

-Unofficial Translation -

Ministerial Regulations

Prescribing the Fields of Engineering Profession and Regulated Engineering Profession,

B.E. 2550 (A.D. 2007)

By virtue of the definitions of “engineering profession” and “regulated engineering profession” in Section 4 and Section 5 of the Engineer Act, B.E. 2542 (A.D. 1999), which is a law containing certain provisions relating to the restriction of rights and liberties of persons, for which Section 29 in conjunction with Section 43 and Section 45 of the Constitution of the Kingdom of Thailand so permitted by virtue of the provisions of law, the Minister of Interior issues this Ministerial Regulations as follows:

Clause 1. The following fields of engineering shall be added as engineering profession:

- (1) Environmental engineering;
- (2) Chemical engineering.

Clause 2. The following fields of engineering shall be the regulated engineering profession:

- (1) Civil engineering;
- (2) Mining engineering;
- (3) Mechanical engineering;
- (4) Electrical engineering;
- (5) Industrial engineering;
- (6) Environmental engineering;
- (7) Chemical engineering.

This shall apply to the works, types and sizes of each field of engineering profession prescribed in this Ministerial Regulations only.

Clause 3. The regulated engineering works are categorized as follows:

(1) Consultancy Work refers to provision of suggestion, inspection, or performance of acceptance test;

(2) Project Planning Work refers to the project study, analysis for optimal alternatives, or project planning;

(3) Design and Computational Work refers to application of knowledge and skills to obtain details of construction, building, production, plant and machinery layout with detailed computation programs, drawings, plans, specifications, or estimations;

(4) Construction or Production Supervision refers to directing or control of construction, building, production, installation, maintenance, modification, dismantlement, or mobilization of work according to drawing, plan, and code of engineering professional practices.;

(5) Investigation Work refers to research, analysis, testing, requisition of data and statistics for use as concepts in investigation or verification of work; and

(6) Operation and Maintenance Supervision refers to directing of operation, maintenance of engineering work pieces or system according to drawing, plan, and code of engineering professional practices.

Clause 4. The types and sizes of civil engineering works are as follows:

(1) Any buildings from 3 stories and higher, or with structural height of from 4 meters or higher, or with beam span from 5 meters or longer;

(2) Public buildings of all sizes;

(3) Warehouse, silo, cold room or barn with capacity from 100 cubic meters or more;

(4) Any column structure, tower, or religious structure such as Buddha image or pagoda with height from 6 meters or more;

(5) Bridge structure with any foundation pillars span from 10 meters or more;

(6) Jetty or dock for ship water displacement from 50 metric tons or more

(7) Any pre-fabricated concrete or high compressive strength concrete structural component with length from 5 meters or more;

(8) Concrete pile with length from 6 meters and longer or with safety load strength from 3 metric tons or more;

(9) Foundation support works of all sizes;

(10) Scaffolding or temporary supporting of 4 meters or more in height;

(11) Concrete casting of column or pillar of 4 meters or higher or beam span of 5 meters or longer;

(12) Sub-surface structure, temporary structure, retaining wall, dike or canal with height or depth of 1.50 meters or more;

(13) Civil structure of public transportation system, public way, or airport runway of every size;

(14) Railway, public tram, highway, public way or airport runway of every size;

(15) Dam, dike, tunnel, ditch, or irrigation system with height of 1.50 meters or more, or capacity of 50 cubic meters or more, or water flow rate from 1 cubic meter per second;

(16) Fluids containing structure, such as water tank, oil tank, water tunnel, or swimming pool, with containing capacity of 50 cubic meters or more;

(17) Water pipe, ditch, or water drainage channel with diameter of 0.80 meters or more, or with cross sectional area of 0.50 square meters or larger with supporting structure, or with length of 100 meters or more;

(18) Irrigation system with irrigable area of 500 rai per project or more;

(19) Billboard or billboard structure with area of 50 square meters or larger and with structural height of 15 meters or more from ground level, or billboard or billboard structure with area from 25 square meters installed on roof, roof top, or awning, or any attachments to the building;

(20) Stadium with area of 1,000 square meters or larger; and

(21) Antenna tower structure for installation of transmitting radio signal or television broadcasting device with height of 25 meters or more from structural foundation or with weight of 200 kilograms or more.

