AMERICAN UNIVERSITY OF BEIRUT

COMPATIBLE CONTRACTUAL MECHANISMS FOR ADMINISTRATING SUBCONTRACTORS' CLAIMS AND DISPUTES

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A thesis submitted in partial fulfillment of the requirements for the degree of Master of Engineering to the Department of Civil and Environmental Engineering of the Maroun Semaan Faculty of Engineering and Architecture at the American University of Beirut

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AN ABSTRACT OF THE THESIS OF

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The increasing uncertainty and complexity of construction projects have led main contractors to adopt the multi-tier subcontracting practice which allow them to sublet all or parts of the works and responsibilities to specialized subcontractors. Despite its advantages, subcontracting has its disadvantages that cause claims and disputes, between the main contractor and subcontractors, to be inevitable. Construction projects, on which main contractors adopt the subcontracting practice, are characterized by multi-level contractual relationships established among its parties. Thus, the success of those construction projects is directly related to the clear and balanced contractual agreements on all levels.

It is evident that claims and disputes generating at the subcontractor's level cannot propagate directly to the employer due to the absence of *privity* of contract between the two, and the subcontractor can raise the claim/dispute only against the main contractor who in turn decides its contractual remedy. The subcontractor's claims and disputes, being under the control of the main contractor, are prone to receiving an unfair treatment possibly arising from the degree of incompatibility between the concerned conditions of the subcontract and main contract, signed at the lower and upper levels, respectively.

The literature mainly discusses the cases when the main contractor signs with the subcontractor an in-house prepared subcontract tailored to the main contractor's benefit, while not addressing the fact that the subcontract standard conditions, such as those by the International Federation of Consulting Engineers (FIDIC), can also present a certain degree of incompatibility and unfairness to the parties when used in conjunction with the FIDIC's main contract conditions, those specifically pertaining to the claim and dispute mechanisms. This research has studied this incompatibility through the diligent examination of the aperiodic evolvement of the FIDIC's subcontract conditions (those of 1994 and 2011), related to the claim and dispute administration mechanisms, in conjunction with the FIDIC's contract conditions released in 1987 (with 1992 reprint), 1999, and 2017.

The significance of this research lies, firstly, in bridging the gap in the literature, by studying the FIDIC subcontract claim/dispute timelines' compatibility and/or incompatibility when used in conjunction with the FIDIC's main contract claims/disputes timelines. Secondly, it proposes the necessary amendments that need to be implemented to the subcontract's general conditions to attain compatibility between

the related timelines. Finally, it recommends the most suitable FIDIC's subcontract conditions to be signed in conjunction with the FIDIC's main contract conditions to ensure a balanced and compatible mechanism for treating the subcontractor's claims and disputes.

CONTENTS

ACKNOWLEDGEMENTS	v
ABSTRACT	vi
LIST OF ILLUSTRATIONS	xi
LIST OF TABLES	xiii
LIST OF ABBREVIATIONS	xiv
Chapter	
1. INTRODUCTION	1
1.1 Research Background	1
1.2 Problem Statement	3
1.3 Research Objectives	4
1.4 Research Methodology	5
 1.4.1 Research Information and Background	94 6 8 C 8 8
1.5 Thesis Outline	10

	LITERA	TURE REVIEW	12
	2.1	Introduction	12
	2.2	Subcontracting and Its Characteristics	12
	2.3	Main Contractor - Subcontractor Relationship	13
	2.4	Claims at the Subcontract Level	16
		2.4.1 Contractual Reasons for Subcontract Claims and Disputes 2.4.2 Subcontract's Delay Claim: Initiation and Assessment	
	2.5	Back-to-Back Contracts Between the Main Contractor and Subcontractor	22
	2.6	Claims and Dispute under FIDIC Contract and Subcontract Conditions	24
		2.6.1 The Subcontract in Conjunction with the Main Contract 2.6.2 Evolvement of the FIDIC Standard Conditions	
3.		AND DISPUTE MECHANISMS UNDER FIDIC	
	SUBCO	NTRACT CONDITIONS 1994 AND 2011	27
		NTRACT CONDITIONS 1994 AND 2011 Introduction	
	3.1		27
	3.1	Introduction	27 27
	3.1	Introduction	27 27 29 33 35 36
	3.1 3.2 3.3	Introduction	27 27 29 33 35 36 38

4.	CLAIM AND DISPUTE MICHANISMS UNDER FIDIC MAIN CONTRACT CONDITIONS	.55
	4.1 Introduction	55
	4.2 Claim and Dispute Mechanism Under FIDIC 1987 (1992 reprint)	55
	4.3 Claim and Dispute Mechanism Under FIDIC 1999	56
	4.4 Claim and Dispute Mechanism Under FIDIC 2017	57
5.	ANALYSIS OF THE FIDIC MAIN CONTRACT AND SUBCONTRACT CLAIM AND DISPUTE TIMELINES	. 59
	5.1 Introduction	59
	5.2 1987 – 1999: MC 1987 (1992 reprint) with SC 1994	60
	5.2.1 Compatibility	61 61
	Contractor's Decision Periods	
	5.3 1999 – 2011: MC 1999 with the SC 1994	64
	5.3.1 Compatibility	64 65
	5.4 2011 – 2017: MC 1987 (1992 reprint) and 1999 with SC 2011	67
	5.4.1 Scenario C 5.4.1.1 Compatibility 5.4.1.2 Incompatibility/Limitation 5.4.1.3 Compatibility 5.4.1.4 Incompatibility/Limitation 5.4.1.5 Compatibility	68 69 72 72
	5.4.1.6 Incompatibility/Limitation	76 80 80
	5.4.2.2 Incompatibility/Limitation	84 84

5.5	2017 – 2018: MC 2017 with SC 1994 /2011	90
	5.5.1 Scenario E 5.5.1.1 Compatibility 5.5.1.2 Incompatibility/Limitation 5.5.2 Scenario F 5.5.2.1 Compatibility 5.5.2.2 Incompatibility/Limitation 5.5.2.3 Compatibility 5.5.2.4 Incompatibility/Limitation 5.5.2.5 Compatibility 5.5.2.6 Incompatibility/Limitation	
6. FINDIN	GS AND DISCUSSIONS	104
6.1	Introduction	104
6.2	Findings	104
	6.2.1 Claim Resolvent: Engineer's Determination and Main Contractor's Decision Periods	105 106 C1999 107 110 117 print) 117 C1999 118
	ARY, RECOMMENDATIONS,CONTRIBUTIONS AND FUTURE WORK	•
7.1	Research Summary	126
7.2	Research Recommendations	128
	7.2.1 Amendments to Subcontract General Conditions	e

7.3	Research Contribution	132
7.4	Research Limitations	. 132
7.3	Future Work	. 132
REFEREN	CES	134

ILLUSTRATIONS

Figure Page
1. FIDIC 1994 Claim & Dispute Timeline
2. FIDIC 2011 (Original Clause 20) Claim & Dispute Timelines
3. FIDIC 2011 (Alternative 1) Claim & Dispute Timeline
4. FIDIC 2011 (Alternative 2) Related Claim & Dispute Timelines
5. FIDIC 2011 (Alternative 2) Unrelated Claim & Dispute Timelines
6. FIDIC 1994 & FIDIC 2011 (Original Clause 20) Claim & Dispute Timelines 47
7. FIDIC 1994 & FIDIC 2011 (Alternative 1) Claim & Dispute Timelines
8. FIDIC 1994 & FIDIC 2011 (Alternative 2) Related Claim & Dispute Timelines 52
9. FIDIC 1994 & FIDIC 2011 (Alternative 2) Unrelated Claim & Dispute Timelines 53
10. FIDIC 1987 (1992 reprint) Claim & Dispute Timeline
11. FIDIC 1999 Claim & Dispute Timeline
12. FIDIC 2017 Claim & Dispute Timeline
13. Periods of Analysis of the FIDIC Main Contract & Subcontract Conditions 60
14. Claim & Dispute Timeline of FIDIC 1994 in Conjunction with That Under FIDIC 1987 (1992 reprint)
15. Claim & Dispute Timeline of FIDIC 1994 in Conjunction with That Under FIDIC 1999
16. Claim & Dispute Timelines of FIDIC 2011 (Original Clause 20) in Conjunction with Those Under FIDIC 1987 (1992 reprint)
17. Claim & Dispute Timeline of FIDIC 2011 (Alternative 1) in Conjunction with That Under FIDIC 1987 (1992 reprint)
18. Claim & Dispute Timelines of FIDIC 2011 (Alternative 2-Related) in Conjunction with Those Under FIDIC 1987 (1992 reprint)
19. Claim & Dispute Timelines of FIDIC 2011 (Original Clause 20) in Conjunction with Those Under FIDIC 1999

That Under FIDIC 1999	86
21. Claim & Dispute Timelines of FIDIC 2011 (Alternative 2-Related) in Conjunction with Those under FIDIC 1999	89
22. Claim & Dispute Timeline of FIDIC 1994 in Conjunction with That Under FIDIC 2017	92
23. Claim & Dispute Timelines of FIDIC 2011 (Original Clause 20) in Conjunction with Those Under FIDIC 2017	
24. Claim & Dispute Timeline of FIDIC 2011 (Alternative 1) in Conjunction with That Under FIDIC 2017	99
25. Claim & Dispute Timelines of FIDIC 2011 (Alternative 2-Related) in Conjunction with Those Under FIDIC 2017	102

TABLES

Table	Page
1. Thesis Organization	10
2. FIDIC 1994 Vs. FIDIC 2011 (Original Clause 20)	47
3. FIDIC 1994 Vs. FIDIC 2011 (Alternative 1)	49
4. FIDIC 1994 Vs. FIDIC 2011 (Alternative 2)	53
5. FIDIC 1994 Vs. FIDIC 1987 (1992 reprint)	63
6. FIDIC 1994 Vs. FIDIC 1999	66
7. FIDIC 2011 (Original Clause 20) Vs. FIDIC 1987 (1992 reprint)	71
8. FIDIC 2011 (Alternative 1) Vs. FIDIC 1987 (1992 reprint)	74
9. FIDIC 2011 (Alternative 2) Vs. FIDIC 1987 (1992 reprint)	78
10. FIDIC 2011 (Original Clause 20) Vs. FIDIC 1999	83
11. FIDIC 2011 (Alternative 1) Vs. FIDIC 1999	86
12. FIDIC 2011 (Alternative 2) Vs. FIDIC 1999	89
13. FIDIC 1994 Vs. FIDIC 2017	92
14. FIDIC 2011 (Original Clause 20) Vs. FIDIC 2017	96
15. FIDIC 2011 (Alternative 1) Vs. FIDIC 2017	99
16. FIDIC 2011 (Alternative 2) Vs. FIDIC 2017	102
17. Compatibility/Incompatibility Analysis Between the FIDIC Subcontract & Main Contract Claim Timelines	113
18. Compatibility/Incompatibility Analysis Between the FIDIC Subcontract & Main Contract Dispute Timelines	122

ABBREVIATIONS

FIDIC: Fédération Internationale des Ingénieurs-Conseils (International Federation of

Consulting Engineers)

EoT: Extension of Time

UP: Unregulated Period

AS: Amicable Settlement

NOD: Notice of Dissatisfaction

NODis: Notice of Dispute

MC: Main Contract

SC: Sub-Contract

PAR: Pre-Arbitral Referee

DAB: Dispute Adjudication Board

DAAB: Dispute Avoidance and Adjudication Board

CHAPTER 1

INTRODUCTION

1.1 Research Background

The growing uncertainty and complexity of construction projects, the day-by-day advancement in technology, the main contractor's limited financial capabilities and resources and, most importantly, the specialization of the works, have led to the adoption of multi-tier subcontracting practices which enabled the main contractors to sublet all or parts of the works and responsibilities to specialized subcontractors (Usdiken et al., 1988). However, the increased subcontracting practices has reduced the main contractor's control over the construction works which has caused cost and time overruns (Usdiken & Enbiyaoglu, 1988).

Construction projects, on which the main contractor adopts the subcontracting practice, are characterized and defined by the multi-level contractual relationships established among its parties. Thus, the success of those construction projects is directly related to the clear, balanced and fair contractual agreements on all levels (Uher, 1991). The break of one subcontract link or the rise of a claim and/or dispute at the subcontract level, which causes delay and/or additional cost, will affect not only the parties to that subcontract, but all the parties forming the team of the project, including the employer (Uher, 1991).

It has been noticed that main contractors prefer to use and sign in-house prepared contracts with the subcontractors with clauses tailor-made to their own benefit and which are hostile for subcontractors (Uher, 1987 and Peacocke, 1978). The onerous subcontract conditions affect drastically the relationship between the main contractor

and the subcontractor which is very much related to and affected by the relationship between the main contract and subcontract. This relationship can be judged by the frequency and number of claims and disputes between the two parties (Brown, J., 2013).

Due to the absence of privity of contract between the employer and the subcontractor, the latter cannot raise the claim or dispute against the employer, even though the employer might be the reason of the claim and/or dispute (Lee, 2001, as cited in Wong and Cheah, 2004). The subcontractor can only raise the claim and/or dispute to the main contractor who in turn decides the remedy of that claim/dispute (Wong and Cheah, 2004). This being said, the subcontract must provide the proper claim and dispute mechanism to ensure that the subcontractor's claim and/or dispute are fairly treated and propagated to the upper level for resolvent.

The literature focuses only on the in-house prepared subcontracts by main contractors and their effect on the main contractor-subcontractor relationship and on the claim and dispute propagation. However, attention and care should be given to the standard subcontracts, such as those under the International Federation of Consulting Engineers (FIDIC), used by main contractors with subcontractors in conjunction with the standard main contract used by employers with main contractors.

The FIDIC standard conditions for the main contracts and subcontracts have evolved over the years starting with the FIDIC 1987 (red book), to the FIDIC 1999 (red book), till recently the FIDIC 2017 (red book), for the contract conditions, and from the FIDIC 1994 (red book) to the FIDIC 2011 (red book) for the subcontract conditions. This evolvement has proven the FIDIC's extra step towards improved standardization to better comply the FIDIC subcontract conditions with the FIDIC contract conditions (Fenwick Elliott Solicitors – Glover, J., 2011). However, to fully prove the compliance

of those improved FIDIC main contract and subcontract conditions and fully understand the risks and liabilities, pertaining specifically to claims and disputes, the responsibility lies on the parties to the contracts to read the FIDIC subcontract conditions together with the applicable FIDIC main contract conditions simultaneously. This research offers what the literature did not present till date, which is the thorough examination and comparative analysis of the FIDIC subcontract conditions, signed at the subcontractors' level, in conjunction with the FIDIC contract conditions, signed at the employer's level, pertaining to the claim and disputes mechanisms based on the years of release of the FIDIC contract and subcontract conditions. This analysis allows the judgement of the subcontract claim and dispute timelines' compatibility and/or incompatibility with the main contract claim and dispute timelines. In this research, the term compatibility is defined by the agreement of the periods and methods allocated for the claim propagation and dispute resolvent under the subcontract with those allocated for patties under the main contract, while incompatibility is the in agreement of these periods and methods on both levels. Studying the compatibility and/or incompatibility of the claim and dispute timelines on both levels aim at proposing a balanced and compatible mechanism for administrating the subcontractors' claims and/or disputes.

1.2 Problem Statement

Although subcontractors play a huge role in the execution of construction projects, minimal research has been done concerning the terms governing the contractual relationship between main contractors and subcontractors, especially those related to the claim and dispute mechanisms under the FIDIC main contract and subcontract conditions. Based on the literature review, it is clear that claims and

disputes generating at the subcontractor's level cannot propagate directly to the employer due to the absence of a privity of contract between the two parties, and the subcontractor can raise his claim only against the main contractor. The subcontractor's claim, being under the control of the main contractor, is prone to receiving an unfair treatment. Such unfair treatment possibly arises from the degree of incompatibility between the FIDIC subcontract conditions, signed between the main contractor and subcontractor, and the FIDIC main contract conditions, signed between the employer and the main contractor, pertaining to the claim and dispute mechanisms. This incompatibility, in its turn, can be due to the aperiodic release of the FDIC standard conditions (both contract and subcontract), and the use of the improper FIDIC subcontract conditions in conjunction with the FIDIC main contract conditions signed between the employer and the main contractor. Thus, the incompatibility is framed along two parallel paths: 1) the employer's choice of which FIDIC contract conditions to sign with the main contractor (1987 with 1992 reprint, 1999 or 2017), on which the latter has no say, and 2) the main contractor's choice of which FIDIC subcontract conditions (1994 or 2011) to sign with the subcontractor, about which the latter has no say.

1.3 Research Objectives

The first objective of this research is to determine the degree of compatibility and/or incompatibility between the claim and dispute timelines of the FIDIC subcontract conditions when used in conjunction with the FIDIC main contract conditions through scrutinizing the evolvement of the FIDIC conditions of contract and subcontract over the years and highlighting the limitations present and/or improvements

implemented. Studying the compatibility and/or incompatibility between the claim and dispute timelines, on the main contract and subcontract levels, paves the road for the second and foremost objective of this research, which is to devise the most clear and balanced mechanism for administrating claims and disputes generating at the subcontractor's level, and propagating to the employer's level. This will be presented through recommending the most suitable FIDIC subcontract conditions to be used with the FIDIC main contract conditions and the necessary amendments or pre-requisites that need to be implemented, to the subcontract's general conditions, to ensure the fair and balanced treatment of claims and disputes. These recommendations aim to ensure a lower degree of risk on the subcontractor, a more balanced claim propagation and a less severe dispute resolution procedures.

1.4 Research Methodology

To achieve the above stated research objectives, a systematized methodology was set and followed which comprises the following major steps: 1) acquiring research information and background; 2) examining the claim and dispute mechanisms under FIDIC conditions of subcontract 1994 and 2011 (red books) and representing the mechanisms through comprehensive timelines; 3) developing a comparison criteria to enable the consistent comparison of the claim and dispute mechanisms presented under FIDIC; 4) comparing the FIDIC 1994 subcontract claim and dispute mechanisms to those under the FIDIC 2011; 5) reviewing the claim and dispute mechanisms under FIDIC conditions of contract 1987 (with 1992 reprint), 1999 and 2017 (red books) and establishing the timelines pertaining to those mechanisms; 6) performing a comparative analysis, pertaining to the claim and dispute mechanisms, between the various sets of

the FIDIC conditions of main contract 1987 (with 1992 reprint), 1999 and 2017 in conjunction with the FIDIC conditions of subcontract 1994 and 2011; and 7) offering a summary of the research work and devising a set of recommendations.

1.4.1 Research Information and Background

Acquiring the research knowledge requires an intensive examination of the literature. The literature review does not only provide insight on the topic understudy, but also helps in identifying the existing gaps, highlights previous or recent studies done and, most importantly, aids in setting forward the objective of the research. The literature reviewed was relevant to the claiming and dispute processes pertaining to the subcontracting approach. To achieve the intended purposes, the literature review was divided to cover five main areas: a) subcontracting as a delivery method and its characteristics (reasons, advantages and disadvantages; b) relationship between the main contractor and subcontractor under the subcontracting practice; and c) claims at the subcontract level, d) back-to-to back contracts and e) claims and disputes mechanisms under the FIDIC main contract and subcontract conditions.

1.4.2 Examining the Claim/Dispute Mechanisms Under FIDIC 1994 and 2011 Subcontract Conditions

Despite the devising of a new edition for the FIDIC conditions of subcontract, the FIDIC 2011, it was inevitable to examine the conditions pertaining to the claim and dispute mechanism stipulated under the FIDIC 1994 due to its extensive use, till date, by main contractors in formulating the subcontracts with their subcontractors. The clauses examined are: 7.2 (Extension of Subcontractor's Time for Completion), 11.1 (Notices), 11.2 (Claims), 11.3 (Effects of Failure to Give Notice), 19.1 (Amicable

Settlement and Arbitration) and finally 19.2 (Dispute in Connection with or Arising out of Main Contract Touching or Concerning Subcontract Work). The claim/dispute timeline was then extracted from the above studied clauses to allow the easy comparison in the following stages.

Carrying out the literature review has highlighted the lack of research and lack of use of the latest FIDIC 2011 conditions of subcontract, especially the claim and dispute mechanisms provided by this edition. It was noticeable that the main contractors, are still using the FIDIC 1994 Conditions of Subcontract for Works of Civil Engineering Construction, which creates a huge duration gap especially with the evolving conditions of main contract for construction since the FIDIC 1987 (with 1992 reprint). Thus, as a pre-requisite to achieving the research's first objective, a thorough examination of the claim and dispute mechanisms stipulated under the new FIDIC 2011 conditions of subcontract was conducted to determine and understand how a subcontractor's claim is treated under these conditions, from the moment it is generated at the lower level till reaching the upper levels, and deducing the various scenarios of the paths that a claim and/or dispute might follow. This 2011 edition of the FIDIC conditions of subcontract provides three different claim and dispute mechanisms presented as main clause 20 under "General Conditions", and first and second alternative under the "Guidance for the Preparation of Particular Conditions" as respectively. These three mechanisms where carefully compared among each other to detect the major differences and the implications of those differences on the subcontractor's claim and dispute propagation. After examining and understanding the FIDIC 2011 conditions of subcontract's claim and disputes mechanisms, the respective timelines were extracted to clearly depict those mechanisms.

1.4.3 Developing a Comparison Criteria for Comparing the FIDIC Claim/Dispute Timelines

This step allows the determination of a consistent basis of comparison of the claim and dispute mechanisms presented under FIDIC to enable the detection of the similarities and differences between the claim and dispute mechanisms, first, at the level of the subcontract conditions alone and second, at the level of the subcontract conditions in conjunction with those at the level of the main contract conditions. The bases of comparison are defined as: a) Claim Initiation and Substantiation (notice & particulars); b) Consultations (duration & phases); c) Decisions and Determinations (decision maker and the issues to decide on); d) Initial Dispute Resolution Stages; and e) Final Dispute Resolution Stage (arbitration).

1.4.4 Comparing the Claim and Dispute Mechanisms Under FIDIC 1994 and 2011

Comparing these two sets of FIDIC conditions of subcontract is important to understand the evolvement of the claim and dispute mechanisms from 1994 till 2011, and to permit the performance of the fifth step of the research's methodology below. This comparison serves as a basis for the achievement of the research's main objective, which is to determine the best compatibility between the FIDIC conditions of subcontract with the FIDIC conditions of contract from a claim/dispute perspective.

1.4.5 Reviewing the Claim and Dispute Mechanisms Under FIDIC Conditions of Main Contract 1987 (1992 reprint), 1999 and 2017

With the evolvement of the FIDIC conditions of contract from the 1987 (with 1992 reprint) to the 1999 and most recently the 2017, it is important to examine the changes implemented to the claim and dispute mechanisms under those conditions. The

clauses examined under those conditions pertaining to claims and disputes are: 44.1, 44.3, 44.3, 53.1, 53.2, 53.3, 53.4 and 53.5 under the FIDIC 1987 (with 1992 reprint), 8.4, 20.1 under FIDIC 1999 and 20 under FIDIC 2017.

1.4.6 Performing a Comparative Analysis of the Claim/ Dispute Mechanisms Between the Various Sets of the FIDIC Contract and Subcontract Conditions

The thorough review of the literature has indicated the major drawbacks in the subcontracts prepared by the main contractors and signed with the subcontractors, specifically in relation to the claim and dispute mechanisms. The fact that the main contractors tend to use subcontracts disregarding the type of the main contract and the provisions stated under it, leads to major breaches of the subcontract and main contracts due to the conflicting provisions pertaining mainly to claims and disputes. Thus, those breaches raise the question about the degree of compatibility or incompatibility between those subcontract conditions and the main contract conditions signed between the main contractor and the employer. At this stage of the research, each of the FIDIC conditions of main contract 1987 (with 1992 reprint), 1999 and 2017 was grouped with each of the FIDIC conditions of subcontract 1994 and 2011 according to the year of release of each edition. Each group was examined closely and compared to the other in order to determine the gaps and/or similarities. This comparison has paved the way to determine the best compatible combination between the FIDIC main contract and subcontract conditions pertaining to the claims and disputes mechanisms and proceed to present a set of recommendations to improve the relationship between the subcontract and main contract conditions pertaining to the claim and dispute mechanism.

