NINETEENTH CONGRESS OF THE)
REPUBLIC OF THE PHILIPPINES)
First Regular Session)

SENATE

S. No. 893

INTRODUCED BY SENATOR RONALD "BATO" DELA ROSA

AN ACT
PROVIDING FOR A COMPREHENSIVE CHEMICAL ENGINEERING LAW AND REPEALING FOR THAT PURPOSE REPUBLIC ACT NO. 9297, OTHERWISE KNOWN AS "THE CHEMICAL ENGINEERING ACT OF 2004"

EXPLANATORY NOTE

Republic Act No. 9297, otherwise known as the Chemical Engineering Law of 2004, was enacted into law May 13, 2004. In itself, the law has helped address the gaps present in RA 318, which was the first law defining the practice of chemical engineering as a profession. And yet, eighteen years later, the chemical engineering profession has indeed changed, so much so that the prevailing law can no longer satisfactorily account for such changes.

For one thing, there are provisions in the prevailing law that are too loose. As a result, RA 9297 has not been implemented to its fullest extent. Among the problems identified by chemical engineers is the fact that there are a number of industrial facilities that have been erected and operated without proper consultation with and expertise of chemical engineers. In the context of company operations, very few of them hire duly licensed chemical engineers. At other times, they do not take the PRC license as a requirement.

A key improvement in the proposed new law for the chemical engineering profession 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 Washington Accord. 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.

The present times have given us more than enough reason to trust our scientists, our researchers, and our engineers. With the passage of this bill into law, we are heeding the call of the present, showing not only that we have learned our lesson, but most importantly that our engineers are being cared for in the country they call their home. Hence, I earnestly seek the swift passage of this bill.

RONALD "BATO" DELA ROSA

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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 Law of 2021."

Sec. 2. *Declaration of Policy.* – It is hereby declared the policy of the State to supervise, regulate and uphold the practice of chemical engineering in the interest of public safety recognizing it as vital to national development, upgrade chemical engineering education to guarantee attainment of internationally accepted skills and attributes of engineers, and to reserve the practice of such profession to Filipino Chemical Engineers. This legislation shall address the need to adopt the career progression and specialization, and to institutionalize and strengthen the objective of the Philippine

Qualification Framework to align the domestic qualification standards with the international qualification framework.

Sec. 3. *Definition of Terms.* – For purposes of this Act, the following terms are used and defined:

(a) Chemical Engineering is a discipline and profession in Engineering which covers application of knowledge and skills in mathematics, chemistry, physical, biological and molecular sciences, material and energy balances, chemical and biological reactor design and analysis, fluid flow, unit operations, thermodynamics and unit processes coupled with management, economics and technology using multi-faceted and systems approach to problem analysis and solution creation for the optimal conversion of raw materials to finished products, process design and operation of industrial plant and related facilities giving high regard and consideration to public safety and environmental protection to improve the quality of life.

(b) Practice of Chemical Engineering shall mean performance of activities within the scope of practice of the Chemical Engineering Profession and to affix to his/her name the letters "PChE".

(c) Systems Approach refers to the concept of systematic integration of inputs, outputs, and other relevant factors in analyzing problems.

(d) Professional Chemical Engineer (PChE) is a holder of a BS Chemical Engineering degree, duly registered by the Professional Regulation Commission; and who can conceptualize, develop, design, manage, improve and apply safe, healthy, ethical and economic ways of utilizing materials and energy in unit processes and operations to achieve physical and chemical changes for the benefit of society and environment through the application of knowledge of in mathematics, chemistry, physical, biological and molecular sciences, information technology, and other natural, applied and social sciences, gained by study, research and practice.

(e) Chemical Engineering Technologist (ChET) is a holder of a Bachelor of Engineering Technology (Chemical Engineering) or has completed at 54 units of the professional courses of a Bachelor of Science in Chemical Engineering program, duly registered by

the Professional Regulation Commission. He/she may be engaged in performing engineering functions in support to the Professional Chemical Engineers' requirements. He/She applies established engineering methods, techniques, tools and resources within the engineering technology domain.

(f) Chemical Process Technician (CPTech) has completed at least 36 units of the professional courses of a Bachelor of Engineering Technology (Chemical Engineering) program duly registered by the Professional Regulation Commission. He/She is skillfully qualified and certified to perform functions related to process equipment monitoring and operation and can apply established practices and procedures related to production in an industrial plant or as laboratory technician for Chemical Engineering Laboratories in an academic institution and in laboratories as defined in industrial plants.

(g) Industrial Plant shall mean any installation, building or structure involved in the pilot or commercial production of consumer and industrial products or utilized for industrial waste treatment processes; and which has equipment and facilities wherein unit processes and operations are carried out.

(h) Unit Process shall mean any activity or operation in a manufacturing, industrial, water and waste treatment plant that involve chemical transformation(s).

(i) Unit Process Laboratory shall mean any facility in an industrial plant or academic institution that involves testing and data gathering of process parameters and material properties related to the chemical transformation from raw materials to in-process to finished products.

(j) Unit Operation shall mean any activity or process intended to achieve physical change which may include, but is not limited to, the storage and handling of solid, gas and liquid materials, heat transfer, mass transfer, and the separation or purification steps in an industrial plant.

(k) Unit Operation Laboratory shall mean any facility in an industrial plant or academic institution that involves the testing, data gathering, and analysis of process parameters and material properties connected with physical transformation(s).

(l) Process shall mean a series of steps or actions taken to achieve a particular purpose.

(m) Process Design shall mean preparation of conceptual plans bringing together all the chemical engineering components and service supply network design concept on flow of activities or operations in and industrial plant intended either for construction of new facilities or for modification of existing facilities.

(n) Process Parameters refer to the current measured value of a particular part of process which is being monitored or controlled.

(o) Process Control refers to the manipulation of a control device to maintain a process parameter within an acceptable deviation from an ideally required condition.

(p) Process Equipment refers to equipment where unit process or unit operation takes place.

(q) Process Engineering refer to the chemical or biochemical processes and equipment that are used to turn raw materials into an end-product and is an essential part of the manufacturing industry

(r) Waste Treatment Facility shall mean any installation, building or structure engaged in the handling, treatment, and disposal of solid, liquid, or gaseous wastes generated by the community either from residential or institutional sources and from industrial processes.

(s) Waste Treatment Process shall mean the operations involved in achieving physical, chemical and biological change in collected wastes so as to attain environmental compliance.