Clause 5. The types and sizes of mining engineering works are as follows:

- (1) Mining engineering works include:
 - (a) Mining work with total power from 600 kilowatts or more;
 - (b) Underground mining of all sizes;
 - (c) Mine tunneling or shaft or any openings in rock formation of all sizes;
 - (d) Any engineering work with use of explosive of all sizes;
 - (e) Milling, grinding, or crushing of rock and mineral with total power of 600 kilowatts or more;
 - (f) Separation of waste materials using mineral dressing process of all sizes;
 - (g) Mineral dressing with total power of 100 kilowatts or more; and
 - (h) Estimation and valuation of mineral reserve of all sizes;
- (2) Metallurgical engineering works include:
 - (a) Separation of waste materials using mineral dressing process of all sizes;
 - (b) Mineral dressing with total power of 100 kilowatts or more;
 - (c) Iron smelting or production of steel with annual production capacity of 7,000 metric tons or more;
 - (d) Any other mineral smelting or extraction of metal, alloys, or metallic compounds from ore mineral, slag, metal scrap, material or any others including metal purification with annual production capacity of 1,000 metric tons or more or with financial investment of 10 million Baht or more, excluding land cost; and
 - (e) Melting, casting and molding, forming, properties treatment using surface heat treatment or coating of metal with labor employment from 30 persons or more or with financial investment from 10 million Baht or more, excluding land cost.

Clause 6. The types and sizes of mechanical engineering works are as follows:

(1) Consultancy work and investigation work under (2), (3), (4) or (5) of all types and sizes;

(2) Project Planning Work:

(a) Machinery with equipment value each of 10 million Baht or more, or with project value from 20 million Baht or more, or with combined total system power of 100 kilowatts or more, or servicing in a building floor area from 2,000 square meters or larger, or installation in a building servicing 200 persons or more;

(b) Steam boiler or other type of vapors, pressure vessel, or kiln with equipment value from 10 million Baht or more, or with project value from 20 million Baht or more, or steam boiler or other type of vapors, pressure vessel, or kiln, using annual thermal power from 20 mega-joules or higher, or steam boiler or other type of vapors, pressure vessel, or kiln, servicing in a building with floor area from 2,000 square meters or more, or installation in a building servicing 200 persons or more;

(c) Air conditioner or refrigerator with equipment value each from 10 million Baht or more, or with project value from 20 million Baht or more, or with combined total system power from 100 kilowatts or higher, or servicing in a building floor area from 2,000 square meters or larger, or installation in a building servicing for 200 persons or more;

(d) Fluid system in pressure or vacuum pipes with equipment value each from 10 million Baht or more, or with project value from 20 million Baht or more, or with combined total system power from 100 kilowatts or more, or servicing in a building floor area from 2,000 square meters or larger, or installation in a building servicing 200 persons or more;

(e) Energy management with capacity of 1,000 kilowatts or more, using annual thermal power from 20 mega-joules or more; and

(f) Fire extinguishing system and fire prevention system with system value of 3 million Baht or more, or with fire protection area from 2,000 square meters or larger;

(3) Design and Computational Work:

(a) Machinery with equipment power from 7.5 kilowatts or more;

- (b) Steam boiler or other type of vapors, pressure vessel, or kiln of all sizes;
 - (c) Air conditioner or refrigerator with equipment power from 7.5 kilowatts or higher or with conditioned or refrigerated area from 400 square meters or larger;
 - (d) Fluid system in pressure or vacuum pipes with fluid pressure in pipe of 500 kilopascals or higher or vacuum pressure from minus 50 kilopascals or lower;
 - (e) Energy management of all sizes; and
 - (f) Fire extinguishing system and fire prevention system with fire protection area from 2,000 square meters or larger;
- (4) Construction or Production Supervision:
- (a) Machinery with combined total system power of 20 kilowatts or more;
 - (b) Steam boiler or other type of vapors, pressure vessel, or kiln with pressure from 500 kilopascal or higher, or with volumetric capacity from 1 cubic meter or more, or with production capacity of steam or other type of vapors starting from 500 kilogram per hour or higher;
 - (c) Air conditioner or refrigerator with equipment power starting from 20 kilowatts;
 - (d) Fluid system in pressure or vacuum pipes with fluid pressure in pipe starting from 500 kilopascal or vacuum pressure starting from minus 50 kilopascals; and
 - (e) Fire extinguishing system and fire prevention system with fire protection area from 5,000 square meters or larger;
- (5) Operation and Maintenance Supervision:
- (a) Machinery with combined total system power of 500 kilowatts or more;
 - (b) Steam boiler or other type of vapors, pressure vessel, or kiln with equipment production capacity of steam or other type of vapors starting from 20,000 kilograms per hour;
 - (c) Air compressor or gas compressor with pressure system starting from 1,300 kilopascals and with volumetric capacity starting from 10 cubic meters;
 - (d) Air conditioner or refrigerator with system power starting from 500 kilowatts;

(e) Fluid system in pressure or vacuum pipes with fluid pressure in pipe starting from 500 kilopascals per system; and

(f) Fire extinguishing system and fire prevention system with fire protection area from 5,000 square meters or larger.