1.4.7 Analyzing and Formulating the Results Obtained into Findings and Recommendations

The comparative analysis performed provides a detailed roadmap of the claim and dispute mechanisms stipulated under FIDIC conditions of subcontract in conjunction with that under the FIDIC conditions of main contract. This roadmap allowed the devising of fair and rightful requirements governing the subcontractor's claim and dispute mechanism under the subcontract.

1.5 Thesis Outline

The thesis is divided into 7 chapters which are presented in the table below.

Table 1: Thesis Organization

Table 1. Thesis	organization	
CHAPTER 1:	Introduction	
	a. Research Background	
	b. Problem Statement	
	c. Research Objectives	
	d. Research Methodology	
CHAPTER 2:	Literature Review	
	a. Subcontracting as a Delivery Method & its Characteristics	
	b. Relationship Between the Main Contractor &	
	Subcontractor	
	c. Claims at the Subcontract Level	
	d. Back-to-Back Contracts	
	e. Claims and Disputes under the FIDIC Main Contract &	
	Subcontract Timelines	
CHAPTER 3:	Claim/Dispute Mechanisms under FIDIC Subcontract	
	Conditions 1994 & 2011	
	a. Claim/dispute Mechanism under FIDIC 1994	
	b. Claim/dispute Mechanism under FIDIC 2011	
	i. Original Clause 20	
	1	
	i. Original Clause 20	
	i. Original Clause 20ii. Alternative 1	
	i. Original Clause 20ii. Alternative 1iii. Alternative 2	
CHAPTER 4:	 i. Original Clause 20 ii. Alternative 1 iii. Alternative 2 c. Comparison of the FIDIC 1994 & 2011 Claim/Dispute 	
CHAPTER 4:	 i. Original Clause 20 ii. Alternative 1 iii. Alternative 2 c. Comparison of the FIDIC 1994 & 2011 Claim/Dispute Timelines 	
CHAPTER 4:	 i. Original Clause 20 ii. Alternative 1 iii. Alternative 2 c. Comparison of the FIDIC 1994 & 2011 Claim/Dispute Timelines Claim/Dispute Mechanisms under FIDIC Conditions of Main 	
CHAPTER 4:	i. Original Clause 20 ii. Alternative 1 iii. Alternative 2 c. Comparison of the FIDIC 1994 & 2011 Claim/Dispute Timelines Claim/Dispute Mechanisms under FIDIC Conditions of Main Contract	

CHAPTER 5:	Analysis of the FIDIC Main Contract & Subcontract
	Claim/Dispute Mechanisms
	a. 1987-1999: FIDIC 1994 with the FIDIC 1987 (1992
	reprint)
	b. 1999-2011: FIDIC 1994 with the FIDIC 1999
	c. 2011-2017: FIDIC 2011 with the FIDIC 1987 (1992
	reprint)
	& FIDIC 2011 with the FIDIC 1999
	d. 2017-2018: FIDIC 1994 with the FIDIC 2017
	& FIDIC 2011 with the FIDIC 2017
CHAPTER 6:	Discussions & Findings
CHAPTER 7:	Summary, Recommendations, Contribution, Limitations &
	Future Work
	a. Research Summary
	b. Research Recommendations
	c. Research Contribution
	d. Research Limitations
	e. Future Work

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter summarizes the literature review conducted on the topic and the findings obtained. The literature review is divided into five parts: the first part introduces subcontracting as a delivery method in construction and its characteristics such as its reasons, advantages and disadvantages, the second part presents the relationship between the main contractor and subcontractor, the third part discusses the claims generated at the subcontract level, the fourth part presents the concept of back-to-back contracts between the main contractor and the subcontractor, while the fifth and the last part presents the claim and dispute management under the FIDIC standard conditions, its characteristics and the literature's limitations in this domain.

2.2 Subcontracting and Its Characteristics

Traditionally, the three key players in any construction project are: the employer, the Designer and the main contractor. However, the adoption of the subcontracting practices has been on the rise, especially by main contractors, due to the following reasons: the growing uncertainty and complexity of construction projects, the day-by-day advancement in technology, the main contractor's limited financial capabilities and resources and, most importantly, the specialization of the works (Usdiken et al., 1988). The multi-tier subcontracting allows the main contractor to sublet all or parts of the works and responsibilities to specialized subcontractors. By adopting this practice, the main contractor may end up performing minimal construction

work but, instead, taking the role of managing and coordinating between the various hired subcontractors (Ulubeyli et al., 2010; Mbachu, J., 2008).

Subcontracting is an advantageous and effective method to carry out a project as it provides many important benefits. Engaging subcontractors, with skilled specialized labors, increases the chances for cost saving, improves quality, enhances performance in environmental and safety issues and increases productivity which in turn leads to a timely completion of the project (Yik et al, 2006). In addition, main contractors adopt subcontracting to shift the risks imposed on them under the main contract with the employer to their subcontractors, particularly those related to financing the works and to claims and disputes (Uher, 1991).

Regardless of the advantages mentioned above, subcontracting has its disadvantages which are barely discussed in the literature despite their tremendous effect on the construction project as a whole. Those disadvantages can be summarized as follows:

- 1- cost overruns,
- 2- time overruns and extensive delays,
- 3- disproportion shift of risks, and
- 4- safety issues on the construction site

2.3 Main Contractor - Subcontractor Relationship

There exists a mutual benefits relationship between the main contractor and subcontractor as the work of one party affects the other and the quality of the relationship between the two has a tremendous effect on the subcontractor's ability to perform on the project, which inevitably affects the project outcomes (Akintan &

Morledge, 2013). Since subcontractors perform more than 80% of the work, then the proper execution of the Subcontract ensures a successful execution of the works and any dispute arising at the Subcontract level will break and affect many links between the parties to the project, not only the main contractor (Uher, 1991).

However, as noticeable from the disadvantages of subcontracting listed previously, disagreements and disputes between the main contractor and subcontractor are inevitable. The relationship between the main contractor and the subcontractor might be strained due to the absence of equality and fairness, misunderstanding of each other's requirements, the incorrect and insufficient communication of information, poor coordination on site and in managerial tasks, lack of supervision from the main contractor and most importantly, the master and slave syndrome which is usually practiced by the main contractor on the subcontractor (Okunlola, O. S., 2015).

The relationship between the main contractor and the Subcontractor is very much related to and affected by the relationship between the main contract and Subcontract which can be judged by the frequency and number of claims and disputes between the two parties (Brown, J., 2013). In addition to the aforementioned reasons, according to Wong et Cheah (2004), the most common subcontracting issues that affect the relationship between the main contractor and subcontractor can be summed as follows:

- 1- unsatisfactory arrangement on terms of payment for subcontracting work,
- 2- lack of understanding on the implications of the subcontractor's work onto the main building contract work,

- 3- co-ordination, integration, interfacing of subcontractors' works and the main contractors' works,
- 4- inconsistencies on the terms and conditions of the main contract vis-avis subcontracts,
 - 5- ownership of nominated suppliers' materials,
 - 6- defects and design of work done by subcontractors, and
 - 7- incomprehensive terms and conditions of subcontracts.

Disputes between the main contractor and subcontractor can be classified into two types: contractual and speculative (Cheung & Pang, 2013). Incompleteness, inconsistency and ambiguity of contract provisions, especially in regards to risk allocation, is the root common causes of the contractual and speculative disputes. In addition, contractual disputes also arise from the human factor which is related to cognitions, behaviors and emotions of the individuals involved, while the Speculative disputes stem out also from the task factor which is related to the divergent opinion on rights and obligations arising from tasks (Cheung & Pang, 2013).

Although subcontractors have become essential players in construction projects and contributors to their successful completion, few researches have been done on how to improve the relationship between main contractors and subcontractors (Kumaraswamy and Matthews 2000; Arditi & Chotibhongs, 2005). In that concern, it has been stated by Dainty et al. (2001) that "strategic partnering between main contractor and subcontractor is not frequent in the construction industry and a need exists for attitudinal change." Another perspective regarding the main contractor and subcontractor's relationship is that of J.R. Proctor (1996) (as cited in R. Olsson, 1998)

who suggested that: "the golden rule of the contractor subcontractor relationship follows these four C's: Consideration, Communication, Cooperation and Compensation".

2.4 Claims at the Subcontract Level

Subcontractors' claims arise due to unexpected events caused by either the employer, main contractor, or other assigned subcontractors. Such events may include: imposed changes in the scope and methods, maladministration of the works, late or no payment, and rework (Zack & Peters, 2011). Although the employer's actions might be a main cause for the subcontractor's claim, the subcontractor cannot raise the claim against the employer directly as there is no privity of contact between the two parties (Lee, 2001). And as explained by Lee (2001, cited in Wong and Cheah, 2004): "the doctrine of privity of contract means that the rights and obligations enclosed in each contract apply only to those who are parties to it". For this reason, the subcontractor must raise his claim against the main contractor, with whom he has established a contractual relationship, who in turn shall decide on a contractual remedy for this claim (Wong and Cheah, 2004). This type of claims is called the "pass-through" claim, which can be defined as "a claim by a party who has suffered damages (in this case, the subcontractor) against a responsible party with whom he has no contract (such as the Owner), and which are presented through an intervening party who has a contractual relationship with both (namely, the main contractor)" (Winter, R., 2011). Under a "passthrough" claim, the subcontractor will be mainly concerned about the circumstances that the main contractor sees appropriate or obligatory to raise the claim against the employer and the consequences of failing to do so (Smith, H., 2011).

Hinze and Tracey (1994), based on the exploratory study they had conducted on 28 subcontractors from different specialty areas, stated that: "13 out of the 28 subcontractors were typically bound by the terms of the "main" contract but were generally not afforded the opportunity of examining it". The fact that the subcontractor is often not provided with the provisions of the main contract, between the main contractor and the employer, will elicit the question about the circumstances that will allow the main contractor to pass through the subcontractor's claim to the employer (Zack & Peters, 2011). In addition, main contractors tend not to use standard subcontract documents but their own in-house documents which are tailored and modified to their favoritism and which are unfair for the subcontractors (Uher, 1990). According to Ferrett (1985), and proved by Uher's (1990) survey, subcontractors tend to put high risk allowance in their tender, which could range between 6.6% and 8.5%, because they find that the subcontract conditions are found to be the most precarious risk they might face. Such onerous subcontract conditions, enforced by the main contractor, put the employer at a high risk of paying more than his allocated budget particularly due to the insolvency of the subcontractor, the emergence of many claims and/or disputes and poor quality of work due to the subcontractor's cost-cutting (Uher, 1991). The high-risk allowance allocated by subcontractors in their tenders is very much affected by the tendering process itself, specifically the incomplete tender documentation provided to them by the main contractor. According to Laryea (2009), subcontract "enquiries", or the Request for Proposal (RFP) sent to subcontractors, should most importantly include: the exact type of the work and terms and provisions of the main contract among other requirement or specifications such as completion date, requirement for the program, resources or material supplied by the main contractor

...etc. Providing the subcontractor with the above-mentioned information/documents leads to accurate pricing of the project's works and lowers the probability of claims once the works are commenced.

2.4.1 Contractual Reasons for Subcontract Claims and Disputes

Uher (1990), through a random sample of 47 Australian subcontractors, who were divided into three work groups based on their type of work and skill degree, was capable of identifying the major subcontract conditions that are feared by the majority of subcontractors and which have a significant impact on their bids. Those subcontract conditions are (Uher, 1990):

- 1- terms of payment: "Pay when Paid" condition links the subcontractor's payment to when the main contractor's payment is received from the employer; thus, not providing the subcontractor with particular payment periods of time and transferring the burden of financing the work to him,
- 2- extension of time: subcontractor's right for an extension of time is often tied to the delays affecting the main contractor's critical path and overall schedule's completion date,
- 3- rise and fall: the absence of a rise and fall clause in most of the main contractors' in-house subcontracts transfers the risks and burden of price inflation from the main contractor to the subcontractor,
- 4- liquidated damages: subcontractors tend to cover for this clause by allocating a high-risk allowance in their bids,

- 5- delays and cost of delays: main contractors tend to delete the clauses which force them to compensate the subcontractors for delays caused by their own actions, and
- 6- completeness of contract documents: minimal information is provided to subcontractors during the bidding phase. This lack of documents and information prevents the subcontractor from understanding thoroughly the project and its requirements and thus price correctly. Subcontractors react to this risk by allocating high risk allowance in their bids.

In addition to the burdensome subcontract conditions discussed above, there are various contractual issues, under the main contracts and subcontracts, which not only affect the subcontractor's claim propagation from the main contractor's level to the employer's level, but also destroys relationships and prevents future collaboration between the two parties (Akintan & Morledge, 2013). According to Zack and Peters (2011), these issues are:

- 1- the employer's conditioned acknowledgement of the subcontractor's claim, that is passed-through by the main contractor, only if the subcontractor is directly affected by the employer's change order and if the main contractor has included the subcontractor's cost in his change order proposal;
- 2- the insertion of the "No Damages for Delay" clause in the main contract and/or sub-contract which prevents the main contractor from passing-through the subcontractor's claim to the employer or limits the subcontractor's remedy for an extension of time (EoT) or monetary compensation;
- 3- the type of contract between the main contractor and the employer, in that, under a lump sum contract, the main contractor will be cautious about passing

through the subcontractor's claim to the employer as he is also considered liable towards the subcontractor, unlike the case of a reimbursable cost contract, which allows the subcontractor to be reimbursed by the employer through the main contractor;

4- The subcontractor's miscalculated delay and insufficient substantiations and documentations:

2.4.2 Subcontract's Delay Claim: Initiation and Assessment

In relation to the fourth issue above, calculating the delay incurred and substantiating a delay claim is a challenging task for the subcontractor, especially when the subcontractor's schedule is dependent on data provided by the main contractor such as the overall schedule's start and finish dates, updates and constraints (Dossick and Schunk, 2007). Also, based on the previously mentioned exploratory study, Hinze and Tracey (1994) stated that "of the 28 interviewed subcontractors, 24 indicated that they were either often or occasionally included in the planning and scheduling of the overall project activities", which might not allow the subcontractors to know when their services are needed, thus, affecting their own schedule. One of the principles to manage subcontractor's work and insure the success of the works, is to involve the subcontractor in developing the project's overall schedule. By participating or assisting in setting the schedule, the subcontractor will be able will be knowledgeable of all the tasks required and be able commit to key start and finish dates, especially those on the critical path (Thomas et Flynn, 2011).

Subcontractors' access to and understanding of the overall project's schedule, most importantly the critical path, is often limited by the main contractor. As a result, the subcontractors' delay claim documentation will be incomplete and lack the latest

updates. Such acts by the main contractor are considered unfair and lead to an unbalanced treatment of the subcontractors' claim.

Preparing, presenting and assessing an EoT claim is not an easy process for both the main contractors and subcontractors. This process is often found to be difficult, long and faulty. The main contractor faces certain difficulties during the claim assessment process which can be due to the submitted claim itself or to the main contractor's minimal experience in claim administration. According to Yusuwan et Adnan's (2013) survey result, the four most important reasons for the late claim assessment are the subcontractor's: poor claim submission, late claim submission, improper collection of data and lack of relevant facts from site records. The four reasons listed are respectively due to the subcontractor's lack of details and documents, unawareness of the subcontract's provisions in relation to claim submission and inaccurate and ineffective records keeping and collection.

In light of the claim assessment issues discussed above, Jergeas and Hartman (1994, as cited in Yusuwan and Adnan, 2013) discussed a number of guidelines and requirements to settle EoT claims in a fast and amicable way. Those provided guidelines can be summarized as follows (Jergeas and Hartman, 1994):

- 1- Record keeping: daily-progress reports, photographs and video film, minutes of meeting, memos, transmittals, drawings and many others are factual evidence that must be kept and organized to ensure the correct and proper project and contract management.
- 2- Knowledge of contract: main contractors and subcontractors should be aware of all their contractual obligations and responsibilities which should be read and understood carefully. Contract clauses and requirements, specifically those related to

additional compensation and EoT claims, must be complied by the main contractor generally and the subcontractor specifically, to secure higher chances of a successful claim.

- 3- Preservation of rights: main contractors and subcontractors should preserve their right to claim by submitting written notices within the time frames set in the main and/or sub contract.
- 4- Qualify change orders: before signing off, change orders that will incur additional cost should be studied given proper consideration
- 5- Planning and Scheduling: proper planning ensures that adequate resources are available when needed, sufficient duration is allocated for each activity and appropriate start and finish dates are set for each activity. The project's schedule of works should be updated regularly and periodically updated and the employer and consultant should be informed of any changes especially that on the critical path.
- 6- Proactive Actions: this includes the immediate response to the complaints issued by either the employer or main contractor. This includes any requested clarification about given change orders, written confirmation on important unwritten instructions and EoT requests on justifiable delay events.

2.5 Back-to-Back Contracts Between the Main Contractor and Subcontractor

Because construction projects are nowadays engaging multiple parties at once such as main contractor and subcontractors, drafting back-to-back contract became so common and popular for the purpose of passing down the obligation and labilities to the subcontractors (Smith, H., 2011). As a definition, the back-to-back contracts are a set of duplicated terms and provisions of a certain contract on two different levels: the employer's level and the subcontractor's level. Two methods are available for drafting a

back-to-back contract, the first is the "general obligation" method and the second is the "specially worded obligation" (Smith, H., 2011; Chin, M., 2013). The first method is defined by incorporating by reference of terms the same provisions of the main Contract into the Subcontract excluding particular sections or provisions that need to be excluded. This method saves time and effort, but can cause serious problems when the subcontractor fails to differentiate between the clauses related to his own works from the clauses that concern only the main contractor (Smith, H., 2011; Pandey, A., 2015). The second method which drafting a standalone contract for subcontractors is not an easy method but it prevents subcontractors from cross-referencing with the upper level contract and abide only by the provisions provided under the subcontract (Pandey, A., 2015). Drafting a back-to-back contract does not always serve the purpose of coordinating the subcontract with the main contract as each has its own scope relevant to the scope of works given to each contractor. In addition, this type of contracts, the back-to-back, can have a huge impact on both the main contractors and subcontractors regarding the notification periods provided for claims and disputes under each contract. Thus, the cross referencing between the main contact and subcontract might not be the solution for the collaboration or conformity between contracts on the two levels (Smith, H., 2011; Pandey, A., 2015).

The various subcontracting issues, emerging from the back-to-back practices, and related to issues under the main contract are seldom acknowledged (Arditi and Chotibhongs, 2005). The literature indicates that these subcontracting issues relate mainly to the timeliness of payments by main contractors which is directly related to the timeliness of payments under the main contract and the partnering arrangements with the different parties to the project (Arditi and Chotibhongs, 2005). This being said,

proves the need to establish a certain degree of conformity between the main contract signed at the upper level (employer's level) and the subcontract signed at the lower level (subcontractor's level) specifically pertaining to the timeliness of actions.

2.6 Claims and Dispute under FIDIC Contract and Subcontract Conditions

2.6.1 The Subcontract in Conjunction with the Main Contract

The literature mainly discusses the cases when the main contractor signs with the subcontractor onerous Subcontract conditions tailored to the main contractor's own benefit, ignoring the fact that the standard conditions, particularly those under the FIDIC Red Books, can also present a certain degree of risk or unfairness to the parties when used in conjunction with the FIDIC Subcontract conditions.

The main contractor being caught between the employer from one side and the subcontractor from another, has the responsibility to coordinate between what is being raised under the subcontract, specifically concerning any claims and disputes, with what is available under the main contract especially when the subcontract claim and/or dispute is related to a matter of claim and/or dispute under the main contract (Bunni, N. G.,2006). Thus, a well-drafted subcontract, which is in compliance with the main contract, will allow the main contractor to navigate through the two tricky contracts with less damage on all parties (K., Stephen, 2012). Despite the fact that the main contractor is the one concerned with deciding on the subcontract to be signed with the subcontractor, it crucial for the employer to ensure that the formulation and execution of the subcontract is achieved in the most balanced, safe and efficient manner for the purpose of decreasing the risk and its escalation to the employer's level (Uher, Th. E., 1991). However, Thomas E. Uher (1991) has proved, through the survey done, that

employers do not involve themselves in the main contractor's decision on what subcontract type to sign with the subcontractor, thus, staying uninformed of the bearing that unbalanced contractual agreements between the main contractor and subcontractor may have on the performance of their projects (Uher, Th. E., 1991).

Now considering the standard type of contracts specifically under FIDIC, the FIDIC standard conditions have given significant consideration to the claim process and dispute resolution provisions under the subcontract, which has its own claim and dispute procedures, with time limits for notifying and dealing with claims and disputes that are shorter than those available under the main contract. Those shorter time periods are, no doubt, to enable the main contractor to "pass through" the subcontract claim and/or dispute up the line to the main contract or employer's level (K., Stephen, 2012). However, the fact that the periods for referring or proceeding with a claim and/or dispute under the FIDIC subcontract claim/dispute timelines are shorter than those presented under the FIDIC main contract claim/dispute timelines, does not guarantee the smooth "pass-through" of the subcontract claim and/or dispute to the main contract's level. This is due to the fact that those claim/dispute periods are also affected by other periods under the main contract which concern the main contractor and employer; thus, the overall coordination or synchronization of the claim/dispute timelines under the main contact and subcontract is a condition precedent for a smooth resolvent of the related claims and disputes under both the main contract and subcontract.

2.6.2 Evolvement of the FIDIC Standard Conditions

Between the years 1987 and the beginning of the 1999, the only two FIDIC standard condition of contract available for use were the FIDIC 1987 and the FIDIC

1994 for the main contract and subcontract conditions respectively. Following the new FIDIC 1999 Red Book for contract conditions was released while the FIDIC 1994 subcontract conditions remained the only subcontract standard form used by main contractors with subcontractor despite the evolvement of the main contract Standard conditions. In the year 2011, the FIDIC subcontract conditions 2011 Red Book was released followed by the release of the FIDIC 2017 main contract conditions in 2017. Those releases prove the evolvement of the FIDIC standard conditions on both the main contract and subcontract levels. This evolvement, specifically that of the FIDIC subcontract conditions from the 1994 till the 2011, has proven the FIDIC's exerted effort to improve the standard conditions to ensure the compliance of those standard main contract and subcontract conditions if and when used in conjunction with each other.

The literature, has not provided any studies done pertaining to the use of the FIDIC main contract conditions in conjunction with the FIDIC main contract conditions which elicits the questions about the degree of compatibility and incompatibility of those FIDIC standard conditions when used together at the main contract and subcontract levels specifically pertaining to the claims and disputes mechanisms, which is the main focus of this research.

CHAPTER 3

CLAIM AND DISPUTE MECHANISMS UNDER FIDIC SUBCONTRACT CONDITIONS 1994 AND 2011

3.1 Introduction

The release of the new FIDIC conditions of subcontract for construction 2011, after 24 years from the last released one in 1994, necessitates the study of this new subcontract conditions and the comparison between the latter and the previous FIDIC 1994 subcontract conditions to detect and examine the advancement that has been done, specifically pertaining to the claim and dispute mechanisms for the purpose of this research. This chapter presents the claim dispute timelines under the FIDIC 1994 and 2011 separately and then compares those timelines against each other. The analysis is also presented in summary timelines and tables below.

3.2 Claim/Dispute Timeline under FIDIC 1994 Conditions of Subcontract

Under FIDIC 1994 conditions of subcontract, the claim and dispute mechanisms are stipulated under sub-clauses 7.2, 11.1, 11.2, and 11.3 (Notice and Claims) and 19.1 and 19.2 (Settlement of Dispute) respectively.

