIN TERMS/ CONDITIONS FOR APPLICATION/ SUPPORTING DOCUMENT
<p>5. Written Approval</p> <p>To install, resite or alter fuel burning equipment, incinerator or chimney.</p>		<p>Environmental Quality (Clean Air) Regulations, 1978</p>	<p>DOE State Offices</p>	<p>3 weeks</p>	<p>Able to comply with the emission standard under the regulations.</p> <p><u>Information required</u></p> <p>Information on the equipment, fuel/ combustion materials, design of the equipment, heights of the chimney and quantity and quality of the emission.</p> <p><u>Forms</u></p> <p>AP/E/2/INC - Incinerator</p> <p>AP/E/1/86 - Fuel Burning Equipment</p> <p>AP/E/3P/82 – Generator</p> <p>AS16D-1 Scrubber</p> <p>AS16D-2 Cyclone</p> <p>AS16D-3 Bag filter</p>

TYPE OF APPLICATION	PROCESSING FEE	LEGISLATION	APPLICATION CENTRE	TIME TAKEN FOR APPROVAL	MAIN TERMS/ CONDITIONS FOR APPLICATION/ SUPPORTING DOCUMENT
<p>6. Licence to Occupy and Use the Prescribed Premises</p>	<p>Processing Fee for all prescribed premises</p> <p>RM100.00</p> <p>Effluent Related Fee for palm oil mill and rubber mill Calculated based on the quantity and quality of effluent.</p>	<p>Environmental Quality Act, 1974 (Act 127)</p> <p>Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations, 1977</p> <p>Environmental Quality (Prescribed Premises) (Raw Natural Rubber) Regulations 1978</p> <p>Environmental Quality (Licensing) Regulations, 1977</p> <p>Environmental Quality (Prescribed Premises) (Scheduled Wastes Treatment and Disposal Facilities) Regulations (Amendment) 2006.</p>	<p>DOE State Offices</p>	<p><u>Palm Oil Mill</u></p> <p>(Validity 1st July-30th June). Processing period for :</p> <p><u>Licence renewal</u> 1 week for application by post.</p> <p>Instant approval when submitting the application in-person at DOE State Offices.</p> <p><u>New licence</u> 2 weeks.</p> <p><u>Rubber Mill</u></p> <p>(Validity 1st April 30th March)</p> <p>Processing period for:</p> <p><u>Licence renewal</u> 1 week for application by post. Instant approval when submitting the application in-person at DOE State Offices.</p>	<p><u>Form</u></p> <p>AS 1 -for all licence applications</p> <p>AS 3 & 4 - Palm Oil Mill</p> <p><u>Form</u></p> <p>AS 1 -for all licence applications</p> <p>AS 6 & 7 - Rubber Mill</p>

TYPE OF APPLICATION	PROCESSING FEE	LEGISLATION	APPLICATION CENTRE	TIME TAKEN FOR APPROVAL	MAIN TERMS/ CONDITIONS FOR APPLICATION/ SUPPORTING DOCUMENT
				<p><u>New licence</u></p> <p>2 weeks. Scheduled Waste Treatment and Disposal Facilities (Validity 1st May – 30th April)</p> <p>Processing period for:</p> <p><u>Licence renewal</u></p> <p>1 week for application by post.</p> <p>Instant approval when submitting the application in-person at DOE State Offices.</p> <p><u>New licence</u></p> <p>2 weeks.</p>	<p>Obtain EIA approval for scheduled wastes treatment and disposal facilities.</p> <p>The facilities have been constructed.</p> <p>Form</p> <p>AS 1 - for all licence applications</p>
<p>7. Disposal of spoil/ dredged material at sea</p>	<p>-</p>		<p>DOE State Offices</p>	<p>5 weeks</p>	<p>Environmental Assessment Report on the suitability of the proposed disposal site at sea, prior to the coordinates given by the Marine Department and comments form Fisheries Department</p>

TYPE OF APPLICATION	PROCESSING FEE	LEGISLATION	APPLICATION CENTRE	TIME TAKEN FOR APPROVAL	MAIN TERMS/ CONDITIONS FOR APPLICATION/ SUPPORTING DOCUMENT
<p>8. Special Management of Scheduled Wastes</p>	<p>RM 300.00</p>	<p>Environmental Quality Act, 1974 (Act 127)</p> <p>Environmental Quality (Scheduled Wastes) Regulations (Amendment 2007)</p>	<p>DOE Head Quarters</p>	<p>8 weeks</p>	<p>Application has to comply with the criteria as per the Guidelines for Special Management of Scheduled Wastes.</p> <p>Waste generators may be allowed to send scheduled wastes generated from their particular facility or process to facilities other than at the prescribed premises, prior to approval from the DOE.</p>
<p>9. Export of Scheduled Wastes</p>	<p>-</p>	<p>Environmental Quality Act, 1974 (Act 127)</p> <p>Environmental Quality (Scheduled Wastes) Regulations (Amendment 2007)</p> <p>Custom (Prohibition on Export) Order (Amendment 2006)</p> <p>Basel Convention on the Transboundary Movements of Hazardous Wastes.</p>	<p>DOE Head Quarters</p>	<p>Notification to importing/ transit countries – 3 weeks.</p> <p>Consent from the importing / transit countries – depending on the time taken by each country to review such application.</p> <p>Final approval from DOE (Export Permit) prior to the consent from importing/ transit countries – 3 weeks.</p>	<p><u>Form.</u></p> <p>AS15. Export (Rev. 2006), with the checklist of documents to be submitted to the DOE, among others:-</p> <p>Bank Guarantee of RM 25,000.00</p> <p>Insurance Coverage</p> <p>Agreement between waste generator and the final receiver in the importing country.</p> <p>Agreement between waste generator and transporters in Malaysia</p> <p>Details on the licensed recovery facility / final receiver in importing country.</p>

TYPE OF APPLICATION	PROCESSING FEE	LEGISLATION	APPLICATION CENTRE	TIME TAKEN FOR APPROVAL	MAIN TERMS/ CONDITIONS FOR APPLICATION/ SUPPORTING DOCUMENT
<p>10. Import of Scheduled Wastes</p>	<p>-</p>	<p>Environmental Quality Act, 1974 (Act 127)</p> <p>Environmental Quality (Scheduled Wastes) Regulations (Amendment) 2007</p> <p>Custom (Prohibition on Import) Order (Amendment) 2005</p> <p>Basel Convention on the Transboundary Movements of Hazardous Wastes.</p>	<p>DOE Head Quarters</p>	<p>Application from the local importer and a letter of notification from exporting country 3 weeks.</p> <p>Final approval from DOE (Import Permit) and consent to the exporting country – 3 weeks</p>	<p><u>Form</u></p> <p>AS 14. Import.</p> <p>Bank Guarantee of RM 10,000.00</p> <p>Agreement between final receiver in Malaysia with waste generator in exporting country.</p>