

(Garuda Emblem)
Notification of Ministry of Industry No. 3
B.E. 2542 (1999)
Issued pursuant to the Factory Act B.E. 2535 (1992)
Re: Safety Working Measure

By the virtue of clause 18 of the Ministerial Regulation No. 2 (B.E. 2535 (1992)) issued pursuant to the Factory Act B.E. 2535(1992), the Minister of Industry hereby prescribes safety working measure in a factory as follows:

Article 1 A person wishing to apply for a group 3 factory license or extension of a group 3 factory license according to factory type specified in the list annexed to this Notification shall conduct a report (one copy) on risk analysis from factory operation according to detail prescribed in Article 2 and submit it together with application for a factory license or application for license extension, as the case may be. A factory located in Bangkok shall submit information to Department of Industrial Works, while others shall submit information to provincial industrial office where it is located.

For a factory that receives a factory license or a license extension before the enforcement of this Notification, a factory entrepreneur shall conduct a report on risk analysis from factory operation as in paragraph one and submit it within 360 days from the enforceable date of this Notification. A report on risk analysis from factory operation shall be revised and submitted together with an application for license extension every time.

For a factory located in industrial estate under the law governs industrial estate, a factory entrepreneur shall conduct a report (two copies) on risk analysis from factory operation according to detail prescribed in Article 2 and submit one copy to Industrial Estate Authority of Thailand and another copy to Department of Industrial Works within the specified deadline. The deadline in paragraphs one and two shall be used mutatis mutandis.

A person wishing to establish a factory in industrial zone under Section 30 of the Factory Act B.E.2535 (1992), a factory entrepreneur shall conduct a report (one copy) on risk analysis from factory operation according to detail prescribed in Article 2 and submit it together with notification of factory business under Section 13 paragraph one of the Factory Act B.E.2535 (1992). A factory located in Bangkok shall submit information to Department of Industrial Works, while others shall submit information to provincial industrial office where industrial zone is located.

For a factory located in industrial zone under Section 30 of the Factory Act B.E.2535 (1992) and being in business before the enforcement of this Notification, a factory entrepreneur shall conduct a report (one copy) on risk analysis from factory operation according to detail prescribed in Article 2 and submit it within 360 days from the enforceable date of this Notification. A factory located in Bangkok shall submit information to Department of Industrial Works, while others shall submit information to provincial industrial office where industrial zone is located.

For a factory located in industrial zone under paragraphs four and five, a factory entrepreneur shall revise, conduct and submit a report on risk analysis from factory operation every 5 years within the 30th day of December of the fifth year from the year of previous submission.

Article 2 A report on risk analysis from factory operation shall consist of following detail.

2.1 Description of factory business

2.1.1 Map of factory location including other buildings such as resident house, schools, factories, hospitals, temples, educational institutes, traffic routes and residential community in the vicinity of 500 meters.

2.1.2 Schematic showing factory location in overall and the area that may have a serious accident such as fire, explosion, leakage of chemicals or hazardous substances, in case there are many factories in the same area.

2.1.3 Schematic showing factory location with the ratio 1:100 or appropriate ratio and detail of machinery installation, storage of raw material, fuel, chemicals or hazardous substance, products and by-products, worker housing, food eatery, safety equipment, and others necessary for occurrence, prevention and control of fire, explosion, and leakage of chemicals or hazardous substances.

2.1.4 Flow chart showing production process, including detail of temperature, pressure, type and average quantity of raw material, fuel, chemicals or hazardous substance, products and by-products per year.

2.1.5 Number of worker in a factory and working hours.

2.1.6 Other information such as statistics of accident, injury, illness, accident investigation report or safety assessment report.

2.2 Detail of hazard identification and risk assessment.

Hazard identification means identification of hazard and potential hazards that may occur from factory operation in every steps of receiving, storage, transfer, use, transport of raw material, fuel, chemicals or hazardous substance, products and by-products, production process, implementing procedure, machinery or equipment used in production, and other activity or situation within a factory.