(t) Professional Chemical Engineering Subjects shall mean courses offered in higher educational institutions for the Bachelor of Science in Chemical Engineering Program and other related Engineering programs covering any of the following topics: chemical engineering thermodynamics; chemical engineering mathematics; industrial chemistry; chemical engineering calculations; chemical reaction engineering; physical and chemical principles; industrial processes; momentum transfer; heat transfer; mass transfer; separation processes; particle technology; industrial waste management and control; process equipment and plant design; biochemical engineering and bioengineering; biotechnology; food and drug manufacturing; packaging technology; paints and coating technology; petrochemical engineering; energy engineering;

nuclear engineering; semiconductor technology; nanotechnology; environmental management; and emerging technologies

(u) In-Process Laboratory refers to a satellite installation that industrial plants have in order to perform quality-related analysis or tests that may be required in adjustment of Process Parameters used in commercial and industrial production operations.

(v) Pilot Laboratory refers to a miniature version of the industrial plant where pilot trials are conducted for product development and research purposes. Results of these studies are scaled up for commercial production once approved.

(w) Research and Development Laboratory refers to a facility where research and development studies can be performed incorporating physical, chemical, microbiological and nanotechnology tests if needed.

(x) Process Simulation Laboratory refers to a facility where process simulation and optimization and mathematical modelling are done using computer applications and software intended for industrial applications.

(y) Quality Assurance Laboratory refers to a facility inside an industrial plant wherein physical, chemical, biological, process and statistical analysis are performed in relation to production operations.

(z) Chemical Engineering Laboratory refers to a facility in an academic institution offering Chemical Engineering Programs that have instructional unit operations and process equipment.

(aa) Special Permit to Practice refers to a document issued by the Board of Chemical Engineering to qualified chemical engineers, Foreign or Filipino, who have established themselves as experts in their field of practice, allowing him/her to perform chemical engineering practice for a prescribed period as determined by the Board.

(bb) Resident Professional Chemical Engineer refers to a regular professional chemical engineer employed in industrial plant, facility, or institution.

(cc) Certificate of Process Compliance refers to a document issued by the Board of Chemical Engineering to industrial plants, private and government facilities and institutions engaged in the scope of practice of Chemical Engineering in the Philippines

(dd) Industrial Worthiness refers to the quality of being a technically compliant, sustainable, safe, and environment-friendly industrial plant operation. "Technically-compliance" means compliance to the Implementing Rules and Regulations of this Act and other technical requirements mandated by existing laws.

(ee) 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.

(ff) Certifying Registered Professional Chemical Engineer refers a registered professional chemical engineer who is jointly authorized by the LGU Engineer's Office and the local chapter of the AIPO to conduct industrial inspection and to issue Certificate of Industrial Worthiness.

(gg) Process and Operations Laboratory refers to facility inside an industrial plant wherein physical, chemical, biological, process, and statistical analysis are performed in relation to production operations. This also refers, but not limited to, in-process laboratory, pilot laboratory, research and development laboratory, process simulation laboratory, and quality assurance laboratory.

Sec. 4. *Scope of Practice* – The scope and nature of the Professional Chemical Engineer (PChe), the Chemical Engineering Technologist (ChET), and the Chemical Process Technician (CPTech) are hereby defined:

A. The scope and nature of practice of the Professional Chemical Engineer shall embrace and consist of the following including the sole authority to provide services as defined in this Act and to sign and seal plans, drawings, permit applications, specifications, reports and other technical documents prepared by himself/herself and/or under his direct supervision.

1. Design and Innovation
   a. Equipment Design: Includes conceptualization of equipment features, material composition, dimensional requirements, functionality assessment, fabrication

requirements, calculations, drawings, and supervision of fabrication conforming to established equipment codes.

b. Process Design: Includes conceptualization of process flow, revision of processes, optimization of processes, setting of parameters, process control, sampling and testing, validation, verification, preparation of reports, feasibility studies, pilot trials, materials specification, efficiency calculations, conduct of trials, modification of parameters, process simulation and engineering calculations.

c. Industrial Plant Design: Includes integration of facilities lay-out and location, process and equipment design, pilot trials, cost estimation, market study, material and energy management, financial management, personnel, energy, waste, and environmental requirements.

d. Inventions/Innovations: Includes conceptualization, rationalization, design, pilot trials, fabrication of prototype, sampling and testing, patent application, product presentations, commercial scale manufacture and engineering calculations.

2. Process Engineering: Includes thorough understanding of industrial processes and corresponding parameters, revision of processes, establishment of process parameters, in-process sampling and testing, engineering calculations, process instrumentation and control, process optimization, efficiency calculations, preparation of reports, preparation of recommendations, development of procedures and management presentations. Industrial processes shall include, but not limited to glass manufacturing; plastic manufacturing; metal manufacturing; packaging products manufacturing; petroleum and petrochemical engineering; food and beverage manufacturing; sugar and sugarcane by-products manufacturing; pharmaceutical and cosmetics manufacturing; paint, coats and ink manufacturing; rubber manufacturing; non-metallic products manufacturing; pulp and paper products manufacturing; industrial chemical products manufacturing; agricultural products manufacturing; industrial gases production; biofuels production; textile

manufacturing; mineral processing; semiconductor equipment and products manufacturing; currency manufacturing.

3. Process Safety Management: includes management of the integrity of operating systems and processes, handling hazardous substances by applying good design principles, engineering and operating practices, prevention and control of incidents that have the potential to release hazardous materials or energy

4. Biochemical Engineering: Includes design and management of biochemical production facilities, supervision of biochemical processes, preparation of process parameters and specifications, sampling and testing, line operations, engineering calculations

5. Operations Management: Includes management of manpower, materials, energy, technological and financial resources for implementation of functions, activities, and systems in relation to an industrial plant operation, institutional and environmental facilities.

   a. Process Management: Includes supervision of an industrial process or specific areas in it, monitoring of operational parameters, process control, sampling and testing, preparation of manpower complement, scheduling and planning of materials and production operations, preparation of reports, management presentations, production logistics, disposal logistics and training of personnel on operations.
   b. Plant Management: Includes holding a management-level position in a company that applies the attributes and skills of a chemical engineer, covers planning, manpower deployment, budget preparation, supervision of processes, quality assurance, preparation of reports, attendance to conferences, participation in working groups formed locally by government agencies, participation in international working groups.
   c. Project Management: Includes feasibility study, planning, manpower management, facilities management, materials management, calculations, mobilization of project logistics, management presentations and preparation of reports.