To initiate a claim pertaining to an event which is expected to delay the project's time of completion, the subcontractor, or the claimant, shall submit a notice of the EoT claim along with the detailed particulars within 14 days from when he became aware of the event or should have become aware of the event. The subcontractor shall assist the main contractor in pursuing any claim under the main contract if it happens that the submitted claim concerns the subcontract works. Pursuant to sub-clause 11.2 (Claims), the main contractor shall inform the subcontractor regularly of all the

measures that are being taken to secure the contractual benefits from the employer under the main contract. Once those contractual benefits are received, the main contractor shall pass by to the subcontractor a fair share of those benefits; however, if the contractual benefits include additional payment, the main contractor becomes liable to the subcontractor regarding the share of the additional payment only when the main contractor gets paid by the employer. The period during which the main contractor shall pass on the contractual benefits to the subcontractor is and Unregulated Period (UP) under the FIDIC 1994 as it is dependent on the period when the engineer gives the decision regarding those contractual benefits under the main contract.

Pursuant to sub-clause 19.1 (Amicable Settlement and Arbitration), if a dispute arises between the main contractor and subcontractor concerning the subcontract works, then either party can issue a Notice of Dispute (NODis) within an UP. After submitting the NODis, the parties are given the chance to try Amicable Settlement (AS) for 56 days, after which either party can commence arbitration and the dispute shall then be solved according to the Rules of Conciliation and Arbitration of the International Chamber of Commerce.

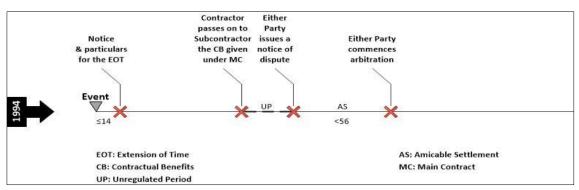


Figure 1: FIDIC 1994 Claim & Dispute Timeline

3.3 Claim/Dispute Timeline under FIDIC 2011 Conditions of Subcontract

Under FIDIC conditions of subcontract for construction 2011, the subcontractor's claim and dispute mechanisms, explained and illustrated below, are stipulated under clause 20: "Notices, Subcontractor's Claims and Disputes". In addition to the "General Conditions" of the clause 20, this 2011 edition provides "Guidance for the Preparation of Particular Conditions", which presents two alternative claim and dispute mechanisms as a form of amendments to the Original Clause 20, under the same clause name, clause 20: "Notices, Subcontractor's Claims and Disputes". Below is a detailed explanation and comparison of the three provided claim and dispute mechanisms which are referred to in this research as: Original Clause 20 (the original clause under the "General Conditions"), First Alternative and Second Alternative (which are presented under the "Guidance for the Preparation of Particular Conditions"). It is worth mentioning that those conditions of subcontract 2011 were postulated in conjunction with the FIDIC conditions of contract 1999 as it was the latest edition present for the main contract standard conditions before the issuance of the FIDIC 2017 edition.

3.3.1 Original Clause 20: Notices, Subcontractor's Claims and Disputes

Concerning the claim mechanism, under the Original Clause 20, specifically sub-clause 20.2 stated under the "General Conditions", the subcontractor (claimant) shall submit a notice of claim within 21 days, and a fully detailed claim within 35 days from when the subcontractor became aware, or should have become aware, of the event giving rise to the claim. Following, the main contractor shall consult with the subcontractor, within 49 days from the date of submittal of the fully detailed claim, in

an effort to reach an agreement regarding the subcontractor's entitlement of any EoT and/or additional payment. If agreement was not reached within 49 days, the main contractor shall then make a fair decision based on the subcontractor's substantiation of the submitted claim and notify the subcontractor of the taken decision with reasons. If the main contractor was prevented from recovering any sum under the main contract due to the subcontractor's failure to submit notice and details of claim within the specified periods above, then the main contractor may deduct that sum from the subcontractor's price.

As for the dispute mechanism, this Original Clause 20, under the "General Conditions", separates disputes into Related and Unrelated disputes. A Related dispute is a dispute that involves issues which are also a cause of dispute between the main contractor and the employer under the main contract, while an Unrelated dispute is a dispute that only concerns issues related to the subcontract or the execution of the subcontract works between the main contractor and the subcontractor. After the submission of a NODis within an UP, within 14 days from receiving a subcontractor's NODis under the subcontract, the main contractor shall inform the subcontractor that, in his opinion, the subcontract dispute encompasses issues that are a subject of dispute under the main contract. If the main contractor notifies the subcontract of this opinion, then the referral of this subcontract dispute to the subcontract Dispute Adjudication Board (DAB) shall be deferred by a period which is not earlier than 112 days from the NODis. This deferral aims at allowing the main contractor to settle the dispute through the main contract DAB under the main contract before referring it for resolution under the subcontract. The 112-day period specified is the sum of the 28 days within which the main contractor shall refer the Related dispute to the main contract DAB (pursuant

to the subcontract sub-clause 20.4 (b) under the "General Conditions") and of the 84 days within which the main contract DAB shall give its decision (pursuant to the main contract sub-clause 20.4). Despite that the referral of the subcontract dispute to the subcontract DAB is deferred by a 112-day period, the parties shall appoint the subcontract DAB within 42 days from the NODis. Pursuant to the subcontract subclause 20.4 (b) under the "General Conditions", the main contractor shall refer the subcontract dispute to the main contact DAB within 28 days from the NODis, who in turn shall give a decision on the dispute within 84 days from referral pursuant to the main contract sub-clause 20.4. Following the main contract DAB's decision and pursuant to the main contract sub-clause 20.4, the main contractor or the employer have the right to issue a Notice of Dissatisfaction (NOD) with the rendered decision within 28 days from receipt of that decision. If the main contractor fails to notify the subcontractor that the subcontract dispute involve issues that are involved in dispute under the main contract within 14 days from receiving the NODis or fails to refer the subcontract dispute to the main contract DAB within 28 days from the NODis, then either the main contractor or the subcontractor may be entitled to refer the dispute immediately to the subcontract DAB and the period of 112 days shall not hold anymore. Also, after the 112-day period expires, the main contractor and subcontractor shall both be entitled to refer the dispute to the subcontract DAB, while the subcontractor is also entitled to refer the dispute to arbitration pursuant to subcontract sub-clause 20.7 "Subcontract Arbitration". Once the subcontract dispute is referred to the subcontract DAB, the latter has 84 days to give its decision, after which either party have the right to express dissatisfaction through issuing a NOD within 28 days from receiving the decision. The parties shall attempt to solve the subcontract dispute amicably within a

period that is equal to or more than 27 days. Either party may commence arbitration on or after the 28th day.

In the case where the main contractor does not notify the subcontractor that the subcontract dispute concerns issues that are also a cause of dispute under the main contract, then the dispute shall be solved through the subcontract DAB pursuant to subclauses 20.5 (Appointment of the Subcontract DAB), 20.6 (Obtaining Subcontract DAB's Decision) and 20.7 (Subcontract Arbitration) respectively under the "General Conditions". The main contractor and the subcontractor shall jointly appoint the subcontract DAB within 42 days from the NODis, after which, either party may refer the dispute to the appointed subcontract DAB within an UP. From the date of the referral of the dispute, the subcontract DAB has 84 days to give a decision against which either party can express dissatisfaction by issuing a NOD within 28 days from receiving that decision. Parties shall attempt to solve the dispute amicably before commencing arbitration on or after the 28th day from the date on which the NOD has been issued. If the dispute was not settled amicably, then it shall be settled under the Rules of Arbitration of the International Chamber of Commerce and the Main Contract sub-clause 20.6 (Arbitration) shall apply except that only one arbitrator shall settle the dispute. If any party does not comply with the subcontract DAB's decision, then the other party may refer the non-compliance itself to arbitration to enforce that decision through an Arbitral Award.

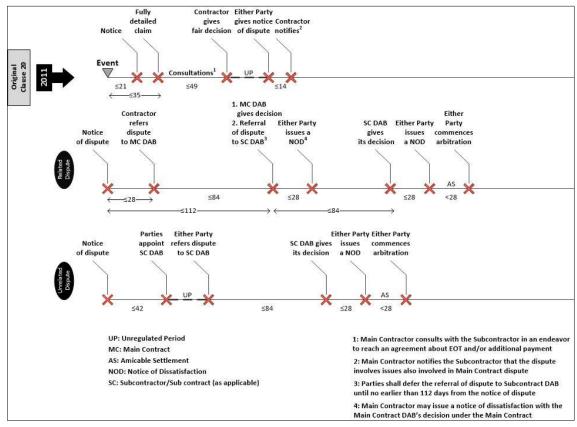


Figure 2: FIDIC 2011 (Original Clause 20) Claim & Dispute Timelines

3.3.2 First Alternative

This Alternative does not differentiate between related or unrelated claims and disputes and considers only one simple and direct mechanism for claim referral and dispute resolution which includes only arbitration without the possibility of referring the dispute to the subcontract DAB. This First Alternative has removed/neglected the following subcontract sub-clauses of the Original Clause 20 under the "General Conditions": sub-clause 20.4 (Subcontract Disputes), sub-clause 20.5 (Appointment of the subcontract DAB), sub-clause 20.6 (Obtaining Subcontract DAB's Decision) and sub-clause 20.7 (Subcontract Arbitration). Those deleted sub-clauses are to be replaced by a sub-clause 20.4 (Subcontract Disputes) which is explained herein.

Similar to the claim submission under the Original Clause 20 of the "General Conditions", under the First Alternative, the subcontractor shall submit a notice of claim within 21 days from the occurrence of the event or from when the subcontractor should have become aware of the event, and detailed particulars within a period of 35 days from that event. Following, the main contractor and the subcontractor shall consult together in an attempt to reach agreement regarding the subcontract claim within 42 days. If the agreement was not reached within the given 42 days, then the main contractor shall make a fair decision regarding the subcontractor's entitlement to EoT and/or additional payment. Either party may issue a NODis within a period which is an UP. Unlike the Original Clause 20 of the "General Conditions", under the First Alternative, the parties are given the opportunity to solve the dispute amicably for 56 days instead of only 28 days prior to commencing arbitration after the 56th day. If AS was not achieved within the 56 days, the dispute shall be then settled under the Rules of Arbitration of the International Chamber of Commerce.

In case the main contractor considers that any dispute under the main contract concerns the execution of the subcontract works or the subcontract, then the main contractor may request the subcontractor by a notice to provide him with the necessary documentation and to attend meetings related to that dispute.

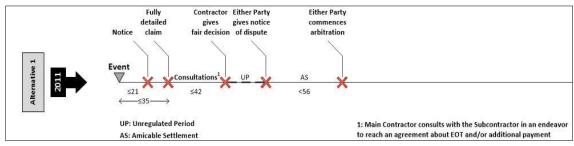


Figure 3: FIDIC 2011 (Alternative 1) Claim & Dispute Timeline

3.3.3 Second Alternative

The Second Alternative is a lengthy and complicated claim/dispute mechanism due to the number of cases it considers and sub-clauses it provides. This Alternative is mainly adopted when the chances that a subcontract claim and/or dispute touches on issues that might be a cause of claim and/or dispute under the main contract are high, and when the parties to the main contract decide that any decision or arbitral award given under the main contract shall also be binding on the parties to the subcontract. The Second Alternative divides the claims and disputes into Related and Unrelated claims and disputes. To be able to follow this mechanism, it is necessary for the parties to be able to determine and agree on whether a subcontractor's claim and/or dispute concerns only the execution of the subcontract works (Unrelated claim/dispute) or touches on issues that might be a cause of a claim and/or dispute under the main contract between the main contractor and the employer (Related claim/dispute). Another case that is also presented and discussed under this alternative is the employer's claim that concerns an issue or issues which might be the responsibility of the subcontractor under the subcontract. Under this alternative, the Original Clause 20 under the "General Conditions" is completely deleted and replaced by the clauses explained below.

In order to initiate a claim, the subcontractor shall submit a Notice of Claim with the contractual basis within 21 days from the date he/she became aware or should have become aware of the delaying event. If for any reason, the subcontractor fails to serve a Notice of Claim within the 21 days, the subcontractor loses his right for any EoT and/or additional payment. After receiving the subcontractor's claim, the main contractor may inform the subcontractor, within 7 days and pursuant to sub-clause 20.2 under this Alternative, that the submitted claim is a Related claim as it is either based on

events or issues that the main contractor might see as a reason to claim for EoT and/or additional payment under the main contract or related to issue(s) that is/are involved in dispute under the main contract. If the main contractor notifies the subcontractor that the claim is a Related claim, then the claim shall be pursued under sub-clause 20.4 "Related Claim" under this Second Alternative. If the main contractor does not notify the subcontractor that the claim submitted is a Related claim within 7 days, then the claim shall be considered as an Unrelated claim and pursued according to sub-clause 20.3 "Unrelated Claim". After being notified by the main contractor that the submitted claim is a Related claim, the subcontractor may object to this notification within 7 days of its receipt. Subsequently, after receipt of the subcontractor's objection, the main contractor must examine this objection and respond to it within 7 days with reasons. The subcontractor may express dissatisfaction with the main contractor's respond by referring, in writing, the matter of whether the submitted Subcontract claim is a Related or Unrelated claim to the Pre-Arbitral Referee (PAR) which shall give an order on the matter within 21 days from the date of receipt of the file.

3.3.3.1 Related/Unrelated Claim

Once the claim is decided to be a Related claim, then the main contractor has to submit to the engineer a notice of claim and detailed particulars within 42 days from the date the main contractor became aware of the Related claim, pursuant to the main contract sub-clause 20.1. The subcontractor in his turn shall submit a fully detailed claim to the main contractor within such a period that ensures the compliance of the main contractor with the specified periods under the main contract.

The engineer shall then decide regarding the submitted main contractor's claim within a period that is no longer than 42 days as per the main contract sub-clause 20.1. Upon receipt of the engineer's determination under the main contract, the main contractor shall inform the subcontractor of that determination within a period that is no longer than 7 days. If the Engineer's determination does not entitle the main contractor to any EoT and/or additional payment and the subcontractor issues a NOD regarding this determination, then this subcontractor's NOD shall be considered as a NODis. On the other hand, if the engineer's determination entitles the main contractor to any EoT and/or additional payment, then the main contractor has to consult with the subcontractor in an endeavor to reach agreement regarding the subcontractor's entitlement to the EoT and/or additional payment from these contractual benefits and shall pass on to the subcontractor a share within 28 days from receiving the benefits from the employer. If the contractual benefits include payment, the main contractor becomes liable to the subcontractor in regards to paying the share only when the main contractor gets paid by the employer, even payment was done during the consultation period between the main contractor and the subcontractor. If agreement is not reached during consultation, then the main contractor has to make a fair decision. Within 28 days after receiving the main contractor's notice of decision regarding the share of EoT and/or additional payment, the subcontractor has the right to issue a NOD with that decision, to which the main contractor has 7 days to respond. In case the main contractor failed to respond to that NOD, then any dispute arising from this share shall be considered as an Unrelated dispute pursued under the provisions of sub-clause 20.7 "Unrelated Dispute" and finally settled under the Rules of Arbitration of the

International Chamber of Commerce where the main contract sub-clause 20.6 shall apply.

If the claim submitted was defined as an Unrelated claim, either by the main contractor or the PAR, and the subcontractor has submitted to the main contractor a fully detailed claim within 42 days from the date on which the subcontractor became aware or should have become aware of the event, then the main contractor shall within 42 days approve or disapprove the submitted claim with detailed reasons. Following his response, the main contractor shall engage in consultation with the subcontractor in an attempt to reach a settlement in regards to the subcontractor's entitlement of any EoT for the subcontract time for completion and/or additional payment. If agreement was not reached between the two, then the main contractor shall then give a fair decision based on the subcontractor's proper substantiation of the claim.

3.3.3.2 Related/Unrelated Dispute

If the dispute arises from a Related claim then it shall be pursued as a Related dispute under subcontract sub-clause 20.8 "Related Dispute", while if it arises from an Unrelated claim then it shall be pursued as an Unrelated dispute under subcontract sub-clause 20.7 "Unrelated Dispute", where both sub-clauses are stated under the "Guidance for the Preparation of Particular Conditions". However, if the dispute arises from neither a Related nor an Unrelated Claim, then the main contractor shall within 14 days from the receipt of the subcontractor's NODis, or from giving a NODis under the main contract, inform the subcontractor with supporting reasons that the dispute involves issues that are also a matter of dispute between the main contractor and the employer under the main Contract. If the main contractor fails to inform the subcontractor within

14 days that the dispute is a Related dispute, then the dispute shall be pursued as an Unrelated dispute under the subcontract sub-clause 20.7. Similar to the claim procedure explained above, the subcontractor can object to the main contractor's decision that the dispute is a Related dispute within 7 days from receiving that decision. Following the subcontractor's objection, the main contractor shall respond within 7 days of its receipt with reasons. The question whether the dispute is a Related or Unrelated dispute may be referred to the Pre-Arbitral Referee if the subcontractor is still dissatisfied with the main contractor's response to the written objection. The PAR shall give the decision, on the question of whether the Subcontract dispute is a Related or Unrelated dispute, within 21 days from the date of referral.

If the dispute was decided to be a Related dispute, then within 28 days from the NODis, and pursuant to the main contract sub-clause 20.4, the main contractor shall refer the dispute to the main contract DAB. If the main contract DAB was not appointed by the time the NODis was issued, then the main contractor shall refer the dispute to the main contract DAB within 56 days from the NODis instead of 28 days. Failure of the main contractor to refer the related dispute to the main contract DAB within either 28 or 56 days, leads to considering the dispute an Unrelated dispute which shall be pursued under subcontract sub-clause 20.7 "Unrelated Dispute". The main contract DAB shall give its decision within 84 days from the date of the referral of the dispute. As soon as practicable, but not later than 7 days, the main contractor shall inform the subcontractor of the main contract DAB's decision. The subcontractor has the right to issue a NOD with the main contract DAB's decision which shall be submitted to the main contractor within 7 days from the date of being informed of that decision. Whether the

parties. The main contractor shall respond, by either agreeing or disagreeing, to the subcontractor's NOD within 7 days from receiving the latter. In case the main contractor responds by agreeing with the subcontractor's dissatisfaction with the main contract DAB's decision, the main contractor shall issue a NOD under the main contract, pursuant to the main contract sub-clause 20.4, within 28 days from receiving the main contract DAB's decision to prevent the latter from being binding and final. However, if either the main contractor responds by disagreeing with the subcontractor's NOD or fails to respond to the subcontractor's NOD within 7 days or fails to submit a NOD with the main contract DAB's decision under the main contract, and consequently the main contract DAB's decision became final and binding on both parties, then the subcontract dispute shall be considered as an Unrelated dispute and shall be pursued under sub-clause 20.7 "Unrelated Dispute".

If the main contract DAB's decision entitles the main contractor for any contractual benefit, the main contractor shall consult with the subcontractor to reach an agreement regarding the subcontractor's entitlement to EoT and/or additional payment, which if not reached, the main contractor shall make a fair decision regarding the subcontractor's share of the given benefits. The subcontractor may issue a NOD with the main contractor's decided share within 28 day from receiving that decision, after which the main contractor shall respond within 7 days. However, pursuant to the subcontract subclause 20.8 (10), the main contractor shall pass to the subcontractor a share of the decided contractual benefits within 14 days of receiving the payment from the employer even if consultation between the two are ongoing or the subcontractor has issued a NOD with the main contractor's decided share. The main contractor shall pay the subcontractor on the basis of his decision and then continue the consultation with the

subcontractor in an attempt to reach agreement. Failure of the main contractor to respond to the subcontractor's NOD with the decided share within 7 days, shall lead to considering this dispute as an Unrelated dispute.

Under the main contract, if the main contractor and the employer decide to attempt AS after either party has submitted a NOD, the main contractor shall notify the subcontractor immediately of that attempt. Consultations must be done between the main contractor and the subcontractor following the AS attempt under the main contract in order to reach an agreement regarding the subcontractor's entitlement from the given contractual benefits. If an agreement is not reached, between the main contractor and the subcontractor, within 56 days, the disagreement about the share shall then be considered as an Unrelated Dispute. If AS was not reached between the main contractor and the employer, then the Related dispute shall be referred to arbitration by either party within 63 days from the date of issuing a NOD; failure to do so will lead to considering the dispute as an Unrelated dispute which shall be settled under the Rules of Arbitration of the International Chamber of Commerce.

In the case where an Arbitral Tribunal gives an award regarding the Related dispute, the main contract shall inform the subcontractor of that award within 7 days from the receipt of that award which is binding on both parties. The main contractor shall, within 14 days from receiving the contractual benefit as per the Arbitral Tribunal's award pass to the subcontractor his share and if the contractual benefit decided by the Arbitral Tribunal includes any additional payment, then the main contractor shall be liable to the subcontractor in regards to this payment only from the day of receipt of that payment from the employer. However, the main contractor shall consult with the subcontractor in an endeavor to reach agreement regarding the subcontractor's share of the contractual

benefits, after which, if an agreement was not reached, the main contractor shall then make fair decision on the matter. The subcontractor may express his dissatisfaction with the main contractor's decision by issuing a NOD within 28 days from receiving the decision on the share, which the main contractors all reply to within 7 days from the date of receiving the NOD. If the main contractor fails to respond to the subcontractor's NOD within 7 days, then the dispute regarding the subcontractor's share shall be considered as an Unrelated dispute which shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce.

If the dispute was decided to be an Unrelated dispute, then within 42 days from the NODis, the main contractor and Subcontractor shall appoint the subcontract DAB to which the dispute shall be referred by either party within UP. The subcontract DAB shall give its decision within 84 days from the date of referral of the dispute. Following, either party may issue a NOD with the subcontract DAB's decision within 28 days from receiving the decision. The Parties shall attempt to solve the dispute amicably within 27 days before commencing arbitration on the twenty-eighth day from the date of the NOD. Either party may refer the non-compliance of the other party with the subcontract DAB's decision to arbitration under the Rules of Arbitration of the International Chamber of Commerce to impose the decision.

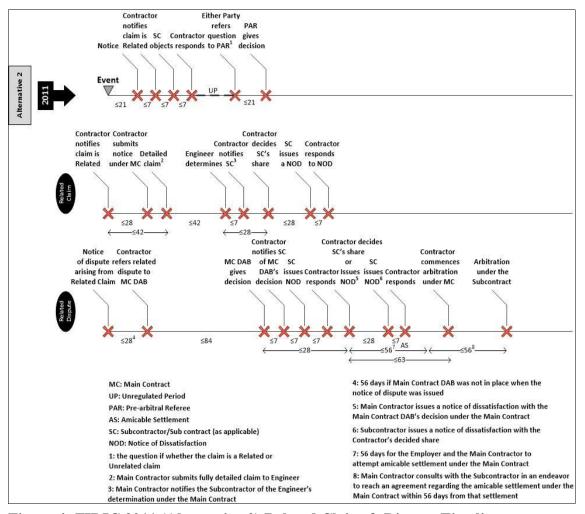


Figure 4: FIDIC 2011 (Alternative 2) Related Claim & Dispute Timelines

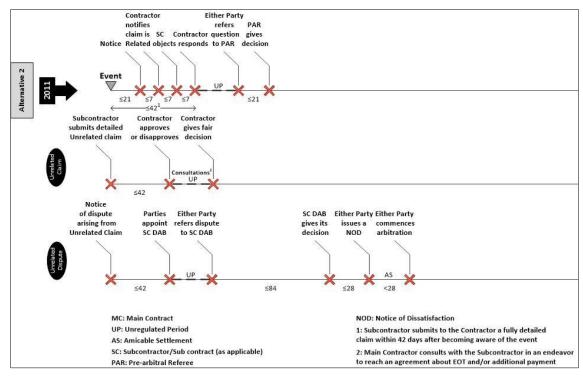


Figure 5: FIDIC 2011 (Alternative 2) Unrelated Claim & Dispute Timelines

3.4 FDIC Conditions of Subcontract for Construction 1994 Vs. 2011

3.4.1 FIDIC 1994 Vs. FIDIC 2011 (Original Clause 20)

Starting with the claim initiation and substantiation, under FIDIC 1994 the subcontractor is given only 14 days to submit both notice and particulars for the specific Extension of Time (EoT) claim versus 35 days under FIDIC 2011 which include 21 days for submitting the notice only. This difference between these two time bars indicates the additional time given to the subcontractor, under the 2011, to submit and properly substantiate his claim, which increases the chances of success of this claim as it is now more prepared. Under FIDIC 2011 and upon submitting the subcontractor's fully detailed claim within the allocated 35 days, the subcontractor is given the opportunity to engage in consultations with the main contractor for a period equal to or less than 49 days in order to reach an agreement regarding the subcontractor's entitlement to EoT and/or additional payment before the main contractor gives a fair

decision on the matter. This consultation period is not provided for in the claim/dispute timeline under FIDIC 1994 where the main contractor directly passes to the subcontractor a share of the contractual benefits given under the main contract. Under the FIDIC 1994 timeline, the receival of those contractual benefits from the employer is a condition precedent for the main contractor to pass them on to the subcontractor for which no defined period is specified which affects drastically the subcontractor's schedule and cashflow. This undefined period for the main contractor to pass the contractual benefits to the subcontractor has been regulated and defined under the FIDIC 2011 timeline, specifically under the Original Clause 20. The main contractor is now bound to a period of 49 days to give a fair decision regarding the subcontractor's entitlement to EoT and/or additional payment which provides the subcontractor with an insight about when would he receive the contractual benefits. Submitting the NODis has not been regulated under the 2011 subcontract conditions giving the parties an UP to submit the notice under both timelines. Under FIDIC 2011, the dispute can be classified as a related or unrelated dispute as per the main contractor's notification within 14 days from the submission of the NODis. The dispute resolution under the FIDIC 2011 engages the main contract and subcontract DAB for the related dispute and only the subcontract DAB for the unrelated dispute, unlike the FIDIC 1994 which does not allow for adjudication but only for AS for 56 days as a mean of resolving the dispute prior to commencing arbitration. The referral of the dispute to the main contract and/or subcontract DAB allows for an additional resolution method between the parties before the final resolution, which is arbitration. Despite the fact that the AS period under FIDIC 2011 is 28 days, which is less than the 56-day period under FIDIC 1994, under FIDIC 2011 the parties are given the opportunity to issue a NOD with the subcontract

DAB's decision within a period of 28 days. This period of 28 days to issue a NOD can also be considered as an opportunity for the parties to settle the dispute amicably before commencing arbitration. The 2011 Original Clause 20, specifically under the related dispute, allows for the propagation of the Subcontract dispute to the level of the main contract by allowing the main contractor to refer the Subcontract dispute to the main contract DAB, thus giving the subcontractor a chance for his claim to be pursued at a higher level and not only stopped or resolved at the level of the main contractor. This opportunity for passing through the Subcontract claim/dispute to the employer's level is not provided under the FIDIC 1994 claim/dispute timeline.

