



Republic of the Philippines
House of Representatives
Quezon City, Metro Manila

TWENTIETH CONGRESS
First Regular Session

HOUSE BILL NO. 2026



Introduced by **Representatives Francisco “Lalo” T. Matugas**
and Arlene “Kaka” J. Bag-ao

EXPLANATORY NOTE

Chemical engineering plays a critical role in the development of industries, the advancement of technology, and the protection of public health, safety, and the environment. As the global landscape continues to evolve with increasing emphasis on sustainable practices, innovation, and competitiveness, it is imperative that the legal and regulatory framework governing the practice of chemical engineering in the Philippines be strengthened, modernized, and made responsive to current and emerging challenges.

This bill seeks to establish a **Comprehensive Chemical Engineering Law** to consolidate, update, and expand existing legislation governing the practice of the profession. With this bill, it is hoped that Filipino chemical engineers will be able to adapt advanced technologies in the practice of their profession. It will also ensure that industrial facilities are established and operated with guidance and expertise of chemical engineers.

Different versions of this bill were filed in the 19th Congress by Hons. Francisco Jose “Bingo” F. Matugas II, Joey Sarte Salceda, Manuel T. Sagarbarria, and Carlito S. Marquez. This version of the bill was approved on Second Reading by the Lower Chamber.

In view of the foregoing, the immediate passage of this bill is earnestly sought.


**FRANCISCO “LALO” T.
MATUGAS**

Representative
First District, Surigao del Norte


ARLENE “KAKA” J. BAG-AO
Representative
Lone District, Dinagat Islands



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AN ACT
ESTABLISHING THE COMPREHENSIVE CHEMICAL
ENGINEERING LAW, AND APPROPRIATING FUNDS
THEREFOR

Be it enacted by the Senate and the House of Representatives of the Philippines
in Congress assembled:

ARTICLE I
TITLE, STATEMENT OF POLICY, DEFINITION OF TERMS,
AND SCOPE OF PRACTICE

SECTION 1. *Short Title.* This Act shall be known as the “Comprehensive Chemical Engineering Act.”

SEC. 2. *Declaration of Policy.* It is hereby declared the policy of the State to advance, supervise, and regulate the practice of chemical engineering with a strong emphasis on public safety, environmental protection, and sustainable practices while embracing a complete circular economy approach. This policy encompasses all stages of project conceptualization, design, and national development, establishing an ecosystem that fosters innovation and value creation. It also ensures that chemical engineering education integrates internationally recognized skills and attributes while offering career progression and specialization opportunities to promote competitiveness. Furthermore, the policy prioritizes Filipino chemical engineers in the practice of the profession within the Philippines.

SEC. 3. *Definition of Terms.* As used in this Act:

- a) *Accredited Integrated Professional Organization (AIPO)* refers to the professional association of all chemical engineers in the Philippines

- duly recognized and accredited by the Professional Regulation Commission (PRC);
- b) *(Bio)chemically reactive systems* refer to systems that involve chemical, biological, and biochemical reactions and processes that can result in the formation or breaking of chemical bonds, resulting in the conversion of organic compounds catalyzed by enzymes and the use of microorganisms into valuable products and energy;
 - c) *Certificate of industrial worthiness* refers to a document issued by a certifying professional chemical engineer after an annual industrial inspection and with favorable technical findings;
 - d) *Certificate of recognition* refers to the certificate issued by the Professional Regulatory Board of Chemical Engineering in recognition of advanced studies, research, and accomplishments in chemical engineering;
 - e) *Certifying registered professional chemical engineer* refers to a professional chemical engineer who is at least a Senior Level Chemical Engineer as listed in the chemical engineering register, jointly authorized by the local government unit (LGU) Engineer's Office and the local chapter of the AIPO to conduct industrial inspection and to issue Certificate of Industrial Worthiness;
 - f) *Chemical engineering* refers to a discipline at the interface of molecular sciences and engineering closely linked with the fundamental subjects of chemistry, biology, mathematics, and physics. It involves applying computational science in collaboration with other engineering disciplines to design equipment, systems, and processes, operate an industrial plant, and manufacture products;
 - g) *Chemical engineering and process laboratory* refers to any facility or installation in an industrial plant or academic institution that conducts bench-scale or prototypes, pilot-scale, experimentation or measurement, data gathering, process control, or testing of process parameters and material properties related to separation processes, transport processes or the chemical transformation of raw materials to in-process to finished products, excluding chemical analysis which requires a certificate of analysis and laboratory certificate of authority to operate;
 - h) *Chemical reaction engineering* refers to the (bio)chemically reactive systems of engineering significance. It focuses on the understanding, design, optimization, and advancement of processes that involve chemical reactions and (bio)chemically reactive systems, such as reaction kinetics, thermodynamics, transport phenomena processes, reactor design and operation, catalysis, and their applicability, regardless of scale;

- 1 i) *Digital twin* refers to a virtual representation of an object or system
2 that spans its life cycle, is updated from real-time data, and uses
3 simulation, machine learning, and reasoning to help with decision-
4 making;
- 5 j) *Engineering and construction firms* refer to establishments that offer
6 services in engineering design, procurement of equipment and
7 construction materials, and construction of industrial plants;
- 8 k) *Establishments* refer to any business enterprise, national
9 government agencies, LGUs, non-profit organizations, academic
10 institutions, and research centers engaged in chemical engineering
11 practice activities;
- 12 l) *Industrial plant* refers to any plant or facility that involves unit
13 processes or operations, including related pollution control and
14 abatement processes and operations. These processes or operations
15 shall include all types of manufacture, storage, distribution, and
16 management of industrial or consumer products and goods, as well
17 as industrial or waste treatment facilities and any other related
18 products specified in production and manufacturing operation, except
19 metallurgical plants as defined in Republic Act (RA) No. 10688,
20 otherwise known as the “Metallurgical Engineering Act of 2015”;
- 21 m) *Industrial safety* refers to the management of all operations and
22 events within an industrial plant to protect its employees and assets
23 by minimizing or eliminating hazards, accidents, and near misses;
- 24 n) *Industrial worthiness* refers to various critical factors that industries
25 must prioritize to ensure responsible and ethical industrial practices.
26 These factors include technical compliance, sustainability, safety,
27 and environmental responsibility of industrial plant processes and
28 operations;
- 29 o) *Nuclear reactive systems* refer to systems that use nuclear reactions
30 to generate energy to produce electricity or other useful functions and
31 purposes intended for medical applications, scientific research,
32 safety, policy-making, and national defense. These systems involve a
33 nuclear reactor, radioactive material, nuclear fuel and its isotopes,
34 and other components that must be designed and operated based on
35 chemical and nuclear engineering principles applied in all operations
36 of the nuclear reactive system;
- 37 p) *Practice of chemical engineering* refers to activities within the scope
38 of practice and areas of specialization in the chemical engineering
39 profession. This practice includes having the designation and title of
40 Professional Chemical Engineer (PChE) attached to the Professional
41 Chemical Engineer’s name;

- 1 q) *Process* refers to a series of steps or actions to achieve a particular
2 purpose;
- 3 r) *Process control* refers to any unit process, operation, or design
4 employed to prevent, reduce, or eliminate pollutants and mitigate
5 their harmful impact on health and the environment;
- 6 s) *Process equipment* refers to equipment where unit process or unit
7 operation takes place;
- 8 t) *Process instrumentation* refers to the study, development, and
9 implementation of tools, equipment, mechanisms, and machinery for
10 a particular process to provide technical means of process control and
11 performance;
- 12 u) *Production personnel* refer to engineers, technologists, technicians,
13 and other related technical people employed by establishments
14 operating industrial plants and pollution control and abatement
15 facilities;
- 16 v) *Professional Chemical Engineer* refers to a natural person or a hybrid
17 of a natural person and artificial intelligence (AI) or robots and digital
18 twin, with the natural person being a duly registered professional
19 who is a holder of a valid physical or digital certificate of registration,
20 a professional identification card, a tamper-proof digital seal issued
21 by the Professional Regulatory Board of Chemical Engineering and
22 the PRC, and a valid professional tax regulation; certified by the local
23 chapter of the AIPO as a member of “good standing.” The natural
24 person shall register the use of AI, robots, or avatars with the
25 application or renewal of the person’s chemical engineering license.
26 The natural person shall provide the signature and digital seal for
27 the outputs created by AI, robots, or digital twins. The AI, robots, and
28 digital twins by themselves shall not be considered professional
29 chemical engineers to ensure public safety by preventing their misuse
30 by anonymous and unscrupulous individuals or groups of individuals;
- 31 w) *Professional chemical engineering subjects* refer to any of the
32 following and similar chemical engineering topics: chemical
33 engineering thermodynamics; chemical engineering mathematics
34 and calculations; physical and chemical principles; industrial
35 chemistry; momentum transfer; heat transfer; mass transfer;
36 separation processes; particle technology; chemical reaction
37 engineering; environmental engineering; industrial waste
38 management and control; process equipment and plant design;
39 process dynamics and control; chemical process safety; biochemical,
40 biomolecular, and bio-engineering; food and drug manufacturing;
41 packaging technology; paints and coating technology; petrochemical
42 engineering, energy engineering; nuclear engineering; semiconductor

1 technology; nanotechnology; chemical engineering research; chemical
2 engineering entrepreneurship and internship; and special topics on
3 emerging technologies;