6. Education: Includes holding positions in an academic institution offering engineering programs, preparation of outcome-based engineering courses, assessment of engineering programs and student outcomes, teaching of subjects or courses included in the curricula of different engineering programs, preparation and grading of examinations, preparation of reports, academic advising, student research advising, consultation activities, project implementation and attendance to relevant conferences on student learning, participation in international and local university linkage activities.

7. Research and Development: Includes conceptualization of products and processes, preparation of feasibility studies, optimization, simulation, engineering process equipment design, process and equipment innovation, materials substitution, conduct of trials, sampling and testing, engineering calculations, intellectual property patent applications, development of standards, preparation of reports and management presentation.

8. Environmental Engineering and Management

   a. Environmental Impact Assessment: Includes preparation of proposals, sampling and testing, engineering calculations, project presentation, planning, mobilization, preparation of EIA report and compliance monitoring.

   b. Environmental Engineering: Includes activities related to management of industrial, commercial and institutional wastes, cleaner production process modification, pollution control activities, consultations with local government units on waste management, preparation of design plans for waste treatment facilities, operation and supervision of waste treatment facilities, preparation of reports, management presentations, sampling and testing, line operations, manpower planning and deployment and conduct of training related to environmental concerns.

   c. Waste Management and Pollution Abatement: Includes identification, characterization and quantification of wastes, preparation of waste

management proposals, conduct of training on waste management, design of waste treatment and control facilities, engineering calculations, monitoring and supervision of waste treatment facilities, sampling and testing, preparation of reports, management presentations, and handling activities related to environmental concerns.

d. Water Resource Management: Includes design and management of water products manufacturing facilities, supervision of water treatment and production processes, preparation of process parameters and specifications, sampling and testing, line operations, and engineering calculations.

e. Climate Change Adaptation and Mitigation: Includes activities related to initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects; and reduction of the emissions of greenhouse gases, technological change and substitution that reduce resource inputs and emissions per unit of output.

f. Disaster Risk Reduction and Management: Included activities related to the systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies, and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster. Prospective disaster risk reduction and management refers to risk reduction and management activities that address and seek to avoid the development of new or increased disaster risks, especially if risk reduction policies are not put in place.

9. Quality Assurance and Management:

a. Quality Management: Includes management of manpower, materials, energy, technological and financial resources for implementation of quality-related functions, activities, and systems in relation to an industrial plant operation and institutional facilities.

b. Quality Assurance: Includes operation of the unit operation laboratory and unit process laboratory and observation techniques applied in the process,

establishment of sampling frequency, in-process sampling and testing, analysis and interpretation of results of tests for adjustment of process parameters, process and statistical analysis, monitoring of process parameters, engineering calculations, preparation of reports, management presentations, manpower planning, operation of testing equipment and management of facilities intended for quality assurance of manufacturing plant operations.

10. Technical Services

a. Technical Sales and Services: Includes technical sales and service activities covering process equipment, raw materials, packaging materials, reagents, reactants, industrial chemicals, industrial gases, industrial and commercial products, online analytical instruments, analysis of technical data, calibration of equipment, importation and inbound logistics, supervision of transport and installation, processing of technical documents, preparation of sales reports, and inventory management.

b. Technical Consultation: Includes provision of service to persons, entities, industries, government agencies, academic institutions and non-governmental organizations related to concerns or issues in any field of specialization offered by Professional Chemical Engineers

11. Specialized Fields of Chemical Engineering

a. Advanced Device and Materials Testing: Includes acquisition of relevant qualifications through graduate courses, experience, or research, covers design and management of advanced device and material products testing and manufacturing facilities, supervision of advanced device and material production processes, preparation of process parameters and specifications, sampling and testing, line operations, and engineering calculations.

b. Energy Engineering: Includes acquisition of relevant qualifications through graduate courses, experience, or research, covers design and management of

energy generation facilities, energy resource management, supervision of energy production processes, preparation of process parameters and specifications, sampling and testing, line operations, and engineering calculations.

c. Biological Engineering: Includes acquisition of relevant qualifications through graduate courses, experience, or research, covers application of chemical engineering principles to analyze biological systems and to solve problems in the interfacing of such systems - plant, animal or microbial--with human-designed machines, structures, processes, and instrumentation.

d. Biomedical Engineering: Includes acquisition of relevant qualifications through graduate courses in cooperation with medical programs, experience, or research, covers knowledge of biology, medical science, and chemical engineering theory to develop problem-solving new procedures and technologies in the form of medical devices and equipment and computer systems and software. This shall also include tissue engineering and regenerative medicine. The work of biomedical engineers includes, but not limited to, creating new machines for diagnostic tests, developing human and animal tissues, developing artificial organs for transplant, utilizing cells, engineering, materials methods, and suitable biochemical and physicochemical factors to restore, maintain, improve, or replace different types of biological tissues, and developing methods to regrow, repair or replace damaged or diseased cells, organs, or tissues.

e. Nuclear Engineering: Includes acquisition of relevant qualifications through graduate courses, experience, or research, covers design and management of nuclear facilities, supervision of nuclear processes, preparation of process parameters and specifications, sampling and testing, line operations, and engineering calculations.

f. Molecular Engineering: Includes acquisition of relevant qualifications through graduate courses, experience, or research, covers design and management of molecular engineering facilities, supervision of molecular processes,

preparation of process parameters and specifications, sampling and testing, line operations, and engineering calculations.

g. Nano Engineering: Includes acquisition of relevant qualifications through graduate courses, experience, or research, covers design and management of nano-engineering, facilities supervision of nano-level production processes, preparation of process parameters and specifications, sampling and testing, line operations, and engineering calculations.

h. Forensic Investigation: Includes acquisition of relevant qualifications through graduate courses, experience, or research, covers analytical investigation, sampling and testing of evidence related to crimes, crime scenes, terrorist situations, and other incidents that require the technical expertise of engineers, preparation of technical reports and acting as technical expert in court when necessary.

i. Emerging Technologies

B. Chemical Engineering Technologist (ChET) applies established engineering methods, techniques, tools and resources within the technology domain. ChET provides technical support to Professional Chemical Engineers as needed in an industrial plant.

C. Chemical Process Technician (CPTech) performs functions related to manufacturing equipment monitoring and operation and applies established practices and procedures which may require performance of duties related to production or as laboratory technician for Chemical Engineering Laboratories in an academic institution and in laboratories as defined in industrial plants.

