MAINTAINING YOUR PROFESSIONAL COMPETENCE

How can you keep up with all the new techniques, theories, hardware, and software that bombard you daily? Associations urge professionals to take control of their careers and maintain their skills through continuing professional development (CPD). They also ask members to report their CPD activities annually.

9.1 Your Career Path: Success or Obsolescence?

Your university degree is like a valuable radioactive mineral that decays over time. In previous decades, the half-life of a bachelor's degree was about 10 years, but today it is much shorter, especially in high-tech disciplines. Even if you were at the top of your graduating class, your knowledge and skills will eventually be out-of-date without renewal. The good news is that maintaining your competence has real benefits.

Personal benefits: When it is time for promotions, pay raises, new job challenges, or new clients, a good CPD record can effectively move your career forward. Continuing professional development expands your skills and capabilities; increases your value to employers or clients; improves your professional image; increases your marketability to other employers; and permits free mobility to other provinces (most of which have CPD requirements).

Professional benefits: CPD requirements keep professionals up-to-date, protect the public, and raise the image and esteem of the profession.

Following the Code of Ethics: Every professional has a duty to maintain competence throughout his or her career. This duty holds true from coast to coast. Each licensing Act contains a clause (usually in the Code of Ethics) requiring competence.

Maintaining your license: Finally, most Associations now have mandatory CPD programs (or are adopting them). This development gives a convincing reason to maintain your competence, because neglecting professional development (or failing to document it) can put your license at risk.

As you advance in your career, you will want to work on more stimulating and more difficult projects. You must practice within your ability, and an unsuccessful project could be costly and damaging, so this creates a conflict: should you stay with older, established methods (and risk

obsolescence) or try new ideas and techniques (and risk failure)? The Associations recommend that you avoid this dilemma entirely by maintaining your competence and expanding your horizons through continuing professional development.

9.1 Competence Program Requirements

Before the Associations introduced continuing competence requirements, they examined other professions. Law, medicine, accounting, and architecture require continuing professional development. In fact, most professions (licensing boards) in Kenya have CPD policies. In summary, continuing professional development is now commonly expected in the professions, both nationally and internationally.

Four major requirements for a continuing competence program:

Continuing professional development (CPD): Associations should have a mandatory program of CPD activities, including activities such as professional practice, formal courses, informal study, and service to the profession and the community.

Compliance, reporting, and recording: The Associations should make it easy to document one's CPD activities, preferably by online electronic reporting, and/or should ask licensed members to make an annual declaration that they have complied with the CPD requirements. Practice review: To ensure that the program is effective, Associations should audit the compliance declarations by selecting a small, random sample of members to undergo a practice review. **Practice guidelines and standards:** Associations should also help professionals by publishing practice guidelines and standards. Practice guidelines give useful general advice; standards give specific direction for typical procedures or problems.

Continuing competence programs should be mandatory and Associations should sanction members who are unwilling or unable to comply. In Kenya, before an engineer renews their license, they must have achieved a certain number of CPD points in the preceding year.

9.3 EBK's CPD Policy-Guideline for Engineers

Continuous Professional Development (CPD) policy for Engineers seeks to develop and continuously improve the competence of professional engineers in the country. The purpose of

this initiative is to contribute towards improving efficiency and effectiveness in the delivery of services by engineers.

Section 7(1) (q) of the Engineers Act 2011 provides that one of the functions of the Board is to "plan, arrange, coordinate and oversee continuing professional training and development and facilitate internship of graduate engineers" The objective of the CPD policy is to;

- Improve professional competence of local engineers and engineering firms.
- Keep abreast of changing procedures and standards.
- Understand and apply advances in technology.
- Better serve the engineering profession, community and environment.
- Assist practicing engineers to increase capacity for learning so as to be more capable, confident and adaptable when faced with change.
- Broaden into related fields, such as those covering management, financial or legal aspects in order to improve work performance and enhance career prospects.
- Maintain, improve or expand technical skills and knowledge.

9.3.1 Types of Professional Development Activities

For an activity to qualify as CPD, it must be related to the career of a consulting, professional and graduate engineer. To be in compliance with this guideline, members are required to complete an average of 50 Professional Development Units per year. The combination shall be at least 40 PDUs from structured activities and not more than 10PDUs from unstructured activities.