4 x) *Professional fee* refers to a fee paid by any establishment to a licensed
5 chemical engineer who rendered professional chemical engineering
6 services;

7 y) *Risk management* refers to the identification, evaluation, and
8 prioritization of risks followed by the coordinated and economical
9 application of resources to minimize, monitor, and control the
10 probability or impact of unfortunate events or to maximize the
11 realization of opportunities. These include technical, operational,
12 process, and industrial risks;

13 z) *Senior-level chemical engineer* refers to a professional in the field of
14 chemical engineering with a minimum of seven (7) years of
15 professional experience, complying with the standards set forth by a
16 nationally recognized chemical engineering register;

17 aa) *Systems thinking* refers to the holistic approach to analysis that
18 focuses on the way that a system's constituent parts interrelate and
19 how systems work over time and within the context of larger systems;

20 bb) *Technical compliance* refers to adherence to globally accepted
21 chemical engineering and industrial practices, relevant international
22 and local standards and codes, and legal requirements, including all
23 laws, rules, and regulations affecting process operations;

24 cc) *Unit operation* refers to any physical change or operation, including
25 its equipment and control systems, by which the desired step in any
26 industrial process in an industrial plant or facility is conducted,
27 controlled, monitored, and optimized. It also refers to any physical
28 operation, including equipment and control systems, unique to a
29 specific industry mentioned in the Production or Manufacturing
30 Operation. They may be combined or connected with other unit
31 operations or unit processes to deliver sustainable, practical, cost-
32 effective, and environment-friendly products, which include the
33 following:

- 34 (1) *Storage, Transport, and Handling of Gas, Liquid, or Solids*,
35 which include chemicals of any type, industrial gases or
36 gaseous fuels; solid fuels, be it synthetic or organic;
37 granulates or granular solids; Newtonian or non-Newtonian
38 fluids including pastes and slurries; raw materials for
39 production of agricultural products, food and beverage,
40 cement, energy-related industries, semi-conductor, and any
41 other types of products as described in Production or
42 Manufacturing Operation;

- (2) *Heat Transfer*, which involves conduction, convection, radiation, or phase change, which includes evaporation, sublimation, condensation, melting, combustion, pyrolysis, incineration, pasteurization, sterilization, cooling, freezing, liquefaction, and other new emerging heat transfer technologies; excluding minerals and metallurgical unit operations, metals and metal products manufacture, and vacuum and nuclear metallurgy;
- (3) *Mass Transfer*, which includes distillation, adsorption, absorption, humidification, extraction, leaching, mixing, homogenization, packaging, migration, diffusion, dispersion, and other new emerging mass transfer technologies, excluding minerals and metallurgical unit operations, metals and metal products manufacture, and vacuum and nuclear metallurgy;
- (4) *Separation Processes*, which include solid-liquid, gas-solid, and liquid-gas extraction in any industrial plant; screening, crystallization, fluidization, molecular sieving, coalescing, filtration, which consists of the use of osmosis, carbon filtration, any membrane separation, desalination and any other type of separation, including the use of chemicals, bio chemicals, enzymes, catalysts, nanoparticles, and nanotechnology in water, waste, wastewater treatment; polymer separation, biopolymer, bioengineered or biochemical separation technologies; and other new emerging separation technologies; excluding minerals and metallurgical unit operations, metals and metal products manufacture and vacuum and nuclear metallurgy;
- (5) *Solid Processing and Particle Technology*, which include size reduction, size enlargement, screening, crushing, pulverizing, solid mixing, flotation, and other new emerging solid processing and particle technologies, excluding minerals and metallurgical unit operations, metals and metal products manufacture and vacuum and nuclear metallurgy; and
- (6) *Process Measurement*, which measures dimensions using process instrumentation, such as pressure in process pipes or vessels, fluid level, fluid flow rate or velocity, temperature, product and manufacturing analytics, and other new emerging process measurement technologies, excluding minerals and metallurgical unit operations, metals and metal products manufacture, and vacuum and nuclear metallurgy;

- 1
- 2 dd) *Unit process* refers to the chemical change, equipment, and control
- 3 system involved in the manufacture and production of any industrial
- 4 or consumer products either in solid, liquid, gaseous, or plasma form
- 5 or the treatment of industrial, chemical, water, and wastewater
- 6 which includes, the use and application of chemical treatment
- 7 technologies; biological or use of micro-organism, bioengineered or
- 8 biochemical technologies; nanoparticles and nanotechnology-related
- 9 water treatment technologies; enzymes; catalysts; polymers such as
- 10 biopolymers and synthetic polymers; nuclear level operations;
- 11 chromatography and other products described under Production or
- 12 Manufacturing Operation. It also refers to any chemical change,
- 13 including its equipment and control system, that is unique to a
- 14 specific industry as mentioned in Production or Manufacturing
- 15 Operation or from the state-of-the-art development of emerging
- 16 technologies, which may include the assistance or use of AI or
- 17 Programming Languages: *Provided*, That minerals and metallurgical
- 18 unit processes, metals and metal product manufacture, and vacuum
- 19 nuclear metallurgy are excluded in this definition;
- 20 ee) *Utility concessionaire* refers to the producers and distributors of
- 21 utilities such as water and electricity;
- 22 ff) *Waste treatment* refers to the operations involved in achieving
- 23 physical, chemical, and biological change in collected wastes to attain
- 24 waste reduction, minimization, or elimination;
- 25 gg) *Waste treatment facility* refers to any installation, building, or
- 26 structure engaged in the handling, treatment, storage, and disposal
- 27 of solid, liquid, or gaseous wastes from industrial processes.

28 SEC. 4. *Scope of Practice*. The practice of professional chemical engineers

29 shall include the following:

- 30 a) *Technical Consulting*. Provides professional, independent advisory
- 31 and technical solutions to persons, entities, industries, government
- 32 agencies, non-government organizations, and multilateral institutions
- 33 appertaining to concerns or issues in any field of specialization offered
- 34 by Professional Chemical Engineers. It shall include process
- 35 improvement and optimization, process and operational safety, raw
- 36 materials treatment and processing, product realization, by-products
- 37 generation, logistics and supply chain enhancement, water and
- 38 wastewater treatment and disposal system management, quality and
- 39 environmental system management, standard operating procedure
- 40 development, and emerging technologies adoption and
- 41 implementation. Moreover, the following services shall be considered
- 42 as consulting services:

- (1) *Process Analysis and Solution*. Provides independent expert advice and solutions on how to proceed with various technological development, transfer, innovation, and upgrades;
 - (2) *Preparation of Feasibility Studies and Plant Design*. Involves evaluation and analysis of the organizational processes, systems, technical, geospatial, market, and financial viability of constructing industrial plants, piloting, scaling up, and expanding production processes. It also includes engineering and operations audit and process streamlining;
 - (3) *Estimation and Valuation*. Determines capital investments for constructing industrial plants, their units, or particular equipment, including material and installation costs. It also includes value engineering, cost minimization, cost control, cost forecasting, and risk analysis. In addition, it pertains to the modeling of the size of natural resources, determining the value of the reserve for the clients' accounting books, and determining the net book value of industrial plants, except for metallurgical plants, or equipment for its intended sale; and
 - (4) *Planning*, which pertains to project planning and consulting engagements. Project planning refers to a systematic analysis of identifying and listing things that must be undertaken to achieve the project's objectives, testing and validating the plan, and delivering it to end users. Planning includes the identification of risks and opportunities related to the plant operations. Rendering of consulting services requires the professional chemical engineer to provide a seal and signature on the appropriate pages of the documents of the documented outputs;
- b) *Investigation and Expert Witnessing*. Investigation is any inquiry, examination, or study that involves chemical engineering concepts and theories undertaken for the determination of the causative factors of any adverse event that took place inside or outside the vicinity of an industrial plant or any facility, establishment, or that which involves any commission or omission of acts which endangers the life, liberty, and property of a person, towards the determination of liability or obligation under any law, rules, and regulations. It utilizes science, technology, law, forensic principles and techniques, sustainability engineering and technologies, or chemical engineering knowledge, principles, and professional skills for the determination, discovery, and verification of facts to arrive at a valid, logical, or sound conclusion for any administrative, civil, criminal, or any related cases. It also

1 includes investigating any persons, materials, substances, products,
2 by-products, raw materials handling and storage, industrial and non-
3 industrial waste handling, storage, disposal, and compliance,
4 structures, components, equipment, industrial and non-industrial
5 processes, and systems that fail to attain design capacities, efficiency,
6 mandatory industrial process compliance, inspection and worthiness,
7 sound environmental and safety requirements.

8 Industrial plant laboratories that perform tests and analyses
9 involving unit operations equipment, unit processes, and pollution
10 reduction shall be classified as chemical engineering laboratories and
11 operated, supervised, or managed by a professional chemical engineer.
12 A professional chemical engineer shall perform the tests and analyses
13 conducted in chemical engineering laboratories and affix the PChE's
14 seal and signature to the Terminal Report.

15 A professional chemical engineer can conduct chemical analyses as
16 long as they are related to or connected to the chemical engineer's
17 function and professional practice.

18 Any activity performed outside of the aforementioned laboratories,
19 in-field or mobile, is considered chemical engineering practice and
20 warrants a signature and seal of a registered professional chemical
21 engineer on every page of the Terminal Report.