Sec. 5. *Educational Requirements and Qualifications.* – Requirements and qualifications for the positions of Professional Chemical Engineer, Chemical Engineering Technologist (ChET), and Chemical Process Technician (CPTech) are as follows:

a. Professional Chemical Engineers (PChE) must have the following credentials in order to engage in professional practice:
    1. Bachelor of Science in Chemical Engineering (BSChE) degree from a CHED-Registered Higher Educational Institution.
    2. Passed the Chemical Engineering Licensure Examination administered by the Board of Chemical Engineering of the Professional Regulation Commission and issued the Professional License Identification Card and Certificate of Registration.
    3. Valid Chemical Engineering Professional License Identification Card
    4. Valid Professional Tax Receipt
    5. Official Dry Seal as prescribed by this law duly issued in coordination with the Accredited Integrated Professional Organization
    6. Of Good Moral Character and a Law-abiding Citizen of the Philippines

b. Chemical Engineering Technologists (ChET) must have the following credentials in order to engage in professional practice:
    1. Bachelor of Engineering Technology (Chemical Engineering) (BET-ChE) degree or completed at least 54 units of the professional courses of a Bachelor of Science in Chemical Engineering program from a CHED Compliant Higher Educational Institution.
    2. Passed the Chemical Engineering Technologist Licensure Examination administered by the Board of Chemical Engineering of the Professional Regulation Commission and issued the Professional License Identification Card and Certificate of Registration.
    3. Valid Professional License Identification Card
    4. Valid Professional Tax Receipt
    5. Of Good Moral Character and a Law-abiding Citizen of the Philippines

c. Chemical Process Technicians (CPTech) must have the following credentials in order to engage in professional practice:

1. Completed at least 36 units of the professional courses of a Bachelor of Engineering Technology (Chemical Engineering) from a CHED Compliant Higher Educational Institution.
2. Passed the Chemical Process Technician Licensure Examination administered by the Board of Chemical Engineering of the Professional Regulation Commission and issued the Professional License Identification Card and Certificate of Registration.
3. Valid Professional License Identification Card
4. Valid Professional Tax Receipt
5. Of Good Moral Character and a Law-abiding Citizen of the Philippines

ARTICLE II
THE PROFESSIONAL REGULATORY BOARD FOR CHEMICAL ENGINEERS

Sec. 6. *Selection and Composition of the Members of the Board* - The Board of Chemical Engineering, herein referred to as the Board, under the administrative control and supervision of the Professional Regulation Commission hereinafter called the Commission, shall be composed of a Chairman, a Vice Chairman, and three (3) members appointed by the President of the Philippines as taken from the nominees recommended by the duly Accredited Integrated Professional Organization of Chemical Engineers and short-listed by the Commission.

The Accredited Integrated Professional Organization of Chemical Engineers shall recommend five (5) nominees for every vacant position, six (6) months prior to end of the term. Recommendation and selection of short-listed nominees shall be done for one position at a time.

Sec. 7. *Powers and Duties of the Board* - The Board shall have the following powers and duties:

1. Supervise, regulate and uphold the practice of the chemical engineering profession in the Philippines in accordance with the provisions of this Act;

2. Determine the requirements and evaluate the qualifications of the applicants for registration and renewal of license of Professional Chemical Engineer (PChE), Chemical Engineering Technologist (ChET), and Chemical Process Technician (CPTech);
3. Prescribe the subjects in the licensure examination aligned with the current minimum B.S. Ch.E. and BET-ChE curriculum standards set by the Commission on Higher Education; determine the syllabi of the subjects and their relative weights; construct the test questions in the examination; score and rate the examination papers; and submit the examination results to the Commission;
4. Issue together with the Commission, Certificates of Registration and Professional Identification Card to applicants who have passed the licensure examinations for professional chemical engineers, chemical engineering technologists and chemical process technicians;
5. Issue together with the Commission, licensure examination exemptions, Certificates of Registration and Professional Identification Card to applicants who have graduated from Internationally Accredited B.S. Ch.E. and BET-Ch.E. programs;
6. Issue special permits to persons admitted to the practice of the profession;
7. Award Certificate of Recognition for advance studies and researches and accomplishments in the chemical engineering profession that contribute to its enrichment;
8. Oversee the conduct of the Continuing Professional Development programs for Professional Chemical Engineers (PChE), Chemical Engineering Technologist (ChET), and Chemical Process Technician (CPTech);
9. Conduct on-site inspection, submit an inspection report to the Commission and monitor compliance of industrial plants, facilities, institutions and other entities engaged in the scope of practice of Chemical Engineering and shall seek the assistance of the Accredited Integrated Professional Organization in order to carry out these functions;

10. Inquire into the conditions affecting the practice of the Professional Chemical Engineer (PChE), Chemical Engineering Technologist (ChET), and Chemical Process Technician (CPTech) and adopt measures for the enhancement and maintenance of a high professional, ethical and technical standard. Pursuant thereto, the Board may inspect establishments where chemical engineers practice their profession in order to determine and enforce compliance with the provisions of this Act;
11. Issue Certificates of Compliance to Industrial Plants, facilities and institutions engaged in the scope of practice of Chemical Engineering pursuant to the provisions of this Act;
12. In coordination with the Commission on Higher Education (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 Commission;
13. Adopt a Code of Ethics and a Code of Technical Standards for the practice of chemical engineering;
14. Investigate, in accordance with the rules on administrative investigation promulgated by the Commission, violations of this Act and its implementing rules and regulations, the Code of Ethics and the Code of Technical Standards for chemical engineers, administrative polices, orders and issuances promulgated by the Board;
15. 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;
16. Hear and decide administrative cases filed against chemical engineers and firms employing chemical engineers. The hearing shall be presided by the Chairman, Vice Chairman, or a Member of the Board with the assistance of an Attorney of the Commission. Any decision shall be concurred in by at least a majority of the Board. Decisions of the Board may be appealed to the Commission within fifteen (15) days from notice, otherwise such decisions shall become final and executory;

17. Administer oaths in connection with the performance of its functions;
18. Adopt an official seal and prescribe the seal of the chemical engineering profession;
19. Submit an annual report on the proceedings and accomplishments during the year and/or recommendations of the Board to the Commission thirty (30) days after the close of each calendar year; and furnish copies of the same annual report upon request of stakeholders.
20. Conduct annual consultations with the Accredited Integrated Professional Organization of Chemical Engineers and present accomplishment reports thereto;
21. Prosecute or institute criminal action against any violator of this Act and/or rules and regulations of the Board;
22. Prescribe guidelines and criteria on the Continuing Professional Development (CPD) program for chemical engineers in consultation with the integrated and accredited chemical engineering organizations;
23. In case of exigency of services, the Board may deputize other qualified professional chemical engineers duly recommended by the Accredited Integrated Professional Organization of Chemical Engineers to serve some of their functions, with due compensation to the appointed deputies;
24. Support and adopt, in partnership with the Accredited Integrated Professional Organization of Chemical Engineers, nationally and internationally recognized Philippine registry for chemical engineers;
25. Institutionalize technical and specialized skills development;
26. Adopt the implementing rules and regulations of this Act; and
27. Perform such other functions as may be necessary in order to implement the provisions of this Act.

