BOARD NOTICE 629 OF 2024

Code of Practice for the Performance of Chemical Engineering Work

R-02-COP-CHE

REVISION No. 0: 30 March 2023

ENGINEERING COUNCIL OF SOUTH AFRICA
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ECSA

[OFFICIAL]

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DEFINITIONS

Act means the Engineering Profession Act, 46 of 2000 "as revised".

Code of Conduct means the Code of Conduct for Registered Persons: Engineering Profession Act, 46 of 2000.

Competency means a combination of knowledge, training, experience and applicable qualifications that enables an individual to perform a task or an activity successfully.

Council means the Engineering Council of South Africa established by Section 2 of the Act.

Discipline means the disciplines of engineering as recognised by the Engineering Council of South Africa.

Engineering Work means the process of applying engineering and scientific principles, concepts, contextual and engineering knowledge to the research, planning, design, implementation, maintenance and management of work in the natural and built environments. It includes advisory services, assessment of engineering designs and determination of the risks posed by the design on workers, the public, and the environment.

Identification of Engineering Work means the Identification of Engineering Work as gazetted.

Overarching Code of Practice means the Overarching Code of Practice for the Performance of Engineering Work as gazetted

Practice means any engineering professional service, advisory service or creative work requiring engineering education, training and experience and the application of special knowledge of the mathematical, physical and engineering sciences, or creative work such as consultation, research, investigation, evaluation, planning, surveying, risk assessment and design, in connection with any public or private utility, structure, building, machine, equipment, process, work or project.

Profession means Engineering Profession.

Registration Category means a professional registration category as specified under Section 18(1) (a)–(c) of the Act, including Professional Engineer, Professional Engineering Technologist, Professional Certificated Engineer, Professional Engineering Technician, Candidate and Specified Category Practitioner.

Registered Person means a person registered under a category referred to in Section 18 of the Act.

Specified Category means those registration categories classified as such by ECSA, for example those related to fire protection systems, lifting machinery and medical equipment.

Specified Category Practitioner means a person registered in terms of section 18(1)(c) of the Engineering Profession Act, carrying out specifically defined engineering activities.

Unregistered Person means any person undertaking engineering work who is not registered in terms of the Act. This does not include persons registered by other statutory bodies and are part of teams undertaking engineering work.

ABBREVIATIONS

ANSI	American National Standards Institute
BSI	British Standards Institution
CAD	Computer-aided design
CFD	Computational fluid dynamics
CoP	Code of Practice
ECSA	Engineering Council of South Africa
FIDIC	International Federation of Consulting Engineers
IChemE	Institution of Chemical Engineers
ISO	International Standard Organization
OEM	Original Equipment Manufacturer
PMI	Project Management Institute
SANS	South African National Standards
SCADA	Supervisory control and data acquisition

1. INTRODUCTION

In terms of Section 27(1) of the Act, the Council must draw up a Code of Conduct for Registered Persons and may draw up a Code of Practice (CoP) in consultation with the Council for the Built Environment, Voluntary Associations and registered persons. The Council is also responsible for administering the Code of Conduct and the CoP and ensuring that these codes are available to all members of the public at all reasonable times. An "Overarching Code of Practice for the Performance of Engineering Work" was therefore developed and published in the Government Gazette dated 26 March 2021, which further in this document is referred to as the "Overarching Code of Practice", for brevity. The Overarching CoP applies to all engineering disciplines.

Respective disciplines and sub-disciplines may develop their own codes of practice to complement this code, of which this Chemical Engineering CoP is an example. The Chemical Engineering CoP is specifically aimed at Chemical and Process Engineering and gives more detail to the summary provided in the Gazetted Identification of Engineering Work and the Overarching Code of Engineering Practice. It shall be noted that Chemical Engineering and Process Engineering are used interchangeably.

2. POLICY STATEMENT

This Code is a statement of good practice for the performance of chemical engineering work by Registered persons. It is applicable to the entire chemical engineering profession. Section 27(3) of the Act requires Registered Persons to adhere to the requirements of this Code when they perform chemical engineering work.