22 Chemical engineering practice shall also include any activity,
23 undertaking, engagement, or technique related to an investigation to
24 be performed in a chemical engineering laboratory or facility, such as
25 a unit operations laboratory, unit process laboratory, quality
26 assurance laboratory, research and development laboratory, forensic
27 evidence testing laboratory, pilot plant, and other related laboratories,
28 which uses chemical engineering concepts and theories.

29 This practice also includes expert witnessing, which provides
30 specialized chemical engineering knowledge, theories, and
31 applications through expert testimony and opinions in a legal
32 proceeding. Expert witnesses shall assist the court or other decision-
33 making bodies in comprehending complex or technical matters within
34 chemical engineering;

35 c) *Designing.*

36 1. *Process, Plant, and Equipment Design.* Any act to conceptualize
37 and simulate processes, size process equipment and pipelines,
38 strategically design the control systems, and consider the process
39 and occupational safety requirements and layers of protection when
40 designing an industrial plant or related facilities. This function
41 includes Hazard and Operability Studies, Design Gap Analysis,
42 Reliability, Availability, and Maintainability Studies. The

1 professional chemical engineer may use the latest design tools,
2 technologies, and similar application software to conduct these
3 activities. The signature and seal of the professional chemical
4 engineer shall be affixed on every page of the output from these
5 activities.

6 In addition, a professional chemical engineer shall sign and
7 seal the plan for pollution control and abatement facilities, such as
8 wastewater treatment facilities, treatment and disposal of toxic
9 and hazardous wastes, and other related technologies and devices
10 that are part of building permit requirements. The City or
11 Municipal Engineering Office shall include this in the building
12 permit requirements.

13 The output of the design process involves Process and Product
14 Specifications, which include technical specifications of unit
15 processes and unit operations. The professional chemical engineer
16 is responsible for preparing these specifications.

- 17 2. *Preparation of Technical Specifications and Parameters.* Any act or
18 process of making a description or identification to provide clear
19 instructions on project intent, performance, and construction of an
20 industrial plant, process equipment, and chemical engineering
21 laboratory. This process shall also include setting explicit technical
22 standards for material, design, product, processes, systems, or
23 services. The specifications may be set by government agencies,
24 private entities, standard organizations, trade associations,
25 corporations, and others referenced by a contract or procurement
26 document. They shall mandatorily comply with the Philippine
27 Chemical Engineering Technical Standards. A professional
28 chemical engineer shall sign and seal them on each page of the
29 specifications, such as product design, which is the process of
30 creating and developing a new product or improving an existing one
31 to meet specific customer needs and achieve commercial success;

- 32 d) *Installation Supervision, including Monitoring Construction Activities*
33 *and Commissioning Industrial Plants.* Any act or process of
34 administration, management, inspection, direction, control, and
35 overseeing the construction of an industrial plant related to chemical
36 engineering design requirements in accordance with the approved
37 design and its commissioning to ascertain that the facility functions as
38 intended. It also involves the technical acceptance of equipment
39 supplied at the project site, including quality control appertaining the
40 technical specifications and completeness against packing lists. It may
41 also include functions such as progress monitoring constraints and
42 activities, adjusting, when necessary, to ensure completion of

1 installation on schedule and within budget or constraints, and
2 accepting or closing the project;
3 e) *Production or Manufacturing Operation, including Integrated*
4 *Management Systems and Systems Thinking.* The operation,
5 supervision, and management of the production or manufacturing
6 facility of any establishment where unit operations, unit processes,
7 chemical reaction engineering, and a series or combination thereof are
8 involved, including the management of waste and waste disposal, the
9 operation of pollution control and abatement facilities of industrial
10 plants and other production or manufacturing establishments.

11 This production or manufacturing operation encompasses
12 industrial sectors that have unit operations or unit processes, or both,
13 including food and beverage manufacturing, biotechnology, sugar and
14 sugarcane byproduct manufacturing, packaging products
15 manufacturing, paints, coats and ink manufacturing, glass
16 manufacturing, rubber manufacturing, non-metallic products
17 manufacturing, pulp and paper manufacturing, industrial chemical
18 products manufacturing, industrial gases production, fuels, and
19 biofuels production, textile manufacturing, semi-conductor equipment
20 and products manufacturing, petroleum and petrochemical
21 manufacturing, plastics and polymers manufacturing, pharmaceutical
22 and cosmetics manufacturing, agro-industrial and agri-industrial
23 manufacturing and other commercial products manufacturing.

24 The professional chemical engineer shall also perform production
25 planning, optimization, troubleshooting, and process re-engineering in
26 cases where the scope is manageable. This function includes
27 implementing integrated management systems to optimize unit
28 operations and unit processes, identify interconnections, and address
29 underlying problems;

30 f) *Pilot Testing.* The process of conducting small-scale experiments or
31 trials to evaluate and validate the feasibility, performance, and
32 efficiency of a chemical plant, process, or technology before
33 implementing it on a larger scale. It serves as a crucial step in the
34 development, optimization, and commercialization of chemical plants,
35 processes, and equipment;

36 g) *Research and Development.* Any work, activity, and engagement
37 directed towards the discovery, development, introduction, innovation,
38 and improvement of products, services, systems, operations, and
39 processes involving the application of chemical engineering concepts
40 and theories. It also pertains to basic research leading to
41 breakthroughs in chemical engineering. It can also refer to multi-

- 1 disciplinary research involving a substantial application of chemical
2 engineering concepts and theories and metrology;
- 3 h) *Quality Assurance*. Plan, execute, and oversee inspection and testing
4 of products to confirm quality and conformance to specifications and
5 deliverables. Assist production or manufacturing operations in
6 tracking, documenting, and reporting quality levels. Analyze and
7 investigate product complaints or reported quality issues to ensure
8 resolution in accordance with company guidelines and external
9 regulatory requirements; and
- 10 i) *Academia*. Teaching, lecturing, reviewing, and conducting research in
11 an academic environment involving applying and demonstrating
12 chemical engineering principles shall be considered professional
13 chemical engineering practice.

14 SEC. 5. *Career Progression and Areas of Specialization*. The professional
15 chemical engineer shall engage in the following areas of specialization:

- 16 a) *Forensic Investigation*. Any examination, study, inquiry, investigation,
17 consultation, and review involving the application of science, technology,
18 law, forensic principles, and other related techniques concerning
19 chemical engineering knowledge, principles, and professional skills for
20 the determination, discovery, and verification of facts to arrive at a valid,
21 logical, or sound conclusion for any administrative, civil, criminal or any
22 related cases;
- 23 b) *Quality Management System*. Development and updating of company
24 procedures to ensure capture, investigation, and proper documentation
25 of complaints; monitoring of risk management procedures and
26 maintenance of problem logs for identifying and reporting issues to
27 management and product development;
- 28 c) *Government Regulatory Functions*. Regulation, inspection, and
29 monitoring of compliance of an industrial plant to laws, rules, and
30 regulations relating to good manufacturing practices; process safety;
31 food safety; pollution control and abatement, including solid wastes and
32 wastewater management; industrial gas emission; and chemical storage,
33 handling, and transport shall be considered as an area of chemical
34 engineering practice. As such, the Department of Environment and
35 Natural Resources (DENR), Department of Justice, Department of
36 Public Works and Highways (DPWH), Department of Trade and
37 Industry (DTI), Department of the Interior and Local Government
38 (DILG), Department of National Defense (DND), Department of Science
39 and Technology (DOST), Department of Foreign Affairs, Department of
40 Agriculture (DA), Department of Energy (DOE), Department of Health
41 (DOH), Philippine Space Agency, LGUs, and other related government

1 agencies shall hire chemical engineers to dispose of the aforementioned
2 regulatory functions.

3 The certifying professional chemical engineers, as duly authorized
4 by the Professional Regulatory Board of Chemical Engineers, shall be
5 granted authority to assist the Board in inspecting industrial plants to
6 ensure compliance with regulatory requirements on the process and
7 operational safety, waste management, as well as on the compliance
8 with Philippine National Standards;

- 9 d) *Entrepreneurship*. Commercialization of chemical engineering
10 technologies from its development to incubation, then to mainstream
11 market adoption, sales, and distribution;
12 e) *Corporate Governance*. The Philippine chemical engineer may assume
13 Board Membership in utility concessionaires and establishments
14 imbued with the public interest, where such establishments engage in
15 operations that employ chemical engineering concepts and theories.

16 Any professional chemical engineer engaged in chemical engineering
17 entrepreneurship or assuming directorship in a corporation with
18 chemical engineering-related business shall be considered involved in
19 chemical engineering.

