



GUIDANCE FOR ENGINEERING CONSULTANCY FIRMS

INTEGRATED CONTRACTS

PREFACE

Our industry is facing new integrated business models with increasing frequency. The processes driving these models are very different from the traditional model.

An integrated project process implies high demands on teamwork and a focus on results.

Such an integrated approach is also reshaping relationships among contractors, engineering consultants and clients. Moreover, it has an impact on the way they work together, and the liabilities and risks they assume.

This guide is intended as a quick reference for engineering consultancy firms, working outside the traditional design-bid-build approach and contracting relationships.

It is in their interest to understand the various roles they can play in the 'new' delivery methods throughout all phases of project development as well as the risks and benefits such integrated project delivery methods entail.

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Jan Bosschem

EFCA President

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1. Introduction: an increasing diversity of forms of contracts in construction projects in Europe

Clients are looking for **new forms of contract that are geared towards results**.

This developing process leads to an integrated procurement process for design and construction and changes in the role (position, responsibility, risk) of engineering consultancy firms in construction projects.

2. Forms of Contract

All contract forms that involve consultants can be divided into five large groups, depending on the construction organisation modalities, as follows:

1. Traditional contracts for consultancy engineering services
2. Management contracts
3. Integrated engineers' contracts
4. Integrated contractors' contracts
5. Financed integrated contracts
6. Alliance contracting

In this classification, standard contracts, such as those of FIDIC¹, play an important role. Some construction organisation setups may entail more than one contract modality or a succession of various contract forms.

2.1 The **traditional contract** for **engineering consultancy services**

Separate contracts for all involved parties such as architects, engineers, ...

The liabilities of the client, the designers and the contractors remain separate. Advisory roles, such as those of architects and engineering consultants, are examples of traditional roles.

2.2 Management contract

In **management contracts** an expert or specialised manager provides management services to the client for the various tasks in the construction process. This expert/company provides advisory services. In this construction organisation modality, consultancy and construction assignments are strictly separated. This type of contract comprises "project management", where the consultant advises the client on the tendering and supervision of consultancy, construction and supply contracts.

Examples: expert advisor, consultant, project manager, design manager, construction manager and facility manager (consultants).

¹ FIDIC is the International Federation of Consulting Engineers and represents the consulting engineering industry globally. FIDIC promotes the business interests of firms supplying technology-based intellectual services for the built and natural environment (<http://www.fidic.org>).

2.3 Integrated engineers' contract

An **integrated engineers' contract** is based on the advisory services of consultants or engineering consultants, and covers a larger number of tasks in the construction process so as to offer a more integrated process.

Examples: management contracting, construction management, total engineering, target fee contracting, engineering contracting and professional construction consultant.

Examples: Turnkey Contracting (the designer/project manager is responsible for the whole planning, budget), Engineering Procurement Contracting.

2.4 Integrated contractors' contract

An **integrated contractors' contract** also involves two parties, but in this case the contractor proposes an integrated contract. A complete solution is offered, based on an integrated process for the design and implementation.

Examples: Design & Build, Detailed Design & Build.

2.5 Finance integrated contract

A **financed integrated contract** involves two parties: the client and the overall service provider. The services provider offers a total package of services including financing, design, implementation, maintenance and/or operation.

Examples of this type of contract: FBOOMT, DBFO, BFO, DBFM.²

In this case, the client has to tender on the basis of functional performance requirements.