3. PURPOSE AND SCOPE OF DOCUMENT

The purpose of this Code is to ensure that any person undertaking chemical engineering work meets the prescribed requirements when practicing and executing chemical engineering work within the jurisdiction of the Act. This Code sets appropriate levels of competence, regulating the execution of chemical engineering work and specifying technical standards and best practices.

4. APPLICABLE LEGISLATIVE FRAMEWORK

Section 27 of the Act empowers the Council to draw up Codes of Practice in addition to codes of conduct and requires all registered persons to comply with such codes.

This Code should be read in conjunction with the Act and related documents, in particular the Code of Conduct for Registered Persons, the **Overarching Code of Practice, the ECSA Discipline-Specific guidelines on Chemical Engineering** and the gazetted **Identification of Engineering Work**.

5. CHEMICAL ENGINEERING WORK

Chemical Engineering involves the planning, design, research, development, operation and maintenance of processes to convert and /or extract raw and recycled materials to products through chemical, bio-chemical and physical processes from laboratory scale to industrial scale.

Chemical engineering science or fundamentals derived from thermodynamics, fluid mechanics, energy and material transfer principles are essential in being able to successfully do the above. The chemical engineering discipline is applied in a broad range of areas including but not limited to the following:

a) Health, Safety and Environmental Management
b) Reaction kinetics, reaction and catalysis engineering
c) Water and Wastewater treatment (potable, domestic, municipal and industrial)
d) Advanced process control
e) Process modelling and simulation
f) Extractive metallurgy including pyrometallurgy, hydrometallurgy and minerals processing
g) Biochemical process engineering
h) Waste (Gas, Effluent and Solid) treatment and beneficiation
i) Process integration and intensification
j) Energy generation and consumption processes
k) Design and operation of transfer processes
l) Gas, fluid and solids flow in processes
m) Design and operation of piping and pumping systems
n) Commissioning and decommissioning of process plants including (LCA, EIA, etc)
o) Software development and commercialisation
p) Trouble-shooting operations

Table 1: Engineering Work for Chemical Engineers

Area/Field	Activity	Methods and Tools
Research/ Development	• Identify areas/topics to research/develop • Examine the literature • Develop an hypothesis • Test the hypothesis – experimentally or by computer modelling • Present the finding of the research in papers published in journals & conferences	• Access to libraries, journals, texts and experts • Bench scale laboratories & equipment • Pilot plant scale laboratories & equipment • Simulation packages • CFD • Access to workshop skills

Area/Field	Activity	Methods and Tools
	• Explore scale up of equipment from bench scale to pilot scale • If needed, scale up pilot plant to demonstration scale plant	
Process and Equipment Design	• Identify different process technologies for a required application • Evaluate the technologies to make an optimum choice • Develop block process flow diagrams for the chosen process route (technology) • More detailed Flow sheeting basing on the process block diagrams • Develop process Piping and Instrumentation Diagrams (P&IDs) • Carry out mass and energy balances for the required process per the P&ID • From the mass and energy balances, and the P&ID, determine the equipment sizes (based on projected throughput of the system as well as industry standards for quality and vessel standard sizes) • Develop the control philosophy of the plant • Determine material of construction for the vessels (informed by the process material characteristics, , MSDSs and other sources) • Develop 3-D models for the Plant configuration and Facility layout for optimisation of space • Evaluate the safety requirements for the plant • Develop Operation and Maintenance Manuals for the plant (in liaison with other disciplines) • Evaluate the cost of the plant (from design to installation, involving other disciplines and OEMs)	• Journals • Industry magazines • OEM articles • National Standards applicable for the final product specifications (e.g SANS 241 for drinking water, EMA for emissions) • Equipment and piping design codes & standards • Costing (economic evaluation of choices) • Microsoft Visio • Bentley Process Design (Microstation) • ChemCAD • AutoCAD • Solid Works • Excel • Various process-specific simulation software packages e.g Biowin- for Waste Water Plant Design; WaterPro for Potable Water plant design, JKSimet for mineral process plant design; WADISO for liquid conveying network hydraulic system modelling) • Industry Standards for vessel sizes (e.g ratios of dimensions, standard aspect ratios etc) • OEM standards for vessel sizes • Material Safety Data Sheets (MSDS) • HAZOP and HAZAN • LOPA • Other Plant Safety evaluation tools