20 The services of a professional chemical engineer shall also include the
21 preparation of sustainability reports of publicly listed companies as
22 required by the Securities and Exchange Commission;

- 23 f) *Chemical Reaction Engineering and Catalysis*. Deal with the
24 (bio)chemically reactive systems of engineering significance and focus on
25 the understanding, design, optimization, and advancement of processes
26 that involve chemical reactions and (bio)chemically reactive systems
27 such as reaction kinetics, thermodynamics, transport phenomena
28 processes, reactor design and operation, catalysis, and their applicability
29 regardless of scale;
30 g) *Nuclear Processes and Operations*. Activities in chemical engineering
31 and chemical reaction engineering performed in nuclear reactive
32 systems. These shall include nuclear power generation, nuclear fuel
33 cycle, radiation protection, reactor design and operation, fuel processing,
34 nuclear waste treatment and management, nuclear strategies, policy-
35 making, and peaceful and military purposes;
36 h) *Nanotechnology*. The scientific and technological discipline of chemical
37 engineering that involves manipulating matter at the Nanoscale,
38 typically at dimensions of one to 100 nanometers. It encompasses the
39 understanding, design, and control of materials and systems at the Nano
40 scale level;
41 i) *Environmental Engineering and Management*. Application of chemical
42 engineering principles, methodologies, and techniques to solve

- environmental problems and address sustainability challenges. It involves designing, developing, and implementing processes and technologies that mitigate environmental pollution, promote sustainable practices, and protect human health and the ecosystem. Environmental engineering and management also include industrial waste management, pollution control, and other related activities;
- j) *Sustainability Engineering*. Application of chemical engineering principles and practices to promote sustainable and environmentally friendly processes within the chemical industry and other related sectors. It aims to minimize the environmental impact of chemical processes, reduce resource consumption, and develop sustainable alternatives to conventional chemical processes;
 - k) *Biomedical Engineering*. Combination of chemical engineering principles with biomedical sciences and technology to develop innovative solutions for healthcare and medical applications. It focuses on the application of chemical engineering principles, processes, and materials to advance the understanding, diagnosis, treatment, and prevention of diseases;
 - l) *Biochemical Engineering*. A combination of the principles of biology, chemistry, and engineering to develop processes, technologies, and products related to the production and utilization of biological materials. It focuses on applying engineering principles to understand, manipulate, and optimize biological systems for various applications, including healthcare, pharmaceuticals, agriculture, energy, and environmental sustainability;
 - m) *Biomolecular Engineering*. A combination of biology, chemistry, physics, and engineering principles is needed to manipulate and engineer biological molecules and systems for various applications. It focuses on understanding the structure, function, and interactions of biomolecules, such as proteins, nucleic acids, carbohydrates, and lipids, and leveraging that knowledge to design and create new molecules, materials, and technologies;
 - n) *Tissue Engineering*. A combination of biology, engineering, and medicine principles to create functional, three-dimensional tissues or organs for medical applications. It aims to develop methods and technologies to repair, replace, or regenerate damaged or diseased tissues, ultimately restoring normal tissue function and improving patient outcomes. Tissue engineering also includes designing and optimizing biomaterials, controlling chemical reactions, and creating suitable microenvironments for cell growth and tissue formation;
 - o) *Materials Science and Engineering*. Understanding of materials' structure, properties, processing, and performance. It involves the study,

development, and design of new materials, as well as the improvement and optimization of existing materials, to meet specific technological, industrial, and societal needs;

p) *Corrosion Engineering*. Understanding and prevention of the degradation of materials due to corrosion. This engineering includes studying the various factors contributing to corrosion, including environmental conditions, material composition, and electrochemical reactions. It aims to develop strategies to mitigate corrosion, extend the lifespan of materials, and ensure the integrity and safety of structures and equipment;

q) *Energy Engineering and Management*. Applying chemical engineering principles and techniques to address energy-related challenges, optimize energy utilization, and promote sustainable energy practices. It encompasses the design, analysis, and optimization of energy systems and processes, as well as the development and implementation of energy management strategies;

r) *Metrology*. Scientific study and practice of measurement. It involves developing, implementing, and applying measurement techniques, standards, and instruments to ensure accurate and reliable measurements across various fields of science, industry, and commerce. It shall also include calibration of methods, procedures, substances, persons, materials, equipment, and measuring devices; and

s) Emerging technologies that require chemical engineering knowledge, principles, and applications.

SEC. 6. *Chemical Engineering Specialists*. A chemical engineering specialist refers to an advanced qualification for chemical engineers in accordance with the specified requirements of the Philippine Qualifications Framework and as may be determined by the Professional Regulatory Board for Chemical Engineers. A chemical engineering specialist shall be certified as having specializations or specialties in certain areas of chemical engineering practice. The scope of practice and areas of specialization in chemical engineering shall be reserved for chemical engineering specialists' qualification, certification, and scope of practice.

SEC. 7. *Chemical Engineering Technologist*. A Chemical Engineering Technologist (ChET) refers to a Sydney Accord qualification, which can be availed by a holder of a Bachelor of Engineering Technology (Chemical Engineering) or who completed at least 36 units of the professional courses of a Bachelor of Science in Chemical Engineering program, duly registered by the PRC, and duly endorsed by the AIPO. A ChET may perform engineering functions in support of the professional chemical engineers' requirements.

A ChET shall perform functions related to established engineering methods,

1 techniques, tools, testing, and resources within the 1 technology domain. A ChET
2 provides technical support to professional chemical engineers as needed in an
3 industrial plant and other related chemical engineering areas. A ChET shall
4 engage in the technology, equipment, and processes to convert raw materials into
5 consumer products and other related chemical engineering services.

6 SEC. 8. *Chemical Process Technician*. A Chemical Process Technician
7 (CPTech) refers to a Dublin Accord qualification, which can be availed by a person
8 who has completed at least 18 units of the professional courses of a Bachelor of
9 Engineering Technology (Chemical Engineering) program duly registered by the
10 Technical Education and Skills Development Authority and duly endorsed by the
11 AIPO. A CPTech is certified to expertly perform manufacturing equipment
12 monitoring and operation functions and apply established practices and
13 procedures that may require the performance of duties related to production or as
14 a laboratory technician for chemical engineering laboratories in industrial plants
15 and academic institutions. A CPTech shall monitor chemical processes and test
16 product quality to ensure that they meet the standards and specifications, set up,
17 operate, and maintain laboratory instruments and equipment, maintain
18 production equipment, and troubleshoot problems.

19 20 ARTICLE II 21 THE PROFESSIONAL REGULATORY BOARD FOR CHEMICAL 22 ENGINEERS 23

24 SEC. 9. *Creation of the Professional Regulatory Board for Chemical*
25 *Engineers*. There is hereby created a Professional Regulatory Board for Chemical
26 Engineers, herein referred to as the Board, under the administrative control and
27 supervision of the PRC, hereinafter called the Commission, which shall be
28 composed of a Chairperson and four (4) members appointed by the President of
29 the Philippines from the nominees recommended by the duly AIPO of Chemical
30 Engineers and short-listed by the PRC.

31 The AIPO of Chemical Engineers shall recommend three (3) nominees for
32 every vacant position six (6) months before the end of the term. The
33 recommendation and selection of short-listed nominees shall be made for one
34 position at a time.

35 SEC. 10. *Powers and Duties of the Board*. The powers and duties of the
36 Board shall include the following:

- 37 a) Supervise, regulate, and uphold the practice of the chemical engineering
38 profession in the Philippines in accordance with the provisions of this Act;
- 39 b) Determine the requirements and evaluate the qualifications of the
40 applicants for registration and renewal of the license of a professional
41 chemical engineer, chemical engineering technologist, and chemical
42 process technician;

- 1 c) Prescribe the subjects in the licensure examination aligned with the
2 current minimum Bachelor of Science in Chemical Engineering (B.S.
3 Ch.E.) and Bachelor of Engineering Technology (BET-ChE) curriculum
4 standards set by the Commission on Higher Education (CHED);
5 determine the syllabi of the subjects and their relative weights; develop
6 examination table of specifications; construct the test questions in the
7 examination; score and rate the examination papers; and submit the
8 examination results to the PRC;
- 9 d) Issue, together with the PRC, Certificates of Registration and
10 Professional Identification Cards to applicants who have passed the
11 professional licensure examinations for chemical engineers;
- 12 e) Issue, together with the PRC, Certificates of Registration and
13 Professional Identification Cards to applicants who have been certified
14 as chemical engineering technologists and chemical process technicians;
- 15 f) Issue, together with the PRC, licensure examination exemptions,
16 Certificates of Registration, and Professional Identification Cards to
17 applicants who have graduated from Internationally Accredited B.S.
18 Ch.E. and BET-Ch.E. programs;
- 19 g) Issue special permits to persons admitted to the practice of the
20 profession;
- 21 h) Award Certificate of Recognition for advanced studies and research and
22 accomplishments in the chemical engineering profession that contribute
23 to its enrichment;
- 24 i) Oversee the conduct of the continuing professional development (CPD)
25 programs for professional chemical engineers, chemical engineering
26 technologists, and chemical process technicians;
- 27 j) Conduct on-site inspection, submit an inspection report to the PRC, and
28 monitor compliance of industrial plants, facilities, institutions, and other
29 entities engaged in the scope of practice 1 and areas of specialization of
30 chemical engineering and shall seek the assistance of the AIPO to carry
31 out these functions;
- 32 k) Inquire into the conditions affecting the practice of the professional
33 chemical engineer, chemical engineering technologist, and chemical
34 process technician, and adopt measures to enhance and maintain high
35 professional, ethical, and technical standards. Pursuant thereto, the
36 Board may inspect establishments where chemical engineers practice
37 their profession to determine and enforce compliance with the provisions
38 of this Act;
- 39 l) Issue Certificates of Compliance to industrial plants, facilities, and
40 institutions engaged in the scope of practice and areas of specialization
41 of chemical engineering pursuant to the provisions of this Act;

