



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

EIGHTEENTH CONGRESS
Second Regular Session

HOUSE BILL NO. 6310



Introduced by **Representative Francisco Jose F. Matugas II**

EXPLANATORY NOTE


On 13 May 2004, Congress passed R.A. 9297 or the Chemical Engineering Law of 2004. The law, however, 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. This resulted in violations of environmental laws and exposed the public to unsafe practices in the operation of manufacturing processes. Very few companies hire licensed Chemical Engineers.

Moreover, the provisions of R.A. 9297 do not include the adoption of outcomes-based engineering educational parameters which highlight the attainment of skills and attributes of engineers under the Washington Accord. Engineers who graduate under Washington Accord certified programs, through the Philippine Technological Council, should be able to work as engineers in the member countries of the Washington Accord. This will improve the competence of Filipino chemical engineers, increase their mobility as engineers (not as technicians), and afford them more employment opportunities. There is also the need to identify the skills and attributes of Chemical engineering technologists and technicians.

This bill seeks to regulate engineering education, provide for the professional fields of specialization of Chemical Engineers, lay down the requirements for the operation of industrial facilities, and give recognition to qualifications and achievements. Its paramount interest is national development, public safety, and environmental sustainability.

The immediate passage of this bill is, therefore, earnestly sought.


FRANCISCO JOSE F. MATUGAS II
Surigao del Norte, First District
(Siargao Island)



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

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 SCOPE OF PRACTICE

SECTION 1. *Title.* – This Act shall be known as the “Comprehensive Chemical Engineering Law of 2020.”

SEC. 2. *Statement of Policy.* – Recognizing that the practice of chemical engineering is vital to national development, 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. It shall be the obligation of the State to 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.

SECTION 3. *Definition of Terms* -

(a) **AIPO** shall mean Accredited Integrated Professional Organization.

(b) **CHED** shall mean the Commission on Higher Education.

1 (c) **Certificate of Industrial Worthiness** shall refer to a document is-
2 sued by a certifying professional chemical engineer after an annual industrial in-
3 spection and with favorable technical findings.

4 (d) **Certificate of Process Compliance** shall refer to a document issued
5 by the Board of Chemical Engineering to industrial plants, private and government
6 facilities and institutions engaged in the scope of practice of Chemical Engineering
7 in the Philippines.

8 (e) **Certifying Registered Professional Chemical Engineer** shall re-
9 fer to a registered professional chemical engineer who is jointly authorized by the
10 LGU's Engineering Office and the local chapter of the Accredited Integrated Profes-
11 sional Organization ("AIPO") to conduct industrial inspection and to issue Certifi-
12 cate of Industrial Worthiness.

13 (f) **Chemical Engineering** shall refer to a discipline and profession in
14 Engineering which covers application of knowledge and skills in mathematics,
15 chemistry, physical, biological and molecular sciences, material and energy bal-
16 ances, chemical and biological reactor design and analysis, fluid flow, unit opera-
17 tions, thermodynamics and unit processes coupled with management, economics
18 and technology in using multi-faceted and systems approach to problem analysis
19 and solution creation for the optimal conversion of raw materials to finished prod-
20 ucts, process design and operation of industrial plant and related facilities giving
21 high regard and consideration to public safety and environmental protection to im-
22 prove the quality of life.

23 (g) **Chemical Engineering Laboratory** shall refer to a facility in an
24 academic institution offering Chemical Engineering Programs that have instruc-
25 tional unit operations and process equipment.

26 (h) **Chemical Engineering Technologist (ChET)** shall refer to a holder
27 of a Bachelor of Engineering Technology (Chemical Engineering), or one who has
28 completed at least 54 units of the professional courses of a Bachelor of Science in
29 Chemical Engineering program, duly registered by the PRC. A ChET may be en-
30 gaged in performing engineering functions in support of a Professional Chemical

1 Engineer's requirements. A ChET applies established engineering methods, tech-
2 niques, tools and resources within the engineering technology domain.

3 (i) **Chemical Process Technician (CPTech)** shall refer to someone
4 who has completed at least 36 units of the professional courses of a Bachelor of En-
5 gineering Technology (Chemical Engineering) program duly registered by the PRC.
6 The CPTech shall be skillfully qualified and certified to perform functions related to
7 process equipment monitoring and operation and can apply established practices
8 and procedures related to production in an industrial plant or as laboratory techni-
9 cian for Chemical Engineering Laboratories in an academic institution and in labo-
10 ratories as defined in industrial plants.

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

15 (k) **Industrial Worthiness** shall refer to the quality of being a techni-
16 cally-compliant, sustainable, safe, and environment-friendly industrial plant opera-
17 tion. "Technically-compliant" means compliant with the Implementing Rules and
18 Regulations of this Act and other technical requirements mandated by existing
19 laws.

20 (l) **In-Process Laboratory** shall refer to a satellite installation that in-
21 dustrial plants have in order to perform quality-related analysis or tests that may
22 be required in adjustment of Process Parameters used in commercial and industrial
23 production operations.

24 (m) **LGU** shall mean Local Government Unit.

25 (n) **Pilot Laboratory** shall refer to a miniature version of the industrial
26 plant where pilot trials are conducted for product development and research pur-
27 poses. Results of these studies are scaled up for commercial production once ap-
28 proved.

29 (o) **Practice of Chemical Engineering** shall mean performance of ac-
30 tivities within the scope of practice of the Chemical Engineering Profession and to
31 affix to his/her name the letters "PChE".

