

**NINETEENTH CONGRESS OF THE)
REPUBLIC OF THE PHILIPPINES)
Second Regular Session)**



Senate
Office of the Secretary

23 JUN 20 P2:28

SENATE
S. No. 2283

RECEIVED BY:

Introduced by SENATOR FRANCIS "TOL" N. TOLENTINO

**AN ACT ESTABLISHING THE COMPREHENSIVE CHEMICAL
ENGINEERING LAW AND REPEALING REPUBLIC ACT NUMBERED
NINE THOUSAND TWO HUNDRED NINETY-SEVEN (R.A. NO. 9297),
OTHERWISE KNOWN AS "THE CHEMICAL ENGINEERING ACT OF
2004"**

EXPLANATORY NOTE

At the forefront of scientific and technological developments, chemical engineers design, innovate, install, commission, and operate processes to create products that we all depend on. They are often tackling some of the world's most urgent problems and also contribute to the quality of people's lives such as the improvement of the environment in combating acid rain and greenhouse effect and developing technologies to end starvation, disease, and poverty. In short, the development of chemical engineering is a paramount interest to our national development, public safety, and environmental sustainability.

However, the present law which is RA 9297, otherwise known as otherwise known as the "Chemical Engineering Law of 2004", has not been fully implemented due to loopholes in its provisions. Despite the passage of the law, industrial facilities were erected and operated without the guidance and expertise of chemical engineers. Leveling and area of specialization were not clearly defined and categorized. Thus, this resulted in violations of process safety, industrial operation standards, and other related requirements that exposed the public to unsafe practices in the manufacturing processes and in lack of chemical engineers in both private and public institutions.

Under this proposed measure, one of the major improvements is the detailed description, including skills and attributes, of the positions of the Chemical Engineering Technologist and the Technician. Since these professions fall within the purview of chemical engineering, then it is a must for them to be included. Another update in the proposal is the inclusion and adaptation of the outcomes-based engineering educational parameters, highlighting skills and attributes to be attained under the Sydney Accord, Dublin Accord, Washington Accord, and our local counterpart which is the Philippine Qualifications Framework (PQF). With this update, our chemical engineers in the country shall be placed in a more globally competitive and competent position, which increases their chances at employment and mobility. Moreover, this

bill would regulate engineering education, provide for the professional fields of specialization of chemical engineers, lay down the requirements for the operation of industrial facilities and other institutions, include artificial intelligence and emerging technologies, encourage and promote innovation and collaboration, as well as give recognition to their qualifications and achievements.

Given the importance of chemical engineering in national development, public safety, and environmental sustainability, the passage of this bill is urgently needed.

A handwritten signature in black ink, appearing to read 'Francis Tolentino', with a stylized flourish at the end.

FRANCIS "TOL" N. TOLENTINO



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

ARTICLE I

**TITLE, STATEMENT OF POLICY, DEFINITION OF TERMS,
AND AREA OF PRACTICE**

- 1 SECTION 1. **Title.** This Act shall be known as the "Comprehensive Chemical
2 Engineering Law of 2023."
- 3 SECTION 2. **Statement of Policy.** It is hereby declared the policy of the State to
4 advance, supervise, and regulate the practice of Chemical Engineering in the
5 interest of public safety and national development by providing an ecosystem that
6 encourages innovation and value creation through mutually reinforcing mechanisms
7 of enhanced chemical engineering education guaranteed to imbibe internationally
8 accepted skills and attributes of engineers, a career progression and specialization
9 framework for competitiveness and a prioritization of Filipino Chemical Engineers in
10 the practice of the profession in the Philippines.
- 11 SECTION 3. **Definition of Terms.** Unless otherwise provided, the following terms
12 shall be understood to mean:
- 13 (a) Accredited Integrated Professional Organization also known as AIPO is the
14 professional association of all chemical engineers in the Philippines, duly
15 recognized and accredited by the Professional Regulation Commission.
- 16 (b) Board Chairperson refers to the Chairperson, Professional Regulatory Board
17 of Chemical Engineering.

- 1 (c) Certificate of Recognition refers to the certificate issued by the Board of
2 Chemical Engineering in recognition for advance studies and research and
3 accomplishments in Chemical Engineering.
- 4 (d) Certificate of Industrial Worthiness refers to a document issued by a
5 certifying professional chemical engineer after an annual industrial
6 inspection and with favorable technical findings.
- 7 (e) Certifying Professional Chemical Engineer refers a professional chemical
8 engineer who is jointly authorized by the LGU Engineer's Office and the
9 local chapter of the AIPO to conduct industrial inspection and to issue
10 Certificate of Industrial Worthiness.
- 11 (f) CHED refers to the Commission on Higher Education.
- 12 (g) Chemical engineering is a discipline at the interface of molecular sciences
13 and engineering closely linked with the fundamental subjects of chemistry,
14 biology, mathematics, physics and the application of computational science
15 and collaborative with other engineering disciplines. It encompasses the
16 translation of molecular information into discovery of new products and
17 processes and involves molecular transformations by chemical, physical,
18 and biological means with multi-scale description from the sub-molecular
19 to the macroscopic, and the analysis and synthesis of such systems.
- 20 (h) Chemical Engineering Specialist is an advanced qualification for Chemical
21 Engineers in accordance with the specified requirements of the Philippine
22 Qualifications Framework. The Chemical Engineering Specialist
23 demonstrates a sufficient depth of expertise in a particular practice area.
- 24 (i) Chemical Engineering Technologist (ChET) is a Sydney Accord
25 qualification which can be availed by a holder of a Bachelor of
26 Engineering Technology (Chemical Engineering) or has completed at
27 least 36 units of the professional courses of a Bachelor of Science in
28 Chemical Engineering program, duly registered by the Professional
29 Regulation Commission and duly endorsed by the AIPO. He/she may be
30 engaged in performing engineering functions in support of the
31 Professional Chemical Engineers' requirements. He/She shall employ
32 established engineering methods, techniques, tools, testing, and
33 resources within the engineering technology domain.
- 34 (j) Chemical Process Technician (CPTech) is a Dublin Accord qualification which
35 can be availed by a person who has completed at least 18 units of the
36 professional courses of a Bachelor of Engineering Technology (Chemical
37 Engineering) program duly registered by the TESDA and duly endorsed by
38 the AIPO. He/She is skillfully qualified and certified to perform functions
39 related to process equipment monitoring and operation and can apply
40 established practices and procedures related to production in an industrial

- 1 plant or as laboratory technician for Chemical Engineering Laboratory in an
2 academic institution and/or industrial plant.
- 3 (k) Chemical Engineering and Process Laboratory shall mean any facility or
4 installation in an industrial plant or academic institution that conducts
5 bench-scale (prototypes), pilot-scale, experimentation and/or
6 measurement, data gathering, process control, and/or testing of process
7 parameters and material properties related to separation processes,
8 transport processes and/or the chemical transformation of raw materials
9 to in-process to finished products.
- 10 (l) Commission refers to the Professional Regulation Commission (PRC).
- 11 (m) Commission Chairperson refers to the Chairperson, Professional Regulation
12 Commission.
- 13 (n) CPD shall mean Continuing Professional Development.
- 14 (o) Digital twin refers to a virtual representation of an object or system that
15 spans its lifecycle, updated from real-time data, and uses simulation,
16 machine learning, and reasoning to help in decision-making.
- 17 (p) Engineering & Construction Firms refer to establishments which offer
18 services on engineering design, procurement of equipment and
19 construction materials, and construction of industrial plants.
- 20 (q) Establishment refers to any business enterprise, national government
21 agencies, local government units, non-profit organizations, academic
22 institutions, and research centers engaged in activities involving Chemical
23 Engineering Practice.
- 24 (r) Industrial Plant refers to any plant or facility in which a unit process and/or
25 unit operation are involved, including the related pollution control and
26 abatement processes or operations. This shall include all types of
27 manufacture of industrial or consumer products and goods, as well as
28 industrial or waste treatment facilities and any other related products
29 specified in Production and/or Manufacturing Operation [Section 4 A (5)].
- 30 (s) Industrial Safety refers to the management of all operations and events
31 within an industrial plant to protect its employees and assets by minimizing
32 or eliminating hazards, accidents, and near misses.
- 33 (t) Industrial Worthiness refers to the quality of being technically compliant,
34 sustainable, safe, and environment-friendly industrial plant process and
35 operation. "Technical-compliance" means compliance with the generally
36 accepted Chemical Engineering and industrial practices and/or relevant

