

Royal Emblem**Notification of the Ministry of Industry**

**Subject: Descriptions of Factory Types and Sizes, Procedure for the Control of Discharges of Wastes, Pollutants, or Any Substances that Cause Adverse Effects on the Environment, Qualifications of Supervisors and Operators, and Criteria for Registration of the Supervisors of Pollution Prevention Systems
B.E. 2545 (2002)**

By virtue of Article 10 of the Ministerial Regulation No.2 (A.D. 1992) under the Factory Act B.E. 2535 (1992) which contains some provisions concerning the limitation of the person's rights and freedoms that can be done by the provisions of Section 29 combined with Section 35, Section 48, and Section 50 of the Constitution of the Kingdom of Thailand, the Minister of Industry hereby issues the notification as follows:

Article 1. Herein,

“Factory” means the factory as defined in the Factory Act.

“Pollution” means any form of waste (e.g. wastewater, polluted air, and industrial waste) discharged from a factory which cause or may cause adverse effects to environmental quality or harmful conditions to human health.

“Wastewater” means wastewater from any process of a factory discharged into public receiving water or the environment, including any wastewater generated from water usage by workers and other activities in the factory.

“Polluted air” means air with any contaminant generated from factory operations which adversely affect health of the living and environmental quality.

“Industrial waste” means any waste or unusable materials as defined in Notification of the Ministry of Industry.

“Pollution prevention system” means processes of preventing pollution from spreading into the environment, which is systematically managed, from management at the point sources of pollution, treatment to non-polluted or least polluted condition, and disposal or destruction to avoid the spread of pollution to the environment, including machines and equipment installed for pollution treatment system in a factory.

“Pollution treatment system” means a combination of unit operations and processes for treating, reducing, or mitigating pollution generated from a factory i.e., wastewater treatment system, air pollution treatment system, and industrial waste treatment system.

“Environmental personnel” means a person permitted to be in charge of activities concerning pollution prevention system in a factory.

“Supervisor” means a person permitted to carry out inspection, control, supervision, operation and maintenance of pollution treatment systems or of machines, equipment, tools or appliances installed for pollution prevention system in a factory.

“Consultant” means a service provision contractor permitted to be Water Pollution, Air Pollution, or Industrial Waste Management Supervisor as the case may be.

“Operator” means a person permitted to carry out inspection, control, supervision and maintenance of the tool, appliance or any equipment installed for the treatment of wastewater, polluted air, industrial waste or disposal of any other pollutant, who shall be available all the time when the system is operated.

“Procedure for the control of discharges of wastes, pollutants or any substances that cause adverse effects on the environment” means a process of management, including use of technology for the control of pollutants discharged to the environment to be in compliance with the designated standards as indicated in the Notification of the Ministry of Industry.

“Standard Examination” means an examination designated by the Department of Industrial Works for registration of Water Pollution, Air Pollution, or Industrial Waste Management Supervisor as the case may be.

“Training” means a training designated by the Department of Industrial Works to be a specific course for each type of environmental personnel.

“License” means an authorized document issued by the Department of Industrial Works to a person or consultant as evidence for registration of Water Pollution, Air Pollution, or Industrial Waste Management Supervisor according to factory types and sizes as designated in this Notification.

“Permission” means permission to register a person or consultant as Water Pollution, Air Pollution, or Industrial Waste Management Supervisor, or permission for a factory to have environmental personnel.

“Grantor” means the Director-General of the Department of Industrial Works or the person assigned by the Director-General of the Department of Industrial Works.

Section 1

Classification of Environmental Personnel

Article 2. Environmental personnel means:

- 2.1 Supervisor; which is classified as:
 - 2.1.1 Environmental Manager
 - 2.1.2 Water Pollution Supervisor
 - 2.1.3 Air Pollution Supervisor
 - 2.1.4 Industrial Waste Management Supervisor

2.2 Operator

2.3 Consultant who has been contracted to provide service as the supervisor as mentioned in 2.1.2, 2.1.3, and/or 2.1.4 as the case may be.

Section 2 Qualifications of Environmental Personnel

Article 3. The qualifications of environmental personnel shall be in compliance with the criteria and procedure as defined by the Department of Industrial Works.

Section 3 Training and Standard Examination

Article 4. The training and standard examination shall be in compliance with the criteria and procedure as defined by the Department of Industrial Works.

Section 4 Description of Factory Types and Sizes that Cause Adverse Effects on the Environment

Article 5. The following factories must have environmental personnel.

