Provisions of the new FIDIC 'Emerald Book'

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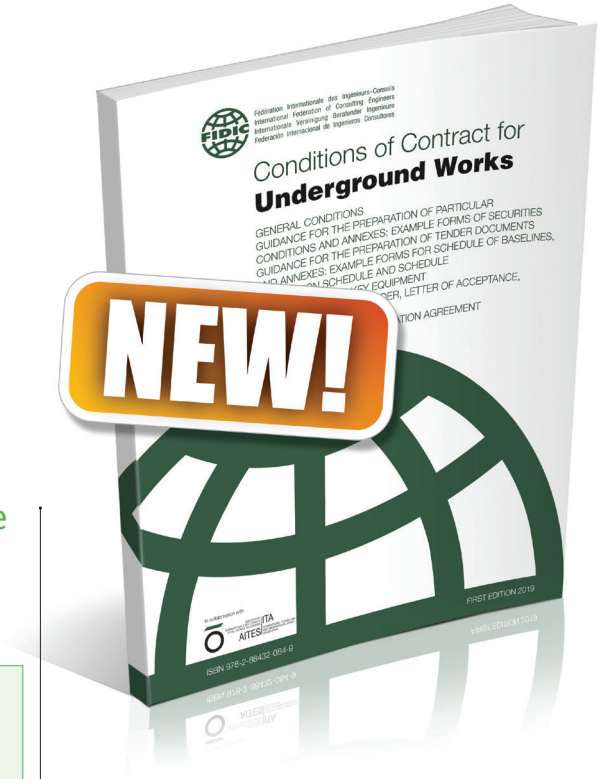

After five years of significant work, the new FIDIC 'Conditions of Contract for Underground Works', the so-called 'Emerald Book', was finally published on 7 May 2019 at the World Tunnel Congress in Naples, Italy. This new contractual standard for the tunnelling industry was developed by the International Federation of Consulting Engineers (FIDIC), in cooperation with the International Tunnelling and Underground Space Association (ITA), through the jointly established Task Group 10 on 'Contract Form for Tunnelling and Underground Works'. This article will take a closer look at the provisions of the 'Emerald Book'. The book aims to mitigate the risks inherent in underground projects that arise from the uncertainties ever-present in the subsurface space.

Mastering the challenges

It was generally accepted that a different approach to contracting for tunnels and other subsurface construction projects had to be taken. However, thus far, there was no general common position within the industry on the specific contractual approach that should be taken. To date, the Parties have had to use a "piecemeal approach" and choose from various different options. Occasionally, standard form contracts are used taking other FIDIC books or the New Engineering Contracts (NEC) as a point of origin. The risk allocation between the parties sometimes makes reference to national standards such as the Swiss 'General Conditions for Underground Construction' (SIA 118/198:2007), last updated in 2007. Additional guidance can also be obtained from the various Recommendations, Guidelines and Checklists produced by the ITA.

Contractual arrangements differ from project to project and are often drafted specifically for the relevant project. A thorough planning of these works, as well as a correspondingly forward looking contractual framework, are crucial for the realisation of tunnels and other subsurface construction projects. Advanced planning is often limited due to financial and legal constraints as the subsurface space is vast, difficult to access and often in the hands of a multitude of owners. Tunnelling and other subsurface projects are also increasingly complex due to a higher demand for project delivery in geographically challenging environments and increased expectations for the utilisation of such projects after completion. While performance of the work in the subsurface space is under way, the geological, geotechnical and structural conditions of that space often prove to be different than initially anticipated. In these circumstances, the involved parties are met with unpredictable challenges which often lead to a loss of time, trust and resources that are not found in other projects, and which consequently lead to costly disputes. These unforeseeable risks caused by the ground conditions are unique in terms of risk management and risk allocation in construction contracts. The availability of a comprehensive contractual standard has long since been expected to tackle these challenges, improve legal predictability for the industry and, in doing so, sustain growth in the market.

Background of the 'Emerald Book'

The ITA has emphasized for decades the key role of contractual provisions in tunnelling and other subsurface construction projects. In 1974, the ITA established a Working Group on Contractual Sharing of Risks (today ITA Working Group 3). The Working

Group has since published recommendations on a large variety of contractual topics. One key concern has been finding ways to equitably distribute underground risk between owner, contractor and consultant. The recommendations further dealt with, inter alia, clauses on changed conditions; full disclosure of available subsurface information or the pre-qualification of contractors.