- m) In coordination with the CHED, inspect the facilities, faculty, equipment, and other aspects directly related to the chemical engineering program of educational institutions and submit a monitoring report to the PRC;
- n) Adopt a Code of Ethics and a Code of Technical Standards for the practice of chemical engineering;
- o) Investigate, in accordance with the rules on administrative investigation promulgated by the PRC, violations of this Act and its implementing rules and regulations, the Code of Ethics and the Code of Technical Standards for chemical engineers, administrative policies, orders, and issuances promulgated by the Board;
- p) Issue *subpoena ad testificandum* and *subpoena duces tecum* to secure the attendance of witnesses or the production of documents in connection with any administrative case before the Board;
- q) Hear and decide administrative cases filed against chemical engineers and firms employing chemical engineers. The hearing shall be presided by the Chairperson or a Member of the Board with the assistance of a lawyer of the PRC. Any decision shall be concurred in by at least a majority of the Board. The decisions of the Board may be appealed to the PRC within fifteen (15) days from notice; otherwise, such decisions shall become final and executory;
- r) Administer oaths in connection with the performance of its functions;
- s) Adopt an official seal and prescribe the seal of the chemical engineering profession;
- t) Submit an annual report on the proceedings and accomplishments during the year or recommendations of the Board to the PRC, or both, thirty (30) days after the close of each calendar year; and furnish copies of the same annual report upon request of stakeholders;
- u) Conduct periodic consultations with the AIPO of chemical engineers and present quarterly accomplishment reports thereto;
- v) Prosecute or institute criminal action, or both, any violator of this Act or rules and regulations of the Board;
- w) Prescribe guidelines and criteria on the CPD program for professional chemical engineers, chemical engineering technologists, and chemical process technicians with the AIPO;
- x) In case of exigency of services, the Board may avail the professional services of qualified professional chemical engineers duly recommended by the AIPO to serve some of their functions, with due compensation;
- y) Support and adopt, in partnership with the AIPO, nationally and internationally recognized Philippine register for chemical engineers;
- z) Institutionalize technical and specialized skills development;
- aa) Recognize chemical engineering specialties and subspecialties;
- bb) Adopt the implementing rules and regulations of this Act; and

1 cc) Perform such other functions as may be necessary to implement the
2 provisions of this Act.

3 The two (2) members of the Board shall focus on conducting on-site
4 inspections.

5 SEC. 11. *Qualifications of the Board Chairperson and Members.* At the time
6 of their respective appointments, the members of the Board, including the
7 Chairperson, must be:

- 8 a) A natural-born Filipino citizen and resident of the Philippines;
- 9 b) At least a holder of a bachelor's degree in chemical engineering as
10 conferred by an engineering school of good standing recognized and
11 accredited by the Government;
- 12 c) A professional chemical engineer who has been in active practice for at
13 least ten (10) years;
- 14 d) At least being conferred as Senior Specialist Chemical Engineer;
- 15 e) A member of good standing of the AIPO;
- 16 f) Must not be a faculty member or academic administrator of any
17 university, college, school, or institution offering a baccalaureate or
18 graduate degree program of chemical engineering or BET-Ch.E. program
19 or must be separated from the aforementioned institutions at least one
20 year before the oath-taking as Board Chairperson or Member;
- 21 g) Must not have any affiliations with review centers or be associated with
22 any groups or organizations that offer or conduct review classes or
23 lectures for licensure examination preparation within one year prior to
24 the oath-taking as Board Chairperson or Member; and
- 25 h) Has never been convicted of any offense involving moral turpitude.

26 SEC. 12. *Term of Office.* The Chairperson and the Members of the Board shall
27 have a term of three (3) years with one reappointment only. Each chairperson or
28 member of the Board shall serve for at most two (2) regular terms. Vacancies shall
29 be filled for the unexpired term only. The Chairperson and Members shall qualify
30 by taking the proper oath before assumption of office: *Provided*, That the
31 incumbent Chairperson and Members shall be allowed to serve for the remainder
32 of their term until a new composition of the Board shall have been constituted.
33 The replacement or selection of the Board members shall be made one at a time.

34 SEC. 13. *Secretary of the Board.* The Board shall designate a Secretary
35 coming from the organic personnel of the PRC. The secretary shall record the
36 minutes of the Board's meetings and perform other functions as the Board may
37 require.

38 SEC. 14. *Removal or Suspension of the Chairperson and Members.* The
39 Chairperson or any member of the Board may, upon the recommendation of the
40 PRC, be suspended or removed by the President of the Philippines upon due notice
41 and hearing for neglect of duties, incompetence, malpractice, commission, or
42 tolerance of irregularities in any examination given by the Board, manipulation

1 or rigging of the said examination, tampering of questions before the conduct of
2 the said examinations, or tampering of grades, or unprofessional or unethical
3 conduct. The rights of the accused or respondent to be heard, to defend oneself,
4 and to be assisted by counsel shall be respected in the proper administrative
5 investigation to be conducted for the purpose.

6 SEC. 15. *Compensation of the Board.* The Chairperson and Members of the
7 Board shall receive compensation or honorarium, subject to the prevailing
8 government issuances of the rules and regulations on the matter.

9 SEC. 16. *Annual Reports.* The Secretary shall prepare an annual report for
10 the Board's consideration and approval. After the close of each fiscal year, the
11 Board shall submit an annual report to the PRC, giving a detailed account of its
12 proceedings during the year and embodying such recommendations to the PRC as
13 the Board may desire to make. The AIPO may request a copy of the annual report.

14 15 **ARTICLE III**

16 **LICENSURE EXAMINATION, REGISTRATION AND EXEMPTION**

17
18 SEC. 17. *Licensure Examination Requirement.* Except as otherwise
19 specifically allowed under this Act, applicants for registration for the practice of
20 chemical engineering shall pass a licensure examination as provided for in this
21 Act, in such places and dates as the PRC may designate in the Resolution thereof
22 on the Master Schedules for all licensure examinations, in accordance with Sec. 7
23 (d) of Republic Act No. 8981, otherwise known as the "PRC Modernization Act of
24 2000", as amended.

25 SEC. 18. *Scope of Examination.* The licensure examination for professional
26 chemical engineers shall include Physical and Chemical Principles, General
27 Engineering, and Chemical Engineering: Provided, That the relative weight of
28 Chemical Engineering is at least forty percent (40%).

29 At least seventy percent (70%) of the examination questions shall focus on
30 the meaningful application of essential understanding, principles, competencies
31 or skills, and professional chemical engineering practice in the real world.

32 The Board shall revise the scope of the licensure examination, including
33 specialty or specialization subjects, in case a specialized bachelor's degree in
34 chemical engineering is offered. The relative weight of specialty or specialization
35 subjects is at most thirty percent (30%).

36 SEC. 19. *Qualifications for the Professional Licensure Examination of*
37 *Chemical Engineer.* An applicant for the licensure examination for chemical
38 engineer shall meet the following qualifications:

- 39 a) Must be a citizen of the Philippines;
40 b) Must be of good moral character;

- c) Must be a graduate of a school, institute, college, or university recognized by the Government and has been conferred the degree of Bachelor of Science in Chemical Engineering; and
- d) not have been convicted of an offense involving moral turpitude by a court of competent jurisdiction.

SEC. 20. *Qualifications for the Professional Licensure Examination of Chemical Engineering Technologist.* An applicant for the licensure examination for chemical engineering technologist shall meet the following qualifications:

- a) Must be a citizen of the Philippines;
- b) Must be of good moral character;
- c) Must be a graduate of the Bachelor of Engineering Technology – Chemical Engineering program or have completed at least 36 units of the professional courses of a Bachelor of Science in Chemical Engineering program according to CHED guidelines; and
- d) Must not have been convicted of an offense involving moral turpitude by a court of competent jurisdiction.

SEC. 21. *Qualifications for the Professional Licensure of Chemical Process Technician.* An applicant for the licensure examination for chemical process technician shall meet the following qualifications:

- a) Must be a citizen of the Philippines;
- b) Must be of good moral character;
- c) Must have completed at least eighteen (18) units of the professional courses of a Bachelor of Engineering Technology- Chemical Engineering program according to CHED guidelines; and
- d) Must not have been convicted of an offense involving moral turpitude by a court of competent jurisdiction.

SEC. 22. *Examination Fees.* Every applicant admitted to take the chemical engineering professional licensure examination shall pay such fees as may be prescribed by the PRC before being allowed to take the examination.

SEC. 23. *Report on Rating.* The Board shall complete the correction of examination papers within twenty (20) days from the last day of the examination. The PRC shall report the rating of examinees at most thirty (30) days after the Board has completed the correction of examination papers.

SEC. 24. *Exemption from Licensure Examination.* All applicants who have graduated from internationally accredited B.S. Ch.E. and Technology programs are entitled to apply for exemption from licensure examination: *Provided*, That all requirements are met according to the provisions of this Act. All applicants for exemption shall still submit additional school portfolio requirements and undergo screening. Only those passing the screening process shall be exempted and properly registered.

SEC. 25. *Issuance of Certificate of Registration and Professional Identification Card.* The PRC, on the recommendation of the Board, enters the

1 Roster of Professional Chemical Engineers and issues a Certificate of Registration
2 and Professional Identification Card to each person who obtained a general
3 average of no less than seventy percent (70%) and a rating of no less than fifty
4 percent (50%) in any examination subject and undergone screening to be qualified
5 for exemption. Likewise, a Certificate of Registration and Professional
6 Identification Card shall be issued to a qualified chemical engineering technologist
7 and chemical process technician. Every Certificate of Registration shall state the
8 full name of the registrant and the registration number, which the Chairperson
9 and Members of the Board and the PRC shall sign. It shall be authenticated by
10 the official seal of the PRC, indicating that the person named therein is entitled
11 to the practice of the profession with all the privileges appurtenant to it. The said
12 Certificate of Registration shall remain in full force and effect until it is suspended
13 or revoked in accordance with this Act.