- 1 standards and codes of international and local scopes as well as
2 legislations.
- 3 (u) Practice of Chemical Engineering shall mean the performance of activities
4 within the areas of practice of Chemical Engineering Profession and to
5 indicate PChE as suffix to the Professional Chemical Engineer's name.
- 6 (v) Process shall mean a series of steps or actions taken to achieve a particular
7 purpose.
- 8 (w) Process Instrumentation refers to the study, development and
9 implementation of tools, equipment, mechanisms, and machinery for a
10 certain process to provide technical means of process control and
11 performance.
- 12 (x) Process Control refer to the manipulation of a control device to maintain a
13 process parameter within an acceptable deviation from an ideally required
14 condition.
- 15 (y) Process Equipment refer to equipment where unit process or unit operation
16 takes place.
- 17 (z) Production Personnel shall mean engineers, technologists, technicians, and
18 other related technical people employed by establishments operating
19 industrial plants and pollution control and abatement facilities.
- 20 (aa) Professional Chemical Engineer (PChE), following the Washington Accord
21 qualification standards and attributes, is a natural person or a hybrid of
22 natural person and Artificial Intelligence (AI) and/or Robots and/or Digital
23 Twin, with the natural person being a duly registered professional who is
24 a holder of a valid physical or digital Certificate of Registration and a
25 Professional Identification Card, and a tamper proof digital seal issued by
26 the Board of Chemical Engineering and the Professional Regulation
27 Commission; certified by his or her local chapter of the Accredited
28 Integrated Professional Organization (AIPO) as a member of "Good
29 Standing"; and holder of a valid Professional Tax Regulation (PTR). The
30 use of AI and/or Robots and/or Avatars shall be registered together with
31 the application or renewal of the natural person of his/her Chemical
32 Engineering License. The natural person shall be responsible for providing
33 the signature and digital seal for the outputs created by AI and/or Robots,
34 and/or Digital Twin. AI/Robots/Digital Twin by themselves shall not be
35 considered Professional Chemical Engineers for the purpose of ensuring
36 public safety by preventing its misuse by anonymous and unscrupulous
37 individuals or groups of individuals.
- 38 (bb) Professional Chemical Engineering Subjects shall refer to any of the
39 following and similar chemical engineering topics: chemical engineering
40 thermodynamics; chemical engineering calculations, physical principles

- 1 and chemical principles; industrial processes; momentum transfer; heat
2 transfer; mass transfer; separation processes; particle technology,
3 chemical reaction engineering; environmental engineering; process
4 equipment and plant design; process dynamics and control; chemical
5 process safety; biochemical, biomolecular, and bio-engineering; special
6 topics on emerging technologies; chemical engineering research; chemical
7 engineering entrepreneurship, and internship.
- 8 (cc) Professional Regulatory Board of Chemical Engineering, also known as
9 PRB-ChE or Board of Chemical Engineering, as created by this law.
- 10 (dd) Professional Fee refers to a fee paid by any establishment to a professional
11 chemical engineer who rendered chemical engineering professional services.
- 12 (ee) R.A. 8981 refers to "The PRC Modernization Act of 2000."
- 13 (ff) Risk Management refers to the identification, evaluation, and prioritization
14 of risks followed by coordinated and economical application of resources
15 to minimize, monitor, and control the probability or impact of unfortunate
16 events or to maximize the realization of opportunities. This includes
17 technical, operational, process, and/or industrial risk.
- 18 (gg) Systems Thinking refers to the holistic approach to analysis that focuses
19 on the way that a system's constituent parts interrelate and how systems
20 work overtime and within the context of larger systems.
- 21 (hh) Unit Process refers to the chemical change, the equipment, and control
22 system involved in the manufacture and production of any industrial or
23 consumer products either in solid, liquid, gaseous, or plasma form or the
24 treatment of industrial, chemical, water, and wastewater which includes,
25 but not limited to, the use and application of chemical treatment
26 technologies; biological (use of micro-organism), bioengineered or
27 biochemical technologies; nanoparticles and nanotechnology-related
28 water treatment technologies; enzymes; catalysts; polymers (biopolymers
29 and synthetic polymers); nuclear level operations; chromatography and
30 other products described under Production and/or Manufacturing
31 Operation [Section 4 A (5)]. It also refers to any chemical change,
32 including its equipment and control system that is unique to a specific
33 industry as mentioned in Production and/or Manufacturing Operation or
34 from the state-of-the-art development of emerging technologies which
35 may include the assistance or use of Artificial Intelligence (AI) or
36 Programming Languages.
- 37 (ii) Unit Operation refers to any physical operation, including its equipment
38 and control systems, by which the desired step in any industrial process
39 in an industrial plant or facility is conducted, controlled, monitored, and
40 optimized. It also refers any physical operation, including its equipment
41 and control system that is unique to a specific industry mentioned in

1 Production and/or Manufacturing Operation [Section 4 A (5)]. They may
2 be combined and/or connected with other unit operations and/or unit
3 processes to deliver sustainable, practical, cost-effective, and
4 environment-friendly products.

5 This includes, but not limited to the following:

6 i. Storage, transport, and handling of gas, liquid, and/ or solids,
7 which includes, but not limited to, chemicals of any type, industrial
8 gases or gaseous fuels, solid fuels (be it synthetic or organic);
9 granulates or granular solids, Newtonian or non-Newtonian fluids
10 including pastes, slurries, etc.; raw materials for production of
11 agricultural products, food and beverage, cement, energy-related
12 industries, semiconductor, and any other types of products as
13 described in Production and/or Manufacturing Operation [Section
14 4 A (5)].

15 ii. Heat transfer which involves conduction, convection, radiation, or
16 phase change which includes but not limited to, evaporation,
17 sublimation, condensation, melting, combustion, pyrolysis,
18 incineration, pasteurization, sterilization, cooling, freezing,
19 liquefaction, and other new emerging heat transfer technologies.

20 iii. Mass Transfer which includes, but not limited to, distillation,
21 adsorption, absorption, humidification, extraction, leaching,
22 mixing, homogenization, packaging, migration, diffusion,
23 dispersion, and other new emerging mass transfer technologies.

24 iv. Separation Processes which includes solid-liquid, gas-solid, liquid-
25 gas extraction in any industrial plant; screening, crystallization,
26 fluidization, molecular sieving, coalescing, filtration which includes
27 the use of osmosis, carbon filtration, any membrane separation,
28 desalination and any other type of separation, including the use of
29 chemicals, bio-chemicals, enzymes, catalysts, nanoparticles and
30 nanotechnology in water, waste, wastewater treatment; polymer
31 separation, biopolymer, bioengineered or biochemical separation
32 technologies; and other new emerging separation technologies.

33 v. Solid Processing and Particle Technology shall include size
34 reduction, size enlargement, screening, crushing, pulverizing, solid
35 mixing, flotation, and other new emerging solid processing and
36 particle technologies.

37 vi. Process Measurement which measures dimensions, using process
38 instrumentation, such as, but not limited to, pressure in process
39 pipes or vessels, fluid level, fluid flow rate or velocity, temperature,
40 product & manufacturing analytics and other new emerging
41 process measurement technologies.

1 (jj) Utility Concessionaire refers to the producers and distributors of utilities such
2 as water and electricity.

3 (kk) Waste Treatment Facility shall mean any installation, building or structure
4 engaged in the handling, treatment, storage, and disposal of solid, liquid,
5 or gaseous wastes from industrial processes.

6 (ll) Waste Treatment Process shall mean the operations involved in achieving
7 physical, chemical, and biological change in collected wastes so as to
8 attain waste reduction, minimization, and/or elimination.

9 SECTION 4. **Areas of Practice.** Professional Chemical Engineers shall be engaged
10 in the following areas of practice:

11 (1) *Technical Consulting*

12 Provide technical solutions or advice to industrial plants, government
13 organizations, non-government organizations, and multilateral institutions
14 appertaining to problems which require the application of chemical
15 engineering concepts and theories. It shall include but not limited to process
16 improvement and optimization, process and operational safety, raw
17 materials, products, and by-products logistics and supply chain
18 enhancement, waste and wastewater treatment and disposal system
19 improvement, integrated management system set-up and audit, standard
20 operating procedure development, and emerging technologies
21 implementation.