Additionally, from the 1970's, ITA officials started discussions with representatives of FIDIC to include the ITA recommendations into the FIDIC Conditions of Contract. These Conditions of Contract published by FIDIC are the most frequently used contractual forms for international infrastructure projects worldwide. FIDIC has published a variety of different Conditions of Contract which are now (unofficially) referred to according to the colour of their bindings: most renowned being the 'Red Book' and the 'Yellow Book'.

In recent years FIDIC has published many new Conditions of Contract. The process leading to the 'Emerald Book' started in 2014 with the setting up of the jointly established Task Group 10 'Contract Form for Tunnelling and Underground Works'. After extensive stakeholder consultations in the aftermath of the first draft, the final edition of the 'Emerald Book' was drafted and adopted in the spring of 2019.[1]

General structure of the 'Emerald Book'

Despite being established as a self-standing FIDIC book, the 'Emerald Book' uses FIDIC's 'Yellow Book' as its blueprint. Correspondingly, 90% of the clauses of the 'Yellow Book' are transferred without any changes into the 'Emerald Book'. After introductory notes, the 'Emerald Book' is structured into three main parts: (1) The General Conditions of Contract are followed by (2) Guidance for the preparation of Particular Conditions, and (3) Guidance for the Preparation of Tender Documents and Annexes completed by various standard forms with relevance in tunnelling and other subsurface construction projects. The General Conditions are composed of a total of 21 clauses covering definitions, risk allocation between the parties, their obligations and liabilities, dispute resolution and other provisions relating to the employer, the engineer and the contractor. Based on the general distribution of risks in the 'Yellow Book', the 'Emerald Book' follows suit and assigns the general risk of performance to the contractor as he already assumed the design of the relevant tunnelling or other subsurface project. However, the parties can also agree on establishing their contractual relationship on a design of the project which has been previously completed by the employer. While generally suggesting not to do so, the Guidance for the preparation of Particular Conditions provides recommendations for the process of adapting specific provisions in ascending order of the General Conditions.

The 'Emerald Book' can also easily be applied to all common excavation methods, specifically blasting and mechanized tunnelling using special TBMs. The close link to the 'Yellow Book' will also facilitate the use of the 'Emerald Book' as the baseline for additional contracts between the contractor and his sub-contractors in relation to the fulfillment of the main contract.

Risk allocation in the 'Emerald Book'

The 'Emerald Book' introduces a new model for managing the risks that are peculiar to tunnelling or other subsurface construction works. It would be unbalanced if all risks arising out of unforeseeable subsurface conditions would be assigned to the contractor in the same way as the general risk of performance lies with the contractor. Therefore, the 'Emerald Book' includes a set of clauses deviating from the standard of the 'Yellow Book'. The background principle is that the parties should define the subsurface conditions of the relevant tunnelling or other subsurface construction project as detailed as possible. Through this, a mutually-agreed level of expectancy is created. At the same time the parties acknowledge that not all of the subsurface conditions can be determined with sufficient precision in advance.

Thus, the risk that such unforeseeable conditions would occur lies with the employer as the party who can best control such risks. This is justified since the employer benefits most from the completed project. Consequently, the employer should face adjustments to his expense if the subsurface conditions are worse than first anticipated. But the employer should similarly also benefit if the conditions are better than first anticipated.

In turn, the risks deriving from expected subsurface conditions are assigned to the contractor, as well as the production rates and the general cost of performing the works under unchanged conditions. The contractor can best handle expected ground conditions due to his experience and specialist knowledge in adjusting design and construction to such conditions.

GBRs and Baseline Schedule

The mutually agreed level of expected ground conditions is created through the inclusion of a geotechnical baseline into the relevant contract. For this aim, the 'Emerald Book' provides for a 'Geotechnical Baseline Report' ('GBR'). The 'GBR' sets out the subsurface conditions anticipated under the contractually agreed underground excavation and lining design as well as the construction methodology.

The 'GBR' shall be incorporated as an integral part of the contract and not just added as a reference. The Parties should exercise great care in drafting the 'GBR'. The contractor will contribute to the 'GBR' his proposal for a feasible method of the tunnelling or other subsurface construction work, distinguishing between excavation and lining works. The corresponding items and activities for the works, including the respective production rates, shall be combined in at least one additional baseline schedule.

Adjustments of time for completion and contract price

The underlying allocation of risks between the employer and the contractor also explains the provisions of the 'Emerald Book' on adjustments of the completion time and the contract price. Due to unforeseeable or unexpected subsurface conditions,

1. The specific date and facts around the final drafting and adopting of the 'Emerald Book' were not able to be found.

the completion schedule might be exceeded. Accordingly, the previously agreed lump sum for the project might not be sufficient to cover the contractor's cost and profit. In these situations, the 'Emerald Book' offers flexibility to the parties through various time and price adjustment mechanisms. The applicable set of rules depends on whether unforeseeable or unexpected subsurface conditions occur during the execution of the project.