Clause 7. The types and sizes of electrical engineering works are as follows:

(1) Electrical power engineering works include:

(a) Consultancy work under (b), (c), (d), (e) or (f) of all types and sizes;

(b) Project Planning Work:

1) Electrical power generating system with total capacity starting from 1,000 KVA or with peak line voltage starting from 3,300 volts; and

2) Power transmission, power distribution and electrical power system with combined total capacity starting from 1,000 KVA or with peak line voltage starting from 12 kilovolts;

(c) Design and Computational Work:

1) Electrical system or electrical device with capacity starting from 300 KVA or with peak line voltage starting from 3,300 volts;

2) Electrical system for public building with total electrical power starting from 200 KVA; and

3) Electrical signaling system for fire alarm and lightning protection of high rise building, large scale building, or condominium;

(d) Construction or Production Supervision:

1) Electrical system or electrical device with capacity starting from 1,000 KVA or with peak line voltage starting from 12 kilovolts;

2) Electrical system for public building with total electrical power starting from 200 KVA; and

3) Electrical signaling system for fire alarm and lightning protection of high rise building, large scale building, or condominium

(e) Investigation Work:

1) Electrical system or electrical device with capacity starting from 1,000 KVA or with peak line voltage starting from 12 kilovolts; and

2) Electrical signaling system for fire alarm and lightning protection of high rise building, large scale building, or condominium;

(f) Operation and Maintenance Supervision: Electrical system or electrical device with capacity starting from 1,000 KVA or with peak line voltage starting from 12 kilovolts;

(2) Electrical telecommunication engineering works include:

(a) Consultancy work under (b), (c) or (d) of all types and sizes;

(b) Project planning work of telecommunication network with receiving, transmission, and broadcasting stations to propagate electromagnetic wave of frequency starting from 300 KHz and with transmission power at each station starting from 1KW;

(c) Design and Computational Work, Construction and Production Supervision, and Operation and Maintenance Supervision:

1) Electromagnetic wave propagation system with frequency starting from 300 KHz and with transmission power at each station starting from 1KW; and

2) Receiving, transmission, separating and multiplexing of signal system using electromagnetic wave with frequency starting from 300 MHz and with 60 audio channels or more or equivalent; and

(d) Operation and Maintenance Supervision of electromagnetic wave propagation system of frequency starting from 300 KHz and with transmission power at each station starting from 1KW.

Clause 8. The types and sizes of industrial engineering works are as follows:

(1) Consultancy work, project planning work, design and computational work, construction or production supervision, and investigation work:

(a) Factory with labor employment starting from 50 persons or with financial investment starting from 20 million Baht, excluding land cost;

(b) Any production, making or assembly, manufacturing of finished products or semi-finished products, melting, casting, milling, or metal coating and heat treating, annealing, or forming of metal, wood, or other materials using labor employment starting from 50 persons or with financial investment starting from 20 million Baht, excluding land cost;

(c) Smelting and purification of metal with following production capacity; tin metal starting from 2 tons daily production; lead, zinc, copper or antimony starting from 5 tons daily production; or in case of iron or steel starting from 10 tons daily production; and

(d) Fire extinguishing system and fire prevention system with value starting from 3 million Baht or with fire protection area of 2,000 square meters or larger;

(2) Operation and Maintenance Supervision:

(a) Structure and equipment for pollution control, treatment of waste, toxicity, dangerous substance, or any treatments of factory with labor employment of 50 persons or more, or with financial investment starting from 20 million Baht, excluding land cost;

(b) Ventilation system, lighting system, and other system relating to pollution control, treatment of waste, toxicity, dangerous substance, or any treatments of factory with labor employment of 50 persons or more, or with financial investment starting from 20 million Baht, excluding land cost;

(c) Manufacturing process using chemical reaction, flammable substance, dangerous substance, fractional distillation, or operation in vessel of pressure higher than atmospheric pressure in factory with labor employment of 15 persons or more, or with financial investment starting from 10 million Baht, excluding land cost; and

(d) Fire extinguishing system and fire prevention system with value starting from 3 million Baht or with fire protection area of 2,000 square meters or larger.

