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Deloitte Legal – *Lawyers* cvba | 3 July 2020

Construction newsletter
02 July 2020

New Engineering Contract 4 - Engineering and Construction Contract: an innovative contract model for Belgian infrastructure projects

This newsletter looks at the *New Engineering Contract 4: Engineering and Construction Contract* (NEC 4 ECC), which will be applied for the first time in a large infrastructure project in Belgium, namely the Oosterweel project in the city of Antwerp.

Introduction: New Engineering Contract 4

In 2017, the Institution for Civil Engineers (ICE) published a series of contracts named "*New Engineering Contract 4*" (NEC 4). NEC 4 is the successor of NEC 3, the previous series of contracts from 2013.

The authors have opted for an innovative approach to construction contracts. The innovative aspect is translated into a particular focus on good project management, the availability of an integrated series of *back-to-back* contracts, flexibility, with simpler and less legal wording.

NEC 4 is characterised by the integral coordination of various model contracts, ensuring that the roles of parties involved are clearly defined.

NEC 4 includes inter alia the following model contracts:

- *Engineering and Construction Contract* (ECC): This contract governs the relationship between the client and the contractor for physical engineering or construction works on a project, including any level of design responsibility. A short form exists for less complex or less risky projects.

- *Engineering and Construction Subcontract* (ECS)*:* This is a contract between a contractor and a subcontractor for physical engineering or construction works. The subcontract is fully *back-to-back* with the ECC, but can be read independently. Certain time schedules are reduced, e.g. with respect to communication and payment, to allow the contractor to meet its obligations under the ECC contract in a timely manner. The contractor is however not obliged to use the ECS for its subcontractors if the ECC is used with the client.

- *Professional Services Contract* (PSC)*:* This is a contract for the provision of intellectual works, such as professional services, by a consultant or other professionals.

- *Term Service Contract* (TSC)*:* This contract governs the appointment of a service manager for a fixed period, to procure services during the operational or maintenance phase of a project, such as facilities management or maintaining a highway.

- *DBO Contract* (DBOC)*:* This is an integrated design, build and operate model, whereby the design, construction and operation can be procured through one supplier. The DBO form allows a range of different services to be provided during the contract's lifecycle.

- *Supply Contract:* This is a contract for the procurement and supply of goods, particularly goods that are relatively expensive or customised.

- *Alliance Contract:* a new contract with some interesting features. It is a multiparty contract intended for complex projects and based on deep collaboration between the project partners, with an integrated risk and reward model. The client readies a certain budget for the alliance partners. Any remaining budget will be divided among alliance partners. In the event of a budget overrun, the alliance partners will compensate. The partners are bound by common interests, which reduces the risk of conflicts.

NEC 4 ECC

The ECC is an integrated model contract comprising both the engineering of a design and its execution. A client can use the ECC to engage a first tier supplier that would undertake engineering and construction work requiring sophisticated management techniques, including any level of design responsibility.

The previous model, NEC 3 ECC, was used in several prominent foreign construction projects, such as the expansion of London Heathrow airport (terminal 2), the expansion of the Indira Gandhi International Airport in New Delhi, and the International Criminal Court in The Hague, in the Netherlands.

The ECC has a number of interesting characteristics for Belgian infrastructure projects, which are outlined below.

Parties involved

The NEC 4 ECC is a bilateral contract between the client and the contractor. Other relevant actors are the project manager and the supervisor:

- The project manager manages the contract on behalf of the client. The former has a great deal of authority, and can be from inside or outside the government. The project manager can give instructions for changes to the scope and for an amendment to a key date.

- The supervisor supervises a good execution of the contract and verifies compliance with the scope. They can instruct to search for defects and is inter alia responsible for granting the defects certificate. Contrary to the project manager, the supervisor has a rather technical role.

Different price mechanisms with incentives to optimise construction process

NEC 4 ECC contains six pricing options, one of which must be chosen by the client. The six pricing options enable clients to select a contracting strategy and payment mechanisms most appropriate to the project and the various risks involved:

- Option A (priced contract with activity schedule) is a lump sum contract under which the contractor is entitled to be paid for completed activities (milestone payments). This option is suitable if the client can define the scope with precision. The financial risk lies entirely with the contractor.

- Option B (priced contract with bill of quantities) is a re-measurement contract based on a bill of quantities. The Contractor is entitled to be paid for the quantity of work completed, with reference to bill of quantities rates. This option is suitable if the project can be well defined in the tender phase. Quantities will be subject to change and will be re-measured as works progress. It comprises a list of work items and quantities prepared by the client and priced by the contractor. The standard methods of measurement are published. The risk also lies primarily with the contractor under this option.