The FIDIC 1994 claim/dispute timeline in parallel to that of the FIDIC 2011 (Original Clause 20) is presented in Figure 6 below. In addition, Table 2 below summarizes the comparison discussed above.

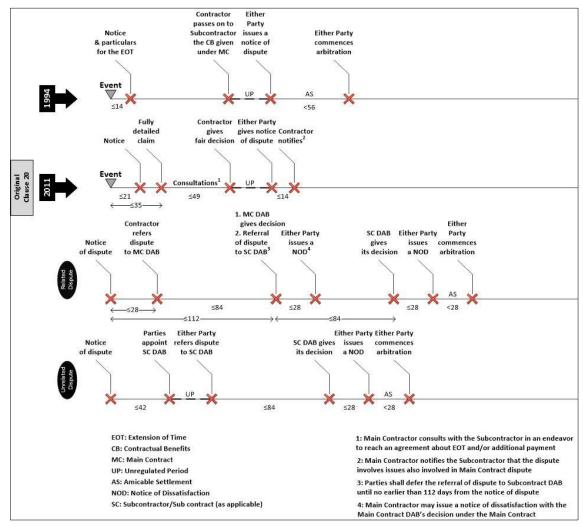


Figure 6: FIDIC 1994 & FIDIC 2011 (Original Clause 20) Claim & Dispute Timelines

Table 2: FIDIC 1994 Vs. FIDIC 2011 (Original Clause 20)

Claim & Dispute	FIDIC CONDITIONS OF SUBCONTRACT		
Mechanism	1994	2011 Original Clause 20	
		Related	Unrelated
		Dispute	Dispute
1. Claim			
Initiation/Substantiation			
notice & detailed	≤14 days	≤35 days	
particulars			_
2. Consultations			
about entitlement to	NA	between Main Contractor	
EoT and/or additional		& Subcontractor within ≤	
payment		49 days	
3. Decisions &			
Determination			

	a.	entitlement to EoT and/or additional	Main Contractor passes fair share of	Main Contract decision reg	•
		payment	benefits to the	Subcontractor's entitlement	
			Subcontractor		
	b.	dispute	NA	Main/Sub Co	ontract DAB
				decides on t	the referred
				dispute with	in ≤84 days
4.	Init	ial Dispute Resolution			
	a.	referral of dispute to	NA	≤ 28 days	NA
		the Main Contract		_	
		DAB			
	b.	referral of dispute to	NA	≤ 112 days	Unregulated
		the Subcontract DAB		, and the second	Period
	c.	NOD with the	NA	≤ 28 days	
		Subcontract DAB's			•
		decision			
	d.	amicable settlement	< 56 days (from	< 28 days (from NOD)	
			NODis)	,	,
5.	Fina	al Dispute Resolution	Arbitration	Arbitı	ration

3.4.2 *FIDIC 1994 Vs. FIDIC 2011 (Alternative 1)*

As discussed previously in Section 3.2 above, Alternative 1 under FIDIC 2011 conditions of subcontract provides a simpler and direct claim/dispute mechanism, unlike that under the Original Clause 20 and Alternative 2. Similar to Original Clause 20, Alternative 1's claim/dispute timeline differs from that of the FIDIC 1994 in regards to the claim initiation and substantiation. The FIDIC 2011 gives the subcontractor 35 days to submit the notice and particulars of the claim compared to only 14 days given under the FIDIC 1994. Following, under Alternative 1, the subcontract is given the opportunity to consult with the main contractor within a period that is equal to or less than 42 days in an attempt to agree about the subcontractor's entitlement for EoT and/or additional payment. This opportunity for consultations is not provided for under FIDIC 1994. Both claim/dispute timelines, the 1994 and 2011 Alternative 1, allow AS for a period of 56 days after the submission of the NODis before either party can commence arbitration. In conclusion, it can be said that Alternative 1 of the FDIC 2011 is a slightly

modified version of the 1994 claim/dispute timeline where only the period for claim initiation and substantiation is extended from 14 to 35 days and a defined consultation period of 42, between the main contractor and subcontractor, is added to provide a chance for claim resolvent and bound the main contractor with a defined period to decide on the subcontractor's claim.

Table 3 below summarizes the comparison discussed above. Also, the FIDIC 1994 and 2011 (Alternative 1) claim/dispute timelines, in parallel to each other's, are presented in Figure 7 below.

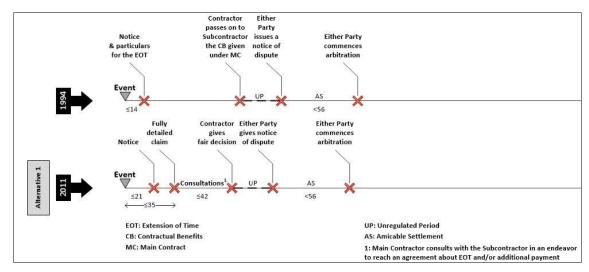


Figure 7: FIDIC 1994 & FIDIC 2011 (Alternative 1) Claim & Dispute Timelines

Table 3: FIDIC 1994 Vs. FIDIC 2011 (Alternative 1)

Claim & Dispute	FIDIC CONDITIONS	OF SUBCONTRACT
Mechanism	1994	2011 Alternative 1
1. Claim		
Initiation/Substantiation		
notice & detailed	≤14 days	≤35 days
particulars		
2. Consultations		
about entitlement to EoT	NA	between Main
and/or additional payment		Contractor &
		Subcontractor ≤ 42 days
3. Decisions & Determination		

	entitlement to EoT and/or	Main Contractor passes	Main Contractor gives
	additional payment	fair share of benefits to	fair decision about
		the Subcontractor	Subcontractor's
			entitlement
4.	Initial Dispute Resolution		
	a. referral of dispute to the	NA	NA
	Subcontract DAB		
	b. NOD with the Subcontract	NA	NA
	DAB's decision		
	c. amicable settlement	<56 days (from NODis)	<56 days (from NODis)
5.	Final Dispute Resolution	Arbitration	Arbitration

3.4.3 FIDIC 1994 Vs. FIDIC 2011 (Alternative 2)

The 2011 Alternative 2 claim/dispute timelines are much detailed and complicated than the 1994 timeline as they separate between related and unrelated claims and disputes giving each a separate propagation path.

Under Alternative 2, the subcontractor submits notice and basis of claim within 21 days in comparison to 14 days under the 1994 timeline. After the claim is classified to be related by either the main contractor or the PAR, the main contractor will then pass-through the claim to the employer's level to be pursued under the main contract. The option of the referral of subcontract claim to the employer is not given under the FIDIC 1994 which prevents the subcontractor from receiving a fair decision on the subcontract claim by the engineer under the main contract. If the claim was classified as unrelated, then it will be pursued under the subcontract only about which the main contractor decides within 42 days, unlike under the FIDIC 1994 timeline where the main contractor has an UP to decide on the subcontractor's contractual benefits.

Moving to the dispute timelines, under the 2011 related and unrelated dispute timeline adjudication is provided through the referral of dispute to the main contract DAB and subcontract DAB which is not provided under the FIDIC 1994 which only considers AS and arbitration as dispute resolution methods. The subcontractor under

Alternative 2 is given the opportunity to express dissatisfaction with the subcontract DAB's and/or main contractor's decisions which gives an additional opportunity for discussion and an attempt to reach a mutual agreement. The AS period was shortened from 56 days under the FIDIC 1994 to 27 days under FIDIC 2011 Alternative 2 for the unrelated dispute while it remained 56 days for the related dispute.

Table 4 below summarizes the comparison discussed above. Also, the FIDIC 1994 claim/dispute timeline in parallel to that of the FIDIC 2011 (Alternative 2) is presented in Figures 8 and 9 below.

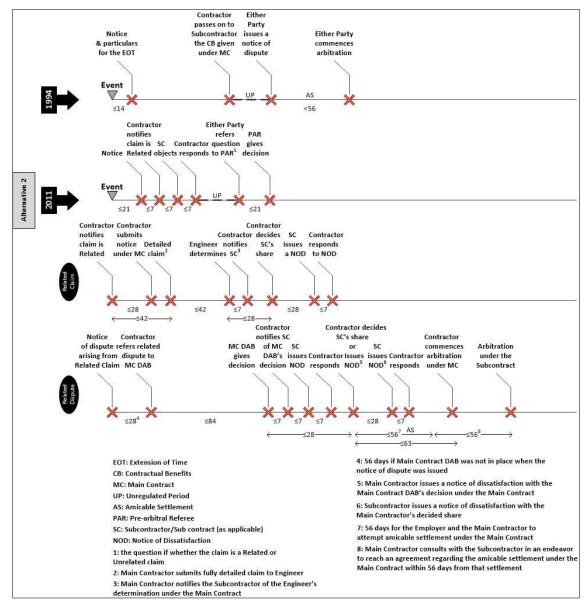


Figure 8: FIDIC 1994 & FIDIC 2011 (Alternative 2) Related Claim & Dispute Timelines

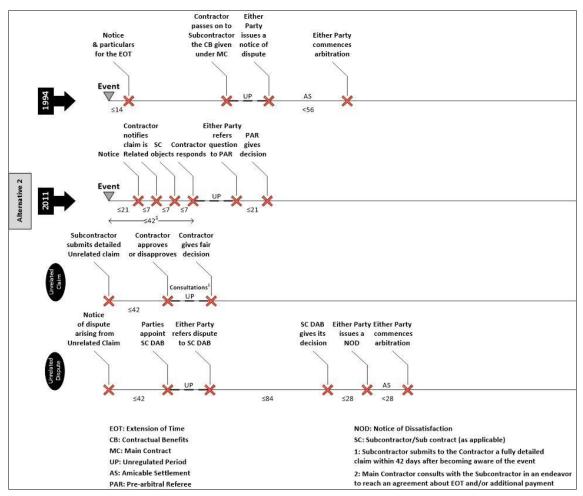


Figure 9: FIDIC 1994 & FIDIC 2011 (Alternative 2) Unrelated Claim & Dispute Timelines

Table 4: FIDIC 1994 Vs. FIDIC 2011 (Alternative 2)

Cl	aim & Dispute	FIDIC CONDITIONS OF SUBCONTRACT		
M	echanism	1994	2011 Alternative 2	
			Related	Unrelated
			claim/dispute	claim/dispute
1.	Claim			
	Initiation/Substantiation			
	notice & detailed	≤14 days	≤42 days	≤42 days
	particulars	-	-	-
2.	Consultations &			
	Discussions			
	a. claim is related or	NA	between Main Contractor &	
	unrelated		Subcontractor regarding	
			Subcontractor's claim for ≤21 days	
	b. entitlement to EoT	NA	between Main	between Main
	and/or additional		Contractor &	Contractor &
	payment		Subcontractor	Subcontractor
			regarding	regarding

			Subcontractor's entitlement for ≤28 days	Subcontractor's entitlement for UP
3.	Decisions & Determination			
	a. claim is related or unrelated initial decision	NA	Main Contractor decides claim is Related within ≤7 days	
	b. claim is related or unrelated final decision	NA	PAR decides if claim is Related or Unrelated within ≤21 days	
	c. entitlement to EoT and/or additional payment	Main Contractor passes fair share of benefits to the Subcontractor	 Engineer determines under Main Contract within ≤42 days Main Contractor decides Subcontractor's fair share within ≤28 days 	Main Contractor decides Subcontractor's fair share within UP
4.	Initial Dispute Resolution		•	
	a. referral of question to PAR	NA	≤21 days	
	b. referral of dispute to the Subcontract DAB	NA	NA	Unregulated period
	c. referral of dispute to the Main Contract DAB	NA	≤28 days	NA
	d. NOD with the Subcontract DAB's decision	NA		≤28 days
	e. NOD with the Main Contract DAB's decision	NA	≤28 days	
	f. amicable settlement	<56 days (from NODis)	<56 days	<28 days
5.	Final Dispute Resolution	Arbitration	Arbitration	Arbitration

CHAPTER 4

CLAIM AND DISPUTE MICHANISMS UNDER FIDIC MAIN CONTRACT CONDITIONS

4.1 Introduction

This chapter discusses the claim and dispute mechanisms presented under the FIDIC main contract conditions of the 1987 (with 1992 reprint), 1999 and 2017.

4.2 Claim and Dispute Mechanism Under FIDIC 1987 (1992 reprint)

Under the FIDIC 1987 (with 1992 reprint) and pursuant to the sub-clauses 53.1 and 53.3, the main contractor is given a period of 28 days to submit a notice of claim and additional 28 days to submit the detailed particulars pertaining to that claim. Failure to submit the notice or particulars within the given periods will oblige the main contractor to accept the engineer or arbitrator's decision, if any, regarding his entitlement of EoT and/or additional payment. Following the submission of the claim, the engineer shall respond with a determination after consultations with the employer. No period of time is specified for the engineer to give his determination; thus, it is considered as an UP. Similarly, pursuant to sub-clause 67.1, no specific period is specified for the employer or the main contractor to refer the dispute to the engineer. In the case where the dispute is referred by either party to the engineer, the letter is given 84 days to give notice of his decision. Within 70 days after receiving the engineer's notice of decision on the dispute, either party can issue a notice of intention to commence arbitration which in turn triggers the start of the AS period of 56 days from the notice of intention to commence arbitration which is given to the parties to attempt to solve the dispute amicably before commencing arbitration on or after the 56th day.

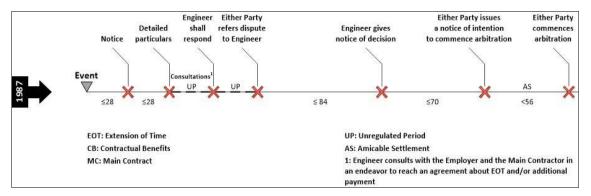


Figure 10: FIDIC 1987 (1992 reprint) Claim & Dispute Timeline

4.3 Claim and Dispute Mechanism Under FIDIC 1999

The FIDIC 1999 presented the claim and dispute mechanisms under one main clause 20, unlike the case under the FIDIC 1987 (with 1992 reprint). Pursuant to subclause 20.1, the main contractor is given 42 days in total to submit the notice and particulars of claim, 28 days of which are given for the submission of the notice only. 42 days after the submission of the claim, the engineer shall respond with reasons approving or disapproving the claim. It is worth mentioning that the role of adjudicator on disputes, which the engineer was performing under the FIDIC 1987 (with 1992) reprint), has been transferred to a board of professional adjudicators known as the DAB. After the receival of the Engineer's respond, either party can refer the dispute to the main contract DAB within an UP. However, the role of the DAB has been made wider to encompass dispute avoidance as well as dispute resolution. Dispute avoidance can only be used if both parties wish it to take place whereas dispute resolution can be initiated by one party alone once a dispute arises. The main contract DAB, pursuant to the sub-clause 20.4, shall give its decision within 84 days from the date of receival of the dispute from either party. The parties are given the opportunity to express their dissatisfaction with the main contract DAB's decision by issuing a NOD within 28 days

from the date of receival of the main contract DAB's decision. During the 56 days after issuing the NOD, Parties may attempt to solve the dispute amicable riot to commencing arbitration on or after the 56th day.

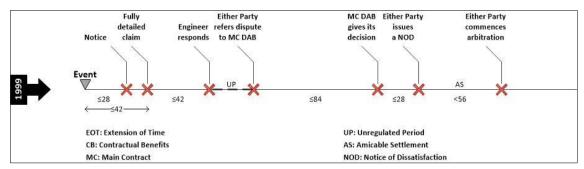


Figure 11: FIDIC 1999 Claim & Dispute Timeline

4.4 Claim and Dispute Mechanism Under FIDIC 2017

Under FIDIC conditions of contract 2017, the claim/dispute mechanism is presented under main clause 20 "Employer's and Contractor's Claims" and clause 21 "Disputes and Arbitration". The claimant (either the main contractor or the employer) is given 28 days to submit the notice of claim from when the claimant became aware or should have become aware of the event giving rise to the claim. After 14 days from receiving the notice of claim, the engineer can issue an initial response stating whether the notice was submitted within the 28 days given or not. If the engineer does not respond to the submitted notice within 14 days, then the notice of claim shall be considers submitted within the 28-days period and is valid. In case the other party (not the claimant) disagrees with the engineer's inactiveness, then the objecting party can issue a notice to the engineer expressing disagreement with details. Whether the engineer has responded on the validity of the notice or not, or whether the objecting party has issued a notice of disagreement or not, the claimant shall proceed by submitting detailed particulars within 84 days from the day the claimant became aware

or should have become aware of the event. Following the submission of the claim's detailed particulars, the engineer shall engage in consultations with the main contractor and the employer for 42 days in an endeavor to reach agreement. If agreement was reached between the parties, then the engineer shall give notice of the agreement that has taken place; however, if agreement was not reached, the engineer shall proceed to give a determination within 42 days after the lapse of the 42 days allocated for consultations. Either party, who does not agree with the engineer's determination, can issue a NOD within 28 days from the date of receiving the engineer's determination; else, the engineer's determination becomes final and binding on both parties. Either party can refer the dispute to the main contract Dispute Avoidance and Adjudication Board (DAAB) within 42 days from the date of issuance of the NOD. Once the dispute is referred to the DAAB, the latter has 84 days to give a decision. If either party is dissatisfied with the DAAB's decision, then this party can issue a NOD with regards to that rendered decision within 28 days from receiving the decision. Accordingly, the AS period is initiated for 27 days for the party to solve the dispute amicably before commencing arbitration.

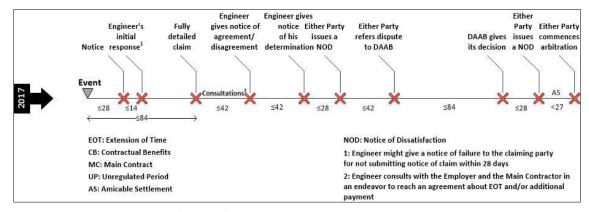


Figure 12: FIDIC 2017 Claim & Dispute Timeline

CHAPTER 5

ANALYSIS OF THE FIDIC MAIN CONTRACT AND SUBCONTRACT CLAIM AND DISPUTE TIMELINES

5.1 Introduction

In this chapter, the claim and dispute timelines of the FIDIC subcontract conditions are studied in conjunction with those of the FIDIC main contract conditions for the purpose of detecting the limitations and/or improvements pertaining to the resolvent of the subcontractors' claims and disputes with the evolvement of those conditions over the years. Those detected limitations and/or improvements will allow the judgement of the compatibility and incompatibility of those timelines when used in conjunction with each other's. The analysis is divided into periods, starting from the 1987 till 2018, based on the years of release of the FIDIC main contract and subcontract conditions and on the scenarios within those periods according to the signed FIDIC conditions on the main contract and subcontract level as represented in Figure 9 below. The first period extends from 1987 till the beginning of the 1999 when the only two FIDIC red books available for use, by employers and main contractors, were the FIDIC 1987 (with 1992 reprint) contract conditions and the FIDIC 1994 subcontract conditions. The second period starts at 1999 and ends at the beginning of 2011, during which the FIDIC 1999 contract conditions (red book) was released and started to be used with the FIDIC 1994 subcontract conditions, as no new subcontract conditions were released during that period. The third period, which extends from 2011 till the beginning of 2017, has witnessed the release of the new FIDIC subcontract conditions 2011 (red book) which was intended to be used in conjunction with the FIDIC 1999 contract conditions. The last period includes the two years 2017 and 2018, during which the new FIDIC 2017 contract conditions (red book) was released. This huge durational gap between the release of one FIDIC red book and another, especially between the 1994 and 2011 subcontract conditions and between the 1987, 1999 and 2017 main contract conditions, has imposed the need for the compatibility and incompatibility analysis performed below. The analysis in this chapter is done considering that the claim and disputes arising at the subcontract level are related to issues that are claimable by the main contractor and lead to disputes under the main contract.

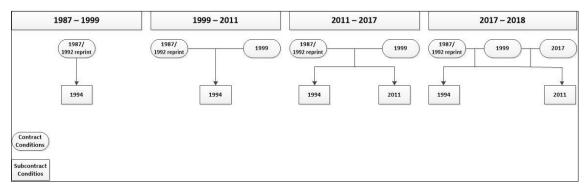


Figure 13: Periods of Analysis of the FIDIC Main Contract & Subcontract Conditions

5.2 1987 – 1999: MC 1987 (1992 reprint) with SC 1994

During this period, scenario A is considered where the employer signs FIDIC 1987 (with 1992 reprint) with the main contractor and the main contractor, given no other choice, signs FIDIC 1994 with the subcontractor. The compatibility and incompatibility between the claim and dispute timelines of the FIDIC 1994 and the FIDIC 1987 (with 1992 reprint) are examined herein. The claim/dispute timelines are presented in Figure 14 below along a summary table of the analysis.

5.2.1 Compatibility

Claim Initiation

Under the 1994 subcontract claim timeline, the subcontractor is given 14 days to submit a notice and detailed particulars of the EoT claim. Considering the main contractor's perspective, the receival of the full subcontract claim from the subcontractor within 14 days from the occurrence of the event gives the main contractor sufficient time to review the submitted claim and decide on whether to pursue this claim under the main contract or not since the latter is given 56 days to submit a notice of claim and particulars under the main contract claim timeline.

5.2.2 Incompatibility/Limitation

Under the 1987 (with 1992 reprint) claim timeline, the engineer has an UP to respond to the main contractor's submitted claim, or give a determination regarding the main contractor's contractual benefits. From a subcontractor's perspective, this UP under the main contract generates, in its turn, an UP under the subcontract since, after receiving the subcontractor's EoT claim, the main contractor has to decide on the subcontractor's fair share of the contractual benefits based on the engineer's determination under the main contract and pass them on to the subcontractor. The latter point implies that the receival of the subcontractor's share under the subcontract is dependent on the engineer's determination about the main contractor's submitted claim and entitlement to EoT/additional payment under the main contract and the main contractor's receival of those decided contractual benefits from the employer. In other words, the engineer's

decision under the main contract is a condition precedent for the main contractor's decision under the subcontract. This UP under the main contract affects drastically the subcontractor's claim timeline as no action is allowed to be taken, by neither the main contractor nor the subcontractor, under the subcontract unless the contractual benefits are decided by the engineer and received from the employer under the main contract. This situation keeps the subcontractor uncertain about the claim submitted and the time during which the contractual benefits might be received.