Risk assessment means analysis of factors or situations causing hazard and potential hazards to occur and result in accident or unwanted event such as fire, explosion, and leakage of chemicals or hazardous substances by considering probability and severity of such events which may result in danger and damage to life, property and the environment.

2.3 Detail of risk management program.

Risk management program means implementing program in establishing an appropriate and efficient safety measure in managing risk from potential hazards, including providing of proper utility, equipment or instrument and personnel in following such operating procedure in safety measure in order to prevent, control, alleviate or lessen risk from hazard that may arise from such factory operation. Potential impact from implementing such risk management program to economics, politics and society shall be considered, including other factors such as technology feasibility.

Article 3 For hazard identification and risk assessment, a factory entrepreneur may choose one or many methods as seen appropriate to its factory business or its potential risk as follows:

3.1 Checklist

3.2 WHAT-IF Analysis

3.3 Hazard and Operability Studied (HAZOP)

3.4 Fault-Tree Analysis (FTA)

3.5 Failure Modes and Effects Analysis (FMEA)

3.6 Event-Tree Analysis

Or other methods approved by Department of Industrial Works

Article 4 For risk management program, a factory entrepreneur shall establish a program to setup a proper and efficient safety measure in managing risk from potential hazards in order to prevent, control, alleviate or lessen risk from hazard that may arise from such factory operation as a result of hazard identification and risk assessment in Article 3. Every step in safety measure from design, construction, operation, and management shall be considered. The principal component of risk management program shall be as follows:

4.1 Control Measure

- 4.1.1 Design, construction, and installation of machinery, equipment, instrument, including use of standard material.
- 4.1.2 Standard operating procedure.
- 4.1.3 Maintenance of machinery, equipment, and instrument.
- 4.1.4 Test and inspection of machinery, equipment, and instrument.
- 4.1.5 Modification such as production process, raw material, machinery, etc.
- 4.1.6 Training.
- 4.1.7 Safety audit.
- 4.1.8 Code of practice.
- 4.1.9 Others.

4.2 Recovery measure such as emergency response plan and drill, and accident investigation, etc.

4.3 Corrective action plan for a factory that has already notified of factory business under Section 13 of the Factory Act B.E. 2535 (1992) such as revised plan for control measure and recovery measure, etc.

Article 5 Criteria for hazard identification and risk assessment in Article 3 shall be in accordance with criteria prescribed by Department of Industrial Works or other methods approved by Department of Industrial Works.

Article 6 Criteria for establishing risk management program in Article 4 is that it must be a measure that can control risk in an acceptable level and shall be in accordance with criteria prescribed by Department of Industrial Works or other methods approved by Department of Industrial Works.

This notification shall be effective on the expiration of 360 days from the date of its publication in the Government Gazette.

Announced on the 18th November B.E. 2542 (1999)

(signed) _____
(Mr.Suwat Liptapallop)
Minister of Industry

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List of type of factory annexed to the MOI Notification No. 3 (B.E.2543)
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No.	Type	Type of Factory
1	7 (1) (4)	Factory engaging in extracting oil from plant or animal or fat from animal only that using solvent in extracting process
2	42 (1) (2)	Factory engaging in production of chemical substances, chemical products or hazardous substances
3	43 (1) (2)	Factory engaging in production of fertilizer or pesticide
4	44	Factory engaging in production of synthetic resin, elastomer, plastic or synthetic fiber, except fiber glass
5	45 (1) (2)	Factory engaging in production of paint, varnish, lacquer, or calking or filling materials
6	48 (4)	Factory engaging in production of match, explosive or firework
7	49	Petroleum refining factory
8	50 (4)	Factory engaging in production of products from petroleum, coal or lignite
9	89	Factory engaging in gas production, distribution or supplying, which is not natural gas
10	91 (2)	Factory engaging in filling gas
11	92	Cold storage factory
12	99	Factory engaging in producing, repairing ,altering , or modifying firearms, ammunition, explosive, weapon or other object having power to kill, destroy, or disable as firearms, ammunition or explosive including accessories thereof