22 Moreover, the following services shall be considered as consulting services:
23 Provide professional, independent advisory, and technical solutions to
24 industrial plants, government organizations, non-government organizations,
25 and multilateral institutions appertaining to problems which require the
26 application of chemical engineering concepts and theories. It shall include
27 but not limited to process improvement and optimization, process and
28 operational safety, raw materials treatment and processing, product
29 realization, by-products generation, logistics and supply chain enhancement,
30 waste and wastewater treatment and disposal system management, quality
31 and environmental system management, standard operating procedure
32 development, and emerging technologies adoption and implementation.

33 Moreover, the following services shall be considered as consulting services:

34 a. Solution and Process Analysis - Provide independent expert advice and
35 solutions on how to proceed with various technological development,
36 transfer, innovation, and upgrade.

37 b. Preparation of Feasibility Studies and Plant Design - Evaluation and
38 analysis of the organizational, technical, geospatial, market, and financial
39 viability of constructing industrial plants, piloting and scaling up and

1 expansion of production processes. It also includes engineering and
2 operations audit and process streamlining.

3 c. Estimation and/or Valuation – Determination of capital investments for
4 constructing Industrial Plants, or its Units, or a particular equipment
5 including material and installation costs. It also includes value
6 engineering, cost minimization, cost control, cost forecasting, and risk
7 analysis. In addition, it pertains to the modelling of the size of natural
8 resources or mineral reserves, determining the value of the reserve for
9 the clients' accounting books, and determining the net book value of
10 Industrial Plants or equipment for its intended sale.

11 d. Planning – This pertains to project planning to consulting engagement/s.
12 Project planning refers to a systematic analysis of identifying and listing
13 things that must be undertaken to achieve the project's objectives,
14 testing and validating the plan and delivering it to end user/s. Planning
15 includes the identification of risk and opportunities related to the plant
16 operations.

17 Rendering consulting services requires the Professional Chemical
18 Engineer to provide seal and signature on the appropriate pages of the
19 documents of the documented outputs.

20 *(2) Investigation and Expert Witnessing*

21 Investigation is any inquiry, examination or study of any adverse event that
22 took place, inside or outside the vicinity of an Industrial Plant or any facility
23 that involves chemical engineering concepts and theories. It utilizes
24 science, technology, law, forensic principles and techniques, sustainability
25 engineering and technologies; and/or chemical engineering knowledge,
26 principles, and professional skills, for the determination, discovery, and
27 verification of facts to arrive at a valid, logical, or sound conclusion for any
28 administrative, civil, criminal or any related cases. This shall also include
29 investigating any persons, materials, substances, products, by-products,
30 raw materials handling and storage, industrial and non-industrial waste
31 handling, storage, disposal, and compliance, structures, components,
32 equipment, industrial and non-industrial processes, and systems that fail to
33 attain design capacities, efficiency, mandatory industrial process
34 compliance, inspection and worthiness, sound environmental and safety
35 requirements.

36 Industrial Plant Laboratories which perform tests and analyses involving
37 unit operations equipment, unit processes, and/or pollution abatement
38 shall be classified as Chemical Engineering Laboratory, hence, it shall be
39 operated, supervised, and/or managed by a Professional Chemical
40 Engineer. The tests and analyses performed in Chemical Engineering
41 Laboratories shall be performed by a Professional Chemical Engineer and
42 he/she shall affix his/her seal and signature on the Laboratory Report.

1 Chemical analyses can be conducted by a Professional Chemical Engineer
2 so long as it is incident to his/her function and professional practice as
3 Chemical Engineer.

4 Any activity performed outside of the aforementioned laboratories, in-field
5 or mobile, are considered Chemical Engineering Practice, hence warrants
6 a signature and seal of a registered Professional Chemical Engineer on
7 every page of the Laboratory Report.

8 This shall also include any activity, undertaking, engagement and/or
9 technique, related to investigation, to be performed in a chemical
10 engineering laboratory or facility such as, but not limited to unit operations
11 laboratory, unit process laboratory, quality assurance laboratory, research
12 and development laboratory, forensic evidence testing laboratory, pilot
13 plant and other related laboratories, which uses chemical engineering
14 concepts and theories.

15 Expert witnessing refers to providing an expert opinion in a court of law
16 on matters involving chemical engineering concepts and theories on the
17 subject under litigation. The said expert opinion would then become part
18 of the corpus of evidence in court proceedings.

19 (3) *Designing and Pilot-testing*

20 *Process, Plant, and Equipment Design* – Any act to conceptualize and
21 simulate processes, size process equipment and pipelines, strategically
22 design the control systems, put in place safety features and layers of
23 protection to the design of an industrial plant or a unit thereof. This
24 function also includes Hazard and Operability Studies, Design Gap
25 Analysis, and Reliability, Availability, and Maintainability Studies. In the
26 conduct of these activities, the latest version of design tools and
27 technologies and other similar application software may be used. The
28 Professional Chemical Engineer shall affix his/her signature and seal on
29 every page of the output from these activities.

30 In addition, the plan for pollution control and abatement facilities, such as
31 wastewater treatment facility, and treatment, disposal of toxic and
32 hazardous wastes, and other related technologies and devices which are
33 part of building permit requirements, shall be signed and sealed by a
34 Professional Chemical Engineer. The City or Municipal Engineering Office
35 shall include this in building permit requirements.

36 The output of the design process involves Process and Product
37 Specifications, which includes technical specifications of unit processes and
38 unit operations. Hence, its preparation is the responsibility of the
39 Professional Chemical Engineer described as follows:

1 Preparation of Technical Specifications - Any act or process of making
2 description or identification to provide clear instructions on project intent,
3 performance, and construction of an Industrial Plant, Process Equipment,
4 and/or Chemical Engineering Laboratory. This shall also include the setting
5 of explicit technical standard requirements for material, design, product, or
6 service. The specifications may be set by government agencies, private
7 entities, standard organizations, trade associations, corporations and others
8 referenced by a contract or procurement document. All specifications
9 mentioned above must be referenced and shall mandatorily comply with the
10 Philippine Chemical Engineering Technical Standards and shall be signed and
11 sealed by a Professional Chemical Engineer on each page of the
12 specifications.

13 *(4) Supervision of Installation including Construction and Commissioning*

14 Any act or process of administration, management, inspection, direction,
15 control, and overseeing the construction of Industrial Plant in accordance
16 with the approved design and its commissioning to ascertain that the facility
17 functions as intended. It also involves the technical acceptance of equipment
18 supplied at project site which includes quality control appertaining to the
19 technical specifications and completeness against packing lists. It may also
20 include functions such as, but not limited to, progress monitoring of
21 scheduled tasks and activities, making adjustments, when necessary to
22 ensure completion of installation on schedule and within budget or
23 constraints, and accepting or closing the project.

24 *(5) Production and/or Manufacturing Operation, including Integrated*
25 *Management Systems and Systems Thinking*

26 This shall refer to the operation, supervision, and management of production
27 and/or manufacturing facility of any establishment where Unit Processes,
28 Unit Operations, and/or a series or combination thereof are involved.

29 The effective operation, supervision, and management of a production and/or
30 manufacturing facility, including the implementation of integrated management
31 systems, shall require a deep understanding of Systems Thinking to optimize
32 unit operations and unit processes, identify interconnections between them,
33 and address underlying problems.

34 The Professional Chemical Engineer shall also perform production planning,
35 optimization, troubleshooting, and process re-engineering in cases where
36 the scope is manageable.

37 Furthermore, the Professional Chemical Engineer shall manage, supervise
38 and/or operate the pollution control and abatement and waste treatment
39 facilities of Industrial Plants and other manufacturing or production
40 establishments.

1 (6) *Research and Development*

2 Any work, activity, and/ or engagement directed towards the discovery,
3 development, introduction, innovation, and improvement of products,
4 services, systems, operations, and processes involving the application of
5 Chemical Engineering concepts and theories. It also pertains to basic
6 research leading to breakthroughs in Chemical Engineering. It can also refer
7 to multi-disciplinary research which involves a substantial application of
8 Chemical Engineering concepts and theories.

9 A Professional Chemical Engineer shall also engage in metrology.

10 (7) *Quality Assurance*

11 Plan, execute, and oversee inspection and testing of product to confirm
12 quality and conformance to specifications and deliverables. Assist Production
13 and/or Manufacturing Operation in tracking, documenting, and reporting
14 quality levels. Analyze and investigate product complaints or reported quality
15 issues to ensure resolution in accordance with company guidelines and
16 external regulatory requirements. Develop and/or update company
17 procedures to ensure capture, investigation, and proper documentation of
18 complaints. Monitor risk-management procedures and maintain problem logs
19 for identifying and reporting issues to management and product
20 development.