5.2.2.2 Dispute: Referral and Amicable Settlement Period

Moving to the dispute timelines, and considering that the dispute under the subcontract is related to a dispute under the main contract, the periods during which a party may refer the dispute to the engineer under the main contract and issue a NODis under the subcontract are both unregulated, thus, preventing the parties from abiding by a definite period for the dispute referral. Under the subcontract, after either party issues a NODis, the AS period of 56 days is initiated prior to commencing arbitration on or after the 56th day. This period of 56 days is shorter than the 84 days given to the engineer to give a decision regarding the referred dispute under the main contract.

From both, the main contractor's and subcontractor's perspective, if agreement was not reached under the subcontract within the 56 days for AS, arbitration will be commenced. Consequently, eliminating any chance of solving the subcontract dispute in connection to the engineer's decision as the 56 days would have elapsed prior to the engineer giving the decision, considering that the engineer has used the full 84 days. This incompatibility between the AS period under the subcontract and the period during which the engineer shall give a notice of his decision under the main contract is unfair

for both parties, since arbitration would be commenced under the subcontract while under the main contract the parties are still awaiting the engineer's notice of decision which might be preferable to solve the subcontract dispute and better solution than entering into arbitration.

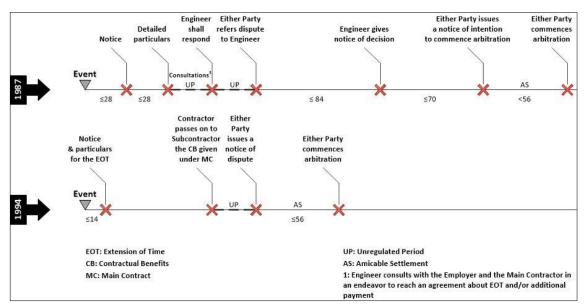


Figure 14: Claim & Dispute Timeline of FIDIC 1994 in Conjunction with That Under FIDIC 1987 (1992 reprint)

Table 5: FIDIC 1994 Vs. FIDIC 1987 (1992 reprint)

Claim & Dispute	FIDIC CONDITIONS OF MAIN CONTRACT & SUBCONTRACT	
Mechanism	1994	1987 (1992 Reprint)
1. Claim		
Initiation/Substantiation		
a. notice	≤14 days	≤28 days
b. detailed particulars		≤28 days
2. Consultations		
about entitlement to	NA	between Engineer,
EoT and/or additional		Employer & Main
payment		Contractor within UP
3. Decisions & Determination		
a. entitlement to EoT	Main Contractor passes	Engineer determines the
and/or additional	fair share of benefits to	Main Contractor's
payment	the Subcontractor within	entitlement within UP
2 3	UP	

	b. dispute	NA	Engineers decides on the
			referred dispute within
			≤84 days
4.	Initial Dispute Resolution		
	a. referral of dispute to	NA	Unregulated Period
	the Engineer		-
	b. amicable settlement	≤ 56 days (from NODis)	< 56 days (from NODis)
5.	Final Dispute Resolution	Arbitration	Arbitration

5.3 1999 – 2011: MC 1999 with the SC 1994

This period extends from 1999 till the beginning of 2011, just prior to the release of the FIDIC 2011 conditions of subcontract. During this period of time, the two FIDIC contract conditions red books 1987 (with 1992 reprint) and the 1999 were used interchangeably with the FIDIC conditions of subcontract 1994. Since the analysis of the FIDIC 1994 with the FIDIC 1987 (with 1992 reprint) was already done in the previous period (1987-1999) under section 5.2 above, the analysis of the FIDIC conditions of subcontract 1994 with the FIDIC conditions of contract 1999 only is considered herein.

Scenario B, discussed in this section, considers the case where the employer signs FIDIC 1999 with the main contractor and the main contractor signs FIDIC 1994 with the subcontractor. The analysis done based on the timelines presented in Figure 15 below is summarized in Table 6 below.

5.3.1 *Compatibility*

5.3.1.1 Claim Initiation

The release of the FIDIC 1999 contract conditions introduced slight changes to the main contract claim timeline. The main contractor is now given 28 days to submit only a notice of claim to the engineer and 42 days in total to submit the notice and detailed

particulars which was reduced from 56 days under the FIDIC 1987 (with 1992 reprint). With the subcontractor still having 14 days to submit a notice and particulars to the main contractor, the latter still have sufficient time to review the submitted claim and decide on whether to pursue this claim under the main contract or not, within the 42 days given under the main contract.

5.3.1.2 Claim: Engineer's Determination & Main Contractor's Decision Periods
The second change introduced to the FIDIC 1999 claim/dispute timeline is the period given to the engineer to respond to the main contractor's submitted claim which has been changed from an UP under the FIDIC 1987 (with 1992 reprint), to 42 days under the FIDIC 1999. This period imposed on the engineer to give a response has regulated the UP under the subcontract claim timeline. The main contractor is now bound to a definite period, under the main contract, to know and inform the subcontractor of the contractual benefits and even pass them to the subcontractor, if received from the employer during that 42-days period. This 42-days constraint set under the main contract claim timeline has decreased the subcontractor's uncertainty regarding the submitted subcontract claim and when the contractual benefits can be received from the main contractor.

5.3.2 Incompatibility/Limitation

Dispute: Amicable Settlement Period

As for the dispute timelines, the incompatibility arises from two aspects, the first is the introduction of adjudication to the FIDIC 1999 dispute timeline where the main contract dispute is to be referred to the main contract DAB instead of the engineer, while

adjudication is not available as a dispute resolution option under the FIDIC 1994 dispute timeline. The second incompatibility, similar to that under the FIDIC 1987 (with 1992 reprint) with the FIDIC 1994, is the 56 days given for AS under the subcontract and the 84 days given to the main contract DAB to give its decision regarding the referred related dispute. If agreement was not reached within 56 days under the subcontract, then the parties will enter into arbitration while the main contract DAB did not yet give its decision which is unfair and risky for the main contractor and subcontractor together.

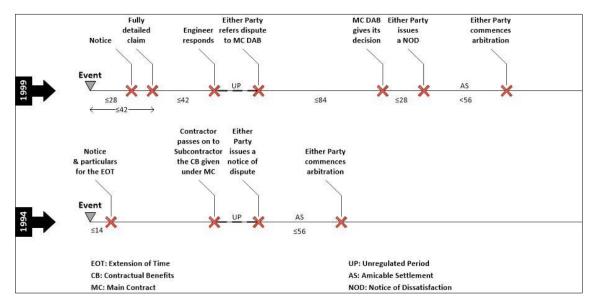


Figure 15: Claim & Dispute Timeline of FIDIC 1994 in Conjunction with That Under FIDIC 1999

Table 6: FIDIC 1994 Vs. FIDIC 1999

Claim & Dispute	FIDIC CONDITIONS OF MAIN CONTRACT& SUBCONTRACT	
Mechanism	1994	1999
1. Claim Initiation/Substantiation		
a. notice	≤14 days	≤28 days ≤42 days
b. detailed particulars		
2. Consultations		
about entitlement to EoT	NA	NA
and/or additional payment		
3. Decisions & Determination		

a. entitlement to EoT and/or	Main Contractor	Engineer
additional payment	passes fair share of	approves/disapproves
	benefits to the	the Main Contractor's
	Subcontractor	claim & determines
		entitlement within ≤42
		days
b. dispute	NA	Main Contract DAB
		decides on the referred
		dispute within ≤84 days
4. Initial Dispute Resolution		
a. referral of dispute to the	NA	Unregulated Period
Main Contract DAB		
b. NOD with the Main	NA	within ≤28 days
Contract DAB's decision		_
c. amicable settlement	≤ 56 days (from	< 56 days (from
	NODis)	NODis)
5. Final Dispute Resolution	Arbitration	Arbitration

5.4 2011 – 2017: MC 1987 (1992 reprint) and 1999 with SC 2011

This period, extending from the year 2011 till the beginning of the year 2017 and preceding the release of the new FIDIC 2017 conditions of main contact, has witnessed a major evolvement in the subcontract claim and dispute timelines with the release of the new FIDIC 2011 conditions of subcontract. The three claim and dispute timelines, presented under the FIDIC 2011, are analyzed herein in conjunction with those presented under the FIDIC 1987 (with 1992 reprint) and FIDIC 1999 conditions of contract.

5.4.1 Scenario C

Scenario C considers the case where the employer signs FIDIC 1987 (with 1992 reprint) with the main contractor, while the main contractor signs FIDIC 2011 with the subcontractor. Under this scenario, the subcontract claims and disputes are considered to be related to issues or matters which can be the reason for a claim and/or

dispute under the main contract. The timelines used for analysis and the summary of the analysis are presented in the figures and tables below.

• MC 1987 (1992 reprint) – SC 2011: Original Clause 20

5.4.1.1 Compatibility

5.4.1.1.1 <u>Claim Initiation</u>

Under the 2011's Original Clause 20 claim timeline, the subcontractor is given 35 days to submit a notice and detailed particulars of the subcontract related claim. Given 56 days from the occurrence of the event to submit notice and detailed particulars of the claim under the main contract, the main contractor has enough time to review the subcontractor's submitted claim and decide whether to pursue this claim under the main contract or not.

5.4.1.1.2 Dispute: Referral of Dispute Period

The 2011's Original Clause 20 dispute timeline bounds the main contractor with a period of 28 days to refer the dispute to the main contract DAB. However, under the 1987 (with 1992 reprint) main contract dispute timeline, the parties have an UP to refer the dispute to the engineer. This regulated period of 28 days under the subcontract will, in its turn, regulate the UP under the main contract timeline and set a defined period for the referral of the dispute to the engineer.

5.4.1.1.3 <u>Dispute: Decision Period</u>

Under the subcontract and the main contract dispute timelines, the period given for the main contract DAB and the Engineer, respectively, to give a decision on the referred dispute is 84 days.

5.4.1.2 Incompatibility/Limitation:

Under the FIDIC 2011 subcontract claim timeline, the main contractor is bound to a period of 49 days, during which consultations with the subcontractor must be done, to give a decision on the subcontractor's entitlement to EoT and/or additional payment.

The main contractor's decision on the matter is directly related to the engineer's determination under the main contract (FIDIC 1987 claim timeline) for which the engineer is given an UP. If the engineer does not give the determination within the 49 days given for the main contractor, the latter is forced to give a decision prior to the engineer's determination and not based on it. This incompatibility with the decision/determination periods can prevent the decisions under the subcontract to be fair and dependent on the determinations under the main contract, as they should be. The main contractor in this case will frame the decision to his own benefit as the constraint of abiding by the engineer's decision under the main contract is no more valid.

5.4.1.2.2 <u>Dispute: Referral of Dispute</u>

The fact that no adjudication is present under the FIDIC 1987 (with 1992 reprint) dispute timeline proves a significant incompatibility between the latter and the FIDIC 2011 subcontract dispute timeline. Under the FIDIC 2011 subcontract dispute timeline,

the dispute must be referred to the main contract DAB, which is not in place under the main contract under the FIDIC 1987 (with 1992 reprint) dispute timeline; instead, the dispute is referred to the engineer for a decision.

5.4.1.2.3 Dispute: Issuance of NOD

Under the 2011 subcontract dispute timeline, the main contractor is given 28 days to issue a NOD with the main contract DAB's decision which is not allowed for under the main contract dispute timeline. This incompatibility between the dispute timelines forces the main contractor to accept the engineer's decision without the chance to negotiation or express dissatisfaction, providing arbitration as the only resolution method. The issuance of the NOD under the 2011 Subcontract timeline can be viewed as an additional opportunity for an AS for the dispute which is be waived when this dispute timeline used in conjunction with the FIDIC 1987 (with 1992 reprint) dispute timeline.

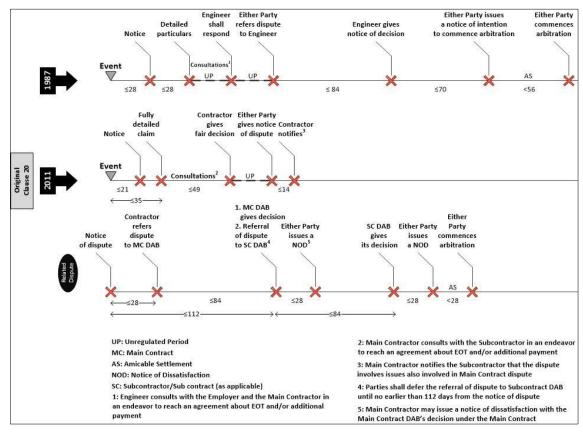


Figure 16: Claim & Dispute Timelines of FIDIC 2011 (Original Clause 20) in Conjunction with Those Under FIDIC 1987 (1992 reprint)

Table 7: FIDIC 2011 (Original Clause 20) Vs. FIDIC 1987 (1992 reprint)

Claim & Dispute	FIDIC CONDITIONS OF MAIN CONTRACT & SUBCONTRACT	
Mechanism	1987 (1992 reprint)	2011 Original Clause 20
		Related Dispute
1. Claim		
Initiation/Substantiation		
a. notice	≤28 days	≤35 days
b. detailed particulars	≤28 days	
2. Consultations		
about entitlement to	Between Engineer,	between Main Contractor
EoT and/or additional	Employer and Main	& Subcontractor within ≤
payment	Contractor within UP	49 days
3. Decisions & Determination		
a. entitlement to EoT	Engineer determines	Main Contractor gives fair
and/or additional	the Main Contractor's	decision regarding the
payment	entitlement within UP	Subcontractor's entitlement
b. dispute	Engineer decides about	Main Contract DAB
	the referred dispute	decides on the referred
	within ≤84 days	dispute within ≤84 days
4. Initial Dispute Resolution		

a.	referral of dispute to	Within UP	NA
	Engineer		
b.	referral of dispute to the	NA	≤28 days
	Main Contract DAB		
c.	referral of dispute to the	NA	≤112 days
	Subcontract DAB		
d.	NOD with the	≤28 days	≤28 days
	Subcontract DAB's		
	decision		
e.	amicable settlement	<56 days (from	<28 days (from NOD)
		NODis)	,
5. Fin	nal Dispute Resolution	Arbitration	Arbitration

• MC 1987 – SC 2011: Alternative 1

5.4.1.3 <u>Compatibility</u>

Claim Initiation

Similar to the case under the 2011 Original Clause 20, Alternative 1 claim timeline gives the subcontractor 35 days to submit a notice and detailed particulars of the subcontract related claim in parallel to the main contractor given 56 days, from the occurrence of the event, to submit notice and detailed particulars of the claim under the 1987 (with 1992 reprint) main contract claim timeline. Those 35 days given for the subcontractor, in parallel to the 56 days given for the main contractor, still allow the main contractor to review the subcontractor's submitted claim and decide to pursue this claim under the main contract.

5.4.1.4 <u>Incompatibility/Limitation</u>

5.4.1.4.1 <u>Claim: Engineer's Determination & Main Contractor's Decision Periods</u>
Under the 2011 Alternative 1 claim timeline, the main contractor is bound to a period of 42 days, during which consultations with the subcontractor must be done, to give a decision on the subcontractor's entitlement to any EoT and/or additional payment. The

main contractor's decision on the matter is directly related to the engineer's decision under the main contract under FIDIC 1987 (with 1992 reprint) claim timeline for which the engineer is given an UP. This incompatibility with the decision periods, and in case the engineer does not give a determination within the 42 days, forces the main contractor to give a decision prior to the engineer's determination. The engineer's determination might be fairer and of better consequences for both the main contractor and the subcontractor. Thus, main contractor's decision, which is given under the subcontract irrespective of the engineer's determination, might be tailored to the main contractor's benefit and cause the subcontractor severe consequences on the schedule and/or cashflow due to the unfair EoT and/or additional payment decided by the main contractor.

5.4.1.4.2 <u>Dispute: Amicable Settlement Period</u>

Alternative 1's dispute timeline resembles greatly that of the FIDIC1994 where the period given for the parties to attempt to solve the dispute amicably is 56 days, which is shorter than the 84 days given to the engineer to give decision regarding the referred dispute under the FIDIC 1987 (with 1992 reprint) main contract dispute timeline. This incompatibility will force the parties to enter into arbitration under the subcontract while the engineer did not give its decision yet, which is considered to be unfair and risky for the main contractor and subcontractor.

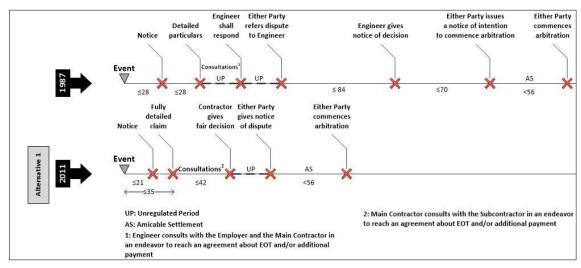


Figure 17: Claim & Dispute Timeline of FIDIC 2011 (Alternative 1) in Conjunction with That Under FIDIC 1987 (1992 reprint)

Table 8: FIDIC 2011 (Alternative 1) Vs. FIDIC 1987 (1992 reprint)

	Table 6. FIDIC 2011 (Alternative 1) vs. FIDIC 1967 (1992 reprint)		
Claim & Dispute		FIDIC CONDITIONS OF MAIN CONTRACT & SUBCONTRACT	
Me	chanism	1987 (1992 reprint)	2011 Alternative 1
1.	Claim		
	Initiation/Substantiation		
	a. notice	≤28 days	≤35 days
	b. detailed particulars	≤28 days	
2.	Consultations		
	about entitlement to EoT	Between Engineer,	between Main Contractor
	and/or additional	Employer and Main	& Subcontractor ≤ 42
	payment	Contractor within UP	days
3.	Decisions & Determination		
	a. entitlement to EoT and/or	Engineer determines	Main Contractor gives
	additional payment	the Main Contractor's	fair decision about
		entitlement within UP	Subcontractor's
			entitlement
	b. dispute	Engineer decides about	
		the referred dispute	NA
		within ≤84 days	
4.	Initial Dispute Resolution		
	a. referral of dispute to the		NA
	Engineer	Unregulated Period	
	b. notice of dispute		Unregulated Period
	c. amicable settlement	< 56 days (from	<56 days (from NODis)
		NODis)	
5.	Final Dispute Resolution	Arbitration	Arbitration

• MC 1987 – SC 2011: Alternative 2

As explained previously in Chapter 3 above, the FIDIC 2011 Alternative 2 provides two different mechanisms for related and unrelated claims and disputes. In this analysis, only the related claim and dispute timelines are considered as they are studied in conjunction with the claim and dispute timeline of the FIDIC 1987 (with 1992 reprint) conditions of contract.

5.4.1.5 Compatibility

5.4.1.5.1 <u>Claim Initiation</u>

Under the claim timeline of Alternative 2, the subcontractor is given 21 days to submit notice and contractual basis of the claim, which is compatible with the 28 days given for the main contractor to submit a notice of claim under the main contract claim timeline. Overall, under this alternative, the main contractor is given 42 days to submit notice and detailed particulars to the engineers which is sufficient to allow the main contractor to abide by the period given under the main contract which is 56 days and submit the related claim.

5.4.1.5.2 <u>Dispute: Referral of Dispute</u>

The 2011 Alternative 2 subcontract dispute timeline restricts the main contractor to a period of 28 days to refer the dispute to the main contract DAB. However, under the FIDIC 1987 (with 1992 reprint) main contract dispute timeline, the parties have an UP to refer the dispute to the engineer. This regulated period of 28 days under the subcontract will, in its turn, regulate the UP under the main contract timeline and set a

defined period for the referral of the dispute by the main contractor to the engineer, instead of the main contract DAB.

5.4.1.5.3 Dispute: Decision Period

Under the subcontract and the main contract dispute timelines, the period given for the main contract DAB and the Engineer, respectively, to give a decision on the referred dispute is 84 days.

5.4.1.6 Incompatibility/Limitation

5.4.1.6.1 Claim: Engineer's Determination & Main Contractor's Decision Periods
In contrary to the UP for the engineer to give determination about the main contractor's claim under the FIDIC 1987 (with 1992 reprint) claim timeline, under the 2011
Alternative 2, the engineer is bound to a period of 42 days. This difference in the periods is a flagrant incompatibility between the two timelines as the engineer might not give a decision within 42 days under the main contract, thus, disrespecting the time bar under the subcontract claim timeline. In addition, under this Alternative 2, the main contractor is given 28 days to decide on the subcontractor's share from the day of receival of the engineer's determination; thus, the engineer's determination is a condition precedent for the main contractor's decision regarding the subcontractor's contractual benefits. Having an UP for the engineer to determine under the FIDIC 1987 (with 1992 reprint) claim timeline will also not allow the main contractor to respect the time bar of 28 days given to decide on the subcontractor's contractual benefits.

5.4.1.6.2 Dispute: Referral of Dispute

Under this Alternative 2, the dispute must be referred to the main contract DAB in place under the main contract which is not the case under the FIDIC 1987 (with 1992 reprint) since no adjudication is available under this dispute timeline. This proves the incompatibility between the FIDIC 2011 Alternative 2 subcontract dispute timeline and the FIDIC 1987 (with 1992 reprint) main contract dispute timeline. Due to this incompatibility, the dispute will be referred to the engineer for a decision instead of the main contract DAB.

5.4.1.6.3 <u>Dispute: Issuance of NOD</u>

According to the 2011 Alternative 2 subcontract dispute timeline, the main contractor is given 28 days to issue a NOD with the main contract DAB's decision which is not allowed for under the main contract dispute timeline. This incompatibility between the dispute timelines enforces the engineer's decision on the main contractor without giving the latter the chance to negotiation or express dissatisfaction; thus, providing arbitration as the only resolution method.

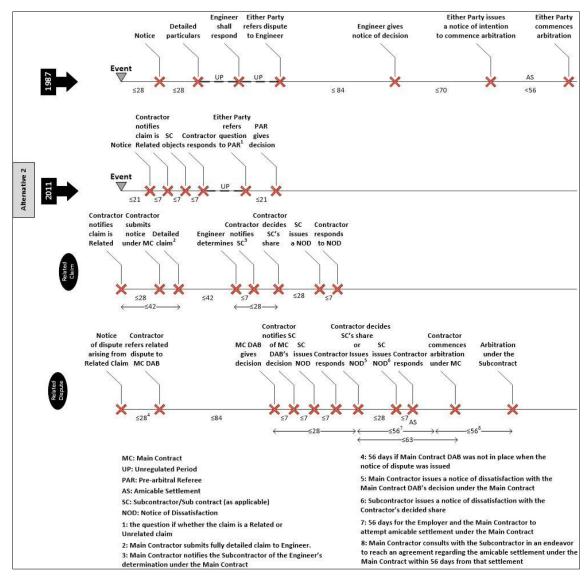


Figure 18: Claim & Dispute Timelines of FIDIC 2011 (Alternative 2-Related) in Conjunction with Those Under FIDIC 1987 (1992 reprint)

Table 9: FIDIC 2011 (Alternative 2) Vs. FIDIC 1987 (1992 reprint)

Claim	& Dispute	FIDIC CONDITIONS OF MAIN CONTRACT & SUBCONTRACT	
Mechanism		1987 (1992 reprint)	2011 Alternative 2
			Related claim/dispute
1. Clai	m		
Initi	ation/Substantiation		
a.	notice	≤28 days	≤42 days
b.	detailed particulars	≤28 days	
2. Con	sultations &		
Disc	cussions		

	a.	claim is related or unrelated	NA	between Main Contractor& Subcontractor regarding Subcontractor's claim for ≤21 days
	b.	entitlement to EoT and/or additional payment	Between Engineer, Employer and Main Contractor within UP	between Main Contractor & Subcontractor regarding Subcontractor's entitlement for ≤28 days
3.	De	cisions & Determination		
	a.	claim is related or unrelated initial decision	NA	Main Contractor decides claim is Related within ≤7 days
	b.	claim is related or unrelated final decision	NA	PAR decides if claim is Related or Unrelated within ≤21 days
	c.	entitlement to EoT and/or additional payment	Engineer determines the Main Contractor's entitlement within UP	 Engineer determines under Main Contract within ≤42 days Main Contractor decides Subcontractor's fair share within ≤28 days
4.	Ini	tial Dispute Resolution		
	a.	referral of dispute to the Engineer	Unregulated Period	NA
	b.	referral of question to PAR	NA	≤21 days
	c.	referral of dispute to the Subcontract DAB	NA	NA
	d.	referral of dispute to the Main Contract DAB	NA	≤28 days
	e.	NOD with the Subcontract DAB's decision	NA	
	f.	NOD with the Main Contract DAB's decision	NA	≤28 days
	g.	amicable settlement	<56 days (from NODis)	<56 days
5.	Fir	al Dispute Resolution	Arbitration	Arbitration

5.4.2 Scenario D

Scenario D considers the case where the employer signs FIDIC 1999 with the main contractor, while the main contractor signs FIDIC 2011 with the subcontractor.