No.	Factory Types and Sizes	Classification of Environmental Personnel
1	<p>Factories having an organic wastewater: Factories having 500 cubic meters per day or more of wastewater (excluding cooling water) or having BOD load of influent 100 kilograms per day or more</p>	<ul style="list-style-type: none"> - Environmental Manager - Water Pollution Supervisor - Air Pollution Supervisor ** - Operator <p><i>**Note Factories not generating polluted air shall be exempted from being required to have Air Pollution Supervisor.</i></p>

No.	Factory Types and Sizes	Classification of Environmental Personnel
2	<p>Factories using the following substances or its compounds in production processes and having 50 cubic meters per day or more of wastewater.</p> <p>2.1 Zinc 2.2 Cadmium 2.3 Cyanide 2.4 Organic Phosphorus Compounds 2.5 Lead 2.6 Copper 2.7 Barium 2.8 Selenium 2.9 Nickel 2.10 Manganese 2.11 Hexavalent Chromium 2.12 Arsenic and its Compounds 2.13 Mercury and its Compounds</p>	<ul style="list-style-type: none"> - Environmental Manager - Water Pollution Supervisor - Air Pollution Supervisor** - Industrial Waste Management Supervisor - Operator <p>**Note <i>Factories not generating polluted air shall be exempted from being required to have Air Pollution Supervisor.</i></p>
3	<p>Factories generating high pollution.</p> <p>3.1 Thermal Power Plant with a capacity of 10 MW or more 3.2 Petrochemical Industry using raw materials which are produced from oil refinery and/or natural gas separation with a production capacity of 100 tons/day or more 3.3 Oil Refinery Industry, all sizes 3.4 Natural Gas Separation and Processing Industry, all sizes 3.5 Pesticide Industry or Industry producing active ingredients by chemical processes, all sizes 3.6 Chemical Fertilizer Industry using chemical processes, all sizes 3.7 Central Waste Treatment Plant, all sizes 3.8 Sugar-related industry as follows: 3.8.1 Production of raw sugar, plantation white sugar, or refined sugar, all sizes 3.8.2 Production of Glucose, Dextrose, Fructose, or other similar products with a production capacity of 20 tons/day or more</p>	<ul style="list-style-type: none"> - Environmental Manager - Water Pollution Supervisor - Air Pollution Supervisor - Industrial Waste Management Supervisor - Operator <p>Note <i>Factories not generating wastewater, polluted air, or industrial waste shall be exempted from being required to have Water Pollution, Air Pollution, or Industrial Waste Management Supervisor as the case may be.</i></p>

No.	Factory Types and Sizes	Classification of Environmental Personnel
	3.9 Industrial Waste Management Facility, all sizes 3.10 Iron and/or Steel-related Industry 3.10.1 a factory using heat treatment furnace(s) or using acid / hazardous materials in production processes with a production capacity of 100 tons/day or more 3.10.2 a factory using iron melting furnace(s) with total capacity of 5 tons/batch or more 3.11 Chlor-Alkaline Industry using Sodium Chloride (NaCl) as raw material for a production of Sodium Carbonate (Na ₂ CO ₃), Sodium Hydroxide (NaOH), Hydrochloric Acid (HCl), Chlorine (Cl ₂), Sodium Hypochlorite (NaOCl) and Bleaching powders with a production capacity of each or combined product(s) of 100 tons/day or more 3.12 Cement Industry, all sizes 3.13 Non-Ferrous Smelting Industry with a production capacity of 50 tons/day or more 3.14 Pulp Industry with a production capacity of 50 tons/day or more	<ul style="list-style-type: none"> - Environmental Manager - Water Pollution Supervisor - Air Pollution Supervisor - Industrial Waste Management Supervisor - Operator <p><i>Note</i> Factories not generating wastewater, polluted air, or industrial waste shall be exempted from being required to have Water Pollution, Air Pollution, or Industrial Waste Management Supervisor as the case may be.</p>

Section 5
Description of Duties and Responsibilities of Environmental Personnel

Article 6. Environmental personnel under this notification shall have duties and responsibilities as follows:

6.1 Environmental manager:

6.1.1 To be responsible for environmental management of the factory, including preparation of environmental implementation plans and environmental management manuals, and make them available for the inspection of the Department of Industrial Works' officers.

- 6.1.2 To endorse reports of Water Pollution, Air Pollution, or Industrial Waste Management Supervisor and be responsible for increasing efficiency of pollution prevention system of the factory.
- 6.1.3 To prepare environmental emergency responses to prevent pollutants from spreading to the environment. In case of emergency, Environmental Manager must immediately inform the Department of Industrial Works and carry out promptly a remediation plan. In addition, Environmental Manager must prepare an incident report indicating problems occurred, causes, solutions, and actions taken, then directly inform the Department of Industrial Works.