Sec. 8. *Qualifications of the Board Chairman, Vice Chairman, and Members.* - The Chairman, Vice Chairman and Members of the Board must, at the time of the appointment shall be:

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

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

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

d) With graduate studies and/or equivalent relevant professional qualifications

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

f) Must be willing to learn and adopt the CHED Curricular Guidelines for the BS Chemical Engineering and BET-ChE programs in the preparation of questions appropriate for the applicants to the Licensure Examinations for chemical engineering practice;

g) Must not, for a period of three (3) consecutive years prior to appointment, be a member of the faculty of any university, college, school or institution conferring an academic degree necessary for admission to the practice of chemical engineering, nor have pecuniary interest in or administrative supervision over any such institutions of learning;

h) Must not, for a period of three (3) consecutive years prior to appointment, be connected with a review center or with any group or association where review classes or lectures in preparation for the licensure examination are offered or conducted at the time of appointment; and

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

Sec. 9. *Term of Office*. - The Chairman, Vice Chairman and the Members of the Board shall have a term of three (3) years only, with one reappointment only. No member of the Board shall serve for more than two (2) regular terms. Vacancies shall be filled for the unexpired term only. The Chairman, Vice Chairman, and Members shall qualify by taking the proper oath prior to assumption of office. The incumbent Chairman, Vice Chairman and Members shall be allowed to serve for the remainder of their term until a new composition of the Board shall have been constituted.

Sec. 10. *Secretary of the Board.* - The Board shall have a Secretary, appointed by the Commission, who shall record the minutes of its meetings and perform such other functions as the Board may require. The Commission shall provide for compensation of the Secretary.

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

Sec. 12. *Compensation of the Board.* - The Chairman, Vice Chairman, and Members of the Board shall receive such compensation or honorarium as may be prescribed by the rules and regulations of the Commission.

Sec. 13. *Annual Report.* - The Secretary shall prepare an annual report for the consideration and approval of the Board. The Board shall submit an annual report to the Commission after the close of each fiscal year giving a detailed account of the proceedings of the Board during the year and embodying such recommendations to the Commission as the Board may desire to make. The accredited integrated professional organization may request for a copy of the annual report.

ARTICLE III
LICENSURE EXAMINATION, REGISTRATION AND EXEMPTION

Sec. 14. *Examination Requirement.* - All applicants for registration for the practice of chemical engineering shall be required to pass the licensure examination prescribed herein.

Sec. 15. *Holding of Examination.* - Examination of candidates desiring to practice chemical engineering shall be given twice each calendar year on the dates and venues prescribed by the Board. Such examination shall be conducted by the Board.

Sec. 16. *Scope of Examination.* - The licensure examination shall cover, but shall not be limited to, the following subjects:

(a) Professional Chemical Engineer. - Physical and Chemical Principles; General Engineering; and Chemical Engineering: Provided, That the relative weight of Chemical Engineering is not less than forty per centum (40%).

(b) Chemical Engineering Technologist. - Physical and Chemical Principles; General Engineering; and Chemical Engineering (excluding biochemical engineering, separation processes, chemical reactor design, equipment, and plant design): Provided, That the relative weight of Chemical Engineering is not less than forty per centum (40%).

(c) Chemical Process Technician. – Analytical and Organic Chemistry; General Engineering; and Chemical Engineering topics relevant to chemical process technician practice.

Sec. 17. *Qualifications for Professional Chemical Engineer Examinations.* - Any person applying for admission must have the following qualifications:

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

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

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

Sec. 18. *Qualifications for Chemical Engineering Technologist Examinations.* - Any person applying for admission must have the following qualifications:

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

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

(c) That he/she is a graduate of Bachelor of Engineering Technology - Chemical Engineering program has completed at least 54 units of the professional courses of a Bachelor of Science program in Chemical Engineering according to CHED guidelines, and

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

Sec. 19. *Qualifications for Chemical Process Technician Examinations.* - Any person applying for admission must have the following qualifications:

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

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

(c) That he/she has completed at least 30 units of a Bachelor of Engineering Technology- Chemical Engineering program according to CHED guidelines and

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

Sec. 20. *Examination Fees.* - Every applicant admitted to take the chemical engineering examination shall pay such fees as may be prescribed by it before he or she is allowed to take the examination.

Sec. 21. *Report of Rating.* - The Board shall complete the correction of examination papers within twenty (20) days from the last day of the examination. The Commission

shall report the rating of examinees not more than thirty (30) days after the Board has completed the correction of examination papers.

Sec. 22. *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. This shall be construed to mean that all qualified applicants may or may not apply; and that all applicants for exemption shall still submit additional school portfolio requirements and shall undergo screening. Only those passing the screening process shall be exempted and properly registered.

Sec. 23. *Issuance of Certificate of Registration and Professional Identification Card.* - The Commission, on recommendation of the Board, enter in the Roster of Chemical Engineers, Chemical Process and Engineering Technologists, Manufacturing Process Technician, and issue a Certificate of Registration and Professional Identification Card to each person who obtained a general average of no less than seventy per centum (70%) and a rating of no less than fifty per centum (50%) in any examination subject and applicants were screened to be qualified for exemption. Every Certificate of Registration shall state the full name of the registrant and his registration number, and shall be signed by the Chairman, Vice Chairman, and Members of the Board and the Commission and authenticated by the official seal of the Commission indicating that the person named therein is entitled to the practice of the profession with all the privileges appurtenant thereto. The said Certificate of Registration shall remain in full force and effect until suspended or revoked in accordance with this Act.

A professional identification card bearing the signature, number, date of issuance, expiry date, duly signed by the Chairman of the Commission shall likewise be issued to every registrant who has paid the prescribed fee.