- (p) **PRC** shall mean the Professional Regulation Commission.
- (q) **Process** shall mean a series of steps or actions taken in order to achieve a particular purpose.
- (r) **Process and Operation Laboratory** shall refer to a facility inside an industrial plant wherein physical, chemical, biological, process, and statistical analysis are performed in relation to production operations. It shall also refer, but be not limited to, in-process laboratory, pilot laboratory, research and development laboratory, process simulation laboratory, and quality assurance laboratory.
- (s) **Process Control** refers to the manipulation of a control device to maintain a process parameter within an acceptable deviation from an ideally required condition.
- (t) **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 an industrial plant intended either for construction of new facilities or for modification of existing facilities.
- (u) **Process Engineering** refers 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.
- (v) **Process Equipment** refers to equipment where unit process or unit operation takes place.
- (w) **Process Parameters** refer to the current measured value of a particular part of process which is being monitored or controlled.
- (x) **Process Simulation Laboratory** shall refer to a facility where process simulation and optimization and mathematical modelling are done using computer applications and software intended for industrial applications.
- (y) **Professional Chemical Engineer (PChE)** shall refer to a holder of a B.S. Chemical Engineering degree, duly registered by the PRC, 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 in mathematics, chemistry, physical, biologi-

cal and molecular sciences, information technology, and other natural, applied and social sciences, gained by study, research and practice.

(z) **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.

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

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

(cc) **Resident Professional Chemical Engineer** shall refer to a regular professional chemical engineer employed in an industrial plant, facility or institution.

(dd) **Special Permit to Practice** shall refer 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 them to practice chemical engineering for a prescribed period as determined by the Board.

(ee) **Systems Approach** shall refer to the concept of systematic integration of inputs, outputs and other relevant factors in analyzing problems.

(ff) **Unit Operation** shall mean any activity or process intended to achieve physical change which may include, but is not limited to, the storage and

1 handling of solid, gas and liquid materials, heat transfer, mass transfer, and the
2 separation or purification steps in an industrial plant.

3 (gg) **Unit Operation Laboratory** shall refer to any facility in an indus-
4 trial plant or academic institution that involves the testing, data gathering, and
5 analysis of process parameters and material properties connected with physical
6 transformation(s).

7 (hh) **Unit Process** shall refer to any activity or operation in a manufactur-
8 ing, industrial, water and waste treatment plant that involves chemical transforma-
9 tion(s).

10 (ii) **Unit Process Laboratory** shall refer to any facility in an industrial
11 plant or academic institution that involves testing and data gathering of process pa-
12 rameters and material properties related to the chemical transformation from raw
13 materials to in-process to finished products.

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

18 (kk) **Waste Treatment Process** shall mean the operations involved in
19 achieving physical, chemical and biological change in collected wastes so as to at-
20 tain environmental compliance.

21 SEC. 4. *Scope of Practice.* – A. The scope and nature of the practice of a Pro-
22 fessional Chemical Engineer shall embrace and consist of the following:

23 1. Design and Innovation

24 a) Equipment Design which includes conceptualization of equipment fea-
25 tures, material composition, dimensional requirements, functionality assessment,
26 fabrication requirements, calculations, drawings and supervision of fabrication con-
27 forming to established equipment codes.

28 b) Process Design which includes conceptualization of process flow, revi-
29 sion of processes, optimization of processes, setting of parameters, process control,
30 sampling and testing, validation, verification, preparation of reports, feasibility

1 studies, pilot trials, materials specification, efficiency calculations, conduct of trials,
2 modification of parameters, process simulation and engineering calculations.

3 c) Industrial Plant Design which includes integration of facilities lay-out
4 and location, process and equipment design, pilot trials, cost estimation, market
5 study, material and energy management, financial management, personnel, energy,
6 waste and environmental requirements.

7 d) Inventions or Innovations which include conceptualization, rationaliza-
8 tion, design, pilot trials, fabrication of prototype, sampling and testing, patent ap-
9 plication, product presentations, commercial scale manufacture and engineering
10 calculations.

11 2. Process Engineering which includes thorough understanding of industrial
12 processes and corresponding parameters, revision of processes, establishment of
13 process parameters, in-process sampling and testing, engineering calculations,
14 process instrumentation and control, process optimization, efficiency calculations,
15 preparation of reports, preparation of recommendations, development of procedures
16 and management presentations. Industrial processes shall include, but shall not be
17 limited to: (a) glass manufacturing; (b) plastic manufacturing; (c) metal manufactur-
18 ing; (d) packaging products manufacturing; (e) petroleum and petrochemical engi-
19 neering; (f) food and beverage manufacturing; (g) sugar and sugarcane by-products
20 manufacturing; (h) pharmaceutical and cosmetics manufacturing; (i) paint, coats
21 and ink manufacturing; (j) rubber manufacturing; (k) non-metallic products manu-
22 facturing; (l) pulp and paper products manufacturing; (m) industrial chemical prod-
23 ucts manufacturing; (n) agricultural products manufacturing; (o) industrial gases
24 production; (p) biofuels production; (q) textile manufacturing; (r) mineral process-
25 ing; (s) semiconductor equipment and products manufacturing; and (t) currency
26 manufacturing.

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

1 4. Biochemical Engineering which includes design and management of bio-
2 chemical production facilities, supervision of biochemical processes, preparation of
3 process parameters and specifications, sampling and testing, line operations, and
4 engineering calculations.

5 5. Operations Management which includes management of manpower, materi-
6 als, energy, technological and financial resources for implementation of functions,
7 activities and systems in relation to an industrial plant operation, institutional and
8 environmental facilities.

9 a) Process Management which includes supervision of an industrial proc-
10 ess or specific areas in it, monitoring of operational parameters, process control,
11 sampling and testing, preparation of manpower complement, scheduling and plan-
12 ning of materials and production operations, preparation of reports, management
13 presentations, production logistics, disposal logistics and training of personnel on
14 operations.

15 b) Plant Management which includes holding a management-level posi-
16 tion in a company that applies the attributes and skills of a chemical engineer. It
17 covers planning, manpower deployment, budget preparation, supervision of proc-
18 esses, quality assurance, preparation of reports, attendance to conferences, partici-
19 pation in working groups formed locally by government agencies, and participation
20 in international working groups.