6.2 Water Pollution, Air Pollution, or Industrial Waste Management Supervisor:

- 6.2.1 To inspect types and categories of fuels and raw materials used in production processes of the factory.
- 6.2.2 To assess and inspect characteristics of pollutants and efficiency of pollution prevention system of the factory.
- 6.2.3 To control, supervise, and carry out the environmental implementation plans, environmental management manuals, and environmental emergency responses of the factory in an efficient manner and shall prevent pollutants from being discharged to the environment without passing through the pollution prevention system (bypass).
- 6.2.4 To prepare an operation and maintenance report of pollution prevention system and submit to Environmental Manager for endorsement.
- 6.2.5 To prepare pollutant analysis reports in accordance with the criteria and procedure as defined by the Department of Industrial Works, which must be conducted by an official or private laboratory registered by the Department of Industrial Works. This report must be submitted to a person engaging in the factory business for information and bookkeeping and be available for the inspection of the Department of Industrial Works' officers.
- 6.2.6 If Water Pollution, Air Pollution, or Industrial Waste Management Supervisor is unable to perform the duties as described in Article 6.2, the supervisor must indicate problems and reasons in writing and report to the Department of Industrial Works within 15 working days from the date of being unable to perform the duties.
- 6.2.7 If Water Pollution, Air Pollution, or Industrial Waste Management Supervisor wishes to resign from being responsible for the factory's pollution prevention system, a written notice must be submitted in advance to the Department of Industrial Works at least 7 days before the actual date of resignation.

6.3 Consultant:

The consultant shall have the same duties and responsibilities as Water Pollution, Air Pollution, or Industrial Waste Management Supervisor under Article 6.2. The services of consultant shall be in accordance with the criteria and procedure as defined by the Department of Industrial Works.

6.4 Operator has the duties:

- 6.4.1 To perform duties on the operation of machines under the pollution prevention system.
- 6.4.2 To inspect the operation of the machines under the pollution prevention system to ensure its efficiency.
- 6.4.3 To operate pollution prevention system at all time when the system is operated.
- 6.4.4 To comply with the supervision of Water Pollution, Air Pollution, or Industrial Waste Management Supervisor as the case may be in order to prevent pollution from spreading to the environment.
- 6.4.5 To immediately report an emergency case and its response actions to Water Pollution, Air Pollution, or Industrial Waste Management Supervisor as the case may be.
- 6.4.6 To prepare a written report on operational result, problems and obstacles in the operation of pollution prevention system and submit it to Water Pollution, Air Pollution, or Industrial Waste Management Supervisor as the case may be for the benefits of taking corrective actions.

Section 6**Duties of A Person Engaging in the Factory Business**

Article 7. The factory under Section 4, Article 5, shall avail itself with procedure for the control of discharges of wastes, pollutants or any substances that cause adverse effects on the environment by employing environmental personnel under Section 1, Article 2 according to the factory types and sizes and be responsible for the following duties:

- 7.1 Submit application for permission to have environmental personnel according to the criteria and procedure as defined by the Department of Industrial Works.
- 7.2 In case that there is no Environmental Manager, the person engaging in the factory business shall be in charge as Environmental Manager and assumes duties and responsibilities as mentioned in Section 5, Article 6.1.
- 7.3 Comply with the advice of Environmental Manager in taking any action required to prevent pollution from spreading to the environment.

- 7.4 While the application for permission according to Article 7.1 is in a process, it is assumed that permission is granted until the grantor has issued a denial letter.
- 7.5 When the permission of Water Pollution, Air Pollution, or Industrial Waste Management Supervisor is revoked according to Section 9, Article 12, a person engaging in the factory business must employ a new Water Pollution, Air Pollution, or Industrial Waste Management Supervisor as the case may be within 90 days from the date of revocation. During the aforementioned period, Environmental Manager shall be in charge as Water Pollution, Air Pollution, or Industrial Waste Management Supervisor as the case may be.
- 7.6 In case of any changes of environmental personnel, Article 7.1 shall be applicable.

Section 7
Registration for Water Pollution, Air Pollution,
or Industrial Waste Management Supervisors

Article 8. A person who wishes to be registered as Water Pollution, Air Pollution, or Industrial Waste Management Supervisor shall submit an application form according to the criteria and procedure as defined by the Department of Industrial Works.

Article 9. When permitted to be a registered Water Pollution, Air Pollution, or Industrial Waste Management Supervisor, a license will be issued and valid for a period of 3 years from the date of issuance.

Section 8
Renewal of License

Article 10. Renewal of license shall be conducted in accordance with the criteria and procedure as defined by the Department of Industrial Works.

Article 11. Grantor has a right to reject the renewal of license in case that the performance of Water Pollution, Air Pollution, or Industrial Waste Management Supervisor under Section 5, Article 6.2 and Article 6.3, is not efficient.

Section 9
Revocation of License

Article 12. When Water Pollution, Air Pollution, or Industrial Waste Management Supervisor fails to perform the duties under Section 5, Article 6.2 and Article 6.3, or submits a false report or violates this notification, his/her license may be revoked and the right of performance may be suspended for 3 years from the date of revocation.

Section 10
License and Application Forms

Article 13. License and application forms as required by this notification shall be in a format as defined by the Department of Industrial Works.

Section 11
Provisional Chapter

Article 14. This notification shall be effective on the expiration of 3 years from the date of publication in the Government Gazette.

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(Mr. Suriya Chuengrungrangkit)
Minister of Industry

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Remark : This is an unofficial translation version prepared by the Bureau of Industrial Environmental Technology. In case of any differences, the original Thai version shall prevail.