Clause 9. The types and sizes of environmental engineering works are as follows:

(1) Tap water system with maximum daily production capacity starting from 1,000 cubic meters;

(2) Clean water system for factory, public building, or large scale building, with maximum daily production starting from 50 cubic meters;

(3) Wastewater system for community, factory, public building, or large scale building with maximum daily capacity starting from 30 cubic meters;

(4) Recycling of wastewater for community, factory, public building, or large scale building with maximum daily capacity starting from 30 cubic meters;

(5) Areal development or water resource development with environmental impacts relating to:

(a) Rainwater or retaining of rainwater with maximum quantity from 10,000 cubic meters per day; and

(b) Wastewater or ground water with maximum quantity from 1,000 cubic meters per day;

(6) Air pollution control system of the pollutant sources with ventilation capacity from 10,000 cubic meters per hour;

(7) Noise pollution control system for factory or public building with sound level exceeding allowable threshold limit;

(8) Land restoration system with area from 3,000 square meters or water restoration system with maximum production capacity from 30 cubic meters per day;

(9) Solid waste system in the following places:

(a) Community with solid waste generation from 10,000 kilograms per day;

(b) Factory, public building, or large scale building with solid waste generation from 2,000 kilograms per day;

(c) Infection source with solid waste generation from 15 kilograms per day; and

(d) Radiation contamination source of all sizes;

(10) Industrial waste management system of all sizes;

(11) Fire extinguishing system and fire prevention system with value starting from 3 million Baht or with fire protection area of 2,000 square meters or larger

Clause 10. The types and sizes of chemical engineering works are as follows:

(1) Manufacturing process of factory, or establishment using chemical reaction, physical chemistry, biochemistry, or electro-chemistry to obtain product specifications, with financial investment of 100 million Baht or more, excluding land cost, or with power capacity from 500 kilowatts or equivalent;

(2) Manufacturing process of factory, or establishment using physical properties alteration or phase change on raw material to obtain product specification, with financial investment of 100 million Baht or more, excluding land cost, or with power capacity from 500 kilowatts or equivalent, in particular to the manufacturing process of the production unit under (9) only;

(3) Manufacturing process of factory, or establishment using raw material or to obtain product specifications in form of fine powder or pellet which may cause explosion or electrostatics with financial investment of 100 million Baht or more, excluding land cost, or with power capacity from 500 kilowatts or equivalent;

(4) Manufacturing process of factory or establishment using dangerous chemical substance in mixture or in production of products;

(5) Manufacturing process of factory or establishment using chemical reaction with pressure of 3 atmospheric pressure and higher or with pressure less than 1 atmospheric pressure;

(6) Process to manage or treat waste generated by the manufacturing process of factory or establishment using chemical substance, chemical catalysis, biochemical catalysis, biological catalysis, or production unit in waste treatment with financial investment starting from 1 million Baht, excluding land cost or with power used in waste treatment process starting from 20 kilowatts or equivalent;

(7) Keeping or handling system within factory for shipment out of the factory of dangerous, chemical, or toxic substance, fine powder or grains which may cause an explosion or electrostatics with capacity starting from 20 metric tons;

(8) Manufacturing process of all sizes which uses or generates dangerous, chemical, toxic, or flammable substance;

(9) Manufacturing process using chemical reaction, physical chemistry, biochemistry, or electrochemistry of the following production units:

(a) Distillation tower, adsorption tower, absorption tower, extraction device, precipitation tank, or recrystallization device with operating power starting from 7.5 kilowatts or equivalent;

(b) Other separation device such as membrane separation, ionic exchange tower, filter press with operating power starting from 7.5 kilowatts or equivalent;

(c) Other size classification device such as filter bag, cyclone, or electrostatics dust collector with operating power starting from 7.5 kilowatts or equivalent;

(d) Evaporator or production kiln with operating power starting from 10 kilowatts or equivalent; and

(e) Reactor of all sizes;

(10) Fire extinguishing system of chemical factory of all sizes.

Clause 11. This Ministerial Regulations does not apply to practitioners of science and technology professions, particularly on parts relating to the regulated engineering works in environmental engineering and chemical engineering.

Given on 18 November 2007

General Surayud Chulanont

Minister of Interior

Remark:- The reason for promulgating this Ministerial Regulations is that it is expedient to determine the fields of environmental engineering and chemical engineering as the engineering profession and establish such two fields and the fields of civil engineering, mining engineering, mechanical engineering, electrical engineering, and industrial engineering as the regulated engineering profession whereas Section 4 of the Engineer Act, B.E. 2542 (A.D. 1999), requires that such determination must be made by the Ministerial Regulations. Therefore, it is necessary to issue this Ministerial Regulations.