21 c) Project Management which includes feasibility study, planning, man-
22 power management, facilities management, materials management, calculations,
23 mobilization of project logistics, management presentations and preparation of re-
24 ports.

25 6. Education which includes holding positions in an academic institution offer-
26 ing engineering programs, preparation of outcome-based engineering courses, as-
27 sessment of engineering programs and student outcomes, teaching of subjects or
28 courses included in the curricula of different engineering programs, preparation and
29 grading of examinations, preparation of reports, academic advising, student re-
30 search advising, consultation activities, project implementation, attendance to rele-

1 vant conferences on student learning, and participation in international and local
2 university linkage activities.

3 7. Research and Development which includes conceptualization of products and
4 processes, preparation of feasibility studies, optimization, simulation, engineering
5 process equipment design, process and equipment innovation, materials substitu-
6 tion, conduct of trials, sampling and testing, engineering calculations, intellectual
7 property patent applications, development of standards, preparation of reports and
8 management presentation.

9 8. Environmental Engineering and Management

10 a) Environmental Impact Assessment which includes preparation of pro-
11 posals, sampling and testing, engineering calculations, project presentation, plan-
12 ning, mobilization, preparation of EIA report and compliance monitoring.

13 b) Environmental Engineering which includes activities related to man-
14 agement of industrial, commercial and institutional wastes, cleaner production
15 process modification, pollution control activities, consultations with LGUs on waste
16 management, preparation of design plans for waste treatment facilities, operation
17 and supervision of waste treatment facilities, preparation of reports, management
18 presentations, sampling and testing, line operations, manpower planning and de-
19 ployment, and conduct of training related to environmental concerns.

20 c) Waste Management and Pollution Control which includes identifica-
21 tion, characterization and quantification of wastes, preparation of waste manage-
22 ment proposals, conduct of training on waste management, design of waste treat-
23 ment and control facilities, engineering calculations, monitoring and supervision of
24 waste treatment facilities, sampling and testing, preparation of reports, manage-
25 ment presentations, and handling activities related to environmental concerns.

26 d) Water Resource Management which includes design and management
27 of water products manufacturing facilities, supervision of water treatment and pro-
28 duction processes, preparation of process parameters and specifications, sampling
29 and testing, line operations, and engineering calculations.

30 e) Climate Change Adaptation and Mitigation which includes activities
31 related to initiatives and measures to reduce the vulnerability of natural and hu-

man 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 which includes 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 which 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 which includes operation of the unit operation 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 which include 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 installa-

tion, processing of technical documents, preparation of sales reports, and inventory management.

b) Technical Consultation which 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 which includes acquisition of relevant qualifications through graduate courses, experience or research. It 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 which includes acquisition of relevant qualifications through graduate courses, experience or research. It 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 which includes acquisition of relevant qualifications through graduate courses, experience or research. It 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 which includes acquisition of relevant qualifications through graduate courses in cooperation with medical programs, experience or research. It covers knowledge of biology, medical science and chemical engineering theory to develop problem-solving and new procedures and technologies in the form of medical devices and equipment and computer systems and software. The work of biomedical engineers includes everything from creating new machines for diagnostic tests to developing artificial organs for transplant.

1 e) Nuclear Engineering which includes acquisition of relevant qualifica-
2 tions through graduate courses, experience or research. It covers design and man-
3 agement of nuclear facilities, supervision of nuclear processes, preparation of proc-
4 ess parameters and specifications, sampling and testing, line operations, and engi-
5 neering calculations.

6 f) Molecular Engineering which includes acquisition of relevant qualifi-
7 cations through graduate courses, experience or research. It covers design and
8 management of molecular engineering facilities, supervision of molecular processes,
9 preparation of process parameters and specifications, sampling and testing, line op-
10 erations, and engineering calculations.

11 g) Nano Engineering which includes acquisition of relevant qualifications
12 through graduate courses, experience or research. It covers design and management
13 of nano-engineering, facilities supervision of nano-level production processes, prepa-
14 ration of process parameters and specifications, sampling and testing, line opera-
15 tions, and engineering calculations.

16 h) Forensic Investigation which includes acquisition of relevant qualifica-
17 tions through graduate courses, experience or research. It covers analytical investi-
18 gation, sampling and testing of evidences related to crimes, crime scenes, terrorist
19 situations, and other incidents that require the technical expertise of engineers,
20 preparation of technical reports and acting as technical expert in court when neces-
21 sary.

22 i) Emerging Technologies which include the sole authority to provide
23 services as defined in this Act and to sign and seal plans, drawings, permit applica-
24 tions, specifications, reports and other technical documents prepared by him-
25 self/herself and/or under his direct supervision.

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

30 C. A Chemical Process Technician (CPTech) performs functions related to manu-
31 facturing equipment monitoring and operation and applies established practices

1 and procedures which may require performance of duties related to production or as
2 laboratory technician for Chemical Engineering Laboratories in an academic insti-
3 tution and in laboratories as defined in industrial plants.

4 SEC. 5. *Educational Requirements and Qualifications.* – A. Professional
5 Chemical Engineers (PChE) must have the following qualifications in order to en-
6 gage in professional practice:

7 (1) Must be a holder of a Bachelor of Science in Chemical Engineering
8 (BSChE) degree from a CHED-Registered Higher Educational Institution;

9 (2) Must have passed the Chemical Engineering Licensure Examination
10 administered by the Board of Chemical Engineering of the PRC and issued the Pro-
11 fessional License Identification Card and Certificate of Registration;

12 (3) Must have obtained a valid Professional Tax Receipt;

13 (4) Must have procured an Official Dry Seal as prescribed by this law and
14 duly issued in coordination with the AIPO; and

15 (5) Must be of good moral character and a law-abiding citizen of the Phil-
16ippines

17 B. A Chemical Engineering Technologists (ChET) must have the following qualifica-
18 tions in order to engage in professional practice:

19 1) Must be a holder of a Bachelor of Engineering Technology (Chemical
20 Engineering) (BET-ChE) degree or must have completed at least 54 units of the pro-
21 fessional courses of a Bachelor of Science in Chemical Engineering program from a
22 CHED Compliant Higher Educational Institution;

23 2) Must have passed the Chemical Engineering Technologist Licensure
24 Examination administered by the Board of Chemical Engineering of the PRC and
25 must have been issued the Professional License Identification Card and Certificate
26 of Registration;

27 4) Must have obtained a valid Professional Tax Receipt; and

28 5) Must be of good moral character and a law-abiding citizen of the Phil-
29ippines.