Sec. 24. *Renewal of Professional License.* - The professional license issued to Professional Chemical Engineer and Chemical Process and Engineering Technologist shall be valid for three (3) years from its issuance and shall be renewed every after three (3) years on the birth month of the Professional Chemical Engineer and Chemical Process and Engineering Technologist upon presentation/submission of the required Continuing Professional Development credit units earned and payment of prescribed fees.

Sec. 25. *Seal of Professional Chemical Engineer.* - Each chemical engineer shall, upon registration, obtain a seal as prescribed by the Board bearing the professional's name, registration number and the legend "Professional Chemical Engineer." Plans, specifications, designs, reports and other professional documents prepared by or executed under the supervision of and issued by the professional shall be stamped on every sheet with said seal, indicating therein his/her current Professional Tax Receipt (PTR) number, date/place of payment and current membership number in the Accredited Integrated Professional Organization, when filed with the Government authorities or when submitted or used professionally.

Sec. 26. *Fees for Registration.* - Every person issued a Certificate of Registration as a professional chemical engineer shall pay to the Commission such fees as the Commission may prescribe.

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

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

(b) Chemical engineers; who have distinguished themselves in their respective fields of specification, contracted as professors or lecturers on chemical

engineering subjects by Philippine schools, or colleges, institutes or universities on a direct hire or exchange basis, subject to verification of credentials by the Board.

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

Sec. 28. *Suspension or Revocation of Certificate of Registration and Cancellation of Special Permit to Practice.* - Any of the following shall be sufficient ground for the suspension or revocation of a Certificate of Registration and cancellation of Special Permit to Practice:

(a) Any act of incompetence, negligence, or illegal practice of chemical engineering resulting to damages to property and environment, injury or loss of lives;

(b) Acts inimical to the chemical engineering profession;

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

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

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

Sec. 29. *Reissuance of Revoked Certificate of Registration and Special Permit to Practice and Replacement of Lost Certificates.* - The Board may, for reasons it may deem sufficient and upon proper petition, reissue revoked Certificates of Registration and Special Permit to Practice.

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

ARTICLE IV
PRACTICE OF CHEMICAL ENGINEERING

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

Sec. 31. *Who May Practice Chemical Engineering.* - Except as may be provided in this Act, only professional chemical engineers may practice chemical engineering. No firm, partnership, corporation or association may be licensed and registered as such for the practice of chemical engineering, but duly licensed and registered chemical engineers may form partnerships among themselves or with other licensed and registered engineers and architects and use the title "Chemical Engineers," "Engineers and Architects" in their partnership name.

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

(a) Practice chemical engineering or render chemical engineering services, or pass himself off or advertise himself as a chemical engineer without a valid certificate of registration and/or valid professional identification card or when such has been suspended or revoked;

(b) Attempt to use as his own the certificate or seal of another person or impersonate any professional chemical engineer;

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

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

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

Sec. 33. *Roster of Chemical Engineers.* - The Commission shall keep a roster of all professional chemical engineers, chemical process and engineering technologists and manufacturing process technicians, stating their names; registration numbers and places of business. The Commission shall regularly update such roster and make it available to all interested parties upon formal written request free of charge.

Sec. 34. *Submission of Designs and Specifications for Government Approval.* - Any proposal, design, specification, working drawings or plan for processes and equipment in an industrial plant, which functions with unit operation, unit process and/or pollution abatement, or any part thereof submitted to any government agency, national or local, including government-owned or controlled corporations, shall not be processed or approved, nor shall such plant be issued any permit, license, franchise, authorization or certification, unless such proposal, design, specification, working drawing or plan is signed by a professional chemical engineer, with its seal and registration number affixed thereto.

Sec. 35. *Hazard Allowance, Health and Accident Insurance, and Legal Assistance.* - Professional chemical engineers, chemical process and engineering technologists and manufacturing process technicians who are exposed to workplace and process hazards as part of their regular responsibilities are entitled to commensurate hazard allowance, medical benefits, and insurance coverage. These should be indicated as separate items in the compensation package and cannot be incorporated in the basic salary.

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

Sec. 36. *National Career Progression and Specialization.* - There shall be an institutionalized national chemical engineering career progression and specialization program to be formulated by the Board in consultation with the AIPO, Civil Service Commission and concerned government agencies: Provided, that any chemical engineer before being allowed to work in specialty areas to perform beyond generalist function or have specific specialties, must finish the formal education or training towards specialization, possess recognized practice competencies.

Sec. 37. *Code of Technical Standards.* - The existing Code of Technical Standards for the Practice of Chemical Engineering shall be transformed to Philippine Chemical Engineering Standards (PChES) and shall serve as Code of Technical Standards of all professional chemical engineers in the practice of their profession. The Board, in collaboration with the AIPO of chemical engineers, the DOST, DENR, DTI, DPWH, DA, DILG, DOH, DOE, DOLE and other concerned agencies and private organizations, shall develop new standards under the PChES.

Sec. 38. *Foreign Reciprocity.* - No foreign chemical engineer shall be granted any of the right or privilege under this Act unless the country of which he is a subject or citizen grants the same or similar rights or privileges to Filipino chemical engineers.

Sec. 39. *Act Not Affecting Other Professions.* - This Act shall not be construed to affect or prevent the practice of any other lawfully recognized profession.

Sec. 40. *Indication of Registration/Professional License Number and Professional Tax Receipt Payment.* - The professional chemical engineer and chemical process and engineering technologist shall be required to indicate his Certificate of Registration,

Professional Identification Card number, date of issuance in the duration of validity, including the Professional Tax Receipt (PTR) of the documents he signs, uses or issues in connection with the practice of his profession.

Sec. 41. *Membership in the Accredited Integrated Professional Organization (AIPO).* - There shall be an integrated national organization of chemical engineers duly accredited by the Board and the Commission. A chemical engineer duly registered with the Board and the Commission shall automatically become a member subject to the provisions on membership of the current constitution and by-laws of the AIPO for chemical engineers. The member shall receive benefits appurtenant thereto upon payment of the required fees and dues.