21 (8) *Government Regulatory Functions*

22 The regulation, inspection, and monitoring of compliance of an Industrial
23 Plant to laws, rules and regulations relating to good manufacturing practices,
24 process safety, food safety, pollution control and abatement, including but
25 not limited to solid wastes and wastewater management, industrial gas
26 emission, and chemical storage, handling, and transport, shall be considered
27 as an area of Chemical Engineering practice. As such, the Department of
28 Environment and Natural Resources, Department of Justice, Department of
29 Public Works and Highways, Department of Trade and Industry, Department
30 of the Interior and Local Government, Department of National Defense,
31 Department of Science and Technology, Department of Foreign Affairs,
32 Department of Agriculture, Department of Energy, Department of Health,
33 Philippine Space Agency, the Local Government Units and other related
34 government agencies are required to hire Chemical Engineers to dispose of
35 the aforementioned regulatory functions.

36 The Certifying Chemical Engineers, as duly authorized by the Board, shall be
37 granted authority to exercise the regulatory powers of the Board to conduct
38 the inspection of Industrial Plants to ensure compliance with regulatory
39 requirements on process and operational safety and waste management as
40 well as on compliance with the Philippine National Standards.

1 (9) *Academia*

2 Teaching, lecturing, reviewing and/or doing research in an academic
3 environment that involves application and demonstration of chemical
4 engineering principles shall be considered professional chemical engineering
5 practice.

6 (10) *Entrepreneurship*

7 Chemical Engineering Entrepreneurship deals with the commercialization
8 of chemical engineering technologies from its development to incubation,
9 then to mainstream market adoption.

10 (11) *Corporate Governance*

11 The Professional Chemical Engineer may assume Board Membership in Utility
12 Concessionaires as well as in Establishments, imbued with public interest,
13 where such establishment engages in operations that employs the concepts
14 and theories of chemical engineering.

15 Any Professional Chemical Engineer engaged in Chemical Engineering
16 Entrepreneurship or are assuming directorship in a corporation with chemical
17 engineering-related business, shall be considered as engaged in the practice
18 of chemical engineering.

19 The services of Professional Chemical Engineer shall also include the
20 preparation of Sustainability Reports of Publicly- listed Companies as
21 required by the Securities and Exchange Commission.

22 SECTION 5. **Chemical Engineering Specialist.** The Chemical Engineering
23 Specialists with qualifications as may be determined by the PRB – ChE, and who
24 shall be certified as such having specialization or specialties in certain areas of the
25 chemical engineering practice.

26 There shall be areas of practice of chemical engineering, that shall be reserved for
27 Chemical Engineering Specialists. For that purpose, the PRB – ChE are to provide
28 rules and regulations for the qualification, certification, and the area of practice of
29 the Chemical Engineering Specialists.

30 SECTION 6. **Chemical Engineering Technologist (ChET).** The Chemical
31 Engineering Technologist shall perform functions related to established engineering
32 methods, techniques, tools, testing, and resources within the technology domain.
33 ChET provides technical support to Professional Chemical Engineers as needed in
34 an industrial plant and other related chemical engineering areas. He/She shall
35 engage in the technology, equipment and processes used to convert raw materials
36 into consumer products and in other related Chemical Engineering services.

1 SECTION 7. **Chemical Process Technician (CPTech)**. The Chemical Process
2 Technician shall perform functions related to manufacturing equipment monitoring
3 and operation and applies established practices and procedures which may require
4 performance of duties related to production or as laboratory technician for Chemical
5 Engineering Laboratories in industrial plants and academic institutions. CPTech shall
6 monitor chemical processes and test product quality to ensure that they meet
7 standards and specifications, set-up, operate, and maintain laboratory instruments
8 and equipment, maintain production equipment, and troubleshoot problems.

9 SECTION 8. **Coverage of Professional Practice**. A duly licensed professional
10 chemical engineer cannot be prevented from the practice of chemical engineering
11 if the work is within the scope of his/her profession. Likewise, this Act shall not
12 prevent the practice of any legally recognized allied profession: Provided, That the
13 activity is within the scope of the allied profession.

ARTICLE II

THE PROFESSIONAL REGULATORY BOARD FOR CHEMICAL ENGINEERS

14 SECTION 9. **Selection and Composition of the Members of the Board**. The
15 Board of Chemical Engineering, herein referred to as the Board, under the
16 administrative control and supervision of the Professional Regulation Commission
17 hereinafter called the Commission, shall be composed of a Chairperson and four (4)
18 members appointed by the President of the Philippines as taken from the nominees
19 recommended by the duly Accredited Integrated Professional Organization of
20 Chemical Engineers and short-listed by the Commission.

21 The Accredited Integrated Professional Organization of Chemical Engineers shall
22 recommend three (3) nominees for every vacant position, six (6) months prior to
23 end of the term. Recommendation and selection of short-listed nominees shall be
24 done for one position at a time.

25 SECTION 10. **Powers and Duties of the Board**. The Board shall have the following
26 powers and duties:

- 27
- 28 1. Supervise, regulate and uphold the practice of the chemical engineering
29 profession in the Philippines in accordance with the provisions of this Act;
 - 30 2. Determine the requirements and evaluate the qualifications of the applicants
31 for registration and renewal of license of Professional Chemical Engineer
32 (PChE), Chemical Engineering Technologist (ChET), and Chemical Process
33 Technician (CPTech);
 - 34 3. Prescribe the subjects in the licensure examination aligned with the current
35 minimum B.S. Ch.E. and BET-ChE curriculum standards set by the Commission
36 on Higher Education; determine the syllabi of the subjects and their relative
37 weights; develop examination table of specifications; construct the test

- 1 questions in the examination; score and rate the examination papers; and
2 submit the examination results to the Commission;
- 3 4. Issue together with the Commission, Certificates of Registration and
4 Professional Identification Card to applicants who have passed the licensure
5 examinations for professional chemical engineers.
- 6 5. Issue together with the Commission, Certificates of Registration and
7 Professional Identification Card to applicants who have been certified as
8 chemical engineering technologists and chemical process technicians;
- 9 6. Issue together with the Commission, licensure examination exemptions,
10 Certificates of Registration and Professional Identification Card to applicants
11 who have graduated from Internationally Accredited B.S. Ch.E. and BET-
12 Ch.E. programs;
- 13 7. Issue special permits to persons admitted to the practice of the profession;
- 14 8. Award Certificate of Recognition for advance studies and research and
15 accomplishments in the chemical engineering profession that contribute to
16 its enrichment;
- 17 9. Oversee the conduct of the Continuing Professional Development programs
18 for Professional Chemical Engineers (PChE), Chemical Engineering
19 Technologist (ChET), and Chemical Process Technician (CPTech);
- 20 10. Conduct on-site inspection, submit an inspection report to the Commission
21 and monitor compliance of industrial plants, facilities, institutions and other
22 entities engaged in the area of practice of Chemical Engineering and shall
23 seek the assistance of the Accredited Integrated Professional Organization
24 in order to carry out these functions;
- 25 11. Inquire into the conditions affecting the practice of the Professional
26 Chemical Engineer (PChE), Chemical Engineering Technologist (ChET), and
27 Chemical Process Technician (CPTech) and adopt measures for the
28 enhancement and maintenance of a high professional, ethical and technical
29 standard. Pursuant thereto, the Board may inspect establishments where
30 chemical engineers practice their profession in order to determine and
31 enforce compliance with the provisions of this Act;
- 32 12. Issue Certificates of Compliance to Industrial Plants, facilities and institutions
33 engaged in the scope of practice of Chemical Engineering pursuant to the
34 provisions of this Act;
- 35 13. In coordination with the Commission on Higher Education (CHED), inspect
36 the facilities, faculty, equipment and other aspects directly related to the
37 chemical engineering program of educational institutions and submit a
38 monitoring report to the Commission;