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Area/Field	Activity	Methods and Tools
		• OHSAct guidelines (e.g Pressure Equipment Regulations et al) • OEM data books for vessels etc • Plant costing software (where applicable)
Process Safety Engineering (Risk & Impact mitigation)	• Comply with Occupational Health & Safety Act • Develop and implement a Process Safety Management system and a Risk management plan • Ensure risk analysis is carried out on all new projects, revamps, modifications and repairs	• Process safety management software & skills to enable: ○ HAZOP/HAZAN/LOPA analysis ○ Process simulation ○ Major Hazardous Installation Regulations.
Engineering Project Management and Contract Management	• Where a process plant and design is done inhouse and the implementation of the design is to be done by external contractors/plant and equipment vendors/installers, the Chemical Engineer gets involved in developing the design and the contractual conditions for a tender document to advertise the project to the market (to receive bids for the project implementation) • Evaluation of received bids in liaison with other disciplines (like legal, Supply Chain Management) ensure sound Memoranda of Agreement (MOAs) are developed to manage contractual implementation of the project • Developing a project programme for the implementation of Engineering project e.g new plant design and construction project or project for the modification of an existing plant installation /facility) through identification of the different scope activities and sequencing plus timelines- normally this will be a multi-disciplinary process	• MS Projects • Primavera • SAP Project Portfolio Management (SAP PPM) • General Conditions of Contract (GCC) • PMI Project Management Book of Knowledge (PMBOK) • FIDIC Conditions of Contract (Short Form of Contract; Design-Build; Design-Build-Operate-Transfer; Design-Build-Operate) • NEC conditions of Contract • IChemE Forms of Contract • Best Practice Contract Management Guidelines • Excel • MS Word • PowerPoint Presentation

Area/Field	Activity	Methods and Tools
	• Overseeing the implementation of the project e.g process plant construction or facility construction by ensuring that the process and equipment design specification is adhered to by the construction contractor • Monitoring project costs and variations • Ensuring Safety compliance (normally in liaison with a Health & Safety specialist depending on the safety-complexity of the project- or Chemical Engineer may ~~save~~ serve as the custodian of the health and safety aspects for a hazardous chemical installation) • Ensuring adherence to the Conditions of Contract governing the project (e.g contract penalties where applicable on plant construction contractor; ensuring project gets executed on time; making determinations where there may be contractual disputes or need for interpretation on the provisions of the contract governing the implementation of the project • Chairing the project Contract progress meetings with contractors involved in the project • Resolving any logistical matters that may arise during the implementation of the project • Being the interface between the project sponsor and the contractor for in-house and externally funded or developed project; Issuing out contractual correspondence.	
Implementation/ Commissioning	• Developing the project/plant commissioning Checklist • On completion of plant installation, a Chemical Engineer is part of the plant unit operation-by-unit operation	• Excel • OEM manuals • MS Word • SCADA • Data analytic tools

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Area/Field	Activity	Methods and Tools
	Testing followed by full plant start-up and ramping up of operations ● Reviewing the commissioning outcome vs the initial Operation and Maintenance Manual Description and Updating the manual were relevant taking into account the outcome of the commissioning and plant control fine-tuning ● Reviewing the commissioning outcome vs the original plant design performance specification and fine-tuning the plant settings until it operates within acceptable tolerances including any reviews to the control philosophy ● Generating any snag lists for the contractor (where the new installation was done by an external contractor) to rectify following the commissioning process ● Training of operations teams and developing any necessary troubleshooting routines and standard operating procedures (SOP) for the operations teams before handover of plant ● Handing over a fully functional operating plant/installation to the operations teams ● Monitor the performance of the plant for a set period to address any teething problems that might arise.	● Plant/System Operator involvement and engagement
Production, Operations & Maintenance	● Manage the day-to-day operation of production facilities including: ● People management ○ Leading, organizing & control ● Planning & forecasting ● Financial management ● Maintenance planning, scheduling & oversight ● Risk management ● Technology management	● Planning methodologies & tools (operational & maintenance) ● Decision-making tools ● Balanced scorecard ● Benchmarking ● Data analytics ● Employee engagement process ● Communication management ● Customer Relationship management