30 C. Chemical Process Technicians (CPTech) must have the following qualifica-
31 tions in order to engage in professional practice:

- 1) Must have 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) Must have passed the Chemical Process Technician Licensure Examination administered by the Board of Chemical Engineering of the PRC and must have been issued the Professional License Identification Card and Certificate of Registration;
- 3) Must have obtained a valid Professional Tax Receipt; and
- 4) Must be 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 PRC, shall be composed of a Chairman and two (2) members appointed by the President of the Philippines as taken from the nominees recommended by the AIPO of Chemical Engineers and short-listed by the Commission.

The AIPO of Chemical Engineers shall recommend five (5) nominees for every vacant position, six (6) months prior to end of the term of the concerned member. 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);

1 3) Prescribe the subjects in the licensure examination aligned with the
2 current minimum B.S. Ch.E. and BET-ChE curriculum standards set by CHED, de-
3 termine the syllabi of the subjects and their relative weights, construct the test
4 questions in the examination, score and rate the examination papers, and submit
5 the examination results to the PRC;

6 4) Issue, together with the PRC, Certificates of Registration and Profes-
7 sional Identification Cards to applicants who have passed the licensure examina-
8 tions for professional chemical engineers, chemical engineering technologists and
9 chemical process technicians;

10 5) Issue, together with the PRC, licensure examination exemptions, Cer-
11 tificates of Registration and Professional Identification Cards to applicants who
12 have graduated from Internationally Accredited B.S. Ch.E. and BET-Ch.E. pro-
13 grams;

14 6) Issue special permits to persons admitted to the practice of the profes-
15 sion;

16 7) Award Certificates of Recognition for advanced studies and researches
17 and accomplishments in the chemical engineering profession that contribute to its
18 enrichment;

19 8) Oversee the conduct of the Continuing Professional Development pro-
20 grams for Professional Chemical Engineers (PChE), Chemical Engineering Tech-
21 nologist (ChET), and Chemical Process Technician (CPTech);

22 9) Conduct on-site inspection, submit an inspection report to the PRC,
23 and monitor compliance of industrial plants, facilities, institutions and other enti-
24 ties engaged in the scope of practice of Chemical Engineering and seek the assis-
25 tance of the AIPO in order to carry out these functions;

26 10) Inquire into the conditions affecting the practice of Professional
27 Chemical Engineer (PChE), Chemical Engineering Technologist (ChET), and
28 Chemical Process Technician (CPTech) and adopt measures for the enhancement
29 and maintenance of a high professional, ethical and technical standard. Pursuant
30 thereto, the Board may inspect establishments where chemical engineers practice

1 their profession in order to determine and enforce compliance with the provisions of
2 this Act;

3 11) Issue Certificates of Compliance to Industrial Plants, facilities and in-
4 stitutions engaged in the scope of practice of Chemical Engineering pursuant to the
5 provisions of this Act;

6 12) In coordination with CHED, inspect the facilities, faculty, equipment
7 and other aspects directly related to the chemical engineering program of educa-
8 tional institutions and submit a monitoring report to the PRC;

9 13) Adopt a Code of Ethics and a Code of Technical Standards for the prac-
10 tice of chemical engineering;

11 14) Investigate, in accordance with the rules on administrative investiga-
12 tion promulgated by the PRC, violations of this Act and its implementing rules and
13 regulations, the Code of Ethics and the Code of Technical Standards for chemical
14 engineers, administrative policies, orders and issuances promulgated by the Board;

15 15) Issue *subpoena ad testificandum* and subpoena *duces tecum* to secure
16 the attendance of witnesses or the production of documents in connection with any
17 administrative case before the Board;

18 16) Hear and decide administrative cases filed against chemical engineers
19 and firms employing chemical engineers. The hearing shall be presided by the
20 Chairman or a Member of the Board with the assistance of an Attorney of the PRC.
21 Any decision shall be concurred in by at least a majority of the Board. Decisions of
22 the Board may be appealed to the PRC within fifteen (15) days from notice. Other-
23 wise such decisions shall become final and executory;

24 17) Administer oaths in connection with the performance of its functions;

25 18) Adopt an official seal and prescribe the seal of the chemical engineer-
26 ing profession;

27 19) Submit an annual report on the proceedings and accomplishments dur-
28 ing the year and/or recommendations of the Board to the PRC thirty (30) days after
29 the close of each calendar year; and furnish copies of the same annual report upon
30 the request of stakeholders;

20) Prosecute or institute criminal action against any violator of this Act and/or the rules and regulations of the Board;

21) Prescribe guidelines and criteria on the Continuing Professional Development (CPD) program for chemical engineers in consultation with the integrated and accredited chemical engineering organizations;

22) In case of exigency of services, the Board may deputize other qualified professional chemical engineers duly recommended by the AIPO to serve some of their functions, with due compensation to the appointed deputies;

23) Adopt the implementing rules and regulations of this Act; and

24) Perform such other functions as may be necessary in order to implement the provisions of this Act.