- 1 14. Adopt a Code of Ethics and a Code of Technical Standards for the practice
2 of chemical engineering;
- 3 15. Investigate, in accordance with the rules on administrative investigation
4 promulgated by the Commission, violations of this Act and its implementing
5 rules and regulations, the Code of Ethics and the Code of Technical
6 Standards for chemical engineers, administrative polices, orders and
7 issuances promulgated by the Board;
- 8 16. Issue *subpoena ad testificandum* and subpoena *duces tecum* to secure the
9 attendance of witnesses or the production of documents in connection with
10 any administrative case before the Board;
- 11 17. Hear and decide administrative cases filed against chemical engineers and
12 firms employing chemical engineers. The hearing shall be presided by the
13 Chairperson or a Member of the Board with the assistance of an Attorney of
14 the Commission. Any decision shall be concurred in by at least a majority of
15 the Board. Decisions of the Board may be appealed to the Commission within
16 fifteen (15) days from notice, otherwise such decisions shall become final
17 and executory;
- 18 18. Administer oaths in connection with the performance of its functions;
- 19 19. Adopt an official seal and prescribe the seal of the chemical engineering
20 profession;
- 21 20. Submit an annual report on the proceedings and accomplishments during
22 the year and/or recommendations of the Board to the Commission thirty (30)
23 days after the close of each calendar year; and furnish copies of the same
24 annual report upon request of stakeholders;
- 25 21. Conduct periodic consultations with the Accredited Integrated Professional
26 Organization of Chemical Engineers and present quarterly accomplishment
27 reports thereto;
- 28 22. Prosecute or institute criminal action against any violator of this Act and/or
29 rules and regulations of the Board;
- 30 23. Prescribe guidelines and criteria on the Continuing Professional Development
31 (CPD) program for chemical engineers in consultation with the integrated
32 and accredited chemical engineering organizations;
- 33 24. In case of exigency of services, the Board may deputize other qualified
34 professional chemical engineers duly recommended by the Accredited
35 Integrated Professional Organization of Chemical Engineers to serve some
36 of their functions, with due compensation to the appointed deputies;

1 25. Support and adopt, in partnership with the Accredited Integrated
2 Professional Organization of Chemical Engineers, nationally and/or
3 internationally recognized Philippine registry for chemical engineers;

4 26. Institutionalize technical and specialized skills development;

5 27. Recognize chemical engineering specialties and subspecialties;

6 28. Adopt the implementing rules and regulations of this Act; and
7

8 29. Perform such other functions as may be necessary to implement the
9 provisions of this Act.

10 The two (2) members of the Board shall focus on conduct on-site inspections.

11 **SECTION 11. Qualifications of the Board Chairperson and Members.** The
12 Chairperson and Members of the Board must, at the time of the appointment shall
13 be:

14 a) A natural-born Filipino citizen and resident of the Philippines;

15 b) At least a holder of a bachelor`s degree in chemical engineering as
16 conferred by an engineering school of good standing, recognized and
17 accredited by the Government;

18 c) A professional chemical engineer who has been in active practice for at
19 least ten (10) years;

20 d) At least being conferred as Senior Specialist Chemical Engineer;

21 e) A member of good standing of the Accredited Integrated Professional
22 Organization;

23 f) Must not be a faculty member and/or academic administrator of any
24 university, college, school, or institution offering BS and/or graduate
25 degree of chemical engineering or separated from the aforementioned
26 institution at least one year prior to his/her oath-taking as Board
27 chairperson or member; and

28 g) Has never been convicted of any offense involving moral turpitude.

29 **SECTION 12. Term of Office.** The Chairperson and the Members of the Board shall
30 have a term of three (3) years with one reappointment only. No chairperson or
31 member of the Board shall serve for more than two (2) regular terms. Vacancies
32 shall be filled for the unexpired term only. The Chairperson and Members shall
33 qualify by taking the proper oath prior to assumption of office: Provided that the
34 incumbent Chairperson and Members shall be allowed to serve for the remainder

1 of their term until a new composition of the Board shall have been constituted.
2 Replacement or selection of the members of the Board shall be done one at a time.

3 SECTION 13. **Secretary of the Board.** The Board shall have a Secretary,
4 appointed by the Commission, who shall record the minutes of its meetings and
5 perform such other functions as the Board may require. The Commission shall
6 provide for compensation of the Secretary.

7 Section 14. **Removal/Suspension of the Chairperson and Members.** The
8 President upon recommendation of the Commission may remove any member of
9 the Board on the following grounds: conflict of interest, neglect of duty,
10 incompetence, commission or tolerance of irregularities in the licensure
11 examination, malpractice or unprofessional or unethical conduct, violation of this
12 Act or the Code of Ethics for Chemical Engineers, final judgment of crimes involving
13 moral turpitude, after due notice and hearing where his right to be heard, to defend
14 himself and to be assisted by counsel shall be respected.

15 SECTION 15. **Compensation of the Board.** The Chairperson and Members of the
16 Board shall receive such compensation or honorarium as may be prescribed by the
17 rules and regulations of the Commission.

18
19 SECTION 16. **Annual Report.** The Secretary shall prepare an annual report for the
20 consideration and approval of the Board. The Board shall submit an annual report
21 to the Commission after the close of each fiscal year giving a detailed account of
22 the proceedings of the Board during the year and embodying such
23 recommendations to the Commission as the Board may desire to make. The
24 accredited integrated professional organization may request for a copy of the
25 annual report.

ARTICLE III

LICENSURE EXAMINATION, REGISTRATION AND EXEMPTION

26 SECTION 17. **Examination Requirement.** All applicants for registration for the
27 practice of chemical engineering shall be required to pass the licensure examination
28 prescribed herein.

29 SECTION 18. **Holding of Examination.** Examination of candidates desiring to
30 practice chemical engineering shall be given twice each calendar year on the dates
31 and venues prescribed by the Board. Such examination shall be conducted by the
32 Board.

33 SECTION 19. **Scope of Examination.** The licensure examination for Professional
34 Chemical Engineer shall cover, but shall not be limited to, Physical and Chemical
35 Principles; General Engineering; and Chemical Engineering: Provided, That the
36 relative weight of Chemical Engineering is not less than forty per centum (40%).

1 At least 70% of the examination questions shall focus on the meaningful application
2 of essential understanding, principles, competencies or skills, and professional
3 practice of chemical engineering in the real world.

4 The Board shall revise the scope of licensure examination which will include
5 specialty or specialization subject/s in case of a specialized bachelor's degree of
6 chemical engineering is offered, but the relative weight of specialty or specialization
7 subject/s is not more than thirty per centum (30%).

8 **SECTION 20. Qualifications for Professional Chemical Engineer**
9 **Examinations.** Any person applying for admission must have the following
10 qualifications:

11 (a) That he/she is a citizen of the Philippines;

12 (b) That he/she is of good moral character;

13 (c) That he/she is a graduate of a school, institute, college, or university
14 recognized by the Government and has been conferred the degree of
15 Bachelor of Science in Chemical Engineering; and

16 (d) That he/she has not been convicted of an offense involving moral
17 turpitude by a court of competent jurisdiction.

18 **SECTION 21. Qualifications for the Chemical Engineering Technologist.** Any
19 person applying for admission must have the following qualifications:

20 (a) That he/she is a citizen of the Philippines;

21 (b) That he/she is of good moral character;

22 (c) That he/she is a graduate of Bachelor of Engineering Technology -
23 Chemical Engineering program or has completed at least 36 units of the
24 professional courses of a Bachelor of Science in Chemical Engineering
25 program according to CHED guidelines; and

26 (d) That he/she has not been convicted of an offense involving moral turpitude
27 by a court of competent jurisdiction.

28 **SECTION 22. Qualifications for Chemical Process Technician.** Any person
29 applying for admission must have the following qualifications:

30 (a) That he/she is a citizen of the Philippines;

31 (b) That he/she is of good moral character;

1 (c) That he/she has completed at least 18 units of a Bachelor of Engineering
2 Technology- Chemical Engineering program according to CHED
3 guidelines; and

4 (d) That he/she has not been convicted of an offense involving moral
5 turpitude by a court of competent jurisdiction.

6 **SECTION 23. Examination Fees.** Every applicant admitted taking the chemical
7 engineering examination shall pay such fees as may be prescribed by it before he
8 or she is allowed to take the examination.

9 **SECTION 24. Report of Rating.** The Board shall complete the correction of
10 examination papers within twenty (20) days from the last day of the examination.
11 The Commission shall report the rating of examinees not more than thirty (30)
12 days after the Board has completed the correction of examination papers.

13 **SECTION 25. Exemption from Licensure Examination.** All applicants who have
14 graduated from Internationally Accredited B.S. Ch.E. and Technology programs are
15 entitled to apply for exemption from licensure examination, provided that all
16 requirements are met according to the provisions of this Act. This shall be construed
17 to mean that all qualified applicants may or may not apply; and that all applicants
18 for exemption shall still submit additional school portfolio requirements and shall
19 undergo screening. Only those passing the screening process shall be exempted
20 and properly registered.