14 Every registrant who has paid the prescribed fee shall likewise receive a
15 professional identification card bearing the signature, number, date of issuance,
16 and expiry date duly signed by the Chairperson of the PRC. This professional
17 identification card shall also be considered a professional license.

18 SEC. 26. *Renewal of Professional License.* Unless otherwise provided by law,
19 rules, regulations, or policy, the professional license issued to a professional
20 chemical engineer, chemical engineering technologist, or chemical process
21 technician shall be valid for three (3) years from its issuance. It shall be renewed
22 every three (3) years on their birth month upon presentation and submission of
23 the proof of the required Continuing Professional Education credit units earned
24 and payment of prescribed fees. Proof of membership of good standing to the AIPO
25 is also a requirement for the license renewal of the professional chemical engineer.

26 Subject to limitations prescribed by the Implementing Rules and
27 Regulations (IRR), the professional license may be renewed before its expiration
28 to allow the continuing practice of the profession.

29 As the IRR prescribes, a surcharge shall be collected for those who fail to
30 renew their professional licenses for ten (10) consecutive years.

31 SEC. 27. *Seal of Professional Chemical Engineer.* Each chemical engineer
32 shall, upon registration, obtain a seal as prescribed by the Board bearing the
33 professional's name, registration number, and the legend "Professional Chemical
34 Engineer." The plans, specifications, designs, reports, and other professional
35 documents prepared by or executed under the supervision of and issued by the
36 professional shall be stamped on every sheet with said seal, indicating therein the
37 current Professional Tax Receipt number, date, place of payment and current
38 membership number in the AIPO, when filed with the government authorities or
39 when submitted or used professionally.

40 SEC. 28. *Fees for Registration.* Every person issued a Certificate of
41 Registration as a professional chemical engineer shall pay the PRC such fees as
42 the Board may prescribe.

1 SEC. 29. *Exemptions from Registration and Issuance of Special Permit to*
2 *Practice.* Registration shall not be required of the following persons upon proper
3 application for exemption with the Board, the evaluation of which shall be subject
4 to the condition that there are no Filipino professional chemical engineers of
5 equivalent expertise and skills immediately available for a given application or
6 circumstances:

7 (a) Chemical engineers, recognized as experts in their specific fields of
8 chemical engineering, called in by the Republic of the Philippines for
9 consultation or a particular design, installation, or project: *Provided,*
10 That their practice shall be confined to such work;

11 (b) Chemical engineers who have distinguished themselves in their
12 respective fields of specification, contracted as professors or lecturers on
13 chemical engineering subjects by Philippine schools, colleges, institutes,
14 or universities on a direct hire or exchange basis, subject to verification
15 of credentials by the Board; and

16 (c) Chemical engineers who have distinguished themselves in their
17 respective fields of specification, contracted as consultants, technology
18 providers, or specialists on chemical engineering processes by Philippine
19 industrial firms on a direct-hire basis, subject to verification of
20 credentials by the Board.

21 SEC. 30. *Suspension or Revocation of Certificate of Registration and*
22 *Cancellation of Special Permit to Practice.* Any of the following shall be sufficient
23 grounds for the suspension or revocation of a Certificate of Registration and
24 cancellation of Special Permit to Practice:

25 a) Any act of gross incompetence, negligence, or illegal practice of chemical
26 engineering resulting in damages to property and environment, injury,
27 or loss of lives;

28 b) Acts inimical to the chemical engineering profession;

29 c) Gross immorality or commission of any act involving moral turpitude;
30 and

31 d) Violation of this Act, the rules and regulations, other policies of the
32 Board, and the Code of Ethics.

33 Complaints against professional chemical engineers and firms employing
34 chemical engineers may be filed *motu proprio* by any person or the Board.
35 Complaints shall be in writing and sworn to by the persons executing them.
36 Complaints shall be filed with the Secretary of the Board: *Provided,* That the
37 action of the Board shall be subject to appeal to the PRC within fifteen (15) days
38 from notice, whose decision on the matter shall be final.

39 SEC. 31. *Reissuance of Revoked Certificate of Registration and Special*
40 *Permit to Practice and Replacement of Lost Certificates.* The Board may, for
41 reasons it may deem sufficient, reissue revoked Certificates of Registration and
42 Special Permit to Practice upon proper petition. A new Certificate of Registration

1 and Special Permit to Practice may be issued to replace a lost, destroyed, or
2 mutilated Certificate, subject to the rules and regulations of the Board and upon
3 payment of the appropriate fees to the PRC.

4
5 **ARTICLE IV**
6 **PRACTICE OF CHEMICAL ENGINEERING**
7

8 *SEC. 32. Vested Rights, Automatic Registration of Chemical Engineers.*
9 Upon the effectivity of this Act, all registered chemical engineers shall
10 automatically be recognized as Professional Chemical Engineers.

11 *SEC. 33. Who May Practice Chemical Engineering.* Except as may be
12 provided in this Act, only professional chemical engineers with unexpired
13 professional licenses shall practice chemical engineering and chemical reaction
14 engineering. The professional chemical engineer shall not be hindered, prevented,
15 restricted, separated, or alienated from practicing the chemical engineering scope
16 of practice and areas of specialization or where chemical engineering principles,
17 fundamentals, and theories apply to any field or allied fields of practice, including
18 or involving the use of unit operations, unit processes, pollution abatement,
19 separation processes, or transport processes. Furthermore, the use of chemical
20 engineering principles, fundamentals, theories, and areas of practice that apply to
21 any field or allied fields of practice, including or involving the use of unit
22 operations, unit processes, pollution abatement, separation processes, or transport
23 processes shall be considered a chemical engineering practice. No firm,
24 partnership, corporation, or association may be licensed and registered as such for
25 the practice of chemical engineering, but duly licensed and registered chemical
26 engineers may form partnerships among themselves or with other licensed and
27 registered engineers and architects and use the title "Chemical Engineers,"
28 "Engineers and Architects" in their partnership name.

29 *SEC. 34. Prohibitions in the Practice of Chemical Engineering.* No person
30 shall practice chemical engineering or render chemical engineering service
31 without a valid certificate of registration, a valid professional identification card,
32 or a special permit to practice. Any person who shall commit the following acts
33 shall be guilty of a misdemeanor:

- 34 (a) Practice chemical engineering or render chemical engineering services,
35 or pass himself off or advertise himself as a chemical engineer without a
36 valid certificate of registration or valid professional identification card,
37 or when such has been suspended or revoked;
38 (b) Attempt to use as his own the certificate, valid ID, or seal of another
39 person or impersonate any professional chemical engineer;
40 (c) Attempt to use a revoked or suspended certificate of registration;

1 (d) Sign or seal a document involving the design, plan, technical
2 specification, and the like with an expired professional identification
3 card or on behalf of another professional chemical engineer; and

4 (e) Furnish the Board or PRC any false information or document to secure
5 a Certificate of Registration or renewal of a Professional Identification
6 Card.

7 SEC. 35. *Roster of Chemical Engineers.* The PRC shall keep a roster of all
8 professional chemical engineers, chemical engineering technologists, and chemical
9 process technicians, stating their names, registration numbers, and places of
10 business. The roster shall be regularly updated and made available to all
11 interested parties free of charge upon formal written request.

12 SEC. 36. *Submission of Designs and Specifications for Government*
13 *Approval.* Any proposal, design, specification, working drawing, or plan for
14 processes and equipment in an industrial plant, which functions with unit
15 operation, unit process, pollution abatement, or any part thereof submitted to any
16 government agency, national or local, including government-owned or controlled
17 corporations, shall not be processed or approved, nor shall such plant be issued
18 any permit, license, franchise, authorization or certification, unless such proposal,
19 design, specification, working drawing, or plan is signed by a Professional
20 Chemical Engineer, with its seal and registration number affixed thereto.

21 A professional chemical engineer shall sign documents related to building
22 codes and regulations granted by the relevant government agency responsible for
23 enforcing the process safety requirements, environmental systems design,
24 pollution control installations, chemical storage, and hazardous materials
25 facilities in the building codes pursuant to this Act's IRR.

26 SEC. 37. *Hazard Allowance, Health and Accident Insurance, and Legal*
27 *Assistance.* Professional chemical engineers, chemical engineering technologists,
28 and chemical process technicians exposed to workplace and process hazards as
29 part of their regular responsibilities are entitled to a commensurate hazard
30 allowance, subject to existing laws, rules, and regulations.

31 The employer shall provide legal assistance to professional chemical
32 engineers, chemical engineering technologists, and chemical process technicians
33 who face administrative, civil, or criminal suits arising from work done in the
34 performance of duty, subject to existing laws, rules and regulations.

35 SEC. 38. *National Career Progression and Specialization.* The Board shall
36 institutionalize a standardized national chemical engineering career progression
37 and specialization program in consultation with the AIPO, Civil Service
38 Commission, and other government agencies. The Board, with the assistance of
39 the AIPO, shall prepare and implement the application process for specialization.