Structured Activities:

- Formal Activities
- Participation
- Presentations
- Contribution to Knowledge
- Work-based activities

Formal Activities

Formal activities are often for academic credit and may include an evaluation process. Where there is no evaluation, credit may be claimed in this category for activities that are at least two hours in length, such as a professional development seminar, course or workshop.

Formal activities include:

- Courses offered by universities, technical institutes, colleges, suppliers, employers or technical societies:
- Short courses, technical sessions, seminars and workshops provided by associations, technical societies, industry or educational institutions.

The following are mandatory courses to be covered under formal activities: -

- Risk management;
- Project and management skills;
- Contract management skills.

Two hours of course attendance equals one PDU. *The maximum units that an engineer can claim from activities listed under formal category is 20 PDUs maximum per year.*

Participation

Activities that promote peer interaction and provide exposure to new ideas and technologies both enhance the profession and serve the public interest. These activities include:

- Mentoring/tutoring as an appointed mentor to a member in-training or applicant;
- Service on public bodies that draw on professional expertise (e.g., planning boards, development appeal boards, investigative commissions, review panels or community building committees);
- Service on standing or ad-hoc committees of a technical or professional nature, or managerial associations and societies beyond the ordinary duties of work.

Two hours of course attendance equals one PDU. *The maximum units that an engineer can claim from activities listed under participation category is 10 PDUs maximum per year.*

Presentations

Eligible presentations are those of a technical or professional nature that are discretionary, that is outside your normal job functions. Presentations might occur:

- At a conference, meeting, course, workshop or seminar;
- Within a company or at an event sponsored by a technical or professional organization.

Multiple deliveries of the same presentation count for only one presentation. Two hours of course attendance equals one PDU. *The maximum units that an engineer can claim from activities listed under presentations category is 10 PDUs maximum per year.*

Contributions to Knowledge

This category includes activities that expand or develop the technical knowledge base in the disciplines of engineering. These activities include:

- Development of published codes and standards (two hours of committee work equals one PDU);
- Patents (credit can be claimed only one time per patent, each patent registered equals 5 PDUs);
- Publication of papers in a peer-reviewed technical journal (each paper published equals 5 PDUs);
- A thesis at the Masters or Ph.D. level, on a one time basis, upon successful defense and approval (each thesis equals 15 PDUs);
- Publication of a book (each book equals 10 PDUs);
- Publication of articles in non-reviewed journals or an internal company report (each article equals 5 PDUs);
- Reviewing articles for publication (two hours of review equals one PDU. Maximum of 5 PDUs);

The maximum units that an engineer can claim from activities listed under contributions to knowledge category is 15 PDUs maximum per year.

Work-based Activities

Since registered persons also remain current by performing their day-to-day engineering responsibilities, a weighting of 1 PDU for every 100 hours per year for engineering related work (including management) is awarded for this category. A maximum of 15 PDUS for 1500 hours per year may be earned in respect of this activity.

Unstructured Activities

Unstructured activities will constitute informal activities. The maximum PDUs that can be attained through informal activities will be 10PDUs.

Informal activities are usually shorter in duration and do not involve any evaluation, but nevertheless expand one's knowledge, skills and judgment. Informal activities include:

- Self-directed study (e.g., private reading including current technical, managerial and business journals);
- Attendance at conferences and industry trade shows;
- Seminars, technical presentations, facilitated technical field trips and workshops (courses and seminars greater than two hours in length may be claimed in the formal category);
- Attendance at meetings of technical, professional or managerial associations or societies;
- Structured discussion of technical or professional issues with one's peers

9.3.2 CPD Record

An individual's CPD records must demonstrate a minimum of 50PDUs in the past calendar year. The records must be accompanied by relevant proof of undertaking the activity which will include, but not limited to:

- Certificate of attendance/participation
- Curriculum/Syllabus/Course outline whichever is applicable.
- Copies of presentations (where individual was a facilitator).
- Copies of memberships to professional bodies where applicable.