SEC. 8. - *Qualifications of the Board Chairman and Members.* - The Chairman and Members of the Board shall be, at the time of their appointment:

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 AIPO;

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 any pecuniary interest in or administrative supervision over any such institutions of learning;

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

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

6 SEC. 9. *Term of Office.* - The Chairman and the Members of the Board shall
7 have a term of three (3) years only, with a maximum of one (1) reappointment. No
8 member of the Board shall serve for more than two (2) regular terms. Vacancies
9 shall be filled for the unexpired term only. The Chairman and Members shall qual-
10 ify by taking the proper oath prior to assumption of office. The incumbent Chairman
11 and Members shall be allowed to serve for the remainder of their term until a new
12 Board shall have been constituted.

13 SEC. 10.- *Secretary of the Board.* - The Board shall have a Secretary, ap-
14 pointed by the PRC, who shall record the minutes of its meetings and perform such
15 other functions as the Board may require. The Commission shall provide for com-
16 pensation of the Secretary.

17 SEC. 11. - *Removal/Suspension of the Chairman and Members.* - The Presi-
18 dent, upon recommendation of the Commission, may remove any member of the
19 Board on the following grounds: (a) conflict of interest; (b) neglect of duty; (c) incom-
20 petence; (d) commission or tolerance of irregularities in the licensure examination;
21 (e) malpractice, unprofessional or unethical conduct; (f) violation of this Act or the
22 Code of Ethics for Chemical Engineers; and (g) conviction by final judgment of a
23 crime involving moral turpitude. A member shall only be suspended after due notice
24 and hearing where his right to be heard, to defend himself and to be assisted by
25 counsel shall be respected.

26 SEC. 12. *Compensation of the Board.* - The Chairman and Members of the
27 Board shall receive such compensation or honorarium as may be prescribed by the
28 rules and regulations of the Commission.

29 SEC. 13. *Annual Report.* - The Secretary shall prepare an annual report for
30 the consideration and approval of the Board. The Board shall submit an annual re-
31 port to the PRC after the close of each fiscal year giving a detailed account of the

1 proceedings of the Board during the year and embodying such recommendations to
2 the PRC as the Board may desire to make. The AIPO may request for a copy of the
3 annual report.

4
5 ARTICLE III
6 LICENSURE EXAMINATION, REGISTRATION AND EXEMPTION
7

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

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

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

17 a) Professional Chemical Engineer. - Physical and Chemical Principles,
18 General Engineering, and Chemical Engineering: *Provided*, That, the relative
19 weight of Chemical Engineering shall not be less than forty per centum (40%).

20 b) Chemical Engineering Technologist. - Physical and Chemical Princi-
21 ples, General Engineering, and Chemical Engineering (excluding biochemical engi-
22 neering, separation processes, chemical reactor design, equipment and plant de-
23 sign): *Provided*, That, the relative weight of Chemical Engineering shall not be less
24 than forty per centum (40%).

25 c) Chemical Process Technician. - Analytical and Organic Chemistry,
26 General Engineering, and Chemical Engineering topics relevant to chemical process
27 technician practice.

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

30 a) Must be a citizen of the Philippines;

31 b) Must be of good moral character;

1 c) Must be a graduate of a school, institute, college or university recog-
2 nized by the Government and has been conferred the degree of Bachelor of Science
3 in Chemical Engineering; and

4 d) Must not have been convicted of an offense involving moral turpitude
5 by a court of competent jurisdiction.

6 SEC. 18. *Qualifications for Chemical Engineering Technologist Examina-*
7 *tions.* - Any person applying for admission must have the following qualifications:

8 a) Must be a citizen of the Philippines;

9 b) Must be of good moral character;

10 c) Must be a graduate of Bachelor of Engineering Technology - Chemical
11 Engineering program or has completed at least 54 units of the professional courses
12 of a Bachelor of Science program in Chemical Engineering according to CHED
13 guidelines; and

14 d) Must not have been convicted of an offense involving moral turpitude
15 by a court of competent jurisdiction.

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

18 a) Must be a citizen of the Philippines;

19 b) Must be of good moral character;

20 c) Must have completed at least 30 units of a Bachelor of Engineering
21 Technology- Chemical Engineering program according to CHED guidelines; and

22 d) Must not have been convicted of an offense involving moral turpitude
23 by a court of competent jurisdiction.

24 SEC. 20. *Examination Fees.* - Every applicant permitted to take the chemical
25 engineering examination shall pay such fees as may be prescribed by the Board
26 before said applicant is allowed to take the examination.

27 SEC. 21. *Report of Rating.* - The Board shall complete the correction of ex-
28 amination papers within twenty (20) days from the last day of the examination. The
29 PRC shall report the rating of examinees not more than thirty (30) days after the
30 Board has completed the correction of examination papers.

1 SEC. 22. *Exemption from Licensure Examination.* - All applicants who have
2 graduated from Internationally Accredited B.S. Ch.E. and Technology programs are
3 entitled to apply for exemption from licensure examination, provided that all re-
4 quirements are met according to the provisions of this Act. This shall be construed
5 to mean that all qualified applicants may or may not apply, and that all applicants
6 for exemption shall still submit additional school portfolio requirements and shall
7 undergo screening. Only those passing the screening process shall be exempted and
8 properly registered.

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

22 A professional identification card bearing the signature, number, date of is-
23 suance, expiry date, duly signed by the Chairman of the PRC shall likewise be is-
24 sued to every registrant who has paid the prescribed fee.

25 SEC. 24. *Renewal of Professional License.* - The professional license issued to
26 a Professional Chemical Engineer and Chemical Process and Engineering Tech-
27 nologist shall be valid for three (3) years from its issuance and shall be renewed
28 every after three (3) years on the birth month of the Professional Chemical Engi-
29 neer and Chemical Process and Engineering Technologist upon presentation or
30 submission of the required Continuing Professional Development credit units
31 earned and payment of prescribed fees.

1 SEC. 25. *Seal of Professional Chemical Engineer.* - Each chemical engineer
2 shall, upon registration, obtain a seal as prescribed by the Board bearing the pro-
3 fessional's name, registration number and the legend "Professional Chemical Engi-
4 neer." Plans, specifications, designs, reports and other professional documents pre-
5 pared by or executed under the supervision of, and issued by the professional shall
6 be stamped on every sheet with said seal, indicating therein his/her current Profes-
7 sional Tax Receipt (PTR) number, date and place of payment, and current member-
8 ship number in the AIPO, when filed with Government authorities or when submit-
9 ted or used professionally.