2.6. Alliance contracting

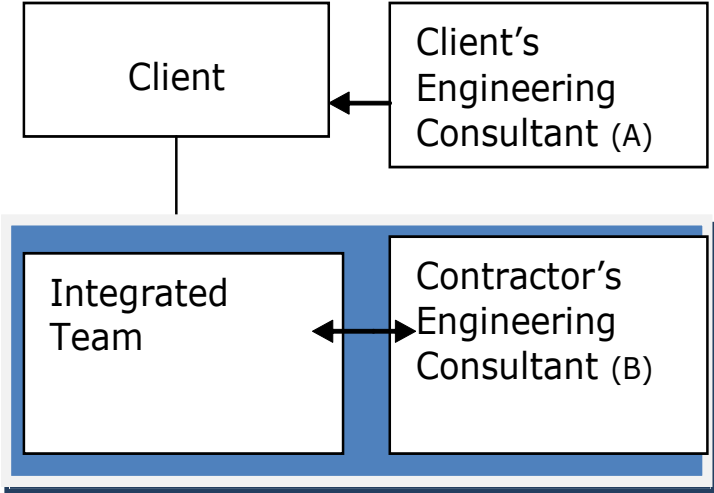
Alliance contracting is not a contract form but is a model of collaboration. Client, consultants and contractors form one team, which means that there is a collective responsibility and that all decisions have to be made unanimously. As the decisions have to be made unanimously, it implies that there are no contractual walls. All the partners are responsible for the outcome.

This guidance relates to contract forms 4 and 5 as detailed above, in which the engineering consultancy firms are part of the integrated team.

² D = design, F = finance, B = build, O = own/operate, M = maintain, T= transfer

3. Integrated team

In this context, the engineering consultancy firm can act either as advisor to the client (A) or as part of the integrated team (B).



It is inappropriate for an engineering consultancy firm to advise the client and at the same time also be part of the integrated team.

Clearly, there is a conflict of interest in being the contractor's and the client's consultant.

The organisational structure of the integrated team can vary: in a contractor-led team the designer works as a sub-consultant; in a joint venture or consortium the consultant works together with the contractor; they jointly conclude a contract with a client.

This guidance is focused on contractor-led team agreements whereby designers operate as sub-consultants to the contractor.

4. Impact of integrated contracts on the activities and responsibilities of the engineering consultancy firms

The integrated contracts require a different approach, both from the client and from the contractor/(integrated) project implementation team.

It is in the interest of the **client** to:

- assess the needs and requirements of society/the end users, life-cycle costs of the project and sustainability;
- define appropriate functional requirements that ensure the desired results and stimulate innovative and creative solutions;
- ensure that award is based on an appropriate weighting of financial and qualitative criteria;
- ensure transparent and verifiable selection and award procedures;
- minimise the tendering costs for all parties;
- observe a code of conduct in the interests of integrity, and require the candidates to also observe a code of conduct;
- engage in corporate social responsibility (CSR) and
- foresee a procedure for dispute resolution.

The **integrated team** should:

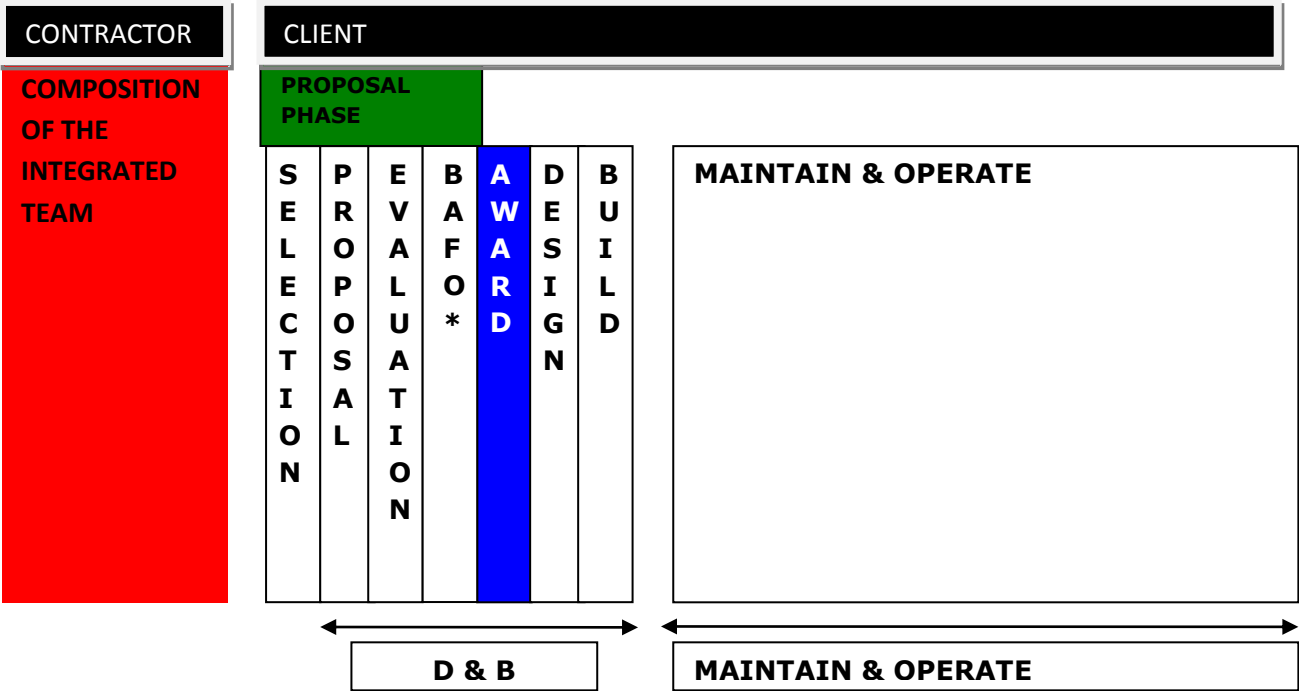
- adopt a client/market approach, centred on the needs of the client, society, the end users, whole-life costs and sustainability;
- pursue close collaboration with the other partners, sharing knowledge and resolving problems together to add value to the project;
- put in place transparent and open /fully documented working methods, in order to ensure trust in the relationship with the client;
- observe a code of conduct in the interests of integrity, and require sub-contractors to also observe a code of conduct;

Several partners are involved in an integrated project.

In these cases, a **construction is not the sum of several smaller projects** but one **integrated solution meeting the needs of the end user.**

5. Process and Stages of an Integrated Construction Project

5.1 The Key Stages



*BAFO: best & final offer

5.2 The composition of the integrated team (internal)

- First step: Selection of the consultancy firm(s) for the project
- Second step: Pre-bid agreement between works contractors and designers
- Third step: Selection by the client of the integrated team (proposal phase)

5.2.1 First step: Selection of the consultancy firm(s) for the project

It is very important that the selection and award process is carried out in a transparent manner, allowing sufficient flexibility for innovation and creativity, and with the objective of achieving an appropriate combination of life cycle cost and quality to best meet user requirements. The overall life cycle costs, including the construction, operation and maintenance costs, are more important than just the design and build costs; after all, the design cost is about 10% of the construction cost and 3-5% of the operation & maintenance costs.

- *Main criteria for the choice of designers to be used by contractors for the composition of the integrated team:*
 - o competences and qualifications (including capabilities in life cycle costing, sustainability)
 - o references related to the contract to be performed
 - o successful previous collaboration with local and national administrations
 - o experience with integrated projects
 - o flexible approach to design.

The choice of designers (architects and engineering consultants) must take place prior to the submission of the joint proposal of the integrated team.

5.2.2 Second step: Pre-bid agreement between works contractors and designers

Following the composition of the integrated team, it is necessary to conclude and elaborate a teaming agreement between the integrated construction team and the designers prior to the submission of the offer to the client.

The agreement should include a definition of additional work and provide for continuous dispute resolution. This document also confirms the remuneration that the designer will receive for services during the proposal phase, such as:

- preparing the design for the proposal,
- supporting the candidate in the evaluation,
- participating in the negotiations with the client where applicable (e.g. PPP projects),
- preparation of the BAFO (best and final offer)
- the fee for the designer if the integrated team's proposal is successful.