• MC 1999 – SC 2011: Original Clause 20

5.4.2.1 Compatibility

5.4.2.1.1 Claim Initiation

The 2011 Original Clause 20 under the "General Conditions" has introduced major changes in the claim timeline which proved the better compatibility with the FIDIC 1999 subcontract conditions claim timeline, than that of the FIDIC 1994 conditions of subcontract. Starting with the claim initiation and substantiation, under FIDIC 2011, the subcontractor is now given 21 days to submit a notice of claim (whether for EoT or additional payment) and 35 days in total to submit a notice and detailed particulars, in conjunction to 28 days given for the main contractor to submit a notice of claim and 42 days in total to submit notice and fully detailed claim under the FIDIC 1999. Those two periods for the claim initiation are compatible since the main contractor will have the time to receive and examine the subcontractor's claim and decide to raise it under the main contract.

5.4.2.1.2 <u>Claim: Engineer's Determination & Main Contractor's Decision Periods</u>
Following the submission of the fully detailed claim, under the 2011 subcontract claim timeline the main contractor is given 49 days, from the receival of the subcontractor's fully detailed claim, to consult with the subcontractor for an endeavor to reach an agreement regarding the subcontractor's entitlement to EoT and/or additional payment.

In parallel, the engineer is given 42 days to give a determination on the main contractor's submitted claim. The compatibility here is manifested in the regulation of both, the engineer's and main contractor's, periods to give a decision or determination regarding the submitted claims under the main contract and subcontract respectively.

5.4.2.1.3 <u>Dispute: Referral of Dispute</u>

Moving to the dispute timelines, specifically the related dispute timeline under the FIDIC 2011 conditions of subcontract, compatibility between the latter and that of the FIDIC 1999 contract conditions can first be detected in the presence of adjudication in both timelines through the referral of dispute to the main contract DAB. The two dispute timelines were also found compatible in the period for the referral of dispute to the main contract DAB since the 28 days period given for the main contractor to refer the dispute to the main contract DAB, under the subcontract timeline, regulates or defines the UP under the main contract timeline for the referral of the dispute by either party (employer or main contractor) to the main contract DAB.

5.4.2.1.4 Dispute: Decision Period

Under the subcontract and the main contract dispute timelines, the period given for the main contract DAB to give a decision on the referred dispute is 84 days.

5.4.2.2 <u>Incompatibility/Limitation</u>

5.4.2.2.1 <u>Claim: Engineer's Determination & Main Contractor's Decision Periods</u>
This 49-day period given for consultation under the 2011 subcontract claim timeline goes jointly with the 42 days given for the engineer to respond to the main contractor's

claim and entitlement to EoT and/or additional payment under the main contract. The main contractor will give a decision under the subcontract regarding the subcontractor's claim at the same time he receives the engineer's respond to his claim under the main contract which doesn't give the main contractor the time to align his decision under the subcontract with the engineer's determination under the main contract regarding the contractual benefits to be given to the subcontractor. Although, the main contractor's decision under the subcontract must be based on or related to the engineer's determination regarding the related claim, in this case the main contractor will have the sole power to give the decision without referring to the engineer's determination which might be unfair to the subcontractor.

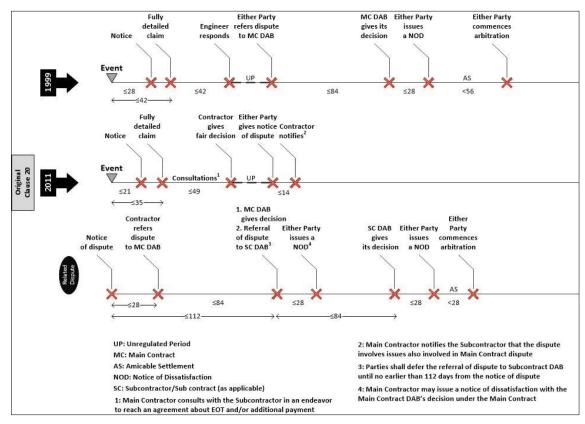


Figure 19: Claim & Dispute Timelines of FIDIC 2011 (Original Clause 20) in Conjunction with Those Under FIDIC 1999

Table 10: FIDIC 2011 (Original Clause 20) Vs. FIDIC 1999

Claim & Dispute	FIDIC CONDITIONS OF MAIN CONTRACT & SUBCONTRACT	
Mechanism	1999	2011 Original Clause 20
		Related Dispute
1. Claim		
Initiation/Substantiation		
notice & detailed	≤42 days	≤35 days
particulars		
2. Consultations		
about entitlement to	NA	between Main Contractor &
EoT and/or additional		Subcontractor within ≤ 49
payment		days
3. Decisions & Determination		
a. entitlement to EoT	Engineer determines	Main Contractor gives fair
and/or additional		decision regarding the
payment		Subcontractor's entitlement
b. dispute	Main Contract DAB	Main/Sub Contract DAB
	decides on the	decides on the referred
	referred dispute	dispute within ≤84 days
	within ≤84 days	-

4.	Initial Dispute Resolution		
	a. referral of dispute to the	Unregulated Period	≤28 days
	Main Contract DAB		
	b. referral of dispute to the	NA	≤ 112 days
	Subcontract DAB		
	c. NOD with the	≤28 days	≤28 days
	Subcontract DAB's		
	decision		
	d. amicable settlement	< 56 days (from	< 28 days (from NOD)
		NODis)	
5.	Final Dispute Resolution	Arbitration	Arbitration

• MC 1999 – SC 2011: Alternative 1

5.4.2.3 Compatibility

Claim Initiation

As stated previously, Alternative 1 claim timeline gives the subcontractor 35 days to submit a notice and detailed particulars of the subcontract related claim in parallel to 42 days given for the main contractor to submit notice and detailed particulars of the claim under the FIDIC 1999 main contract claim timeline. Those 42 days given for the main contractor, in conjunction with the 35 days given for the subcontractor, are sufficient to allow the main contractor to review the subcontractor's submitted claim and decide to pursue this claim under the main contract.

5.4.2.4 <u>Incompatibility/Limitation</u>

5.4.2.4.1 Claim: Engineer's Determination & Main Contractor's Decision Periods

Following the submission of the fully detailed claim, the main contractor is bounded to consultations with the subcontractor for 42 days to try to reach agreement about the subcontractor's entitlement to EoT and/or additional payment. On the other hand, the engineer is also given 42 days under the main contract timeline to give the determination about the main contractor's claim. Despite the fact that both, the engineer

and the main contractor, are given the same period of 42 days to given their determination/decision, based on the subcontract timeline's time-bars, the main contractor will give the decision 7 days prior to receiving the engineer's decision under the main contract. Giving the decision prior to the engineer's decision, will allow the main contractor to control the subcontractor's fair share of the contractual benefits without being bound to the decision given under the main contract, which in turn can be unfair for the subcontractor.

5.4.2.4.2 Dispute: Amicable Settlement Period

Alternative 1 presents an easy and simple mechanism to solve disputes arising between the main contractor and subcontractor as it does not include adjudication, but directly AS followed by arbitration, which is the reason for its incompatibility with the FIDIC 1999 contract conditions' dispute timeline. The AS period of 56 days, under the Alternative 1 timeline, is shorter than the 84-days period given to the main contract DAB to give its decision under the main contract. This incompatibility will lead to the commencement of arbitration under the subcontract, incase agreement was not reached between the parties within 56 days, while the main contractor did not receive the main contact DAB's decision yet which is neither fair nor beneficial for both, the main contractor and subcontractor, as the main contract DAB's decision might be of less penalties/consequences than the arbitration.

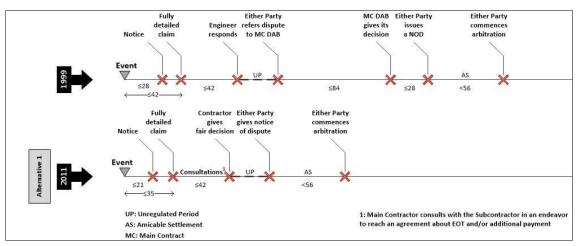


Figure 20: Claim & Dispute Timeline of FIDIC 2011 (Alternative 1) in Conjunction with That Under FIDIC 1999

Table 11: FIDIC 2011 (Alternative 1) Vs. FIDIC 1999

Claim & Dispute	FIDIC CONDITIONS OF MAIN CONTRACT & SUBCONTRACT	
Mechanism	1999	2011 Alternative 1
1. Claim		
Initiation/Substantiation		
notice & detailed	≤42 days	≤35 days
particulars		
2. Consultations		
about entitlement to EoT	NA	between Main Contractor
and/or additional		& Subcontractor ≤ 42
payment		days
3. Decisions & Determination		
entitlement to EoT and/or	Engineer determines	Main Contractor gives fair
additional payment		decision about
		Subcontractor's
		entitlement
4. Initial Dispute Resolution		
a. referral of dispute to the	Unregulated Period	NA
Subcontract DAB		
b. NOD with the	≤ 28 days	NA
Subcontract DAB's		
decision		
c. amicable settlement	< 56 days (from NODis)	<56 days (from NODis)
5. Final Dispute Resolution	Arbitration	Arbitration

• MC 1999 – SC 2011: Alternative 2

5.4.2.5 <u>Compatibility</u>

5.4.2.5.1 Claim Initiation

Under the FIDIC 2011 Alternative 2, the subcontractor is given 21 days to submit a notice of claim in conjunction with 28 days given for the main contractor to submit notice of claim under the main contract, which is to the benefit of the main contractor as the main contractor is given 7 additional days to study and assess the subcontractor's notice before submitting the notice of claim under the main contract. All in all, the period given for the main contractor to submit notice and particulars of claim as stated under the subcontract clam timeline is 42 days and compatible with the 42 days period given under the main contract.

5.4.2.5.2 <u>Claim: Engineer's Determination & Main Contractor's Decision Periods</u>
Following the submission of the fully detailed claim, it is stated under the 2011
Alternative 2 subcontract Related claim timeline, that the engineer shall give a
determination within 42 days from the date of receiving the main contractor's detailed
claim. This period is compatible with the 42 days period given for the engineer to make
a determination under the FIDIC 1999 main contract claim timeline.

5.4.2.5.3 Dispute: Referral of Dispute

Moving to the dispute timeline, the Alternative 2 subcontract dispute mechanism, similar to that under the main contract, includes adjudication through the referral of the dispute to the main contract DAB. Under the subcontract timeline, the main contractor has to refer the dispute to the main contract DAB within 28 days from the NODis, in

comparison to the UP to refer the dispute under the main contract. These 28 days enforced will bound the main contractor to a definite period for referral of dispute to the main contract DAB, thus, regulating the open period under the FIDIC 1999 main contract timeline.

5.4.2.5.4 <u>Dispute: Decision Period</u>

Under the subcontract and the main contract dispute timelines, the period given for the main contract DAB to give a decision on the referred dispute is 84 days.

5.4.2.5.5 <u>Dispute: Issuance of NOD</u>

Unlike the case with the FIDIC 1987 (with 1992 reprint) main contract timeline, the 28 days given for the main contractor to issue a NOD with the main contract DAB's decision is compatible with the FIDIC 1999 main contract dispute timeline which also allows for 28-days period for either party, the employer or main contractor, to issue a notice of dissatisfaction. This compatibility allows for the negotiation of the main contract DAB's decision to reach a mutual agreement that suits the parties of the main contract and subcontract.

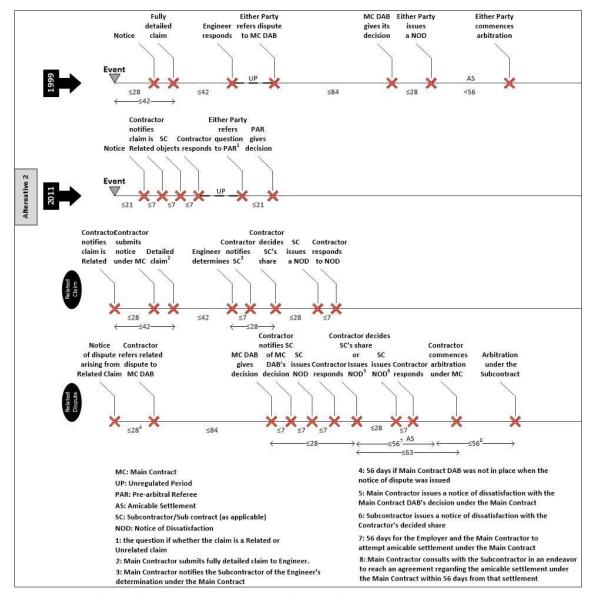


Figure 21: Claim & Dispute Timelines of FIDIC 2011 (Alternative 2-Related) in Conjunction with Those under FIDIC 1999

Table 12: FIDIC 2011 (Alternative 2) Vs. FIDIC 1999

Claim & Dispute		FIDIC CONDITIONS OF MAIN CONTRACT & SUBCONTRACT		
Mechanism		1999	2011 Alternative 2	
			Related claim/dispute	
1.	Claim			
	Initiation/Substantiation			
	notice & detailed	≤42 days	≤42 days	
	particulars		_	
2.	Consultations &			
	Discussions			

	a.	claim is related or unrelated	NA	between Main Contractor & Subcontractor regarding Subcontractor's claim for ≤21 days
		entitlement to EoT and/or additional payment	NA	between Main Contractor & Subcontractor regarding Subcontractor's entitlement for ≤28 days
3.	De	cisions & Determination		
	a.	claim is related or unrelated initial decision	NA	Main Contractor decides claim is Related within ≤7 days
	b.	claim is related or unrelated final decision	NA	PAR decides if claim is Related or Unrelated within ≤21 days
	c.	entitlement to EoT and/or additional payment	Engineer determines	• Engineer determines under Main Contract within ≤42 days Main Contractor decides Subcontractor's fair share within ≤28 days
4.	Ini	tial Dispute Resolution		
		referral of question to PAR	NA	≤21 days
	b.	referral of dispute to the Subcontract DAB	NA	NA
	c.	referral of dispute to the Main Contract DAB	Unregulated Period	≤28 days
	d.	NOD with the Subcontract DAB's decision	NA	
	e.	NOD with the Main Contract DAB's decision	≤28 days	≤28 days
	f.	amicable settlement	<56 days (from NODis)	<56 days
5.	Fin	nal Dispute Resolution	Arbitration	Arbitration

5.5 2017 – 2018: MC 2017 with SC 1994 /2011

5.5.1 Scenario E

Scenario E considers the case where the employer signs FIDIC 2017 with the main contractor, while the main contractor signs FIDIC 1994 with the subcontractor.

5.5.1.1 Compatibility

5.5.1.1.1 <u>Claim Initiation</u>

The subcontractor is given 14 days under the FIDIC 1994 to submit notice of claim and particulars, which is drastically less than the 84 days given for the main contractor to submit notice and fully detailed claim to the engineer. This time difference in the claim submission allows the main contractor enough time to receive and study the subcontractor's claim before passing it through to the upper level, which is the employer's level.

5.5.1.1.2 Claim: Engineer's Determination & Main Contractor's Decision Periods

The period during which the engineer shall give a determination, under the 2017 main contract timeline, is set to 42 days. This defined period regulated the UP under the subcontract timeline for which the main contractor shall pass on to the subcontractor the contractual benefits decided by the engineer under the main contract. This compatibility decreased the subcontractor's uncertainty about the time during which the contractual benefits will be received.

5.5.1.2 <u>Incompatibility/Limitation</u>

Dispute: Adjudication & Amicable Settlement Period

The 1994 subcontract claim dispute timeline is incompatible with that of the 2017 main contract from the adjudication and the AS period perspectives. First, the absence of adjudication under the 1994 subcontract timeline makes it harder on the main contractor to abide by the time bars present at the main contract level pertaining to that related claim. Second, the AS period of 56 days is shorter than 84 days given for the main

contract DAAB to give its decision which can lead to the subcontractor going to arbitration while the dispute is still under study under the main contract and the DAAB's decision is still not received. If considered from the main contractor's perspective, the main contractor might take the subcontractor to arbitration prior to receiving the engineer's decision that might be to the benefit of the main contractor to avoid passing on any contractual benefits.

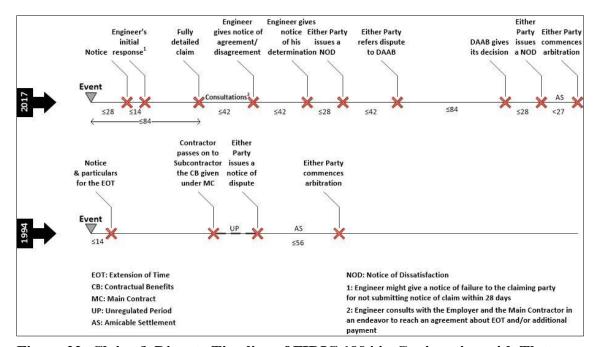


Figure 22: Claim & Dispute Timeline of FIDIC 1994 in Conjunction with That Under FIDIC 2017

Table 13: FIDIC 1994 Vs. FIDIC 2017

Claim & Dispute	FIDIC CONDITIONS OF MAIN CONTRACT & SUBCONTRACT			
Mechanism	1994	2017		
1. Claim Initiation/Substantiation				
a. notice	≤14 days	≤28 days	≤84 days	
b. detailed particulars				
2. Consultations				
about entitlement to EoT	NA	between Engineer,		
and/or additional payment		Employer & Main		
		Contractor within ≤42		
		days		

3.	Decisions & Determination		
	a. submission of claim		Engineer decides validity of submitted notice
	b. entitlement to EoT and/or additional payment	Main Contractor passes fair share of benefits to the Subcontractor	Engineer determines within ≤42 days
	c. dispute	NA	Main Contract DAAB decides on the referred dispute within ≤84 days
4.	Initial Dispute Resolution		•
	a. NOD with the Engineer's determination on entitlement	NA	within ≤28 days
	b. referral of dispute to the Main Contract DAAB	NA	within ≤42 days
	c. NOD with the Main Contract DAAB's decision	NA	within ≤28 days
	d. amicable settlement	≤ 56 days (from NODis)	< 27 days (from NODis)
5.	Final Dispute Resolution	Arbitration	Arbitration

5.5.2 Scenario F

Scenario F considers the case where the employer signs FIDIC 2017 with the main contractor, while the main contractor signs FIDIC 2011 with the subcontractor.

• MC 2017– SC 2011: Original Clause 20

5.5.2.1 Compatibility

5.5.2.1.1 Claim Initiation

As stated previously, the subcontract claim timeline, under the 2011 Original Clause 20, gives the subcontractor 35 days to submit a notice and detailed particulars of the Subcontract related claim. The main contractor given 84 days, from the occurrence of the event to submit notice and detailed particulars of the claim under the main contract, has sufficient time to review the subcontractor's submitted claim and decide to pursue this related claim under the main contract.

5.5.2.1.2 Dispute: Referral of Dispute

The period during which the main contractor shall refer the dispute to the main contract DAAB, under the 2011 subcontract dispute timeline, is 28 days. This period is compatible with the 42 days period given under the 2017 main contract DAAB.

5.5.2.1.3 <u>Dispute: Decision Period</u>

Under the subcontract and the main contract dispute timelines, the period given for the main contract DAB and DAAB, respectively, to give a decision on the referred dispute is 84 days.

5.5.2.1.4 Dispute: Issuance of NOD

The 28 days given for the main contractor to issue a NOD with the main contract DAB's decision is compatible with the FIDIC 2017 main contract dispute timeline which also allows for 28-days period for either party, the employer or main contractor, to issue a NOD with the main contract DAAB's decision. This compatibility allows for the negotiation of the main contract DAAB's decision to reach a mutual agreement that suits the parties of the main contract and subcontract.

5.5.2.2 <u>Incompatibility/Limitation</u>

Claim: Engineer's Determination & Main Contractor's Decision Periods

Under the 2011 subcontract claim timeline, the main contractor is bound to 49 days of consultations with the subcontractor, at the end of which the main contractor is to give a decision regarding the subcontractor's submitted claim. This decision shall be in

relation to the engineer's decision under the main contract. However, the main contractor giving a decision under the subcontract prior to the engineer giving a decision under the main contract doesn't allow the main contactor to align his decision with that of the engineer. This incompatibility can be unfair for the main contractor and subcontractor as the engineer's decision can be to the benefit of either party.

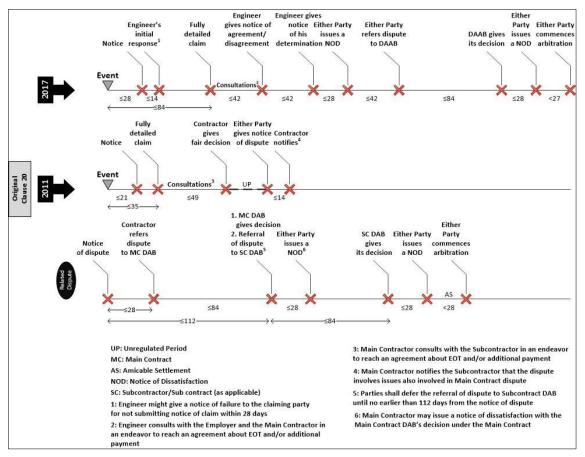


Figure 23: Claim & Dispute Timelines of FIDIC 2011 (Original Clause 20) in Conjunction with Those Under FIDIC 2017

Table 14: FIDIC 2011 (Original Clause 20) Vs. FIDIC 2017

Claim & Dispute		FIDIC CONDITIONS OF MAIN CONTRACT & SUBCONTRACT	
Me	echanism	2017	2011 Original Clause 20 Related Dispute
1.	Claim Initiation/Substantiation		
	notice & detailed particulars	≤84 days	≤35 days
2.	Consultations		
	about entitlement to EoT and/or additional payment	between Engineer, Employer & Main Contractor within ≤42 days	between Main Contractor & Subcontractor within ≤ 49 days
3.	Decisions & Determination		
	a. submission of claim	Engineer decides on the validity of submitted notice	NA
	b. entitlement to EoT and/or additional payment	Engineer determines within ≤42 days	Main Contractor gives fair decision regarding the Subcontractor's entitlement
	c. dispute	Main Contract DAAB decides on the referred dispute within ≤84 days	Main/Sub Contract DAB decides on the referred dispute within ≤84 days
4.	Initial Dispute Resolution		
	a. NOD with the Engineer's determination on entitlement	within ≤28 days	NA
	b. referral of dispute to the Main Contract DAAB	within ≤42 days	NA
	c. referral of dispute to the Main Contract DAB	NA	≤28 days
	d. referral of dispute to the Subcontract DAB	NA	≤ 112 days
	e. NOD with the Main Contract DAAB's decision	within ≤28 days	NA
	f. NOD with the Subcontract DAB's decision	NA	≤28 days
	g. amicable settlement	< 27 days (from NOD)	< 28 days (from NOD)
5.	Final Dispute Resolution	Arbitration	Arbitration

• MC 2017– SC 2011: Alternative 1

5.5.2.3 Compatibility

Claim Initiation

Alternative 1 subcontract claim timeline gives the subcontractor 35 days to submit a notice and detailed particulars of the subcontract related claim in parallel to 84 days given to the main contractor to submit notice and detailed particulars of the claim under the 2017 main contract claim timeline. Those 84 days give the main contractor adequate time to review the subcontractor's submitted claim and decide to pursue this claim under the main contract.

