

## Handling Projects in a Consulting Engineer's Practice

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(This training course originally was developed at the request of the then Continuing Education Committee of the South African Association of Consulting Engineers).

It is regarded as a Core Course, i.e. essential for the younger practitioner.



### BACKGROUND

This two-day course is aimed at the core activity of a consulting engineer's practice, viz. the way he executes the Client's commission, right from the pre-appointment submission or tender, the appointment itself, through the various stages of pre- and final design, tender documentation, project administration etc., past hand-over to aftercare. Key elements of Finance and Law are also covered. It thus is intended to upgrade the knowledge and skills of Project Leaders and those about to become involved in this process. Directors/Partners who attended the course found that it inspired them to tighten up their own procedures so as to be able to impart their knowledge and experience to their people in a more structured way. Firms who invited Clients to gain an insight into the world of Consulting Engineering, reported that this improved understanding and brought about other highly beneficial results.

***It is also a useful precursor to any Consulting Engineering Quality Management course, as it describes fully the process whose quality has to be assured.***

The name "Handling Projects" differentiates this course from the usual general "project management" type. **It is run as a "workshop" over two full days. No more than 18 delegates are accepted.** This ensures adequate in-depth discussion and gives every delegate maximum opportunity to ask directly relevant questions and to get practical answers.

### COURSE OBJECTIVES

- To uncover the structure and processes underlying the flow of a project through the practice;
- To develop methods, procedures and check lists to guide this flow systematically;
- To make the delegates aware of the many variations in handling a project and of the associated risks;
- To impart the fundamentals of the required knowledge and of the various techniques and skills, especially communication skills and the important interpersonal aspects;
- To enhance the skills and insight of the participants to the level where they are able to decide when to call on the director/partner for assistance so as not to expose the firm to unnecessary risks, or when they may proceed with confidence without "delegating upwards";
- To identify sources of project management tools and of further information for later additional self-study.

The whole programme is designed to be extremely participative and practical. Each participant is given his copy of the extensive Workbook. This purposely contains questions and blank spaces into which participants can write the answers and text as developed through facilitated group discussion. Upon completion of the course the Workbook serves as a valuable summary and reference source.

Although the course is intended in the first instance for the Project Manager/Leader, experience has shown it to benefit greatly other senior staff and even Directors/Partners as well. One of the biggest challenges here is to ensure *quality of individual professional service* to the clients, whilst yet assuring *overall cohesion as a business*. Once professional staff have been made aware of the various aspects, processes and skills required to handle projects systematically and effectively, it is much easier to get an integrated approach and full co-operation. As a result:

- the firm's risk exposure will decrease;
- the firm's cash-flow and profitability will improve;
- the firm's quality (both real and perceived) will improve; *and*
- a sense of common purpose will permeate the participant group.

### COURSE ENDORSEMENT

To date more than 500 participants have completed the course successfully. With a single exception, all of them have assessed the course very positively and have stated in writing that they would recommend it to others. The course has been validated by SAICE as serving the objectives of ECSA's Continuing Professional Development Policy. It attracts 2 ECSA Credits. It also qualifies for re-imburement of costs from the Skills Development Fund.

## COURSE OUTCOMES

### Day 1

- Understand the firm's organisational structure and the correct position of the Project Leader in it, also the Client's position as far as the project is concerned, and the required paradigm shift.
- Understand the role and value of the Project Sponsor, the mutual support engendered, and the 3-level theory of project marketing and interaction.
- Know the fundamentals of Project Management, with special emphasis on Quality Management; the three dimensions of the project target, the obligatory respect for community and environment; the importance of achieving Client Satisfaction and the role of Standards and Specifications, and which to apply.
- Know a method of setting priorities for problem solving, and understand the processes of problem solving and decision making.
- Able to draw up a time-based Project Network, with details of Critical Path Analysis, resource levelling, forward loading; getting time information from role players while avoiding accumulation of safety factors, and the reasons to avoid statistical methods.
- Have knowledge of and insight into other planning methods (PERT, CPM, GANTT), their application and relative ease of understanding by the non-specialist client; grasp the correct use of the S-curve; recognise the tremendous financial leverage of the Consulting Engineer's input; know the critical elements of Project Control.
- Understand fundamentals of General Management with cornerstones of Planning, Leading, Organising and Controlling; be aware of methods of motivation, the leadership demands on the Consulting Engineer and the value of engaging the Client as a partner.
- Insight into and knowledge of the many ways of, and demands and occasions for, interpersonal and communication skills with clients, team members and other people in the firm, other professionals involved with the project, contractors, the media:
  - \* Meetings – how to arrange them, behave in and chair them; how to deal with non-functional behaviour; the process of negotiations; handling conflict and aggression;
  - \* How to listen and how to speak;
  - \* Handling complaints and when to seek assistance from the Project Sponsor;
  - \* The why's and how's of written communications:  
Structure and format for Letters, Submissions, Proposals, Tenders, various kinds of Reports;
  - \* Have a useful insight into the South African Law on Intellectual Property Rights;
  - \* Know composition of Press Releases, appreciate value of Public Relations Consultants.

### Day 2

- Can follow the flow of a project through the practice step by step, understand the structure and processes underlying it; know the methods, procedures and check lists to guide this flow systematically:
  - \* Appreciate the importance and complexities of dealing with **all** facets of the Appointment, including Risk Management, and of the choice and application of various Team Structures and Contracts;
  - \* Define the Project Objective;
  - \* Assemble a Project Team;
  - \* Plan the Internal Project: Co-ordination, Work & Cost Breakdown Structures, Project Control
  - \* Know Internal Budgeting and Control;
  - \* Know the duties of the Project Leader during the Design Phases;
  - \* Know Tender Documentation: its Structure, Issue and Receipt;
  - \* Know requirements for the Adjudication of Tenders and Recommendation of Tenderers;
  - \* Know the processes of Appointment of the Contractor and Site Handover;
  - \* Know main aspects of Contract Administration: Being impartial yet helpful, OHS and ECT Acts, Variation Orders, Contract Price Adjustments, Escalation, Extended Site, Certification, Monthly Reports, Accounts, Penalties, Non-Performance;
  - \* Understand processes of Commissioning and Hand-Over;
  - \* Can deal with the complexities of the Defects Liability Period;
  - \* Can write Close-out Report and appreciate the importance of Revisits.
- Know what to do if things go very wrong;
- Understand the Basics of Finance and Law.