The designers have to be adequately reimbursed for their work in the proposal stage taking into account:

- the fact that a substantial proportion of their work takes place in the proposal stage
- the significance of this work for the success of the proposal, and
- the liabilities undertaken
- the work may be undertaken with reduced profit margin, provided that provision is made for a success fee if the proposal is won.

5.2.3 Third step: Selection by the client of the integrated team (proposal phase)

The planning/conceptual design phase is important for the success of the proposal and ultimately for the project.

Key stages in the planning of the proposal phase:

1. Selection: request for qualifications and evaluation of the capabilities of the proposed integrated team, with appropriate weight given to the design team. To reduce cost, EFCA proposes to limit the number of candidates to 5 teams/candidates.

2. Invitation to submit proposals: preliminary design of proposed solutions, and conceptual design and construction cost proposals.

The candidates are invited to submit proposals. The evaluation of proposals consists of:

- the evaluation of the quality of the proposal and, subsequently,
- the evaluation of the price.

The quality is determined by the aesthetic & technical quality of the proposed solution (including such parameters as utility to users, environmental & social impact) and the composition of the integrated team, including the designers.

3. Assessment of proposals or Best and Final Offer (BAFO): assessment and clarification of the initial proposal.

5.3 Award

The award should be made by the client on the basis of the **most economically advantageous offer considering the life-cycle cost of the project.**

6. Risk allocation and liability

In its relationship with the other parties, the engineering consultancy firm is a member of the integrated team. The establishment of a partnership with the contractors implies a move from an obligation to contribute the best effort to an obligation towards results. The risks therefore differ, depending on whether the engineering consultancy firm is working for the contractor or the client.

The partners should only take on risks that they can manage best and to a degree that is insurable at a reasonable cost.

Global insurance coverage is required for the project parties (architects, engineering firms, contractors, ...).

It is important that the liability and the insurance of the various parties are complementary and that the insurance conditions are transparent to the other parties. EFCA recommends that certain risks be undertaken by the client, for example risks linked to permits and approvals (urban planning, environment, safety ...). If this is not the case, the client should provide for an additional and independent assignment for completing environment and health reviews and permitting procedures, including pre-determined levels of compensation for these supplementary services.

The agreement covering the proposal phase established prior to the award (from the preparation of the proposal up to the evaluation of the proposal or BAFO) should clearly state who is liable for which risks, and establish liabilities to be addressed in the teaming agreement (see 5.2.2) for the possible subsequent phases.

When the designer is working for the contractor as sub-contractor, it is recommended that clients agree to an explicit exclusion of joint & several liability of engineering consultants with the construction parties. As sub-contractor they are liable exclusively for their own scope of work in the global contract.

When the designer is part of a joint venture (JV), the parties are usually considered by the client to be jointly & severally liable, although this is in principle inappropriate since each party is responsible for its own input and scope of work and cannot be responsible for the input and scope of work of other parties. In such cases:

- parties should make clear internal arrangements about the distribution of liability, and
- partners should be selected with due regard to their financial & technical reliability.

7. Contract conditions: key clauses

The following clauses should be included for each of the phases described below.

7.1 Proposal phase

- Exclusivity for the following phases
- Confidentiality (up to the BAFO)
- Collaboration after the proposal phase
- Remuneration of the designer services during the proposal phase and construction phase if the candidate undertakes the project
- Recognition of rights of the designer to his design
- Termination: timing of notification and remuneration in case the agreement is terminated for reasons outside the control of the team partners
- Application of *best available knowledge*.

7.2 Award phase

- Clear definition of the scope and time frame
- Fees
- Payment conditions following award and during project implementation (time-based or lump sum)
- Contract breach and related compensation.

7.3 Unsuccessful proposal

Freedom of the parties in the event of an unsuccessful proposal, e.g. with reservation of the protection of intellectual property.