Area/Field	Activity	Methods and Tools
Process Analysis and Optimisation	• Identifying the system challenges, investigating them and developing solutions(troubleshooting) • Structured approach to the problem-solving process • Looking at the root-cause of problems and not the symptoms (Root Cause Analysis) • The above activities can be at a typical process plant level or at a high level within organisations, allowing Chemical Engineering to find roles and input in what may ordinarily at face value appear not to be Chemical Engineering roles in the world of business e.g Business Process Analysis, Business Process re-engineering, Operations Management in non-plant operating environments, Logistics Management, Planning, Enterprise Resource Management development	• Statistical Data Analysis tools • Six Sigma • Operations Research Tools • Queuing theory systems • Just-in-time • 5-Ws and One H • 5-Ys • Fishbone diagrams • Process analysis
Education & Training	• Present lectures, tutorials & seminars on theoretical topics associated with chemical engineering • Run practicals and projects that illustrate implementation of the theory • Evaluate understanding and comprehension of material presented	• Lecture theatres, seminar rooms • Laboratories • Pilot plant or mini scale equipment • Plant visits • Vacation experience • Remote online Webinars and instruction

6. COMPETENCY REQUIREMENTS

Competency may be defined as the ability and capacity to successfully execute specific work or tasks having the relevant tertiary education, training, knowledge, experience and expertise.

Engineering work referred to in this section shall imply chemical/process engineering or work within this discipline of engineering.

6.1 Requirements for Registered Persons

a) Registered Persons must comply with the provisions of the Act.

b) Registered Persons must demonstrate competence in accordance with the latest revision of the applicable ECSA Competency Standards. The applicable competency standards are:

- Competency Standard for Registration in Professional Categories as **PE/PT/PN R-02-STA-PE/PT/PN.**
- Specified Category Practitioner: Competency Standard for Registration in a Specific Category **R-02-SC**.

c) Registered Persons may not undertake Engineering Work involving engineering problems and/or engineering activities more complex than those applicable to their category of registration as set out in the above referenced competency standards.

d) Engineering Work performed by a person who is registered in the category of Candidate must be carried out under the supervision and control of a Registered Person in accordance with the provision of clause 6.5.

e) Registered Persons must comply with the Council's CPD requirements.

6.2 General requirements

a) All Engineering Work must be carried out by a competent engineering practitioner who is qualified by virtue of knowledge, training, experience, expertise and applicable qualifications to perform such work (relevant to the category of registration).

b) Chemical engineering practitioners shall perform duties within the scope of the relevant category of registration as stipulated in the Government Gazette No 44333, 26 March 2021, and as read together with this discipline-specific Chemical Engineering CoP.

c) All Practitioners must confine their performance of Engineering Work to the disciplines in which they are competent and / or registered by the Council, subject to the provisions of (a) above.

d) Practitioners' competence and the nature of the work they are competent to perform should be assessed in terms of the criteria applicable to Registered Persons.

e) When discharging their professional duties, all Practitioners must act with competence , due diligence, and integrity, in the public interest, and must exercise all reasonable professional ethics, skill and care.

f) All Practitioners must take all reasonable steps to ensure that persons working under their authority are both suitably equipped and competent to carry out the tasks assigned to them and must accept responsibility for work carried out under their supervision.

g) All Practitioners must undertake continuing professional development (CPD) or independent learning activities sufficient to maintain and extend their competence in line with current good practice in the industry and keep adequate records of professional development undertaken.

h) All Practitioners must encourage others to advance their learning and competence.