ARTICLE V
INDUSTRIAL PLANTS CLASSIFICATION AND RELATED ISSUES

Sec. 42. *Classification of Industrial Plants.* – Industrial plants are classified as follows if they shall have the following descriptions:

a. Micro-Scale Industrial Plants – They shall be operating with less than ten (10) production personnel with only one shift; and not operating any steam boiler.

b. Small-Scale Industrial Plants – They shall be operating with ten (10), but not more fifty (50) production personnel with one or more shifts; operating a combined capacity of not more than twenty (20) horsepower of all unit operations and unit processes; and/or operating steam boiler/s (with a combined capacity of less than twenty (20) horsepower). However, micro-scale industrial plants operating more than one shift shall be classified as small-scale industrial plants.

c. Medium-Scale Industrial Plants – They shall be operating with fifty (50) but not more than two hundred (200) production personnel with one or more shifts; operating a combined capacity of more than twenty (20) horsepower but not more than two hundred (200) horsepower of all unit operations and unit processes;

and/or operating steam boiler/s (with a combined capacity of 20 to 200 horsepower).

d. Large-Scale Industrial Plants – They shall be operating with more than two hundred (200) production personnel with one or more shifts; operating a combined capacity of more than two hundred (200) horsepower of all unit operations and unit processes; and/or operating steam boiler/s (with a combined capacity of more than 200 horsepower).

However, the establishment operating with more than one industrial plant in different areas shall be classified in accordance with their capacity or description per industrial plant.

Upgrading or downgrading of the type of industrial plant shall only be done annually after the industrial inspection.

Sec. 43. *Waste Management and Pollution Abatement*. The pollution abatement and waste treatment facilities of any establishment shall be managed, operated, or supervised by a registered professional chemical engineer. The overall waste management of any establishment shall be under the supervision of a registered professional chemical engineer.

The plan for pollution abatement devices and facilities, such as wastewater treatment facility, air pollution control device and treatment, disposal for toxic and hazardous, and other related technologies and devices which are part of building permit requirements, shall be signed by registered professional chemical engineer and affixing his or her seal. The Local Government Units shall implement this in addition to other building permit requirements.

Sec. 44. *Process and Operations Laboratory*. Process and operations laboratory shall be managed, operated, or supervised by a registered professional chemical engineer.

Sec. 45. *Technical Guidelines.* – Within thirty (30) days from the approval of this law, the Board of Chemical Engineering shall enact technical guidelines to implement any technical details under this law effectively.

ARTICLE VI
CERTIFICATE OF PROCESS COMPLIANCE

Sec. 46. *Certificate of Process Compliance.* - The Board, after inspection, shall issue a Certificate of Process Compliance valid for three (3) years to industrial plants, private and government facilities and institutions engaged in the scope of practice of Chemical Engineering in the Philippines, *provided*, that such practice is carried out only by professional chemical engineers holding valid Certificate of Registration and Professional identification card issued by the Board. *In addition,* the industrial plants, private and government facilities, and institutions shall be in compliance with all related regulatory requirements, Risk Management Plan and the Philippine Chemical Engineering Standards. The management or administration of such industrial plants, private and government facilities, and institutions, shall be held liable for violations of this Act.

Sec. 47. *Risk Management Plan.* – All industrial plants shall establish Risk Management Plan focusing on workplace and process safety to prevent exposures and reduce risks; and minimize or eliminate materials and process toxicity. The plan shall have established operational and process control measures on how materials are handled, workers are protected, and potential risks are reduced.

Sec. 48. *Personnel Required in Industrial Plant, Facility, and Institution.* - In the interest of public safety and environmental protection, professional chemical engineers shall be designated to supervise and address workplace and process safety requirements in industrial plant operations. Regardless of the size of the industrial plant, all process equipment and plant design shall be approved by a professional chemical engineer.

All micro, small, medium and large-scale industrial plants, facilities and institutions engaged in manufacturing operations, which include laboratory facilities such as pilot, in-process, process simulation, research and development, quality assurance, and chemical engineering laboratories, shall have at least the following complement of resident professional chemical engineers:

(a) Micro and Small-scale industrial plants: one (1) professional chemical engineer, provided, that every plant in this category operating in more than one shifts every twenty-four hours, shall have in addition to the minimum personnel herein required, one (1) professional chemical engineer in-charge of each and every additional shift.

(b) Medium-scale industrial plants: Four (4) professional chemical engineers to handle process engineering, operations, quality assurance and environmental management, provided, that every plant in this category operating in more than one shifts every twenty-four hours, shall have in addition to the minimum personnel herein required, two (2) professional chemical engineer in-charge of each and every additional shift.

(c) Large-scale industrial plants: Ten (10) professional chemical engineer to handle unit operations and processes, process engineering, operations, quality assurance and environmental management, provided, that every plant in this category operating in more than one shift every twenty-four (24) hours shall have, in addition to the minimum personnel herein required at least five (5) professional chemical engineer in-charge of each and every additional shift; If deemed necessary, professional chemical engineers shall be added over and above the minimum requirement as determined by the Board or by the plant management.

(d) Academic and research institutions: Only professional chemical engineers shall handle professional chemical engineering courses. Research related chemical engineering processes shall be under the supervision of professional chemical engineers. Support staff for chemical engineering laboratories shall be at least a Chemical Engineering Technologist.

(e) Design and consultancy firms: Only professional chemical engineers shall prepare process equipment and plant design specifications for industrial plants, facilities, and institutions.

Sec. 49. *Process Compliance* - Industrial process shall be reviewed, certified, signed and sealed by a Professional Chemical Engineer.

Sec. 50. *Suspension or Revocation of Certificate of Process Compliance.* - Certificates of Compliance may be suspended or revoked for non-compliance with the provisions of this Act.

Sec. 51. *Reissuance of Revoked Certificate of Process Compliance and Replacement of Lost Certificates.* - The Board may, for reasons it may deem sufficient and upon proper petition, reissue revoked Certificate of Process Compliance.

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

ARTICLE VII
INDUSTRIAL INSPECTION AND WORTHINESS

Sec. 52. *Industrial Inspection.* There shall be mandatory annual industrial inspections in all industrial plants in the Philippines. The inspections shall cover, but not limited to, the following:

a. Unit Operations
b. Unit Processes
c. Plant Layout
d. Equipment Design and Operation
e. Instrumentation and Process Control
f. Pollution Abatement

g. Waste Treatment & Management
h. Quality Assurance & Management
i. Process and Operation Laboratory
j. Process Safety
k. Risk Management
l. Calibration of Methods, Procedure, Materials, Equipment and Measuring Devices
m. Manpower Requirements for Chemical Engineers and other related Production Personnel
n. Environmental Management
o. Other Related Issues

The industrial inspection shall be conducted periodically if:

a. There are hazardous and toxic substances or materials involved in the operation;
b. Personnel in the plant are engaged in hazardous work or services; and
c. Waste streams of the operations shall threaten the health and safety of the personnel.