For unexpected subsurface conditions a new provision, unique to the FIDIC Books, was introduced in the 'Emerald Book' to adapt the completion time and the contract price. Thereafter, if unexpected subsurface conditions occur during the execution of the project, the contractor is required to measure the actual excavation and lining works. In order to determine the possible adjustment(s), the records of the measurement will be compared to the excavation and lining works as set out in the initial baseline schedule(s) which were derived from the expected subsurface conditions of the parties in the 'GBR'. The resulting difference in time or cost will then determine the level of adjustment(s). This could lead to the outcome that the contractor might be entitled to ask for an extension of the completion date or additional payments. But if the encountered conditions are better than those expected in the 'GBR', the completion time can also be shortened as well as the contract price reduced. By this, the employer can also benefit from encountered subsurface conditions and not only the contractor.

Role of the Engineer

In line with other FIDIC Books, the 'Emerald Book' also has a strong role for the engineer in place. He is facing a role conflict in the book as he is acting, on the one hand, as the employer's agent and, on the other hand, as a neutral and independent body with the power to agree or to determine specific matters. This dual role requires a high degree of impartiality and fairness from the side of the engineer. The engineer undertakes a broad range of activities in the context of the correct day-to-day administration of the project.

In order to further accommodate the specific challenges of tunnelling and other subsurface construction projects in the 'Emerald Book', the engineer has specific supervisory and monitoring duties and authority for excavation and lining works. His central role in resolving disputes is also underlined in the 'Emerald Book' when it comes to adjustments following unexpected subsurface conditions. In this regard, the engineer has to confirm or reject the contractor's measurement of his excavation and lining works on which adjustments can solely be based. In addition, the engineer also determines the relevant adjustments of the completion time and the contract price.

Claims and disputes

In order to achieve clarity for the parties, claims under the 'FIDIC Book' are subject to relatively short cut-off periods and relatively complex procedures. The same applies to the procedure for the resolution of potential disputes arising from the claims, which in line with the other FIDIC books, consists of a multiple steps: A dispute is determined by the engineer, which in case of one party's dissatisfaction can be referred to the Dispute Adjudication/Avoidance Board (DAAB). As is the case with the current FIDIC standard, the DAAB is appointed permanently for the term of the project and not ad hoc for one single dispute. The DAAB renders a temporarily binding decision. The party dissatisfied with the DAAB decision might seek a last attempt at dispute avoidance and an amicable settlement may be reached. The dispute may be referred to arbitration governed by the rules of arbitration of the International Chamber of Commerce (ICC) where the dispute would be finally settled.

This provided dispute resolution mechanism has already proven to be successful in the other FIDIC books. The availability of a standing DAAB assists in avoiding disputes and provides for quick decision-making which is essential in large construction projects. Claims and disputes, however, have to be pursued within the applicable time limits, which requires a sophisticated contract and claim management by the parties.

Conclusion

The new 'Emerald Book' is a promising model contract for the tunnelling industry as it addresses the biggest challenges of tunnelling and other subsurface construction projects. Based on international best practice derived from the comprehensive experience of FIDIC Conditions of Contract, the 'Emerald Book' could become a global contractual standard. It has the potential to create enhanced legal predictability in tunnelling projects and thus will contribute to economic growth in the business sector as a whole. However, the parties will have to continue to look deep into the details and find a tailor-made solution based on the specific characteristics of the relevant project. The 'Emerald Book' will provide the parties with the right starting point for the contractual arrangement for their project. In order to facilitate an adaptation of the general body of rules, the new FIDIC book will provide valuable guidance in its FIDIC Particular Conditions, which can be used to modify the General Conditions. It is, however, of paramount importance that no ambiguity is created, either with the General Conditions or between the clauses in the Particular Conditions.

But the parties will still need to seek for tailor-made advice to conduct a risk assessment of the 'Emerald Book' concerning the applicable contract law. The 'Emerald Book' only functions as a model for their future contract. Thus, issues such as the interpretation and validity of its provisions are to be determined according to the applicable contract law. And national laws might find different interpretations for the very same wording. In rare occasions, the governing national law might even override provisions of the 'Emerald Book' or any other FIDIC template. This is especially relevant for provisions on damages or limitation of liability which are often critically viewed under national contract laws and therefore require careful consideration.