10 SEC. 26. *Fees for Registration.* - Every person issued a Certificate of Registra-
11 tion as a professional chemical engineer shall pay to the PRC such fees as the PRC
12 may prescribe.

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

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

20 (b) Chemical engineers who have distinguished themselves in their re-
21 spective fields of specialization, contracted as professors or lecturers on chemical
22 engineering subjects by Philippine schools, or colleges, institutes or universities on
23 a direct hire or exchange basis, subject to verification of credentials by the Board;
24 and

25 (c) Chemical engineers who have distinguished themselves in their re-
26 spective fields of specialization, contracted as consultants, technology providers or
27 specialists on chemical engineering processes by Philippine industrial firms on a di-
28 rect hire basis, subject to verification of credentials by the Board.

29 SEC. 28. *Suspension or Revocation of Certificate of Registration and Cancel-*
30 *lation of Special Permit to Practice.* - Any of the following shall be sufficient ground

1 for the suspension or revocation of a Certificate of Registration and cancellation of
2 Special Permit to Practice:

3 a) Any act of incompetence, negligence, or illegal practice of chemical en-
4 gineering resulting to damage to property and environment, injury or loss of lives;

5 b) Acts inimical to the chemical engineering profession;

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

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

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

16 SEC. 29. *Reissuance of Revoked Certificate of Registration and Special Permit*
17 *to Practice and Replacement of Lost Certificates*. - The Board may, for reasons it
18 may deem sufficient and upon proper petition, reissue revoked Certificates of Regis-
19 tration and Special Permits to Practice.

20 A new Certificate of Registration and Special Permit to Practice may be is-
21 sued to replace a lost, destroyed or mutilated Certificate or Permit, subject to the
22 rules and regulations of the Board, and upon payment of the appropriate fees to the
23 PRC.

24
25 ARTICLE IV
26 PRACTICE OF CHEMICAL ENGINEERING
27

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

31 SEC. 31. *Who May Practice Chemical Engineering*. - Except as may be pro-
32 vided in this Act, only professional chemical engineers may practice chemical engi-

neering. 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 a 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 PRC 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 PRC 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 PRC 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 or any part thereof submitted to any government

1 agency, national or local, including government-owned or controlled corporations,
2 shall not be processed or approved, nor shall such plant be issued any permit, li-
3 cense, franchise, authorization or certification, unless such proposal, design, specifi-
4 cation, working drawing or plan is signed by a professional chemical engineer, with
5 his/her seal and registration number affixed thereto.

6 SEC. 35. *Hazard Allowance, Health and Accident Insurance, and Legal Assis-*
7 *tance.* - Professional chemical engineers, chemical process and engineering tech-
8 nologists and manufacturing process technicians who are exposed to workplace and
9 process hazards as part of their regular responsibilities are entitled to commensu-
10 rate hazard allowance, medical benefits, and insurance coverage. These should be
11 indicated as separate items in the compensation package and cannot be incorpo-
12 rated in the basic salary.

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

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

23 SEC. 37. *Code of Technical Standards.* - The existing Code of Technical Stan-
24 dards for the Practice of Chemical Engineering shall be transformed into the Phil-
25 ippine Chemical Engineering Standards (PChES) and shall serve as Code of Techni-
26 cal Standards of all professional chemical engineers in the practice of their profes-
27 sion. The Board, in collaboration with the AIPO of chemical engineers, the Depart-
28 ment of Science and Technology, Department of Environment and Natural Re-
29 sources, Department of Trade and Industry, Department of Public Works and
30 Highways, Department of Agriculture, Department of Interior and Local Govern-
31 ment, Department of Health, Department of Energy, Department of Labor and Em-

1 ployment, and other concerned agencies and private organizations, shall develop
2 new standards under the PChES.

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

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

9 SEC. 40. *Indication of Registration/Professional License Number and Profes-*
10 *sional Tax Receipt Payment.* - The professional chemical engineer and chemical
11 process and engineering technologist shall be required to indicate his Certificate of
12 Registration, Professional Identification Card number, date of issuance and the du-
13 ration of validity, including the Professional Tax Receipt (PTR) in the documents he
14 signs, uses, or issues in connection with the practice of his profession.

15 SEC. 41. *Membership in the Accredited Integrated Professional Organization*
16 *(AIPO).* - There shall be an integrated national organization of chemical engineers
17 duly accredited by the Board and the PRC. A chemical engineer duly registered
18 with the Board and the PRC shall automatically become a member of such organiza-
19 tion subject to the provisions on membership of the current constitution and by-laws
20 of the AIPO for chemical engineers. The member shall receive the benefits appurte-
21 nant thereto upon payment of the required fees and dues.

22
23 ARTICLE V
24 INDUSTRIAL PLANTS CLASSIFICATION AND RELATED ISSUES
25

26 SEC. 42. *Classification of Industrial Plants.* - Industrial plants shall be clas-
27 sified as follows:

28 a) *Micro-Scale Industrial Plants* are plants operating with less than ten
29 (10) production personnel with only one shift and not operating any steam boiler;

30 b) *Small-Scale Industrial Plants* are plants operating with ten (10), but
31 not more than fifty (50), production personnel with one or more shifts. They must be
32 operating a combined capacity of not more than twenty (20) horsepower of all unit

operations and unit processes, and/or are operating steam boiler/s with a combined capacity of less than twenty (20) horsepower. Micro-scale industrial plants operating more than one shift shall be classified as small-scale industrial plants.

c) *Medium-Scale Industrial Plants* are plants operating with fifty (50), but not more than two hundred (200), production personnel with one or more shifts. They must be 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 twenty (20) to two hundred (200) horsepower.

d) *Large-Scale Industrial Plants* are plants operating with more than two hundred (200) production personnel with one or more shifts. They must be 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 two hundred (200) horsepower.