9.3.3 Application of Policy for Various Categories of Registration

Professional Categories

This policy is applicable for all persons who are registered in the following categories;

- Consulting Engineers
- Professional Engineers

Candidate Categories

Registered Candidates are not required to comply with the CPD requirements for purposes of renewal of registration; however they are required to undertake CPD in order to comply with the requirements for full registration. Candidates therefore must record their CPD annually. Graduate Engineers will be expected to demonstrate achievement of at least 25 PDUs for three consecutive years prior to registering as professional engineers.

9.4 Taking Charge of Your Future

You can prepare a personal CPD plan to help you achieve your career goals.

Creating a personal CPD program

It encourages you to achieve your career goals using the familiar feedback loop from control theory: define the desired state, measure the gap between the present state and the desired state, and act to reduce the gap. You can consider these steps:

- Define your scope of practice. (Where am I now?)
- Assess your competence, strengths, and learning needs.
- Set goals and objectives. (Where do I need or want to be?
- Choose CPD activities to fill the gap.
- Document your CPD plan.
- Record and report your CPD activities.
- Update the CPD plan as time passes (back to step 1, 2, or 3).

CPD sources: The best sources for CPD activities are usually nearby. These include your technical associations, nearby colleges and universities, and the technical societies in your discipline. All of these organizations offer CPD activities, but technical societies may be the most important.

Technical societies provide leading-edge conferences, seminars, journals, codes, standards, and other useful information, and link you to professionals with interests similar to yours.

Suggested Skills for CPD

Any topic that advances your career or makes your professional life more effective is suitable.

NON-TECHNICAL SKILLS	TECHNICAL SKILLS
Communication: written and oral	Environmental regulations
Interpersonal skills: cultural sensitivity, conflict management, working with subordinates, negotiation, delegation, decision making, etc.	Regulatory compliance
Project management: project manager's role, documents, scheduling, estimating, budgeting, quality assurance, contract administration, etc.	Codes and standards
Problem solving: problem definition, root cause analysis, factors, criteria, solutions, etc.	
Management: recruiting, training, performance evaluation, human rights, motivational methods, mentoring, harassment issues, time management, workplace legislation, etc.	
Lifelong learning: self-assessment, career planning, self-development, second language, etc.	
Business: business cases, e-business contract negotiation, financial accounting, risk analysis, corporate culture, law, etc.	

9.5 Post Graduate Studies

Completing a post graduate degree is also a valid strategy for improving your competence, particularly if your goal is to be a specialist in engineering. The degree (or accurately, what you learn while achieving the degree) may be vital for changing your career direction, and can be a useful activity during an economic recession if you have the misfortune to be unemployed.

A common rule of thumb is that a professional degree extends a professional career by at least 5 or 10 years over a bachelor's degree. However, advanced degrees can be expensive, even when taken part time. To avoid wasting valuable years, you must weigh the costs and benefits, define a clear goal, and commit to achieving it. A half-hearted attempt is risky. Before you make a commitment, decide: Will the effort pay off for you?

Your first steps should be to define your research interests, check out the researchers in that field, contact them, and decide for whom you would like to work, especially if the degree requires a thesis. Ask about research grants and assistantships. Finally, before you accept the challenge, evaluate carefully your enthusiasm for your study topic (or research project), the quality of the supervisor who will mentor you, and the computer and laboratory facilities that will be available to you.

9.6 Final Word

Continuing competence programs have grown remarkably in the past decade, but not without some criticism and resistance. Many professionals support lifelong learning, but object to mandatory requirements. The key objections are the bureaucratic effort needed to run the CPD system (reporting, recordkeeping, and verification by Associations and members); the lack of unanimity on what constitutes competence; and whether CPD efforts can truly measure competence, given the diversity of the engineering and geoscience disciplines. A very few even suggest that continuing professional development is unnecessary as our free enterprise system (or discipline hearings) will gradually eliminate those who do not keep up.

To counter objections to continuing competence programs, Associations must recognize CPD's many forms and give credit where it is due. The reporting and verification process must be simple and unobtrusive, and must recognize that some forms of achievement, experience, and education are difficult to document. In some cases, practical experience (even bad experience) may teach more than formal courses.