40 SEC. 39. *Code of Technical Standards and Guidelines.* The existing Code of
41 Technical Standards for the Practice of Chemical Engineering shall be
42 transformed into Philippine Chemical Engineering Standards (PChES). It shall

1 serve as the Code of Technical Standards for all professional chemical engineers
2 in the practice of their profession. The Board shall, in collaboration with the AIPO
3 of chemical engineers, DOST, DENR, DTI, DPWH, DA, DILG, DOH, DOE,
4 Department of Labor and Employment, DND, and other concerned agencies and
5 private organizations, develop new standards under the PChES.

6 SEC. 40. *Foreign Reciprocity*. No foreign chemical engineer shall be granted
7 any rights or privileges under this Act unless the country of which this person is
8 a subject or citizen grants Filipino chemical engineers the same or similar rights
9 or privileges.

10 SEC. 41. *Act Not Affecting Other Professions*. This Act shall not be construed
11 to affect or prevent the practice of any other lawfully recognized profession.
12 However, areas where systems and processes that are chemical engineering in
13 nature or where chemical engineering can be applied, regardless of field, shall not
14 hinder, prevent, restrict, separate, or alienate a professional chemical engineer
15 from practicing such an area.

16 SEC. 42. *Indication of Registration or Professional License Number and*
17 *Professional Tax Receipt Payment*. A professional chemical engineer, chemical
18 engineering technologist, and chemical process technician shall be required to
19 indicate the Certificate of Registration, Professional Identification Card number,
20 date of issuance, and duration of validity, including the Professional Tax Receipt
21 of the documents the professional signs, uses, or issues in connection with the
22 practice of the profession.

23 SEC. 43. *Membership in the Accredited Integrated Professional*
24 *Organization*. An integrated national organization of chemical engineers shall be
25 duly accredited by the Board and the PRC. A chemical engineer duly registered
26 with the Board and the PRC shall automatically become a member subject to the
27 provisions on membership in the current constitution and by-laws of the AIPO of
28 chemical engineers. The member shall receive benefits appurtenant thereto upon
29 payment of the required fees and dues.

30 31 **ARTICLE V** 32 **INDUSTRIAL PLANTS CATEGORIES AND RELATED ISSUES** 33

34 SEC. 44. *Categories of Industrial Plants*. Unless otherwise provided by the
35 IRR and the Code of Technical Standards, the industrial plants shall be classified
36 as follows:
37
38
39
40
41
42

Industrial Plant Categories	Asset Size (in PHP)
Micro Scale	Up to 3,000,000
Small Scale	3,000,001–15,000,000
Medium Scale	15,000,001–100,000,000
Large Scale	100,000,001 and above

SEC. 45. *Pollution Control and Abatement and Waste Treatment.* Any establishment's pollution control, abatement, and waste treatment facilities shall be managed, operated, or supervised by a registered professional chemical engineer. Furthermore, the overall waste management of any establishment shall be under the supervision of a registered professional chemical engineer.

The plan for pollution control and abatement devices and facilities that are part of building permit requirements, such as wastewater treatment facilities, air pollution control devices and treatment, disposal facilities for toxic and hazardous wastes, and other related technologies and devices, shall be signed by a registered professional chemical engineer with one's seal affixed to it. The LGUs shall implement this in addition to other building permit requirements.

SEC. 46. *Process and Operation Laboratory.* A registered professional chemical engineer shall manage, operate, or supervise process and operation laboratories, including chemical engineering laboratories.

SEC. 47. *Technical Guidelines.* Within sixty (60) days from the approval of this Act, the Board shall enact technical guidelines to implement any technical details therein.

ARTICLE VI CERTIFICATE OF PROCESS COMPLIANCE AND OTHER REQUIREMENTS

SEC. 48. *Validity of Certificate of Process Compliance.* The Certificate of Process Compliance is valid for three (3) years or less than three (3) years, based on the results of the risks identified during the assessment and as recommended by the Board or a professional chemical engineer. These assessments shall be carried out only by a certifying professional chemical engineer holding a valid physical and digital Certificate of Registration and Professional Identification Card issued by the Board.

SEC. 49. *Risk Management Plan.* All industrial plants shall establish a Risk Management Plan focusing on workplace and process safety to prevent exposures, reduce risks, and minimize or eliminate materials and process toxicity. The plan shall establish operational and process control measures to ensure materials are handled safely, workers are protected, and potential risks are mitigated.

SEC. 50. *Personnel Required in Industrial Plant, Facility, and Institution.* All micro, small, medium, and large-scale industrial plants, facilities, and similar

1 institutions engaged in manufacturing operations, unit operations, unit processes,
2 or pollution control and abatement, including laboratory facilities such as in-
3 process, process simulation, research and development, quality assurance, and
4 chemical engineering laboratories, shall have a minimum number or complement
5 of resident professional chemical engineers as provided by the IRR or Code of
6 Technical Standards, or both.

7 SEC. 51. *Workplace and Process Safety Supervision.* In the interest of public
8 safety and environmental protection, a professional chemical engineer shall be
9 designated to supervise and address workplace and process safety requirements
10 in industrial plant operations. Regardless of the size of the industrial plant, all
11 process equipment and plant design shall be approved by a professional chemical
12 engineer.

13 SEC. 52. *Process Compliance.* A professional chemical engineer shall
14 review, certify, sign, and seal an industrial process.

15 SEC. 53. *Suspension or Revocation of Certificate of Process Compliance.* The
16 Certificates of Compliance may be suspended or revoked for non-compliance
17 pursuant to the provisions of this Act.

18 SEC. 54. *Reissuance of Revoked Certificate of Process Compliance and*
19 *Replacement of Lost Certificates.* The Board may, upon proper petition, reissue the
20 revoked Certificate of Process Compliance for reasons it may deem sufficient. A
21 new Certificate of Process Compliance may be issued to replace a lost, destroyed,
22 or mutilated certificate, subject to the rules and regulations and upon payment of
23 the appropriate fees to the PRC.

24

25 ARTICLE VII

26 INDUSTRIAL INSPECTION AND WORTHINESS

27

28 SEC. 55. *Industrial Inspection.* All industrial plants and related facilities in
29 the Philippines shall undergo mandatory yearly industrial inspections. The IRR
30 and Code of Technical Standards shall provide well-defined inspection criteria and
31 standards. These include the qualifications and competencies of technical
32 personnel as well as the performance, safety, overall condition, reliability,
33 capability, and compliance of industrial operations.

34 SEC. 56. *Industrial Worthiness.* After an annual industrial inspection and
35 with favorable technical findings, the certifying professional chemical engineer
36 shall issue a Certificate of Industrial Worthiness to the establishment of an
37 engaging industrial plant, affixing one's signature and seal. A separate certificate
38 per industrial plant shall be issued if the establishment engages two or more
39 industrial plants in different areas.

40 A chemical engineer employed or engaged by the establishment is not
41 allowed to inspect nor certify the same establishment.

1 An LGU shall only issue a business permit to an establishment with a
2 Certificate of Industrial Worthiness.

3 SEC. 57. *Application Fee.* Any establishment starting to operate an
4 industrial plant shall pay an application fee to the LGU as prescribed by the IRR.
5 The LGU Engineer's Office shall only issue a permit to operate an industrial plant
6 after issuing the Certificate of Industrial Worthiness. The LGU Treasurer's Office
7 shall adjust the application fee amount every three (3) years based on price index
8 adjustments.

9 SEC. 58. *Professional Fee for Certifying Professional Chemical Engineer.*
10 The establishment shall pay a professional fee to the certifying professional
11 chemical engineer after industrial inspection per industrial plant, as the IRR
12 prescribes. The LGU Treasurer's Office shall adjust the professional fee every
13 three (3) years based on price index adjustments.

14 SEC. 59. *Industrial Worthiness Review.* Within fifteen (15) days after
15 industrial inspection and issuance of unfavorable technical findings, any
16 establishment may request an industrial worthiness review to the LGU Engineer's
17 Office. Within five (5) days after receipt of the review request, the LGU Engineer's
18 Office shall convene the LGU Industrial Review Panel.

19 The establishment shall pay the LGU a review fee as prescribed by the LGU
20 Engineer's Office. The total review fees collected shall be utilized for the honoraria
21 of the Technical Review Panel chairperson and members.

22 SEC. 60. *LGU Industrial Review Panel.* The LGU Industrial Review Panel
23 shall comprise three (3) registered professional chemical engineers selected by
24 lottery from the list of all certifying professional chemical engineers. The most
25 senior shall be the Chairperson. The Panel shall conduct industrial re-inspection
26 and documentary review within ten (10) days after its formation and may issue a
27 Certificate of Industrial Worthiness after its favorable technical review findings.
28 A selection lottery shall be made each time there is a request for an industrial
29 worthiness review.

30 SEC. 61. *Administrative Appeal.* The technical review findings of the LGU
31 Industrial Review Panel may be appealed to the Board within fifteen (15) days of
32 their issuance. After its favorable technical review findings, the Board shall
33 conduct an industrial re-inspection and documentary review and may issue a
34 Certificate of Industrial Worthiness. The findings of the Board shall be final.