Despite the foregoing, establishments operating with more than one (1) industrial plant in different areas shall be classified in accordance with their capacity or description per industrial plant.

The upgrading or downgrading of the type of industrial plant shall only be done once a year after the industrial inspection.

SEC. 43. *Pollution Control & Abatement and Waste Treatment.* - The pollution control and 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 control and 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 a registered professional chemical engineer with his or her seal affixed. LGUs shall implement this in addition to other building permit requirements.

SEC. 44. *Process and Operation Laboratory.* - Process and operation laboratories 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 Act, the Board of Chemical Engineering shall enact technical guidelines to implement any technical details therein 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 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, said industrial plants, private and government facilities and institutions shall be compliant 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 a Risk Management Plan focusing on workplace and process safety to prevent exposures and reduce risks and to minimize or eliminate materials and process toxicity. The plan shall include 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.

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

6 a) *Micro and Small-Scale Industrial Plants* shall have one (1) profes-
7 sional chemical engineer: *Provided*, That every plant in this category operating in
8 more than one (1) shift every twenty-four (24) hours shall have, in addition to the
9 minimum personnel herein required, one (1) professional chemical engineer in-
10 charge of each and every additional shift.

11 b) *Medium-Scale Industrial Plants* shall have four (4) professional chemi-
12 cal engineers to handle process engineering, operations, quality assurance and envi-
13 ronmental management: *Provided*, That every plant in this category operating in
14 more than one (1) shift every twenty-four (24) hours shall have, in addition to the
15 minimum personnel herein required, two (2) professional chemical engineers in-
16 charge of each and every additional shift.

17 c) *Large-Scale Industrial Plants* shall have ten (10) professional chemical
18 engineers to handle unit operations and processes, process engineering, operations,
19 quality assurance and environmental management: *Provided*, That every plant in
20 this category operating in more than one (1) shift every twenty-four (24) hours shall
21 have, in addition to the minimum personnel herein required, at least five (5) profes-
22 sional chemical engineers in-charge of each and every additional shift. If deemed
23 necessary, professional chemical engineers shall be added over and above the mini-
24 mum requirement as determined by the Board or by the plant management.

25 d) For *academic and research institutions*, only professional chemical en-
26 gineers shall handle professional chemical engineering courses. Research related
27 chemical engineering processes shall be under the supervision of professional
28 chemical engineers. Support staff for chemical engineering laboratories shall be at
29 least a Chemical Engineering Technologist.

1 e) For *design and consultancy firms*, only professional chemical engineers
2 shall prepare process equipment and plant design specifications for industrial
3 plants, facilities and institutions.

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

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

9 SEC. 51. *Reissuance of Revoked Certificate of Process Compliance and Re-*
10 *placement of Lost Certificates*. - The Board may, for reasons it may deem sufficient
11 and upon proper petition, reissue a revoked Certificate of Process Compliance.

12 A new Certificate of Process Compliance may be issued to replace a lost, de-
13 stroyed or mutilated Certificate subject to the rules and regulations of the Board
14 and upon payment of the appropriate fees to the PRC.

15
16 ARTICLE VII
17 INDUSTRIAL INSPECTION AND WORTHINESS
18

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

- 22 a) Unit Operations;
- 23 b) Unit Processes;
- 24 c) Plant Layout;
- 25 d) Equipment Design and Operation;
- 26 e) Steam Boiler/s and its Capacity;
- 27 f) Instrumentation and Process Control;
- 28 g) Pollution Control & Abatement;
- 29 h) Waste Treatment & Management;
- 30 i) Quality Assurance & Management;
- 31 j) Process and Operation Laboratory;
- 32 k) Industrial Safety;

- l) Risk Management;
- m) Calibration of Methods, Procedure, Substances, Person, Materials, Equipment and Measuring Devices;
- n) Manpower Requirements for Chemical Engineers and other related Production Personnel;
- o) Environmental Protection; and
- p) Other Related Issues.

The industrial inspection shall be conducted periodically (more than once a year) 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.

The certifying registered professional chemical engineer shall be required to sign a non-disclosure agreement and shall respect intellectual property rights related to the inspection.

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 concerned 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 shall be issued for each industrial plant.

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 LGU concerned without the Certificate of Industrial Worthiness.

SEC. 54. *Application Fee*. – An establishment, which is starting to engage in industrial plant operation, shall pay an application fee to the appropriate LGU as follows:

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

The application fee shall be adjusted every three years by the LGU based on price index adjustments.

SEC. 55. Professional Fee of Certifying Registered Professional Chemical Engineer. - A minimum professional fee shall be paid by the establishment to the certifying registered professional chemical engineer after industrial inspection on a per industrial plant basis:

a) Micro-Scale Industrial Plant: Php 2,000

b) Small-Scale Industrial Plant: Php 3,000

c) Medium-Scale Industrial Plant: Php 5,000

d) Large-Scale Industrial Plant: Php 10,000

The professional fee shall be adjusted every three years by the LGU based on price index adjustments.

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's Engineering Office for industrial worthiness review. Within five (5) days after the receipt of the review request, the Engineering Office shall convene the LGU Industrial Review Panel.

A review fee, prescribed by the Engineering Office, shall be paid by the establishment to the LGU. The total review fees collected shall be utilized for the honoraria of the Review Panel Chairperson 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 Chairperson of the Panel. The Panel shall conduct industrial re-inspection and documentary review within ten (10) days from its formation and may issue a Certificate of Industrial Worthiness after its favor-

1 able technical review findings. A new Review Panel shall be constituted each time
2 there is a request for industrial worthiness review.