5.5.2.3.1 Claim: Engineer's Determination & Main Contractor's Decision Periods

The 42 days period given for the main contractor to give a decision about the subcontractor's claim is equal to the 42 days period given for the engineer to give a determination regarding the main contractor's claim under the main contract. This defined period bounds the Main Contractor to give a decision under the subcontractor's concerning the subcontractor's submitted claim.

5.5.2.4 Incompatibility/Limitation

5.5.2.4.1 <u>Claim: Engineer's Determination & Main Contractor's Decision Periods</u>
Although the 42 days period given for the main contractor to give a decision about the subcontractor's claim is equal to the 42 days period given for the engineer to give a determination regarding the main contractor's claim under the main contract, the main contractor will have to give his decision under the subcontract prior to receiving the engineer's determination under the main contract due to the different time bars under

each timeline. Giving a decision under the main contract without reliance on the engineer's determination about that same claim is considered to be unfair for both, the main contractor and subcontractor considering that the engineer's determination can be to the benefit of either party.

5.5.2.4.2 <u>Dispute: Adjudication & Amicable Settlement Period</u>

Alternative 1 does not include Adjudication but directly AS for 56 days followed by Arbitration, which causes the incompatibility with the 2017 main contract timeline. The AS period of 56 days is shorter than the 84-days period given to the main contract DAAB to give its decision under the main contract. This incompatibility will lead to the commencement of Arbitration under the Subcontract, incase agreement was not reached between the Parties within 56 days, while the main contractor did not receive the main contact DAAB's decision yet which is neither fair nor beneficial for both, the main contractor and subcontractor.

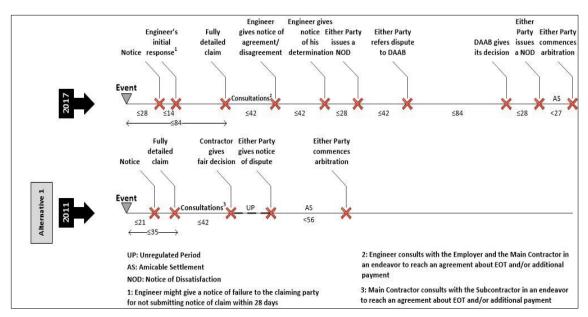


Figure 24: Claim & Dispute Timeline of FIDIC 2011 (Alternative 1) in Conjunction with That Under FIDIC 2017

Table 15: FIDIC 2011 (Alternative 1) Vs. FIDIC 2017

Claim & Dispute	FIDIC CONDITIONS OF MAIN CONTRACT &		
	SUBCONTRACT		
Mechanism	2017	2011 Alternative 1	
1. Claim			
Initiation/Substantiation			
notice & detailed	≤84 days	≤35 days	
particulars			
2. Consultations			
about entitlement to EoT	between Engineer,	between Main	
and/or additional	Employer & Main	Contractor &	
payment	Contractor within ≤42	Subcontractor ≤ 42 days	
	days		
3. Decisions & Determination			
a. Submission of claim	Engineer decides on the	NA	
	validity of submitted		
	notice		
b. entitlement to EoT	Engineer determines	Main Contractor gives	
and/or additional	within ≤42 days	fair decision about	
payment	-	Subcontractor's	
		entitlement	
4. Initial Dispute Resolution			
a. NOD with the	within ≤28 days	NA	
Engineer's			
determination on			
entitlement			

	b. referral of dispute to t	e within ≤42 days	NA
	Subcontract DAAB		
	c. NOD with the	within ≤ 28 days	NA
	Subcontract DAAB's		
	decision		
	d. amicable settlement	< 56 days (from NOD)	<56 days (from NODis)
5.	Final Dispute Resolution	Arbitration	Arbitration

• MC 2017– SC 2011: Alternative 2

5.5.2.5 Compatibility

5.5.2.5.1 Claim Initiation

Under 2011 Alternative 2, the subcontractor is given 21 days to submit notice and contractual basis of claim which still gives the main contractor enough time to submit notice and particulars under the main contract under which he is given 84 days.

5.5.2.5.2 Dispute: Referral of Dispute

In addition to the adjudication that is present under the main contract and subcontract disputes timelines, the 28 days stated under the subcontract timeline for referring the dispute to the main contract DAAB is compatible with the 42 days given under main contract for the referral of dispute to the main contract DAAB. The main contractor can follow the time bar under the Subcontract without breaching that under the main contract.

5.5.2.5.3 <u>Dispute: Decision Period</u>

Under the subcontract and the main contract dispute timelines, the period given for the main contract DAB and DAAB, respectively, to give a decision on the referred dispute is 84 days.

5.5.2.5.4 Dispute: Issuance of NOD

The 28 days given for the main contractor to issue a NOD under the Alternative 2 subcontract timeline is compatible with the time bar given under the main contract. Both timelines give the opportunity for the main contractor to express the dissatisfaction with the decision given in an attempt to reach mutual agreement and solve the dispute amicably.

5.5.2.6 <u>Incompatibility/Limitation</u>

Claim: Engineer's Determination & Main Contractor's Decision Periods

Despite the fact that under both timelines, the main contract and the subcontract, the engineer is given a period of 42 days to respond to the main contractor's claim or in other words, to give determination, the two time-bars are not compatible. Under the main contract timeline, the 42 days for the engineer to determine are bound to 42 days of consultation between the main contractor and the employer, after which the engineer has to give a notice of agreement or disagreement. While, on the subcontract timeline, the engineer's 42 days to give a determination is counted from the date of the submittal of the main contractor's fully detailed claim only. According to the two timelines' timebars, the engineer's determination won't be received within the given 42 days under the subcontract which leads to a breach of the subcontract time bars by the main contractor.

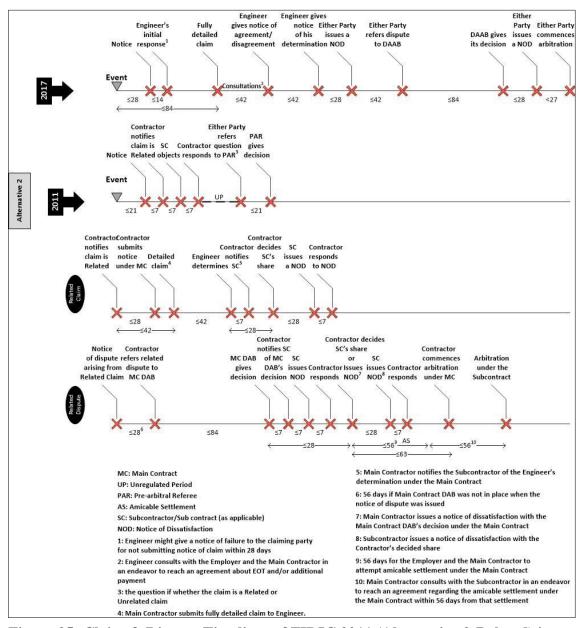


Figure 25: Claim & Dispute Timelines of FIDIC 2011 (Alternative 2-Related) in Conjunction with Those Under FIDIC 2017

Table 16: FIDIC 2011 (Alternative 2) Vs. FIDIC 2017

Claim & Dispute		FIDIC CONDITIONS OF MAIN CONTRACT & SUBCONTRACT		
Mechanism	2017	2011 Alternative 2		
		Related claim/dispute		
1. Claim				
Initiation/Substantiation	on			
notice & detailed	≤84 days	≤42 days		
particulars				
2. Consultations & Discu	ussions			

	a.	claim is related or unrelated	NA	between Main Contractor & Subcontractor regarding
				Subcontractor's claim for ≤21 days
	b.	entitlement to EoT	between Engineer,	between Main Contractor
		and/or additional	Employer & Main	& Subcontractor regarding Subcontractor's
		payment	Contractor within ≤42 days	entitlement for ≤ 28 days
3.	De	cisions & Determination	auys	entitiement for <u>_20 days</u>
	a.		Engineer decides on the	NA
			validity of submitted notice	
	b.	claim is related or	NA	Main Contractor decides
		unrelated initial decision		claim is Related within ≤7 days
	c.	claim is related or	NA	PAR decides if claim is
		unrelated final decision		Related or Unrelated within ≤21 days
	d.	entitlement to EoT	Engineer determines	• Engineer determines
		and/or additional	within ≤42 days	under Main Contract
		payment		within ≤42 days Main Contractor decides
				Subcontractor's fair share
				within ≤28 days
4.		tial Dispute Resolution		
	a.	NOD with the	within ≤28 days	NA
		Engineer's determination on entitlement		
	h.	referral of question to	NA	≤21 days
	٠.	PAR	1111	_21 days
	c.	referral of dispute to the	NA	NA
		Subcontract DAB	27.1	20.1
	d.	referral of dispute to the Main Contract DAB	NA	≤28 days
	e.	referral of dispute to the	within ≤42 days	NA
		Subcontract DAAB	27.1	27.4
	f.	NOD with the	NA	NA
		Subcontract DAB's decision		
	g.	NOD with the Main	NA	≤28 days
		Contract DAB's decision		
	h.	NOD with the	within ≤ 28 days	NA
		Subcontract DAAB's		
	•	decision	(27daya (fram NOD)	256 dona
5.	i. Fin	amicable settlement al Dispute Resolution	<27days (from NOD) Arbitration	<56 days Arbitration
J.	1 11.	iai Dispuic Resolution	Aibidaddi	Atomanon

CHAPTER 6

FINDINGS AND DISCUSSIONS

6.1 Introduction

The findings and discussions interpreted from the analysis done in Chapter 5 above are presented in this chapter herein. The discussions are done along two main headings: a) Claim Resolvent: engineer's determination and main contractor's decision periods about the submitted claim, b) Dispute Resolution: referral of dispute, amicable settlement and adjudication. Under each heading, the findings followed the same grouping used for the analysis in Chapter 5: periods of release of the FIDIC standard conditions and scenarios for the used FIDIC subcontract timelines in conjunction with the FIDIC main contract timelines. The findings were reached along two judgement tracks which are: 1) the evolvement of the FIDIC main contract and subcontract conditions pertaining to the claim and dispute timelines and the 2) degree of compatibility or incompatibility of each of the FIDIC main contract timelines when used with the FDIC subcontract timelines.

6.2 Findings

6.2.1 Claim Resolvent: Engineer's Determination and Main Contractor's Decision Periods

The first aspect considered for discussion is the period or time bar allocated for the engineer to give a determination on the submitted claim under the main contract, and for the main contractor to give a decision on the claim submitted under the subcontract. Those periods, for the engineer and main contractor, have been studied on the main contract and subcontract timelines in conjunction to each other to determine

the changes implemented with the evolvement of the new FIDIC standard conditions and the effect of those changes on both claim timelines from a compatibility and/or incompatibility perspective. Table 14 below summarizes the discussions presented and the judgement of the main contract and subcontract timeline's incompatibility, compatibility or compatibility with limitation when used together over the periods of time.

Evolvement and Judgement of the FIDIC Main Contract & Subcontract Claim/Dispute Timelines:

6.2.1.1 <u>1987 – 1999: MC 1987 (1992 reprint) with SC 1994</u>

During the first period, which extends from 1987 till 1999, under the FIDIC 1987 (with 1992 reprint) the engineer has an UP to respond to the main contractor's claim or, in other words, to give a determination. This open period under the main contract claim timeline has reflected an UP under the FIDIC 1994 subcontract claim timeline, as the engineer's determination is a condition precedent to the main contractor's decision regarding the subcontractor's entitlement to contractual benefits. Those open periods under both claim timelines impose a huge uncertainty and indecision on the subcontractor about when will the contractual benefits be received.

Being the only two available FIDIC main contract and subcontract standard conditions, the use of the claim timeline of the FIDIC 1994 in conjunction with that of the FIDIC 1987 (with 1992 reprint) was found to be *incompatible*. Those incompatibility is characterized first by the dependency of the subcontract timeline on the main contract timeline pertaining to the main contractor's decision on the subcontractor's share of the contractual benefits, and second, by the UP under the main contract claim timeline for the engineer to determine which causes also an UP under the subcontract claim timeline

due to the dependency of the main contractor's decision on the engineer's determination, as explained previously.

6.2.1.2 1999 – 2011: MC 1999 with SC 1994

With the release of the new FIDIC 1999 Contract Conditions, during the period extending between 1999 and 2011, the UP for the engineer to give a determination, which was present under the FIDIC 1987 (with 1992 reprint), has been regulated to 42 days. This change in the engineer's period under the FIDIC 1999 has reflected an improvement on the FIDIC 1994 subcontract claim timeline since the main contractor became limited by a regulated and well-defined period of 42 days to decide on or pass to the subcontractor the fair share of the contractual benefits (EoT and/or additional payment) given under the main contract.

When studied together, the FIDIC 1999 and the FIDIC 1994 claim timelines were found to be *compatible* despite the remaining dependency of the subcontract claim timeline on the main contract claim timeline that was explained previously with the FIDIC 1987 (with 1992 reprint) claim timeline. The regulated period for the engineer to determine under the main contract claim timeline has consequently regulated the UP under the subcontract for the main contractor to decide on the contractual benefits of the subcontractor; thus, decreasing the uncertainty about when the subcontractor will receive the contractual benefits.

6.2.1.3 <u>2011 – 2017: MC 1987 (1992 reprint) and MC 1999 with SC 2011</u>

• MC 1987 (1992 reprint) – SC 2011

Following the release of the FIDIC 1999 contract conditions, the FIDIC 2011 subcontract conditions was released, within the period extending from 2011 till 2017, which was used interchangeably with the FIDIC 1987 (with 1992 reprint) and FIDIC 1999 contract conditions during that period. The FIDIC 2011 has introduced regulated periods for the main contractor to decide the subcontractor's fair share of the contractual benefits which are 49, 42 and 28 days corresponding to the Original Clause 20, Alternative 1 and Alternative 2 respectively. Despite the fact that the FIDIC 2011 has introduced time bars to the main contractor's decision which were not present under the FIDIC 1994 claim timeline, the evolvement of the FIDIC subcontract claim timeline has showed certain limitations when used in conjunction with the FIDIC 1987 (with 1992 reprint) and 1999 claim timeline.

The important limitation detected with the FIDIC 1987 (with 1992 reprint) is reflected in the asynchronous periods for the engineer to determine under the main contract and the main contractor to decide under the subcontract. The fact that the main contractor's decision about the subcontractor's claim should be directly related to the engineer's determination and the main contractor is bound to give a decision within 49, 42 or 28 days while the engineer has an UP to determine, shows that the engineer might not give the determination within the 49/42 days given for the main contractor under Original Clause 20 and Alternative 1 and as specified for the engineer under Alternative 2. This will lead to the main contractor giving a decision independent of the engineer's determinations which affects both the main contractor and subcontractor.

Considering first the FIDIC 2011 Original Clause 20 and Alternative 1 claim timelines, the defined periods for the main contractor to give a decision about the subcontractor's claim or contractual benefits were found to be *compatible with limitations* with the UP for the engineer to give a determination under the FIDIC 1987 (with 1992 reprint) claim timeline. Under the Original Clause 20 and Alternative 1, the main contractor will have to respect the time periods given under the subcontract claim timeline and give the decision on the related claim irrespective of the engineer's determination under the main contract.

Concerning Alternative 2, the period of 42 days given for the engineer to determine is *incompatible* with the UP under the FIDIC 1987 (with 1992 reprint) main contract timeline since it is not guaranteed that the engineer will give the determination within those 42 days; thus, the time bar under the Alternative 2 claim timeline will not be respected. Consequently, the 28 days given for the main contractor to give a decision on the subcontractor's fair share of the contractual benefits, which comes after the 42 days given for the engineer to determine, will not be respected as it is directly related to the day when the engineer's determination is received. Having an UP for the engineer to determine, will not allow the main contractor to know when to expect the engineer's determination in order to commence the 28 days and give the decision on the subcontractor's contractual benefits. Thus, here also the improvement done to the FIDIC 2011 claim timelines, which is introducing the regulated time bars for the main contract to decide on the contractual benefits, will fail.

• MC 1999 – SC 2011

On the other hand, despite the fact that the FIDIC 1999 has limited the engineer to a period of 42 days to give a determination which was an UP under the FIDIC 1987 (with 1992 reprint), the limitations in the use of the FIDIC 2011 subcontract conditions, specifically Original Clause 20 and Alternative 1, with the FIDIC 1999 main contract conditions. Those limitations are reflected in the uncoordinated periods for the engineer to give a determination under the main contract and the main contractor to give a decision under the subcontract. This miscoordination leads to the independence of the main contractor's decision from the engineer's determination as the main contractor will have to give the decision at the same time he receives the determination from the engineer, as the case is under Original Clause 20, or prior to receiving the engineer's decision as the case is under Alternative 1. However, Alternative 2 of the FIDIC 2011expressed huge improvement with the FIDIC 1999 as under both claim timelines, the engineer is given 42 days to determine after which the main contractor has 28 days to give the decision on the subcontractor's contractual benefits.

The main contract claim timeline of the FIDIC 1999 and the subcontract claim timelines of the FIDIC 2011 (Original Clause 20 and Alternative 1) were found to be *compatible with limitations* pertaining to the decision of the main contractor in relation to the engineer's determination. The main contractor giving a decision which is independent of the engineer's determination will affect both the main contractor and subcontractor especially that the subcontract claim is related to claim pursued under the main contract. The claim timeline under FIDIC 2011 Alternative 2 was found to be *compatible* with the FIDIC 1999 claim timeline since both timelines allow a period of 42 days for the engineer to give a determination on the submitted claim. This compatible period

between the two timelines allows the main contractor to respect the time bar enforced under the subcontract timeline specifically the 28 days period, which follows immediately the 42 days given for the engineer to determine, for the main contractor to give a decision on the subcontractor's contractual benefits.

6.2.1.4 <u>2017 – 2018: MC 2017 with SC 1994 and SC 2011</u>

• MC 2017 – SC 1994

The last period considered is between 2017 and 2018 which has witnessed the release of the FIDIC 2017 contract conditions. Similar to the FIDIC 1999, the FIDIC 2017 claim timeline has set a defined period for the engineer to determine which is 42 days following a 42 days period of consultations with the employer and the main contractor. This defined period under the main contract claim timeline has shown an improvement with the FIDIC 1994 as it has limited the engineer to a defined period under the main contact which in itself has also limited the main contractor to defined period to give a decision under the subcontract.

The defined period for the engineer to determine under the FIDIC 2017 claim timeline has regulated the UP for the main contractor to decide on the subcontractor's contractual benefits under the FIDIC 1994; thus, those two timelines can be said to be *compatible* when used in conjunction with each other.

• MC 2017 – SC 2011

Similar to the case between the FIDIC 1999 with the FIDIC 2011 Original Clause 20 and Alternative 1, the defined period of 42 days that was introduced under the FIDIC 2017 for the engineer to determine has showed also improvement with the FIDIC 2011

despite the few limitations detected. Considering first the case with the Original Clause 20 and Alternative 1, the main contractor will give the decision under the subcontract prior to the engineer making a determination under the main contract which will lead to the independence of the main contractor's decision from the engineer's determinations. This independency can affect both the main contractor and the subcontractor situation. As for the case under Alternative 2 and despite the fact that under both timelines the engineer is given 42 days to determine, the periods are asynchronous. Under the FIDIC 2017 claim timeline, the engineer shall determine within 42 days following the 42 days of consultation with the employer and main contractor while under Alternative 2, the 42 days for the engineer to determine commence after the 42 days given for the main contractor to submit the fully detailed claim; thus, the time bars under the Alternative 2 cannot be respected.

Also similar to the case with the FIDIC 1999, the claim timelines of FIDIC 2011
Original Clause 20 and Alternative 1 were found to be *compatible with limitations* with the FIDIC 2017 claim timeline. The limitation is due to the fact that the main contractor will have to give the decision on the subcontractor's contractual benefits prior to receiving the engineer's determination on the matter under the main Contract; thus, the main contractor's decision will be independent of what the engineer has determined which might have been to the benefit of both the main contractor and subcontractor.

Alternative 2 is *incompatible* with the claim timeline under the FIDIC 2017 the 42 days period stated under the subcontract claim timeline, during which the engineer shall give determine, is not synchronized with the same period given under the main contract timeline where under the latter the engineer shall first engage in consultations with the employer and main contractor for 42 days prior to giving a determination within another

42 days These asynchronous periods will hinder the main contractor from respecting the time bars under the subcontract, specifically those related to the subcontractor's contractual benefits; thus, affecting the subcontractor's pursuance of the submitted claim, cashflow and schedule.

Table 17: Compatibility/Incompatibility Analysis Between the FIDIC Subcontract & Main Contract Claim Timelines

Claim Resolvent: Engineer's Determination & Main Contractor's Decision Periods		
1987 – 1999	1999 – 2011	
MC 1987 (1992 reprint) with SC 1994	MC 1999 with SC 1994	
Unregulated Period for Engineer to determine under the Main Contract	• Regulated Period for Engineer to determine under Main Contract (42 days)	
Unregulated period for Main Contractor to decide under the Subcontract	Regulated period for Main Contractor to decide under the Subcontract	
Incompatibility:	Compatibility:	
1. Subcontract claim timeline is dependent on the Main Contract claim timeline	Less uncertainty for the Subcontractor about the receival of the contractual benefits	
2. Unregulated periods for determination/decision under Main		
Contract & Subcontract timelines		
3. Uncertainty for the Subcontractor about the receival of the contractual benefits		

2011 - 2017		
MC 1987 (1992 reprint) with SC 2011 (Original Clause 20)	MC 1999 with SC 2011 (Original Clause 20)	
Unregulated Period for Engineer to determine under the Main Contract	• Regulated Period for Engineer to determine under the Main Contract (42 days)	
 Regulated period for the Main Contractor to decide under the Subcontract (49 days) Compatibility with Limitations: 	 Regulated period for the Main Contractor to decide under the Subcontract (49 days) Compatibility with Limitations: 	

The decision period under the Subcontract cannot be respected unless the Main Contractor's decision is given irrespective of the Engineer's determination under the Main Contract	 Both timelines have regulated periods for giving a determination and decision The decision period under the Subcontract cannot be respected unless the Main Contractor's decision is given irrespective of the Engineer's determination under the Main Contract
MC 1987 (1992 reprint) with SC 2011 (Alternative 1)	MC 1999 with SC 2011 (Alternative 1)
Unregulated Period for Engineer to determine under the Main Contract	Regulated Period for Engineer to determine under the Main Contract (42 days)
Regulated period for the Main Contractor to decide under the Subcontract (42 days)	• Regulated period for the Main Contractor to decide under the Subcontract (42 days)
Compatibility with Limitations: The decision period under the Subcontract cannot be respected unless the Main Contractor's decision is given irrespective of the Engineer's determination under the Main Contract	 Compatibility with Limitations: 1. Both timelines have regulated periods for giving a determination and decision 2. The decision period under the Subcontract cannot be respected unless the Main Contractor's decision is given irrespective of the Engineer's determination under the Main Contract
MC 1097 (1002 pappint) with SC 2011 (Alternative 2)	MC 1999 with SC 2011 (Alternative 2)
 MC 1987 (1992 reprint) with SC 2011 (Alternative 2) Unregulated Period for Engineer to determine under the Main Contract 	Regulated Period for Engineer to determine under the Main Contract (42 days)
• Regulated Period for Engineer to determine stated under the Subcontract (42 days)	Regulated Period for Engineer to determine as stated under the Subcontract (42 days)

• Regulated Period for the Main Contractor to decide under the Subcontract after receiving the Engineer's determinations (28 days)

Incompatibility:

- 1. The 42 days period stated under the Subcontract for the Engineer to determine cannot be respected
- 2. The decision period under the Subcontract cannot be respected unless the Main Contractor's decision is given irrespective of the Engineer's determination under the Main Contract

• Regulated Period for the Main Contractor to decide under the Subcontract after receiving the Engineer's determination (28 days)

Compatibility:

- 1. The same period is given for the Engineer to determine under the Main Contract and Subcontract
- 2. The time bars under the Subcontract are respected by the Main Contractor in conjunction with those under the Main Contract

2017 - 2018		
MC 2017 with SC 1994	MC 2017 with SC 2011 (Original Clause 20)	
Regulated Period for Engineer to determine under the Main Contract (42 days)	Regulated Period for Engineer to determine under the Main Contract (42 days)	
	Regulated period for the Main Contractor to decide under the Subcontract (49 days)	
Compatibility:	Compatibility with Limitations:	
Less uncertainty for the Subcontractor about the receival of the	1. Both timelines have regulated periods for giving a	
contractual benefits	determination and decision	
	2. The decision period under the Subcontract cannot be respected unless the Main Contractor's decision is given irrespective of the Engineer's determination under the Main Contract	
	MC 2017 with SC 2011 (Alternative 1)	

 Regulated Period for Engineer to determine under the Main Contract (42 days) Regulated period for the Main Contractor to decide under the Subcontract (42 days) Compatibility with Limitations: Both timelines have regulated periods for giving a determination and decision The decision period under the Subcontract cannot be respected unless the Main Contractor's decision is given irrespective of the Engineer's determination under the Main
Contract
MC 2017 with SC 2011 (Alternative 2) Regulated Period for Engineer to determine under the Main Contract (42 days) Regulated Period for Engineer to determine as stated under the Subcontract (42 days) Incompatibility: The decision and determination periods stated under the Subcontract cannot be respected by the Main Contactor

Incompatible
Compatible with Limitations
Compatible

6.2.2 Dispute Resolution: Referral of Dispute, Adjudication and Amicable Settlement

The second aspect considered for discussion is the dispute resolution process or stages specified under the main contract and Subcontract dispute timelines which include the referral of the dispute, amicable settlement period and adjudication. These dispute resolution processes have been studied on the main contract and subcontract timelines in conjunction to each other to determine the changes implemented with the evolvement of the new FIDIC standard conditions and the effect of those changes on both claim timelines from a compatibility/incompatibility aspect. Table 15 below summarizes the discussions presented and the judgement of the main contract and subcontract timeline's incompatibility, compatibility or compatibility with limitation when used together over the periods of time previously divided and presented.

