

ENVIRONMENTAL ENGINEERS TRAINING GUIDELINES

(a) General Training

Graduate Environmental Engineer need to acquire knowledge and experience in most of the following areas:

Professional Training Guidelines

As mentioned earlier, Professional Training is intended to provide a smooth transition between academic training and field practice. It gives the trainee the opportunity to tackle engineering problems from first principles with confidence in the shortest time during his/her career. Graduate engineers who do not get supervised training upon graduation take very long to become professional engineers. This is because they are cautious of making decisions for fear of making mistakes. As a result they cannot be trusted with any major responsibility in an engineering enterprise.

The Professional Training Guidelines (PTG) requirements recommended in this document are structured such that they enable the trainee to acquire all the basic skills for managing an engineering enterprise or project with confidence and with least supervision. It is mandatory that trainees demonstrate full understanding of the key elements of engineering practice in their specific discipline, as detailed herein below. For effective learning or mentoring trainees will be expected to keep close contact with their supervisors for the periods specified.

(a) General Training

Every trainee shall work under the supervision of registered professional Environmental Engineer for a minimum of 6 months or as determined by the Board during which time knowledge and experience should be acquired in most of the following areas:

- Construction materials and technology for environmental engineering construction works
- Building services and sanitation services
- Use of analytical instruments in water quality analysis (e.g. Gas Chromatography, Atomic Absorption Spectrophotometer, High Performance Liquid Chromatography),
- Use of the standard methods in water quality analysis (BOD analysis kit, TKN analysis kit)
- Environmental auditing
- Planning of quality monitoring programmes.

(b) Specialized Training

Every trainee shall work under the supervision of registered professional Environmental Engineer for a minimum period of 18 months or as determined by the Board during which time knowledge and experience should be acquired in most of the following.

- Design and construction of environmental management works (water pollution, solid waste, air pollution works)
- Design of urban waste management systems
- Environmental Impact Assessments for various projects such as road works, water works, mining, industrial development, land reclamation, waste management etc.
- Pollution studies in the project area (air, land and water pollution).
- Operation and maintenance of environmental management works
- Waste minimization works
- Application of environmental management systems
- Diseases and public health studies
- Development of environmental mitigation measures
- Development of environmental management and plans
- Water pollution prevention and control
- Air pollution prevention and control
- Solid waste management
- Hazardous waste management
- Risks analysis and risk management
- Disaster management.

(c) General Management

Every trainee shall work under the supervision of registered professional Environmental Engineer for a minimum of 12 months or as determined by the Board during which time knowledge and experience should be acquired in most of the following areas:

- General office routines/administration
- Organisational structures and their relation to project execution
- Staff regulations and labour laws
- Environmental laws and legislation
- Environmental policies (National and as well as sectoral policies)
- International treaties on environmental management
- Safety practice during field work and project sites
- Work planning and control of resources (labour, equipment, materials and funds)
- Tendering procedures including tender preparation and tender evaluation
- Knowledge of various types of contracts and conditions of contract
- Contract administration
- Communication skills.