- Options C (target contract with activity schedule) and D (target contract with bill of quantities) only provide for a target price. These options are suitable when the extent of work required may not be fully defined, but where the scope can be described well enough to determine a target price. The financial risk is spread across parties. The options contain an incentive for the contractor to optimise the construction process. The contractor receives a part of the savings if there is an underrun of the original estimated budget, and vice versa, at the end of the project. Optimisations, which reduce the contractor's turnover, are offset by higher profits for the contractor; hence, the end result is positive. The benefit for the client is a higher quality of work at the same cost level.

- Option E is a cost reimbursable contract. The financial risk lies primarily with the client. The option is therefore only suited when the extent of work cannot even be defined sufficiently enough to establish a target price, in emergency works or when there is a large risk factor. One could think of an emergency hospital during a health crisis, when urgent action is required. The contractor has little incentive to minimise costs during construction.

- Option F is a management contract. The contractor is paid the cost that is paid in turn to subcontractors plus a fee, while the financial risk lies primarily with the client.

Modularity

NEC 4 ECC is a modular contract. The contract contains five different modules:

- 9 core clauses, including the contractor's main responsibilities, quality management, payment, compensation events and termination;

- 6 pricing mechanisms (Options A – F);

- 3 dispute resolution options (Options W1 – W3), of which 1 is only relevant for the UK;

- Secondary option clauses:
    - Options X1 – X22, which can in principle be used in any jurisdiction;
    - Option Y, which is specific for the stated jurisdiction.

- Finally, parties can add additional clauses of contract (Z clauses). They should however be limited.

Early warning

The contractor and project manager (as the client's advisor) must notify parties involved of any situation that could impact costs, planning or maintenance efficiency. This is similar to the contractor's duty to provide a warning, under Belgian law. Failure to warn could lead to a loss of the contractor's right to compensation.

The *early warning*-principle aims to incentivise parties to consult one another immediately about situations that could negatively impact the project.

Early contractor involvement

Under NEC 4 ECC, it is possible to closely involve the contractor during the design phase and costing analysis. This is included as an option clause under Option X22. The Option allows for a break point in the contract if agreement cannot be reached on scope and budget.

Compensation events

NEC 4 ECC lists a number of compensation events. One of these compensation events is when costs are brought by the contractor following a request from the project manager to assess the costs of a change in scope, which is not confirmed by the project manager afterwards. The contractor can be compensated for those costs under the ECC.

It is noteworthy that exceptional weather conditions can also constitute a compensation event. Unlike in several other contracts, which only refer to "exceptional adverse weather" as a compensation event, NEC 4 ECC provides that only adverse weather recorded less frequently than once in ten years, can constitute a compensation event.

Conclusion

The NEC 4 model forms of contract constitute an innovative approach to infrastructure projects, with the clear aim to enhance collaboration between parties from the very onset of the project. The focus on good cooperation, with a clear obligation to notify possible problems and enter into consultations on time, makes it an interesting alternative for the more commonly used FIDIC or DBF(M)(O) models.

The benefit of applying NEC 4 contracts to large infrastructure projects is, in our view, the integrated approach. The NEC 4 suite of contracts are a series of integrated, back-to-back contracts, which help prevent each of the parties involved, including (sub)contractors, suppliers, facility management providers, the architect, etc., from entering into their own independent agreement with the client.

When applying the NEC 4 suite of contracts to Belgian infrastructure projects, Belgian law must be taken into account. Certain references to Belgian law, legal concepts and standard wording will have to be included. In addition, it must be verified whether the chosen clauses comply with Belgian law, including Belgian public procurement law (the general execution measures ("*Algemene Uitvoeringsregels*") in particular).

For large infrastructure projects, it is recommended for the client to inform the contractor, who is often very familiar with the risk allocation in other model contracts such as DBFM(O) or FIDIC, but probably less so with NEC 4 ECC, about the precise scope of certain NEC 4 ECC contractual provisions. This will allow the contractor to better assess the particular risk allocation under NEC 4 ECC to complete its offer. In our view, this is a win-win situation for both the client and the contractor.

Contacts

If you have any questions concerning the items in this newsletter, please get in touch with your usual Deloitte Legal - *Lawyers* contact at our office in Belgium or:

- Kathleen De hornois, kdehornois@deloitte.com, + 32 2 800 70 60
- Dominique Vanherck, dvanherck@deloitte.com, +32 2 800 71 35

For general inquiries, please contact:
bedeloittelegal@deloitte.com, + 32 2 800 70 00