21 **SECTION 26. Issuance of Certificate of Registration and Professional**
22 **Identification Card.** The Commission, on recommendation of the Board, enter in
23 the Roster of Professional Chemical Engineers and issue a Certificate of Registration
24 and Professional Identification Card to each person who obtained a general average
25 of no less than seventy per centum (70%) and a rating of no less than fifty per
26 centum (50%) in any examination subject and applicants were screened to be
27 qualified for exemption. Likewise, Certificate of Registration and Professional
28 Identification Card shall be issued to qualified Chemical Engineering Technologists
29 and Chemical Process Technicians. Every Certificate of Registration shall state the
30 full name of the registrant and his registration number and shall be signed by the
31 Chairperson and Members of the Board and the Commission and authenticated by
32 the official seal of the Commission indicating that the person named therein is
33 entitled to the practice of the profession with all the privileges appurtenant thereto.
34 The said Certificate of Registration shall remain in full force and effect until
35 suspended or revoked in accordance with this Act.

36 A professional identification card bearing the signature, number, date of issuance,
37 expiry date, duly signed by the Chairman of the Commission shall likewise be issued
38 to every registrant who has paid the prescribed fee. This professional identification
39 card shall also be considered a professional license.

40 **SECTION 27. Renewal of Professional License.** The professional license issued
41 to Professional Chemical Engineer, Chemical Engineering Technologist and

1 Chemical Process Technician shall be valid for three (3) years from its issuance and
2 shall be renewed every after three (3) years on the birth month of the Professional
3 Chemical Engineer, Chemical Engineering Technologist and Chemical Process
4 Technician upon presentation/submission of the proof of the required Continuing
5 Professional Education credit units earned and payment of prescribed fees. Proof
6 of membership of good standing to the AIPO is also a requirement for the license
7 renewal of the Professional Chemical Engineer.

8 Subject to limitations prescribed by the Implementing Rules and Regulations, the
9 professional license may be renewed prior to its expiration to allow continuing
10 practice of the profession.

11 A surcharge, as prescribed by the Implementing Rules and Regulations, shall be
12 collected for those failed to renew their professional licenses for ten consecutive
13 years.

14 **SECTION 28. Seal of Professional Chemical Engineer.** Each chemical engineer
15 shall, upon registration, obtain a seal as prescribed by the Board bearing the
16 professional's name, registration number and the legend "Professional Chemical
17 Engineer." Plans, specifications, designs, reports, and other professional documents
18 prepared by or executed under the supervision of and issued by the professional
19 shall be stamped on every sheet with said seal, indicating therein his/her current
20 Professional Tax Receipt (PTR) number, date/place of payment and current
21 membership number in the Accredited Integrated Professional Organization, when
22 filed with the Government authorities or when submitted or used professionally.

23 **SECTION 29. Fees for Registration.** Every person issued a Certificate of
24 Registration as a professional chemical engineer shall pay to the Commission such
25 fees as the Commission may prescribe.

26 **SECTION 30. Exemptions from Registration and Issuance of Special Permit**
27 **to Practice.** Registration shall not be required of the following persons upon proper
28 application for exemption with the Board:
29

30 i. Chemical engineers, recognized as experts in their specific fields of
31 chemical engineering, called in by the Republic of the Philippines for
32 consultation or for a specific design, installation, or project; Provided, that
33 their practice shall be confined to such work; and

34 ii. Chemical engineers; who have distinguished themselves in their respective
35 fields of specification, contracted as professors or lecturers on chemical
36 engineering subjects by Philippine schools, or colleges, institutes or
37 universities on a direct hire or exchange basis, subject to verification of
38 credentials by the Board.

39 iii. Chemical engineers; who have distinguished themselves in their respective
40 fields of specification, contracted as consultants, technology providers or

1 specialists on chemical engineering processes by Philippine industrial firms
2 on a direct hire basis, subject to verification of credentials by the Board.

3 **SECTION 31. Suspension or Revocation of Certificate of Registration and**
4 **Cancellation of Special Permit to Practice.** Any of the following shall be
5 sufficient ground for the suspension or revocation of a Certificate of Registration
6 and cancellation of Special Permit to Practice:

- 7 i. Any act of incompetence, negligence, or illegal practice of chemical
8 engineering resulting to damages to property and environment, injury or
9 loss of lives;
- 10 ii. Acts inimical to the chemical engineering profession;
- 11 iii. Gross immorality or commission of any act involving moral turpitude; and
- 12 iv. Violation of this Act, the rules and regulations, other policies of the Board
13 and the Code of Ethics.

14 Complaints against professional chemical engineers and firms employing chemical
15 engineers may be filed by any person or by the Board *motu proprio*. Complaints
16 shall be in writing and sworn to by the persons executing them. Complaints shall
17 be filed with the Secretary of the Board. *Provided,* That the action of the Board
18 shall be subject to appeal to the Commission within fifteen (15) days from notice,
19 whose decision on the matter shall be final.

20 **SECTION 32. Reissuance of Revoked Certificate of Registration and Special**
21 **Permit to Practice and Replacement of Lost Certificates.** The Board may,
22 for reasons it may deem sufficient and upon proper petition, reissue revoked
23 Certificates of Registration and Special Permit to Practice.

24 A new Certificate of Registration and Special Permit to Practice may be issued to
25 replace a lost, destroyed, or mutilated Certificate, subject to the rules and
26 regulations of the Board, and upon payment of the appropriate fees to the
27 Commission.

ARTICLE IV

PRACTICE OF CHEMICAL ENGINEERING

28 **SECTION 33. Vested Rights, Automatic Registration of Chemical Engineers.**
29 All chemical engineers who are registered at the time this Act takes effect shall
30 automatically be recognized as Professional Chemical Engineers.

31 **SECTION 34. Who May Practice Chemical Engineering.** Except as may be
32 provided in this Act, only professional chemical engineers, with unexpired
33 professional license, shall practice chemical engineering. The professional chemical

1 engineer shall not be hindered, prevented, restricted, or alienated from practicing
2 the chemical engineering areas of practice and/or where chemical engineering
3 principles, fundamentals, and theories are applicable to any field or allied fields of
4 practice including and/or involving the use of unit operations, unit processes,
5 pollution abatement, separation processes, and/or transport processes.
6 Furthermore, the use of chemical engineering principles, fundamentals, theories,
7 and areas of practice which are applicable to any field or allied fields of practice
8 including and/or involving the use of unit operations, unit processes, pollution
9 abatement, separation processes, and/or transport processes shall be considered a
10 chemical engineering practice. No firm, partnership, corporation, or association may
11 be licensed and registered as such for the practice of chemical engineering, but
12 duly licensed and registered chemical engineers may form partnerships among
13 themselves or with other licensed and registered engineers and architects and use
14 the title "Chemical Engineers," "Engineers and Architects" in their partnership
15 name.

16 **SECTION 35. Prohibitions in the Practice of Chemical Engineering.** No
17 person shall practice chemical engineering or render chemical engineering service,
18 without a valid certificate of registration, a valid professional identification card or
19 a special permit to practice. Any person who shall commit the following acts shall
20 be guilty of misdemeanor:

- 21 (a) Practice chemical engineering or render chemical engineering services, or
22 pass himself off or advertise himself as a chemical engineer without a valid
23 certificate of registration and/or valid professional identification card or
24 when such has been suspended or revoked;
- 25 (b) Attempt to use as his own the certificate, valid ID, or seal of another person
26 or impersonate any professional chemical engineer;
- 27 (c) Attempt to use a revoked or suspended certificate of registration;
- 28 (d) Sign or seal a document involving the design, plan, technical specification
29 and the like with an expired professional identification card or on behalf of
30 another professional chemical engineer; or
- 31 (e) Furnish the Board or Commission any false information or document in order
32 to secure a Certificate of Registration or renewal of Professional
33 Identification Card.

34 **SECTION 36. Roster of Chemical Engineers.** The Commission shall keep a roster
35 of all professional chemical engineers, chemical engineering technologists and
36 chemical process technicians, stating their names; registration numbers and places
37 of business. The Commission shall regularly update such roster and make it
38 available to all interested parties upon formal written request free of charge.

39 **SECTION 37. Submission of Designs and Specifications for Government**
40 **Approval.** Any proposal, design, specification, working drawings or plan for processes

1 and equipment in an industrial plant, which functions with unit operation, unit process
2 and/or pollution abatement, or any part thereof submitted to any government
3 agency, national or local, including government-owned or controlled corporations,
4 shall not be processed or approved, nor shall such plant be issued any permit, license,
5 franchise, authorization or certification, unless such proposal, design, specification,
6 working drawing or plan is signed by a professional chemical engineer, with its seal
7 and registration number affixed thereto.