i) All Practitioners must give due weight to facts, published standards and guidance relevant to the profession and the wider public interest.

j) All Practitioners must ensure their work is lawful and justified.

k) ECSA may publish Guidance Notes and Policies to Practitioners from time to time containing advice as to specific conduct which is to be regarded as proper or improper as the case may be. Such notes shall be deemed to be part of this CoP. In the event of any conflict between this CoP and any such Guidance Notes and Policies, this CoP takes priority.

l) On attaining professional registration status with ECSA, all Practitioners agree to abide by this CoP. Practitioners re-affirm their commitment to this Code annually by maintaining their Professional Registration.

m) This Code is made and published as required under the By-laws of ECSA. All Practitioners must read and interpret it in accordance with those By-laws.

6.3 Confidentiality

a) All Practitioners must observe the proper duties of confidentiality owed to appropriate parties and must respect and protect personal information and intellectual property.

b) All Practitioners may have access to confidential personal information and are required to comply with the data protection legislation (POPIA). Practitioners may not disclose this information to any third party, other than in accordance with the law. This may include the “Protection of State Information Bill” (as amended). Failure to comply with these requirements will lead to disciplinary action under this Code and/ or subject to legal sanction.

c) Practitioners must ensure the security of personal information that they may handle.

d) Practitioners must comply with all legal or ECSA requirements regarding the use of ECSA's trademarks, goodwill, logos, corporate identity or other intellectual property (whether registered or unregistered).

e) Practitioners have a duty to declare any actual or perceived conflicts of interest and to report any unsafe, dangerous situations or practices and any malpractice observed.

f) All situational analyses should be based on objective judgment and sound scientific evidence.

g) All practitioners, when using any forms of the media, should do so responsibly and be prepared to defend their position and ensure that they do not bring the position of a member or the SAIChE/ ECSA into disrepute.

h) All transactions to be done with due diligence and transparency.

6.4 Overlaps

a) Persons registered in a particular discipline may perform Engineering Work in a different discipline if their knowledge, training, experience and applicable qualifications

specifically render them competent to perform such work and subject to the expressed permission of ECSA.

b) Persons registered as professionals under a Professions' Act other than the Engineering Profession Act may not perform Engineering Work even if their knowledge, training, experience and applicable qualifications specifically render them competent to perform such work without the expressed permission of ECSA.

c) Chemical engineering has a bearing on many activities of industry and even commerce and hence there may be no clearly defined boundaries. In such cases the experienced and appropriately registered engineer would recognize the competencies required and hence act appropriately.

The Overarching Code of Practice for Engineering Work must be consulted when any overlap occurs.

6.5 Levels of competencies and relevant types of Work

The competencies of chemical engineering practitioners depend on the following:

- Tertiary education
- Training
- Experience and expertise
- Reputation and recognition in the profession
- category of professional registration

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Table 2: Risk based two levels of Competency for Chemical Engineering Practitioners:

Level of Competency	Registration Category	Qualities of Practitioner	Risk of Work Done
1	Candidate	Possess tertiary educational qualification(s) in Chemical Engineering. Works under supervision or mentorship of a person/Person(s) who meet(s) the stipulated level of Competency for the work. (Gov. Gazette No:44333, March 2021)	None to low
2	Professionally Registered person	Person registered with ECSA as a Professional Engineer/ Professional Engineering Technologist/ Professional Certificated Engineer/ Professional Engineering Technician in the discipline of Chemical Engineering.	Medium to High

6.6 Work Competencies required for Chemical Engineering Practitioners

This classification is normally defined in terms of THREE risk categories (see **Table 3**).

Table 3: Nature of Chemical Engineering work and Risk level

Category of Work	Level of Risk	Nature of Chemical Engineering Work
1	Low	The work is simple, involving the application of engineering and scientific principles with a low level of analysis and basic design principles and standards. Here the safety, health and environmental risks and impacts are low under the supervision of a relevantly competent person.
2	Medium	Here the work entails slightly more detailed and challenging analyses. Design principles and solution often require more research and data including validation. Good communications and report writing skills are essential.
3	High	In this category, more complex analyses and solutions, skills, planning, management and experience at a higher level than level 2. Here groundbreaking/innovative/creative solutions might be utilized to address both usual and unique problem situations. At this level an appropriately qualified and experienced statutory responsible person (Professionally registered with ECSA) should supervise and ensure that all measures are taken to eliminate or mitigate risk.