3 SEC. 58. *Administrative Appeal* - The technical review findings of the LGU
4 Industrial Review Panel may be appealed to the Board of Chemical Engineering
5 within fifteen (15) days after notice by the concerned party of the unfavorable tech-
6 nical review findings. The Board shall conduct industrial re-inspection and docu-
7 mentary review and may issue a Certificate of Industrial Worthiness after its favor-
8 able technical review findings. The findings of the Board shall be final.

9
10 ARTICLE VIII
11 CHEMICAL ENGINEERING EDUCATION AND CONTINUING PROFESSIONAL
12 DEVELOPMENT

13 SEC. 59. *Curriculum Development and Updating*. - The CHED, in consulta-
14 tion with the Board and the industry stakeholders, shall develop and continuously
15 update the Chemical Engineering Curriculum in accordance with the required com-
16 petencies on the practice of the profession prescribed under this Act, in order to
17 align with international standards of chemical engineering education and practice,
18 and to be responsive to the industry requirements.

19 SEC. 60. *Continuing Professional Development (CPD)*. – Continuing Profes-
20 sional Development is an integral part in the practice of the chemical engineering
21 profession and is considered relevant to sustained competency enhancement, capac-
22 ity building and renewal of professional license. A CPD Program shall be prescribed
23 and promulgated by the Board in consultation with the AIPO of Chemical Engi-
24 neers, concerned government agencies, and stakeholders. The Board shall prescribe
25 the guidelines in the implementation of the CPD programs for chemical engineers.
26 It shall maintain the CPD Council which shall be composed of a Chairperson com-
27 ing from the Board, a member from the AIPO of chemical engineers and a member
28 from the academe. The CPD for professional chemical engineers is hereby made
29 mandatory for the practice of the profession. The CPD credit units earned by the
30 professional shall be required in the renewal of professional license and accredita-
31 tion systems for advance level of practice and other international accreditations.

1 The CPD credit units earned by a chemical engineer shall likewise be applied
2 as the training requirement for promotion of positions in government agencies and
3 private firms and for teaching positions in academic institutions, and shall be ac-
4 cumulated subject credit transfer under the Pathways and Equivalencies of the
5 Philippine Qualification Framework.

6
7 ARTICLE IX
8 TRANSITORY PROVISIONS
9

10 SEC. 61. *Vested Rights.* - All chemical engineers who are registered under
11 Republic Act 9297 at the time of the effectivity of this Act shall automatically be
12 considered Professional Chemical Engineers and shall hold the same registration
13 number. The validity and period of their existing professional license shall continue
14 in force until its date of expiry.

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

18 SEC. 62. *Securing Certificate of Process Compliance.* - There shall be a five (5)
19 year grace period for industrial plants, facilities and institutions to apply and se-
20 cure Certificates of Process Compliance.

21
22 ARTICLE X
23 GENERAL PROVISIONS
24
25

26 SEC. 63. *Code of Ethics.* - The Board shall adopt a Code of Ethics which shall
27 be promulgated by the AIPO.

28 SEC. 64. *Penal Clause.* - (a) Any person who shall violate any of the provi-
29 sions of this Act shall be guilty of misdemeanor and shall, upon conviction, be sen-
30 tenced to a fine of not less than One hundred thousand pesos (P100,000.00) nor
31 more than One million pesos (P1,000,000.00), or imprisonment for a period of not
32 less than six (6) months but not more than five (5) years, or both at the discretion of
33 the court. This shall include any person who:

1 1) Practices chemical engineering or renders chemical engineering ser-
2 vices, or passes himself/herself off or advertises himself/herself as a chemical engi-
3 neer without a valid certificate of registration and/or valid professional identifica-
4 tion card or when such has been suspended or revoked;

5 2) Attempts to use as his/her own, the certificate or seal of another per-
6 son, or impersonates any professional chemical engineer;

7 3) Attempts to use a revoked or suspended certificate of registration or an
8 expired professional license;

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

11 5) Furnishes the Board or Commission any false information or document
12 in order to secure a Certificate of Registration or renewal of Professional Identifica-
13 tion Card.

14 (b) The responsible officer, employee or director of any industrial plant, fa-
15 cility or institution who shall violate any of the provisions of this Act shall be guilty
16 of misdemeanor and shall, upon conviction, be sentenced to a fine of not less than
17 Three hundred thousand pesos (P300,000.00) but not more than Three million pesos
18 (P3,000,000.00) or imprisonment for a period of not less than six (6) months but not
19 more than one (1) year, or both at the discretion of the court.

20 SEC. 66. *Enforcement Assistance to the Board.* - The Board shall be assisted
21 by the PRC in carrying out the provisions of this Act and its implementing rules
22 and regulations and other policies. The lawyers of the PRC shall act as prosecutors
23 against illegal practitioners and other violators of this Act and its rules. The duly
24 constituted authorities of the government shall likewise assist the Board and the
25 PRC in enforcing the provisions of this Act and its rules.

26 SEC. 67. *Implementing Rules and Regulations.* - Subject to the approval of
27 the PRC, the Board shall adopt and promulgate such rules and regulations includ-
28 ing Code of Ethics for Chemical Engineers and Philippine Chemical Engineering
29 Standards for the Practice of Chemical Engineering to carry out the provisions of
30 this Act, which shall be effective after sixty (60) days following their publication in
31 the Official Gazette or in a major newspaper of general circulation.

1 SEC. 68. *Separability Clause.* - If any section of this Act shall be declared un-
2 constitutional or invalid, such shall not invalidate any other section of this Act.

3 SEC. 69. *Repealing Clause.* - Republic Act No. 9297 is hereby repealed and all
4 other laws, decrees, orders, rules and regulations, ordinances, and other issuances
5 or parts thereof which are inconsistent with this Act are hereby superseded, re-
6 pealed or amended accordingly.

7 SEC. 70. *Effectivity.* - This Act shall take effect fifteen (15) days following its
8 publication in the Official Gazette or in any major newspaper of general circulation.

9 *Approved,*