It is a requirement for the certifying registered professional chemical engineer to sign non-disclosure agreement and respect intellectual property rights.

Sec. 53. *Industrial Worthiness* – After an annual industrial inspection and with favorable technical findings, the Certifying Registered Professional Chemical Engineer shall issue a Certificate of Industrial Worthiness to the establishment engaging industrial plant/s, affixing his or her signature and seal. If the establishment is engaging two or more industrial plants in different areas, a separate certificate per industrial plant shall be issued.

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

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

Sec. 54. *Application Fee.* An application fee shall be paid any establishment to the Local Government Units, which is starting to engage industrial plant operation.

a. Micro-Scale Industrial Plant: Php 5,000
b. Small-Scale Industrial Plant: Php 10,000
c. Medium-Scale Industrial Plant: Php 30,000
d. Large-Scale Industrial Plant: Php 50,000

The LGU Engineer's Office shall only issue a permit to operate an industrial plant after the issuance of the Certificate on Industrial Worthiness.

The application fee amount shall be reviewed every three years by the LGU Treasurer's Office based on price index adjustments.

Sec. 55. *Professional Fee of Certifying Registered Professional Chemical Engineer.* – A professional fee based on the classification of industrial plant shall be paid by the establishment to the certifying registered professional chemical engineer after industrial inspection.

Sec. 56. *Industrial Worthiness Review.* – Within fifteen (15) days after industrial inspection and issuance of unfavorable technical findings, any establishment may submit a request to the LGU Engineer's Office for industrial worthiness review. Within five (5) days after the receipt of the review request, the LGU Engineer's Office shall convene the LGU Industrial Review Panel.

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

Sec. 57. *LGU Industrial Review Panel.* – The LGU Industrial Review Panel shall be composed of three (3) registered professional chemical engineers who are selected by

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

Sec. 58. *Administrative Appeal*– The technical review findings of the LGU Industrial Review Panel may be appealed to the Board of Chemical Engineering within fifteen (15) days after the issuance of the technical review findings. The Board shall conduct industrial re-inspection and documentary review and may issue a Certificate of Industrial Worthiness after its favorable technical review findings. The findings of the Board shall be final.

ARTICLE VIII
CHEMICAL ENGINEERING EDUCATION AND CONTINUING PROFESSIONAL DEVELOPMENT

Sec. 59. *Curriculum Development and Updating.* - The CHED, in consultation with the Board, the Accredited Integrated Professional Organization of Chemical Engineers, and the industry stakeholders, shall develop and continuously update the Chemical Engineering Curriculum in accordance with the required competencies on the practice of the profession prescribed under this Act, in order to align with international standards of chemical engineering education and practice, and to be responsive to the industry requirements.

ARTICLE IX
TRANSITORY PROVISIONS

Sec. 60. *Vested Rights* - Automatic Registration of Professional Chemical Engineers and Chemical Engineering Technologists. All chemical engineers who are registered under Republic Act 9297 at the time of effectivity of this Act shall automatically considered

Professional Chemical Engineers and shall hold the same registration number. The validity and period of existing professional license shall continue in force until its date of expiry.

All persons occupying positions of Chemical Process and Engineering Technologists and Manufacturing Process Technicians for a minimum of three (3) years, at the time of effectivity of this Act, shall be automatically qualified for registration.

Sec. 61. *Securing Certificate of Process Compliance* - There shall be a five (5) year grace period for industrial plants, facilities, and institutions to apply and secure Certificate of Process Compliance.

ARTICLE X
GENERAL PROVISIONS

Sec. 62. *Code of Ethics.* - The Board shall adopt a Code of Ethics which shall be promulgated by the Accredited Integrated Professional Organization.

Sec. 63. *Penal Clause for the Practice of Chemical Engineering.* - Any person who shall violate any of the provisions of this Act shall be guilty of misdemeanor and shall, upon conviction, be sentenced to a fine of not less than One hundred thousand pesos (P100,000.00) nor more than One million pesos (P1,000,000.00) or imprisonment for a period of not less than six (6) months nor more than five (5) years or both at the discretion of the court. This includes any person who:

(a) Practices chemical engineering or render chemical engineering services, or passes himself/herself off or advertises himself/herself as a chemical engineer without a valid certificate of registration and/or valid professional identification card or when such has been suspended or revoked;

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

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

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

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

Sec. 64. *Penal Clause for Industrial Plants, Facilities, and Institutions.* - Any industrial plant, facility and institution who shall violate any of the provisions of this Act shall be guilty of misdemeanor and shall, upon conviction, be sentenced to a fine of not less than Three hundred thousand pesos (P300,000.00) nor more than Three million pesos (P3,000,000.00). The management or administration of such industrial plants, private and government facilities, and institutions, shall be held liable for violations of this Act.

The responsible officer/s of such industrial plant, facility and institution shall, upon conviction, be sentenced to a fine of not less than One hundred thousand pesos (P100,000.00) nor more than One million pesos (P1,000,000.00) or imprisonment for a period of not less than six (6) months nor more than one (1) year or both at the discretion of the court.

Sec. 65. *Enforcement Assistance to the Board.* - The Board shall be assisted by the Commission in carrying out the provisions of this Act and its implementing rules and regulations and other policies. The lawyers of the Commission shall act as prosecutors against illegal practitioners and other violators of this Act and its rules. The duly constituted authorities of the government shall likewise assist the Board and the Commission in enforcing the provisions of this Act and its rules.

Sec. 66. *Implementing Rules and Regulations.* - Subject to the approval of the Commission, the Board shall adopt and promulgate such rules and regulations including Code of Ethics for Chemical Engineers and Philippine Chemical Engineering Standards for the Practice of Chemical Engineering to carry out the provisions of this Act, which shall

be effective after sixty (60) days following their publication in the Official Gazette or in a major newspaper of general circulation. Such implementing rules and regulations to be formulated, adopted and promulgated after the approval of this Act shall be in consultations with the Accredited Integrated Professional Organization of Chemical Engineers, Commission on Higher Education, Department of Labor and Employment, Department of Interior & Local Government, Department of Health, Department of Environment & Natural Resources, Department of Energy, Department of Science & Technology, Department of Public Works & Highways, Department of Trade & Industry, Department of National Defense, Leagues of Provinces, Cities & Municipalities, Armed Forces of the Philippines, Philippine National Police, Integrated Bar of the Philippines, public and private sectors, and other related stakeholders.

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

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

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

Approved,