6.7 Levels of Competency of Chemical Engineering Practitioners by Category

There are several levels of competency for chemical engineering practitioners starting from base level, matriculation, with mathematics and science, to Professional Engineer (see **figure 1**).

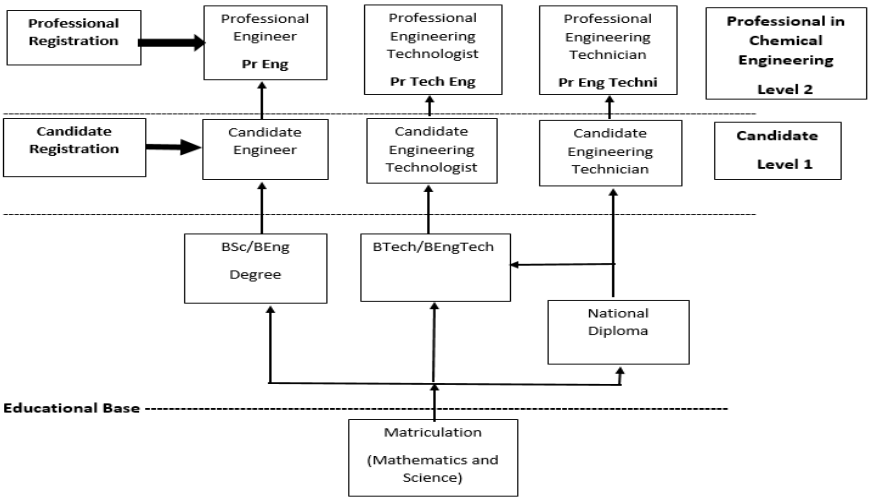

Fig. 1: Levels of Competency and Registration For Chemical Engineering Practitioners

Figure 1: Levels of Competency and Registration for Chemical Engineering Practitioners

6.8 Competencies for Critical Chemical Engineering Work

Work which involves special installations which pose serious risks to health, the environment, property, finance and other sensitive areas. These will include Major Hazardous Installations are those where there is a risk of explosion, fire, release of toxic gases, hazardous biological or radio-active materials.

Chemical Engineering Practitioners should demonstrate competencies in the following areas:

1. Good working knowledge of chemistry, mathematics, physics and chemical engineering fundamentals

2. Effective communications and report writing
3. Knowledge of relevant standards, rules, legislation
4. Good working knowledge of Health, Safety and Environmental aspects
5. Good planning and management skills
6. Engineering ethics
7. Relevant financial knowledge and ability
8. Conceptualization and design
9. Operations and maintenance requirements
10. Keep abreast of knowledge, skill, expertise and developments in the discipline

6.9 Misrepresentation of Competency

Chemical engineering practitioners shall conduct work in accordance with the ECSA Code of Conduct and limited to the confines of their level of competency, experience and registration.

6.10 Competency to perform Chemical Engineering Work

A practitioner eligible to perform chemical engineering work should meet the following requirements

1. Hold a recognized tertiary qualification in the discipline of Chemical Engineering
2. Be registered with ECSA in the appropriate professional registration category
3. Execute duties in accordance with the registration level as stipulated in Government Gazette 44333, of 26 March 2021.
4. Have the necessary core competency in the relevant area of work to perform such core services within the applicable category of registration.
5. Commit to upskilling knowledge, experience, skills, expertise, and keep abreast of technology and developments in and relevant to the discipline.

6.11 Category Differentiation for Chemical Engineering Problems and Activities

Differentiation of categories of Chemical Engineering work is based on how problems and activities are defined and assigned to the appropriate category of registration as indicated in **Table 4**.