8 **SECTION 38. Hazard Allowance, Health and Accident Insurance, and Legal**
9 **Assistance.** Professional chemical engineers, chemical engineering technologists and
10 chemical process technicians who are exposed to workplace and process hazards as
11 part of their regular responsibilities are entitled to a commensurate hazard allowance,
12 medical benefits, and insurance coverage. These should be indicated as separate
13 items in the compensation package and cannot be incorporated in the basic salary.

14 Legal assistance shall be provided by the employer to professional chemical
15 engineers, chemical engineering technologists and chemical process technicians
16 who face civil or criminal suits arising from work done in good faith.

17 **SECTION 39. National Career Progression and Specialization.** There shall be
18 an institutionalized national chemical engineering career progression and
19 specialization program to be formulated by the Board in consultation with the AIPO,
20 Civil Service Commission and other concerned government agencies. The
21 application process for specialization shall be prepared and implemented by the
22 PRB-ChE with the assistance of the AIPO.

23 **SECTION 40. Code of Technical Standards.** The existing Code of Technical
24 Standards for the Practice of Chemical Engineering shall be transformed to
25 Philippine Chemical Engineering Standards (PChES) and shall serve as Code of
26 Technical Standards of all professional chemical engineers in the practice of their
27 profession. The Board, in collaboration with the AIPO of chemical engineers, the
28 DOST, DENR, DTI, DPWH, DA, DILG, DOH, DOE, DOLE and other concerned
29 agencies and private organizations, shall develop new standards under the PChES.

30 **SECTION 41. Foreign Reciprocity.** No foreign chemical engineer shall be granted
31 any of the right or privilege under this Act unless the country of which he is a
32 subject or citizen grants the same or similar rights or privileges to Filipino chemical
33 engineers.

34 **SECTION 42. Act Not Affecting Other Professions.** This Act shall not be
35 construed to affect or prevent the practice of any other lawfully recognized
36 profession.

37 **SECTION 43. Indication of Registration/Professional License Number and**
38 **Professional Tax Receipt Payment.** The professional chemical engineer and
39 chemical process and engineering technologist shall be required to indicate his
40 Certificate of Registration, Professional Identification Card number, date of issuance
41 in the duration of validity, including the Professional Tax Receipt (PTR) of the

1 documents he signs, uses, or issues in connection with the practice of his
2 profession.

3 **SECTION 44. Membership in the Accredited Integrated Professional**
4 **Organization (AIPO).** There shall be an integrated national organization of
5 chemical engineers duly accredited by the Board and the Commission. A chemical
6 engineer duly registered with the Board and the Commission shall automatically
7 become a member subject to the provisions on membership of the current
8 constitution and by-laws of the AIPO for chemical engineers. The member shall
9 receive benefits appurtenant thereto upon payment of the required fees and dues.

ARTICLE V CERTIFICATE OF PROCESS COMPLIANCE

10 **SECTION 45. Certificate of Process Compliance.** The Board, after inspection,
11 shall issue a Certificate of Process Compliance valid for three (3) years to industrial
12 plants or similar facilities, *provided*, that tasks which require Chemical Engineering
13 knowledge and skills shall be carried out only by Professional Chemical Engineers
14 holding a valid physical and/or digital Certificate of Registration and Professional
15 Identification Card issued by the Board. *In addition*, the industrial plants or similar
16 facilities shall be in compliance with all the related regulatory requirements, Risk
17 Management Plan and the Philippine Chemical Engineering Standards. The
18 management or administration of such industrial plants and similar shall be held
19 liable for any violation/s of this Act.

20 **SECTION 46. Risk Management Plan.** All industrial plants shall establish Risk
21 Management Plan focusing on workplace and process safety to prevent exposures
22 and reduce risks; and minimize or eliminate materials and process toxicity. The plan
23 shall have established operational and process control measures on how materials
24 are handled, workers are protected, and potential risks are mitigated.

25 **SECTION 47. Process Compliance.** Industrial process shall be reviewed, certified,
26 signed and sealed by a Professional Chemical Engineer.

27 **SECTION 48. Suspension or Revocation of Certificate of Process**
28 **Compliance.** Certificates of Compliance may be suspended or revoked for non-
29 compliance with the provisions of this Act.

30 **SECTION 49. Reissuance of Revoked Certificate of Process Compliance and**
31 **Replacement of Lost Certificates.** The Board may, for reasons it may deem
32 sufficient and upon proper petition, reissue revoked Certificate of Process
33 Compliance.

34 A new Certificate of Process Compliance may be issued to replace a lost, destroyed,
35 or mutilated Certificate, subject to the rules and regulations of the Board, and upon
36 payment of the appropriate fees to the Commission.

ARTICLE VI
INDUSTRIAL INSPECTION AND WORTHINESS

1 SECTION 49. **Industrial Inspection.** There shall be mandatory annual industrial
2 inspections in all industrial plants and related facilities in the Philippines.

3 SECTION 50. **Industrial Worthiness.** After an annual industrial inspection and with
4 favorable technical findings, the Certifying Registered Professional Chemical Engineer
5 shall issue a Certificate of Industrial Worthiness to the establishment engaging
6 industrial plant/s, affixing his or her signature and seal. If the establishment is
7 engaging two or more industrial plants in different areas, a separate certificate per
8 industrial plant shall be issued.

9 A chemical engineer employed or engaged by the establishment shall not be
10 allowed to inspect and certify the same establishment.

11
12 No establishment shall be issued a business permit by the Local Government Units
13 without the Certificate of Industrial Worthiness.

14 SECTION 51. **Application Fee.** An application fee shall be paid by any
15 establishment to the Local Government Units, which is starting to engage industrial
16 plant operation, as prescribed by the Implementing Rules and Regulations. The LGU
17 Engineer's Office shall only issue a permit to operate an industrial plant after the
18 issuance of the Certificate on Industrial Worthiness. The application fee amount
19 shall be adjusted every three years by the LGU Treasurer's Office based on price
20 index adjustments.

21 SECTION 52. **Professional Fee of Certifying Registered Professional**
22 **Chemical Engineer.** A professional fee shall be paid by the establishment to the
23 certifying registered professional chemical engineer after industrial inspection as
24 per industrial plant, as prescribed by the Implementing Rules and Regulations.

25 The professional fee shall be adjusted every three years by the LGU Treasurer's
26 Office based on price index adjustments.

27 SECTION 53. **Industrial Worthiness Review.** Within fifteen (15) days after
28 industrial inspection and issuance of unfavorable technical findings, any
29 establishment may submit a request to the LGU Engineer's Office for industrial
30 worthiness review. Within five (5) days after the receipt of the review request, the
31 LGU Engineer's Office shall convene the LGU Industrial Review Panel.

32 A review fee, prescribed by the LGU Engineer's Office, shall be paid by the
33 establishment to the LGU. The total review fees collected shall be utilized for the
34 honoraria of the committee chair and members.

35 SECTION 54. **LGU Industrial Review Panel.** The LGU Industrial Review Panel
36 shall be composed of three (3) registered professional chemical engineers who are
37 selected by lottery from the list of all certifying registered professional chemical

1 engineers. The most senior shall be the chair. The Panel shall conduct industrial re-
2 inspection and documentary review within ten (10) days after its formation and
3 may issue a Certificate of Industrial Worthiness after its favorable technical review
4 findings. Selection lottery shall be made each time when there is a request for
5 industrial worthiness review.

6 SECTION 55. **Administrative Appeal.** The technical review findings of the LGU
7 Industrial Review Panel may be appealed to the Board of Chemical Engineering
8 within fifteen (15) days after the issuance of the technical review findings. The
9 Board shall conduct industrial re-inspection and documentary review and may issue
10 a Certificate of Industrial Worthiness after its favorable technical review findings.
11 The findings of the Board shall be final.

ARTICLE VII

CHEMICAL ENGINEERING EDUCATION AND CONTINUING PROFESSIONAL DEVELOPMENT

12 SECTION 56. **Curriculum Development and Updating.** The CHED, in
13 consultation with the Board, the Accredited Integrated Professional Organization of
14 Chemical Engineers, and the industry stakeholders, shall develop and continuously
15 update the Chemical Engineering Curriculum in accordance with the required
16 competencies on the practice of the profession prescribed under this Act, in order
17 to align with international standards of chemical engineering education and
18 practice, and to be responsive to the industry requirements.