Evolvement and Judgement of the FIDIC Main Contract & Subcontract Claim/Dispute <u>Timelines:</u>

6.2.2.1 1987 – 1999/1999 – 2011: MC 1987 (1992 reprint) & MC 1999 with SC 1994

During the period between 1987 and 1999, the FIDIC 1987 (with 1992 reprint) and that of the FIDIC 1994 where the only two available standard conditions for dispute resolution. A gap was found pertaining to the AS period under the subcontract timeline against the engineer's determination period under the main contract timeline. Under the FIDIC 1994 subcontract timeline, the AS period of 56 days terminates prior to the engineer giving a decision under the main contract allowing arbitration to commence under the subcontract.

Despite the evolvement of the FIDIC 1987 (with 1992 reprint) to the FIDIC 1999, this gap has not been solved since under the main contract dispute timeline the main contract

DAB has also 84 days to give the decision which is way longer than the 56 days given for AS under the Subcontract which is the only available subcontract timeline to be used during the period between 1999 and 2011. For this reason, the subcontract dispute timeline of the FIDIC 1994 as found to be *incompatible* with the main contract dispute timelines of the FIDIC 1987 (with 1992 reprint) and 1999. This incompatibility was highlighted due to the fact that the dispute under the subcontract is related to matters of dispute under the main contract, thus, the engineer's or main contract DAB's decision can affect the resolvent of the dispute under the subcontract and probably avoid arbitration.

6.2.2.2 2011 – 2017: MC 1987 (1992 reprint) and MC 1999 with SC 2011

• MC 1987 (1992 reprint) – SC 2011

During the period between 2011 and 2017 and with the release of the new FIDIC 2011 subcontract conditions, the gap detected in the previous periods has been solved under the 2011 Original Clause 20 and Alternative 2 since the main contract DAB is now given 84 days to give a decision, prior to commencing AS, which is similar to the period set under the main contract dispute timeline of the FIDIC 1987 (with 1992 reprint) and 1999. However, this gap has not been solved under Alternative 1 of the FIDIC 2011 since the dispute timeline under this Alternative is similar to that of the FIDIC 1994 where the AS period of 56 days is commenced and terminated prior to the engineer or main contract DAB giving the decision on the dispute. Despite the fact that the issue of the AS period has been solved, when the FIDIC 2011 Original Clause 20 and Alternative 2 were used with the FIDIC 1987 (with 1992 reprint), few limitations where detected. Those limitations relate to the absence of adjudication under the FIDIC 1987

(with 1992 reprint) which is present under the FIDIC 2011 timelines and the absence of the period to issue a NOD under the FIDIC 1987 (with 1992 reprint) timeline.

Consequently, the subcontract dispute timelines of the 2011 Original Clause 20 and Alternative 2 were found to be **compatible with limitations** with the FIDIC 1987 (with 1992 reprint) dispute timeline, while Alternative 1 was found to be *incompatible*.

• MC 1999 – SC 2011

During the period between the 2011 and 2017, the FIDIC 2011 subcontract timelines were also used with the FIDIC 1999 main contract timelines. The use of the FIDIC 2011 Original Clause 20 & Alternative 2 with the FIDIC 1999 have solved the issue of adjudication that was present with the FIDIC 1987 and have regulated the UP for the referral of dispute to the main contract DAB through the 28 days period specified under the subcontract timelines. In additions, under the main contract 1999 timelines, a period of 28 days is given for either party to issue a NOD which is compatible with the 28 days period specified under the subcontract also for the parties to issue a NOD. This shows that the subcontract dispute timelines of Original Clause 20 and Alternative 2 of FIDIC 2011 are *compatible* with the main contract dispute timeline of the FIDIC 1999. On the other hand, 2011 Alternative 1 have showed the same discrepancies with the FIDIC 1999 as those detected when used with the FIDIC 1987 (with 1992 reprint) specifically the 56 days AS period which is shorter than the period given for the main contract DAB to give a decision on the dispute under the main contract. This is why the dispute timeline under Alternative 1 was also found to be *incompatible* with the dispute timeline under FIDIC 1999.

6.2.2.3 2017 – 2018: MC 2017 with SC 1994 and SC 2011

• MC 2017 – SC 1994

The period extending between 2017 and 2018 has witnessed the release of the new FIDIC main contract conditions 2017 which was has been studied with both the FIDIC subcontract dispute timelines 1994 and 2011. The FIDIC 1994 dispute timeline used with the FIDIC 2017 dispute timeline has showed the same issue as faced when used with the FIDIC 1987 (with 1992 reprint) and 1999 which is the duration of the AS of 56 days which is shorter than the duration given for the engineer or main contract DAAB to give a decision, thus, arbitration will be commenced under the subcontract before even receiving the decision from the main contract DAAB under the main contract. In addition, the 1994, includes no adjudication as a mean for dispute resolution unlike the FIDIC 2017 dispute timeline. Consequently, the dispute timeline of the FIDIC 1994 was found to be *incompatible* with the dispute timeline of the FIDIC 2017.

• MC 2017 – SC 2011

When used with the new FIDIC 2017 main contract dispute timeline, the FIDIC 2011 Original Clause 20 and Alternative 2 dispute timelines have shown no issues and no limitations especially concerning the referral of dispute to the main contract DAAB, the period for the issuance of the NOD and adjudication. FIDIC Original Clause 20 and Alternative 2 dispute timelines were considered *compatible* with the FIDIC 2017 main contract dispute timeline. However, Alternative 1 under FIDIC 2011 has revealed the same issues with the FIDIC 2017 as those shown with the FIDIC1987 (with 1992 reprint) and 1999 which are the absence of adjudication and the AS period of 56 days which is shorter than the period given for the main contact DAAB to decide. Following,

Alternative 1's dispute timeline is considered *incompatible* with the FIDIC 2017 dispute timeline.

 Table 18: Compatibility/Incompatibility Analysis Between the FIDIC Subcontract & Main Contract Dispute Timelines

Dispute Resolution: Referral of Dispute, Amicable Settlement Period, NOD and Adjudication		
1987 – 1999		1999 – 2011
MC 1987 (1992 reprint) with SC 1994		MC 1999 with SC 1994
 The 56 days Amicable Settlement period is shorter than the 84 days period for the Engineer to give a decision under the Main Contract 		The 56 days Amicable Settlement period is shorter than the 84 days period for the Main Contract DAB to give a decision under the Main Contract
Incompatibility: Arbitration will be commenced under the Subcontract prior to the Engineer's decision under the Main Contract		Incompatibility: Arbitration will be commenced under the Subcontract prior to the Main Contract DAB's decision under the Main Contract

2011			
2011 - 2017			
MC 1987 (1992 reprint) with SC 2011 (Original Clause 20)	MC 1999 with SC 2011 (Original Clause 20)		
The 56 days Amicable Settlement issue is resolved	The 56 days Amicable Settlement issue is resolved		
Absence of Adjudication under 1987 (1992 reprint) timeline while the 2011 timeline adopts Adjudication	Adjudication is adopted under the Main Contract and Subcontract timelines		
The NOD period under the Subcontract timeline is not allowed for under the Main Contract timeline	The 28 days for referral of dispute to the Main Contract DAB, specified under the Subcontract, regulates the UP for the referral of dispute under the Main Contract		
Compatibility with Limitations:	Compatibility:		
1. The dispute cannot be referred to the Main Contract DAB	1. The dispute can be referred to the Main Contract DAB		
2. Parties cannot issue a Notice of Dissatisfaction (NOD)	2. Parties can issue a Notice of Dissatisfaction (NOD)		
7.C 100F (1002 1) 11 CC 2011 (AL)	3.5G 4.000 VI .GG 4.044 (A1)		
MC 1987 (1992 reprint) with SC 2011 (Alternative 1)	MC 1999 with SC 2011 (Alternative 1)		

The 56 days Amicable Settlement period is shorter than the 84 days period for the Engineer to give a decision under the Main Contract	 The 56 days Amicable Settlement period is shorter than the 84 days period for the Main Contract DAB to give a decision under the Main Contract Absence of Adjudication under 2011 timeline while the 1999 timeline adopts Adjudication 		
Incompatibility:	Incompatibility:		
Arbitration will be commenced under the Subcontract prior to the Engineer's decision under the Main Contract	Arbitration will be commenced under the Subcontract prior to the Main Contract DAB's decision under the Main Contract		
Engineer's decision under the Main Contract	the Mani Contract DAB's decision under the Mani Contract		
MC 1987 (1992 reprint) with SC 2011 (Alternative 2)	MC 1999 with SC 2011 (Alternative 2)		
The 56 days Amicable Settlement issue is resolved	The 56 days Amicable Settlement issue is resolved		
Absence of Adjudication under 1987 timeline while the 2011 timeline adopts Adjudication	Adjudication is adopted under the Main Contract and Subcontract timelines		
The NOD period under the Subcontract timeline is not allowed for under the Main Contract timeline	The 28 days for referral of dispute to the Main Contract DAB, specified under the Subcontract, regulates the UP for the referral of dispute under the Main Contract		
	The NOD period under the Subcontract timeline is allowed for under the Main Contract timeline		
Compatibility with Limitations:	Compatibility:		
1. The dispute cannot be referred to the Main Contract DAB	1. The dispute can be referred to the Main Contract DAB		
2. Parties cannot issue a Notice of Dissatisfaction (NOD)	2. Parties can issue a Notice of Dissatisfaction (NOD)		
2017 - 2018			

MC 2017 with SC 1994	MC 2017 with SC 2011 (Original Clause 20)
Absence of Adjudication under 2011 timeline while the 2017 timeline adopts Adjudication	Adjudication is adopted under the Main Contract and Subcontract timelines
The 56 days Amicable Settlement period is shorter than the 84 days period for the Main Contract DAAB to give a decision under the Main Contract	The 28 days for referral of dispute to Main Contract DAAB, specified under the Subcontract, is compatible with the 42 days given under the Main Contract
	The NOD period under the Subcontract timeline is allowed for under the Main Contract timeline
Incompatibility:	Compatibility:
Arbitration will be commenced under the Subcontract prior to the Main Contract DAAB's decision under the Main Contract	1. The dispute can be referred to the Main Contract DAB
	2. Parties can issue a Notice of Dissatisfaction (NOD)
	NG 201F 24 CG 2011 (Alt 4 - 1)
	MC 2017 with SC 2011 (Alternative 1)
	Absence of Adjudication under 2011 timeline while the 2017 timeline adopts Adjudication
	2017 timeline adopts Adjudication
	The 56 days Amicable Settlement period is shorter than the
	84 days period for the Main Contract DAAB to give a
	decision under the Main Contract
	Incompatibility:
	Arbitration will be commenced under the Subcontract prior to
	the Main Contract DAAB's decision under the Main Contract
	MC 2017 with SC 2011 (Alternative 2)
	Adjudication is adopted under the Main Contract and Subcontract timelines
	<u> </u>

The 28 days for referral of dispute to Main Contract DAAB, specified under the Subcontract, is compatible with the 42 days given under the Main Contract
The NOD period under the Subcontract timeline is allowed for under the Main Contract timeline
<u>Compatibility:</u>1. The dispute can be referred to the Main Contract DAB
2. Parties can issue a Notice of Dissatisfaction (NOD)

Incompatible
Compatible with Limitations
Compatible

CHAPTER 7

SUMMARY, RECOMMENDATIONS, CONTRIBUTIONS, LIMITATIONS AND FUTURE WORKS

7.1 Research Summary

The success of a construction project, on which the main contractor has adapted the subcontracting practice, is defined by the successful coordination between its subcontract/s and main contract, which are signed at the upper and lower levels respectively, especially pertaining to claims and disputes generated at the subcontract level which are also the cause of claims and disputes at the main contract level. The subcontractor's claims and disputes being under the control of the main contractor are prone to receiving unfair treatment. This unfair treatment can be the result of the incompatibility between the main contract, which the employer forces the main contractor to sign, and the subcontract which the main contractor chooses to sign with the subcontractor/s on which the latter has no say about. It is therefore significant to study the claim and dispute mechanisms under the subcontract in conjunction with those presented under the main contract, which the literature falls short in providing. Thus, to fill this gap, this research chooses the FIDIC standard conditions, as the area of focus, and aims at presenting a detailed examination and analysis of the evolvement of the claim and dispute mechanisms under FIDIC contract and subcontract conditions in conjunction with each other to highlight the significant limitations and/or improvements and determine the compatibility and/or incompatibility between the mechanisms on both, the subcontract and main contract, levels. This research's contribution, to the construction body of knowledge, lies in providing a set of amendments that shall be implemented to the general conditions of subcontract to ensure the balanced treatment

and propagation of the subcontractor/s claims and disputes, and in recommending the most expedient FIDIC subcontract, to be signed at the lower level, in conjunction with which FIDIC main contract is signed at the upper level.

To carry out the study referred to above and present the results, this research follows a thoroughly designed methodology which entails five major steps. The first step consists of acquiring the research knowledge and background pertaining to the subcontracting practice and its characteristics, claims and disputes at the subcontract level and the contractual relationship between the subcontract and main contract according to the FIDIC standard condition. Based on the gaps detected in the literature, the research's objectives and contributions are set. The second step comprises of the detailed examination and comparison of the FIDIC 1994 and 2011 subcontract claim/dispute mechanisms and presenting the latter through inclusive timelines. Following, the claim and dispute mechanisms under FIDIC conditions of contract 1987 (with 1992 reprint), 1999 and 2017 were studied. Next, the first objective of this research, which is determining the compatibility and/or incompatibility between the FIDIC main contract and subcontract claim/dispute timelines, was addressed through performing a comparative analysis, pertaining to the claim and dispute mechanisms, between the various sets of the FIDIC conditions of main contract 1987 (with 1992 reprint), 1999 and 2017 in conjunction with the FIDIC conditions of subcontract 1994 and 2011. The last step comprises of formulating the comprehensive analysis done into discussion and findings to reach the final results which are characterized by a set of recommendations to aid practitioners, specifically main contractors.

7.2 Research Recommendations

This research presents practical recommendations to be considered by practitioners, specifically the main contractors, when signing the FIDIC subcontract conditions with the subcontractors pertaining to the claim and dispute clauses. The recommendations aim at aiding the main contractor in choosing the most suitable FIDIC subcontract conditions to be signed with the subcontractor, based on what is signed with the employer at the main contract level, through presenting the necessary amendments that need to be implemented to the subcontract conditions to ensure the balance and compatibility between the subcontract and main contract claim and dispute timelines.

Those recommendations were formulated from the main contractor's perspective and the action that must be taken by the latter prior to signing the FIDIC subcontract, since the main contractor is the linking party between the main contract and subcontract level. In addition, the main contractor has no say on which FIDIC contract conditions to be signed with the employer, because it is solely the employer's decision, but has the eligibility and power to introduce the amendments at the subcontract level to ensure the better compatibility with the FIDIC main contract conditions pertaining to claims and disputes.

The recommendations detailed below, are divided along two guidelines: 1) the amendments that need to be included in the particular conditions of the subcontract, and 2) the advisable subcontract conditions to be signed with the subcontractor.

7.2.1 Amendments to Subcontract General Conditions

1- If the employer signs the FIDIC 1987 (with 1992 reprint) or 1999 with the main contractor and the main contractor decides to sign FIDIC 1994 with the

subcontractor, the main contractor shall include in the particular conditions that: with the agreement of both parties to the subcontract, the 56 days AS period shall be extended to align with the 84 days period for the engineer to give a decision regarding the rising dispute prior to commencing arbitration under the subcontract.

- 2- If the employer signs the FIDIC 1987 (with 1992 reprint) with the main contractor and the main contractor decides to sign FIDIC 2011 (Original Clause 20 or Alternative 2) with the subcontractor, the main contractor shall amend the general conditions of the subcontract through stating in the particular conditions that: any dispute arising under the subcontract is to be referred to the engineer under the main contract instead of the main contract DAB.
- 3- If the employer signs the FIDIC 1987 (with 1992 reprint) with the main contractor and the main contractor decides to sign FIDIC 2011 (Alternative 1) with the subcontractor: the main contractor shall include in the particular conditions that: with the agreement of both parties to the contract, the 56 days AS period shall be extended to align with the 84 days period for the engineer to give a decision regarding the rising dispute prior to commencing arbitration under the subcontract.
- 4- If the employer signs the FIDIC 1999 with the main contractor and the main contractor decides to sign the FIDIC 2011 (Original Clause 20 or Alternative 1) with the subcontractor, the main contractor shall include in the particular conditions that:
- the engineer's determination under the main contract shall be condition precedent to the main contractor's decision under the subcontract
- with the agreement of both parties to the subcontract, the 49 & 42-days periods given for the main contractor to consult with the subcontractor and give a decision shall

be extended till a date after the engineer's determination is received under the main contract.

- For Alternative 1 only: the main contractor shall include in the particular conditions that: with the agreement of both parties to the contract, the 56 days AS period shall be extended to align with the 84 days period for the main contract DAB to give decision regarding the rising dispute prior to commencing arbitration under the subcontract.
- 5- If the employer signs the FIDIC 2017 with the main contractor and the main contractor decides to sign the FIDIC 1994 with the subcontractor, the main contractor shall include in the particular conditions that: with the agreement of both parties to the contract, the 56 days AS period shall be extended to align with the 84 days period for the engineer to give decision regarding the rising dispute prior to commencing arbitration under the subcontract.
- 6- If the employer signs the FIDIC 2017 with the main contractor and the main contractor decides to sign the FIDIC 2011 (Original Clause 20 or Alternative 1) with the subcontractor, the main contractor shall include in the particular conditions that:
- the engineer's determination under the main contract shall be condition precedent to the main contractor's decision under the subcontract
- with the agreement of both parties to the subcontract, the 49 & 42-days periods given for the main contractor to consult with the subcontractor and give a decision shall be extended till a date after the engineer's determination is received under the main contract
- For Alternative 1 only: the main contractor shall include in the particular conditions that: with the agreement of both parties to the contract, the 56 days AS period

shall be extended to align with the 84 days period for the engineer to give decision regarding the rising dispute prior to commencing arbitration under the subcontract.

7- If the employer signs the FIDIC 2017 with the main contractor and the main contractor decides to sign the FIDIC 2011 (Alternative 2) with the subcontractor, the main contractor shall include in the particular conditions that: the 42-days periods stated under the subcontract timeline for the engineer to give a determination shall be extended to align with the period given for the engineer to give a determination under the main contract.

7.2.2 Advisable Subcontract Conditions to be Signed with the Subcontractor

- 1- If the employer signs the FIDIC 1987 (with 1992 reprint) with the main contractor, the main contractor is advised to sign the FIDIC 2011 subcontract conditions (Original Clause 20 or Alternative 1) with the subcontractor, despite the huge durational gap, instead of the FIDIC 1994 as it solves the issue of the UP for the main contractor to decide on the subcontractor's contractual benefits. However, the main contractor should bear in mind that, in this case, his decision under the subcontract will not be related or dependent on the engineer's determination under the main contract.
- 2- If the main contractor signs FIDIC 1999 with the main contractor, the main contractor is advised to sign FIDIC 2011 subcontract conditions Alternative 2 as it demonstrated full compatibility with the FIDIC 1999 claim and dispute timelines.
- The main contractor can still sign the FIDIC 2011 (Original Clause 20) which also showed a high degree of compatibility with the FIDIC 1999 especially pertaining to the dispute timeline. However, the main contractor should consider including in the particular conditions the above-mentioned amendments pertaining to this case.

- The main contactor can also sign the FIDIC 1994 or the FIDIC 2011 Alternative 1 with the FIDIC 1999, however, the main contractor has to bare the simple dispute resolution mechanism under those two timelines which does not include adjudication. In addition to that, the main contractor should consider including in the particular conditions the above-mentioned amendments pertaining to this case.
- 3- If the employer signs the FIDIC 2017 with the main contractor, the main contractor is advised to sign the FIDIC 2011 (Original Clause 20 and Alternative 2) as it the closest in duration to the 2017 and it caters for all the issues presented in the 1994 under the conditions of introducing the amendment previously listed above.
- The main contactor can still sign the FIDIC 1994 with the FIDIC 2017, however, the main contractor has to bare the simple dispute resolution mechanism under the FIDC 1994 which does not include adjudication. In addition to that, the main contractor should consider including in the particular conditions the above-mentioned amendments pertaining to this case.

7.3 Research Contribution

This research presents a major step towards a better understanding of how the FIDIC subcontract claim and dispute mechanisms work in conjunction with the those under the FIDIC main contract conditions. In addition, this research offers guidance for the main contractor, through the set of recommendations presented, on the choice of subcontract to sign with the subcontractor based on what the employer has chosen to sign with him on which the main contractor has no say. In additions, this research provides the set of amendments that the main contractor needs to implement to the

subcontract "General Conditions" to ensure the compatible and balanced claim. dispute mechanisms on both levels.

7.4 Research Limitations

This research, specifically in studying the periods of time given for the different parties to decide and/or determine under the subcontract in conjunction with those under the main contract, considers the ideal case where the parties take the full number of days provided to give their determinations and/or decisions. If the party/ies do not take the full number of days allocated, then in certain cases the incompatibility between the claim/dispute timelines won't be significant or detected.

7.5 Future Work

This work will never be truly finished especially if the FIDIC contract and subcontract conditions continues to evolve in the upcoming years. Future researchers or practitioners can examine the upcoming new FIDIC standard conditions (for contracts and subcontracts) with the available ones to determine the most compatible claim/dispute timelines for use and continue the work of this research. In additions, the research's methodology, comparison and analysis criteria, comparison tables and the analysis stages can be used by future researchers to study other forms of standard conditions (other than those under the FIDIC), such as those under the AIA and NEC. To develop further on this research, future researchers can solve the limitation presented above by the studying the case where the parties do not take the full days allocated for giving a determination and/or decision under the claim/dispute timeliness based on real construction cases.

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