

CONSIDERATION OF CONTRACTUAL RISKS ASSOCIATED WITH COASTAL AND MARITIME ENGINEERING WORKS

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INTRODUCTION

Coastal and maritime construction projects are fraught with risks associated with working in or around the sea. Compared with terrestrial-based projects, there are typically less site investigations performed at the due diligence and design stages due to limited access (e.g. breaking waves precluding barge operations) or exorbitant costs (e.g. specialist equipment such as survey vessels or barges). There are seldom long-term records of coastal conditions to base vital design criteria upon, ground conditions are particularly variable along the land-sea interface, and works in or over water usually cannot be visually appreciated and must rely on measured data that may vary from day to day. And sea and seabed conditions can vary with daily coastal conditions and especially during and following storm events.

Perhaps as a result of the plethora of risks without clear definition of responsibility, contracting parties to coastal and maritime projects tend to regard each other with suspicion. Employers reluctant with upfront spending minimize performance of site investigation and design work. Contract administrators attempt to force unreasonable and irrational contractual clauses on unassuming parties to mitigate this risk. Contractors have been known to rely on the nature of the uncertainties to win the contract and subsequently re-price their initial works proposal through variations and claims. For these reasons, coastal and maritime projects are notorious for delay, cost overruns, poor quality workmanship, and disputes.

CONTRACTUAL PITFALLS

Ambiguous contractual language can further complicate these risks by not fully addressing them in relevant clauses or site descriptions, particularly in vague definition of responsibilities, insufficient criteria to qualify risk events, and unclear remedies or procedures for the responsible party. For example, maritime-related conditions for force majeure and adverse weather delays are frequently loosely defined with respect to coastal storms - specifically which criteria should be assessed (wind, wave, tide, surge, current, etc.) and what magnitude of return period storm event should be considered as excessive. What is the accepted (or acceptable) baseline conditions and form of measurement of the storm?

One of the more common contracts recognized globally in the civil engineering field is the FIDIC Red Book, which is applicable where the Contractor constructs the works in accordance with a design provided by the Employer. The FIDIC Red Book is commonly applied for general coastal and maritime projects that are not exclusively dredging projects (for which the FIDIC "Blue Book" is preferred). The Red Book has been in use continuously since 1957, with more recent releases in 1999 and 2017

(hereafter referred to "FIDIC 1999" or "FIDIC 2017").

Common standard contracts such as those within the FIDIC Red Book do not adequately address the peculiarities associated with this unique environment. With a measured understanding of these risks and appropriate mechanisms to identify, manage or mitigate their consequences, modifications to the contract wording and approach can minimize the potential for delay or dispute.

METHODOLOGY

Identification of possible risks on projects and corresponding consequences are required for the parties to avoid having to react to unforeseen occurrences. This paper will document the major areas of generic contractual risk and uncertainty with regard to coastal and maritime projects through review of literature, case law and other published disputes, as well as personal experience. Contractual deficiencies for the coastal and maritime project context will be identified in the standard clauses for both FIDIC 1999 and FIDIC 2017. Specific clauses that will be addressed include:

- Site Data
- Unforeseeable Physical Conditions
- Exceptionally Adverse Climatic Conditions
- Force Majeure / Exceptional Event

Through identification and comparison of both the risks associated with these projects and the vulnerability of the standard FIDIC language, recommendations will be made for contract administrators and project managers responsible for drafting agreements, project procedures, amendments and/or particular condition specifications. Improvements to communication to promote awareness of coastal and maritime risk and foster partnership between the parties are also proposed.

AIMS AND OBJECTIVES

The recommended modifications to specific clauses within FIDIC are intended to create awareness between parties to contractual risk in coastal and maritime projects. and. The contractual amendments will enable consideration and administration of fair risk allocation and allow the parties to proactively address potential problems rather than address them within formal dispute processes.

REFERENCES

Fédération Internationale des Ingénieurs Conseils (1999 & 2017): *FIDIC Conditions of Contract for Construction for Building and Engineering Works designed by the Employer*, First Edition 1999 & Second Edition 2017.