Table 4: Differentiation of Work is based on definition and category of Professional Registration

Category of Registration	Professional Engineer (Pr Eng)	Professional Engineering Technologist (Pr Tech Eng)	Professional Engineering Technician (Pr Eng Techni)	Candidate
Level of Work	A complex engineering problem and activity	Broadly-defined engineering problem and activity	Well-defined engineering problem and activity	Specifically-defined engineering problem and activity

7. GOOD PRACTICE

All work carried out or services rendered shall be:

a) In accordance with accepted codes, norms and standards related to Chemical Engineering such as ISO, FIDIC, ANSI, BSI but not limited to these

b) In an ethical, safe and environmentally sustainable and responsible manner in accordance with the Code of Conduct,

c) Within the area of competency with honesty, fidelity and integrity,

d) In accordance with the Labour Relations Act (Act 66 of 1995) as amended,

e) In accordance with the Protection of Personal Information Act (Act 4 of 2013) as amended,

f) Any other applicable legislation.

Prior to taking a role in Chemical Engineering, the Chemical Engineering registered person shall ensure that he or she possesses the competencies required to undertake the work safely and correctly.

Prior to undertaking any task, the Chemical Engineering registered person shall ascertain and document:

a) the purpose of the activities;
b) the approach that will be used in the execution of activities;
c) the performance requirements for the activities;
d) any statutory, regulatory or other requirements that may pertain to the activities (including applicable Standards and Codes).

The Chemical Engineering registered person shall take into account the likely variation in input parameters and the accuracy of the models or methods used and shall consider all possibilities.

All calculations shall be independently checked, either by another suitably qualified registered person or by alternative calculation methods.

Prior to approving any work, or signing any completion certificate, the Chemical Engineering registered person shall ensure sufficient detailed checks or inspections to warrant such approval. Where the checks or inspections were limited in any way or carried out by a third party, the approval shall be qualified accordingly.

8. ADMINISTRATION

The Council shall be responsible for the Administration of this CoP, including its publication, maintenance and distribution.

The Council shall ensure that the CoP and all amendments there to are available on the ECSA Website and shall, upon request, provide a copy thereof.

The Council shall take all reasonable steps to introduce the CoP to the general public.

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REVISION HISTORY

Revision Number	Revision Date	Revision Details	Approved By
Rev 0. Draft A	27 September 2022	Proposed by the working group to ECSA	Working Group
Rev0. Draft B	07 October 2023	Steering Committee Draft	Steering Committee
Rev0. Draft C	07 October 2022	Broader Consultation draft	Working Group
Rev.0 Draft D	11 January 2023	Incorporation of comments received from Broader consultation	Working Group
Rev.0 Draft E	26 January 2023	Steering Committee recommendation to submit to RPSC for approval	Steering Committee
Rev 0.	14 February 2023	Approval by RPSC	RPSC
Rev 0.	30 March 2023	Ratification	Council

The Code of Practice for:

The performance of Chemical Engineering

Revision 0 dated 30 March 2023 and consisting of 26 pages reviewed for adequacy by the Business Unit Manager and approved by the Executive: Research, Policy and Standards (**RPS**).

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Business Unit Manager

14 April 2023
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Date

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Executive: RPS

2023/04/14
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Date

This definitive version of this policy is available on our website.

REFERENCES

[1] Engineering Council of South Africa. Rules of Conduct for Registered Persons Engineering Profession Act, 2000. Board Notice 256 of 2013. Government Gazette No. 37123 of 13 December 2013.

[2] Engineering Qualifications in the Higher Education Qualifications Sub-framework E-23-P

[3] Identification of Engineering Work Regulations, No. 44333, Government Gazette, 26 March 2021

[4] Overarching Code of Practice for the Performance of Engineering Work, No. 44333, Government Gazette, 26 March 2021

[5] R-05 ECSA Discipline-Specific guidelines on Chemical Engineering

[6] R-02-STA-PE/PT/PN Competency Standard for Registration in Professional Categories as PE/PT/PN

[7] Framework for development of ECSA Codes of Practice Revision 1: 29 January 2019