35
36 **ARTICLE VIII**
37 **CHEMICAL ENGINEERING EDUCATION AND CONTINUING**
38 **PROFESSIONAL DEVELOPMENT**
39

40 SEC. 62. *Curriculum Development and Updating.* The CHED shall, in
41 consultation with the Board, the AIPO of Chemical Engineers, and the industry
42 stakeholders, develop and continuously update the Chemical Engineering

1 Curriculum in accordance with the required competencies for the practice of the
2 profession prescribed under this Act to align with international standards of
3 chemical engineering education and practice and to be responsive to industry
4 requirements.

5 SEC. 63. *Continuing Professional Development*. CPD is an integral part of
6 the chemical engineering profession. It is considered relevant to sustain
7 competency enhancement, capacity building, and renewal of professional licenses.
8 The Board shall prescribe and promulgate a CPD Program in consultation with
9 the AIPO of Chemical Engineers, concerned government agencies, and
10 stakeholders. It shall prescribe guidelines for the CPD programs for chemical
11 engineers. The Board shall maintain the CPD Council composed of a Chairperson
12 from the Board, a member from the AIPO, a member from the academe, a member
13 from industry, and a member from the DOST, who is a chemical engineer. The
14 CPD for professional chemical engineers is hereby made mandatory for the
15 practice of the profession. The CPD credit units earned by the professionals shall
16 be required to renew professional licenses and accreditation systems for advanced
17 levels of practice and other international accreditations.

18
19 **ARTICLE IX**
20 **ACCREDITED INTEGRATED NATIONAL ORGANIZATION**
21 **OF CHEMICAL ENGINEERS**
22

23 SEC. 64. *Membership in the Accredited Integrated Professional*
24 *Organization of Chemical Engineers*. An integrated national organization of
25 chemical engineers shall be duly accredited by the Board and the PRC. A
26 professional chemical engineer, chemical engineering technologist, and chemical
27 process technician duly registered with the Board shall become a member of the
28 accredited organization upon oath-taking under the AIPO and payment of
29 prescribed fees and dues and shall receive the benefits and privileges appurtenant
30 thereto. Membership in the accredited integrated national organization shall not
31 be a bar to membership in other associations of chemical engineers.

32 The AIPO shall keep an updated official registry of its bona fide members,
33 indicating membership and official receipt numbers of annual dues.

34 *Bona fide* members of the AIPO who practice chemical engineering shall be
35 required to provide their official AIPO membership number and receipt on official
36 documents they prepared to obtain government regulatory permits and licenses.

37 The functions, duties, and responsibilities of the AIPO of Chemical
38 Engineers shall be the following:

- 39 a) Nominate to the vacant positions on the Board of Chemical Engineering;
40 b) Organize and facilitate the oath-taking of the newly registered
41 professional chemical engineers, chemical engineering technologists,
42 and chemical process technicians in coordination with the Board and

1 PRC. The oath-taking shall be considered a private activity, and
2 collected fees shall be treated as private funds. The AIPO shall submit a
3 corresponding financial report and list of those who took the oath to the
4 Board and PRC;

- 5 c) Pursue a program for CPD;
- 6 d) Endorse the practice of foreign nationals to be issued temporary or
7 special permits;
- 8 e) Institutionalize and maintain a national chemical engineering registry;
- 9 f) Establish chemical engineering areas of specialization in coordination
10 with the Board;
- 11 g) Organize regular dialogue between the Board, industries, academe, and
12 other stakeholders;
- 13 h) Monitor compliance and endorse or file a complaint, or both, with the
14 Board or PRC for this Act, its IRR, Code of Ethics, Standards of
15 Professional Practice, and other agencies for violation of other relevant
16 laws, regulations, and the like; and
- 17 i) Some other functions, duties, and responsibilities as prescribed by the
18 Board.

19

20 ARTICLE X

21 TRANSITORY PROVISIONS

22

23 SEC. 65. *Vested Rights on Automatic Registration of Professional Chemical*
24 *Engineers.* All chemical engineers registered under RA 9297, otherwise known as
25 the “Chemical Engineering Law of 2004”, at the time of the effectivity of this Act
26 shall automatically be considered professional chemical engineers and hold the
27 same registration number. The validity and period of the existing professional
28 license shall continue to be enforced until its expiry date.

29 Furthermore, the qualifications of chemical engineering technologists or
30 chemical process technicians shall be granted upon application to persons
31 currently working as chemical engineering technologists or chemical process
32 technicians as provided by the IRR.

33 SEC. 66. *Securing Certificate of Process Compliance.* There shall be a five
34 (5) year grace period for industrial plants, facilities, and institutions to apply for
35 and secure a Certificate of Process Compliance.

36

37 ARTICLE XI

38 FINAL PROVISIONS

39

40 SEC. 67. *Code of Ethics.* The Board shall adopt a Code of Ethics, which the
41 AIPO shall promulgate.

1 SEC. 68. *Penal Clause for the Practice of Chemical Engineering.* Any person
2 who shall violate any of the provisions of this Act shall, upon conviction, be
3 penalized with a fine of not less than One hundred thousand pesos (P100,000.00)
4 nor more than One million pesos (P1,000,000.00) or imprisonment of not less than
5 six (6) months nor more than five (5) years, or both, at the discretion of the court.

6 Covered by the penalty is any person who:

- 7 (a) Practices chemical engineering or renders chemical engineering
8 services, passes oneself off, or advertises oneself as a chemical engineer
9 without a valid physical and digital certificate of registration and
10 professional identification card or when such has been suspended or
11 revoked;
- 12 (b) Attempts to use the certificate or seal of another person or impersonate
13 any professional chemical engineer;
- 14 (c) Attempts to use a revoked or suspended certificate of registration or an
15 expired professional license;
- 16 (d) Signs a document involving design, plan, technical specification, and the
17 like on behalf of a professional chemical engineer; or
- 18 (e) Furnishes the Board or PRC any false information or document to secure
19 a Certificate of Registration or renewal of a Professional Identification
20 Card.

21 SEC. 69. *Penal Clause for Industrial Plants, Facilities, and Institutions.*
22 Any industrial plant, facility, and institution which shall violate any of the
23 provisions of this Act shall face penalties of not less than One million pesos
24 (P1,000,000.00) nor more than Fifty million pesos (P50,000,000.00) at the
25 discretion of the court. The management or administration of such industrial
26 plants, private and government facilities, and institutions shall also be held liable
27 for violations of this Act.

28 Suspension, revocation, or non-renewal of any permits, licenses, or
29 certifications necessary for operation shall also be imposed on said industrial
30 plant, facility, or institution.

31 The responsible officer of such industrial plant, facility, and institution
32 shall, upon conviction, be penalized with a fine of not less than Three hundred
33 thousand pesos (P300,000.00) nor more than Three million pesos (P3,000,000.00)
34 or imprisonment of not less than six (6) months nor more than one (1) year or both
35 at the discretion of the court.

36 SEC. 70. *Penal Clause for Violating Code of Technical Standards.* A person
37 who committed any malfeasance, misfeasance, and nonfeasance under the Code of
38 Technical Standards shall, upon conviction, be penalized with a fine of not less
39 than One hundred thousand pesos (P100,000.00) nor more 1 than One million
40 pesos (P1,000,000.00) or imprisonment of not less than six (6) months nor more
41 than one (1) year or both at the discretion of the court. If the perpetrator is a public

1 official or employee, that person shall be perpetually barred from holding public
2 office.

3 SEC. 71. *Enforcement Assistance to the Board.* The PRC shall assist the
4 Board in carrying out the provisions of this Act and its IRR, as well as other
5 policies. The PRC lawyers shall act as prosecutors against illegal practitioners and
6 other violators of this Act and its rules. The duly constituted authorities of the
7 government shall likewise assist the Board and the PRC in enforcing the
8 provisions of this Act and its IRR.

9 SEC. 72. *Appropriations.* The amount necessary for the implementation of
10 this Act shall be included in the Annual General Appropriations Act.

11 SEC. 73. *Implementing Rules and Regulations.* Subject to the approval of
12 the PRC and within ninety (90) days from the approval of this Act, the Board shall
13 adopt and promulgate the rules and regulations to carry out the provisions of this
14 Act. Within six (6) months from the approval of this Act, the Board shall adopt and
15 promulgate the Code of Ethics for Chemical Engineers and Philippine Chemical
16 Engineering Standards or the Practice of Chemical Engineering.

17 SEC. 74. *Separability Clause.* If any provision of this Act is held invalid or
18 unconstitutional, the other provisions not affected shall remain in full force and
19 effect.

20 SEC. 75. *Repealing Clause.* Republic Act No. 9297, otherwise known as the
21 “Chemical Engineering Law of 2004,” is hereby repealed. Nothing in this Act shall
22 be interpreted to diminish, limit, or restrict the authority of other professional
23 boards to regulate their profession or require certifications as indicated in their
24 governing laws. Nothing in this Act shall be interpreted to repeal the authority of
25 the Professional Regulatory Board of Chemistry to regulate and require the
26 issuance of certificates of analysis and certificates of authority to operate under
27 Republic Act No. 10657, otherwise known as the “Chemistry Profession Act.”

28 All laws, presidential decrees, executive orders, rules and regulations, and
29 other issuances or parts thereof inconsistent with the provisions of this Act are
30 hereby repealed, amended, or modified accordingly.

31 SEC. 76. *Effectivity.* This Act shall take effect 15 days after its
32 publication in the Official Gazette or in a newspaper of general circulation.

33
34 Approved,