19 SECTION 57. **Continuing Professional Development (CPD).** Continuing
20 Professional Development is an integral part in the practice of chemical engineering
21 profession and is considered relevant to sustained competency enhancement,
22 capacity building and renewal of professional license. A CPD Program shall be
23 prescribed and promulgated by the Board in consultation with the Accredited
24 Integrated Professional Organization of Chemical Engineers, concerned government
25 agencies and stakeholders shall prescribe guidelines in the implementation of the
26 CPD programs for chemical engineers. The Board shall maintain the CPD Council
27 that is composed of a Chairperson coming from the Board, a member from the
28 accredited integrated professional organization of chemical engineers, a member
29 from the academe, a member from industry, and a member from the Department
30 of Science & Technology who is a chemical engineer. The CPD for professional
31 chemical engineers is hereby made mandatory for the practice of the profession.
32 The CPD credit units earned by the professional shall be required in the renewal of
33 professional license and accreditation systems for advance level of practice and
34 other international accreditations.

ARTICLE VIII
ACCREDITED INTEGRATED NATIONAL
ORGANIZATION OF CHEMICAL ENGINEERS

1 SECTION 58. **Membership in the Accredited Integrated Professional**
2 **Organization of Chemical Engineers.** There shall be an integrated national
3 organization of chemical engineers duly accredited by the Board and the
4 Commission. A Professional Chemical Engineer, Chemical Engineering
5 Technologist or Chemical Process Technician duly registered with the Board shall
6 become a member of the accredited organization upon oath-taking under the AIPO
7 and payment of prescribed fees and dues and shall receive the benefits and
8 privileges appurtenant thereto. Membership in the accredited integrated national
9 organization shall not be a bar to membership in other associations of chemical
10 engineers.

11 The AIPO shall keep an updated official registry of its bonafide members indicating
12 membership and annual dues official receipt number.

13 Bonafide members of the AIPO practicing the chemical engineering profession
14 shall be required to provide their official AIPO membership number and receipt
15 (PTR) on official documents prepared by them for purposes of obtaining
16 government regulatory permits and licenses.

17 The functions, duties, and responsibilities of the accredited integrated organization
18 of registered chemical engineers shall be the following:

19 (a) Nominations to the vacancy of positions to the Board of Chemical Engineering;

20 (b) Organize and facilitate the oath-taking of the newly registered Professional
21 Chemical Engineers, Chemical Engineering Technologists and Chemical
22 Process Technicians, in coordination with the Board of Chemical
23 Engineering and PRC. The oath-taking shall be considered a private activity
24 and collected fees shall be counted private funds. The AIPO shall submit a
25 corresponding financial report and list of those who took the oath to the
26 Board of Chemical Engineering and PRC;

27 (c) Pursuing a program for continuing professional development;

28 (d) Endorsement of the practice of foreign nationals to be issued
29 temporary/special permit;

30 (e) Institutionalize and maintain a national chemical engineering registry;

31 (f) Establish chemical engineering specialties in coordination with the Board of
32 Chemical Engineering;

- 1 (g) Organize regular dialogue between the Board of Chemical Engineering,
2 industries, academe and other stakeholders;
- 3 (h) Monitoring compliance and endorsing to/or filing a complaint with the Board
4 and/or Commission for this act, its IRR, Code of Ethics, Standards of
5 Professional Practice, and other agencies for violation of other relevant
6 laws; regulations and the like; and
- 7 (i) Some other functions, duties and responsibility as may be prescribed by
8 the Board of Chemical Engineering.

ARTICLE IX TRANSITORY PROVISIONS

9 SECTION 59. **Vested Rights.** Automatic Registration of Professional Chemical
10 Engineers. All chemical engineers who are registered under Republic Act 9297 at
11 the time of the effectivity of this Act shall automatically be considered Professional
12 Chemical Engineers and shall hold the same registration number. The validity and
13 period of existing professional license shall continue in force until its date of expiry.

14 Furthermore, the qualifications of Chemical Engineering Technologist or Chemical
15 Process Technician shall be granted upon application to persons who are currently
16 working as Chemical Engineering Technologist or Chemical Process Technician as
17 provided by the Implementing Rules and Regulations.

18 SECTION 60. **Securing Certificate of Process Compliance.** There shall be a
19 five (5) year grace period for industrial plants, facilities, and institutions to apply
20 and secure Certificate of Process Compliance.

ARTICLE X GENERAL PROVISIONS

21 SECTION 61. **Code of Ethics.** The Board shall adopt a Code of Ethics which shall
22 be promulgated by the Accredited Integrated Professional Organization.

23 SECTION 62. **Penal Clause for the Practice of Chemical Engineering.** Any
24 person who shall violate any of the provisions of this Act shall be guilty of
25 misdemeanor and shall, upon conviction, be sentenced to a fine of not less than
26 One hundred thousand pesos (P100,000.00) nor more than One million pesos
27 (P1,000,000.00) or imprisonment for a period of not less than six (6) months nor
28 more than five (5) years or both at the discretion of the court. This includes any
29 person who:

- 30 (a) Practices chemical engineering or render chemical engineering services, or
31 passes himself/herself off or advertises himself/herself as a chemical
32 engineer without a valid physical and digital certificate of registration and

1 professional identification card or when such has been suspended or
2 revoked;

3 (b) Attempts to use as his/her own, the certificate or seal of another person, or
4 impersonates any professional chemical engineer;

5 (c) Attempts to use a revoked or suspended certificate of registration or an
6 expired professional license;

7
8 (d) Signs a document involving design, plan, technical specification, and the like
9 on behalf of a professional chemical engineer; or

10 (e) Furnishes the Board or Commission any false information or document in
11 order to secure a Certificate of Registration or renewal of Professional
12 Identification Card.

13 **SECTION 63. Penal Clause for Industrial Plants, Facilities, and Institutions.**

14 Any industrial plant, facility and institution which shall violate any of the provisions
15 of this Act shall be guilty of misdemeanor and shall, upon conviction, be sentenced
16 to a fine of not less than One Million pesos (P1,000,000.00) nor more than Fifty
17 Million pesos (P50,000,000.00) at the discretion of the court. The management or
18 administration of such industrial plants, private and government facilities, and
19 institutions, shall also be held liable for violations of this Act.

20 The responsible officer of such industrial plant, facility and institution shall, upon
21 conviction, be sentenced to a fine of not less than Three Hundred Thousand pesos
22 (P300,000.00) nor more than Three Million pesos (P3,000,000.00) or imprisonment
23 for a period of not less than six (6) months nor more than one (1) year or both at
24 the discretion of the court.

25 **SECTION 64. Penal Clause for violating Code of Technical Standards.**

26 A person who committed any malfeasance, misfeasance and nonfeasance under the
27 Code of Technical Standards shall, upon conviction, be sentenced to a fine of not
28 less than one hundred thousand pesos (P100,000.00) nor more than One million
29 pesos (P1,000,000.00) or imprisonment for a period of not less than six (6) months
30 nor more than one (1) year or both at the discretion of the court. If the perpetrator
31 is a public official or employee, additionally, he/she shall be perpetually barred from
32 holding public office.

33 **SECTION 65. Enforcement Assistance to the Board.**

34 The Board shall be assisted by the Commission in carrying out the provisions of this Act and its
35 implementing rules and regulations and other policies. The lawyers of the
36 Commission shall act as prosecutors against illegal practitioners and other violators
37 of this Act and its rules. The duly constituted authorities of the government shall
38 likewise assist the Board and the Commission in enforcing the provisions of this
39 Act and its rules.

40 **SECTION 66. Implementing Rules and Regulations.**

41 Subject to the approval of the Commission, the Board shall adopt and promulgate such rules and regulations

1 including Code of Ethics for Chemical Engineers and Philippine Chemical
2 Engineering Standards for the Practice of Chemical Engineering to carry out the
3 provisions of this Act, which shall be effective after sixty (60) days following their
4 publication in the Official Gazette or in a major newspaper of general circulation.

5 **SECTION 67. Separability Clause.** If any section of this Act shall be declared
6 unconstitutional or invalid, such shall not invalidate any other section of this Act.

7 **SECTION 68. Repealing Clause.** Republic Act No. 9297 is hereby repealed and all
8 other laws, decrees, orders, rules and regulations, ordinances, and other issuances
9 or parts thereof which are inconsistent with this Act are hereby superseded,
10 repealed, or amended accordingly.

11 **SECTION 69. Effectivity.** This Act shall take effect fifteen (15) days following its
12 publication in the Official Gazette or in any major newspaper of general circulation.

Approved,