

JUSTIFICATION FOR THE RECOGNITION OF A NEW NOMINATE CONTRACT BASED ON PROJECT DEFECT MANAGEMENT

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Declaration

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Declaration

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ABSTRACT

This research sought to establish whether the general acceptance that the common construction and engineering contracts as falling within the classification of the *locatio conductio* under South African law is correct. As the classification of a contract attracts specific *essentialia* and *naturalia*, and then too certain implied terms one example of an implied term that would have practical relevance is specifically investigated: The warranty against latent defects. Through this example I seek to demonstrate the relevance and importance of establishing what the classification of these contracts is, and its ensuing *essentialia* and *naturalia*.

The investigation commenced by firstly considering the classification of the common building, construction and engineering contracts, with reference to the South African publications of JBCC and GCC, as well as the internationally published FIDIC Silver Book, FIDIC Yellow Book, and FIDIC Red Book, as well as the NEC ECC Option A and Option B.

With alternate dispute resolution mechanisms, such as adjudication and arbitration, resulting in limited publications by way of case law and academic writing on the subject (specifically in South Africa), English law and German law were also consulted. It was established that, unfortunately, the classification of the common building, construction and engineering contracts under South African law is problematic: It does not fit the ordinary and previously accepted classifications, specifically that of the *locatio conductio*. This makes it questionable whether the warranty against latent defects could be, and should be, implied into any one of these contracts.

The recommendation, accordingly, is that it is crucial for the construction and engineering industry to carefully consider and develop the true and relevant *essentialia* and *naturalia* applicable to these contracts. Only then will there be certainty as to what may be implied into these contracts, and what will not so be implied. Until this is achieved, the parties to these contracts, in order to have certainty, must deal with aspects such as the warranty against latent defects by way of an explicit written term in the particular contract.

DEDICATION

I dedicate this thesis to my family. My husband Simon, and sons Matthew and Ewan. Your love and support, even when I was stressed and absolutely impossible to live with, made this dream a reality. I love you.

ACKNOWLEDGEMENTS

The completion of thesis was threatened often with the distraction that comes with two pregnancies, the birth of my two boys, and starting two new business ventures. If it were not for Julian and Paulette Doods who offered their sanctuary in the South of France for me to ultimately complete my research and writings, I fear I would never have done so. I cannot thank you for your unwavering support and generosity. Julian, your interminable understanding, thoughtful debates and respected guidance has been the inspiration for this thesis.

I would also like to acknowledge and record my gratitude to my promoters, Prof Jacolien Barnard and Prof Birgit Kuschke, who always motivated me so patiently and kindly.

1. INTRODUCTION AND BACKGROUND

1.1 BACKGROUND AND RESEARCH QUESTION

1.2 PROCESS METHODOLOGY

1.3 DELINEATION LIMITATIONS AND OUTLINE

1.1 BACKGROUND AND RESEARCH QUESTION

“[W]hether there is a contract between the parties, and if so what were the terms?... It is remarkable how this question is probably the most frequent issue raised in the construction industry. On projects involving thousands and sometimes millions of pounds, when a dispute arises about payment, the first issue very often is to decide whether there was a contract and if so what were the terms of the contract, if any.”¹

In an industry where the sums of money involved in executing the contracts are immense, it is astounding that the parties to those contracts do not spend more time and effort on the terms and conditions relevant thereto. There are many practical issues in the field of construction and engineering law that I will point to for the purpose of motivating the research topic chosen for this thesis. It is not my intention to utilise any form of case study in the thesis itself; the practical issues to which I make reference in this introductory chapter are instrumental

¹ *VHE Construction plc. v Alfred McAlpine Construction Ltd* [1997] EWHC Technology 370.

only in indicating that the research conducted is relevant to the industry and to this field of law.

This practical mention is relevant because, regrettably, this particular field of law rarely makes it into the academic curriculum, and rarely receives serious academic attention, even in academic writing. Wallace² comments that this is most probably because “without practical experience of the realities of a construction project (such as only a specialist legal practitioner in the field is likely to acquire), it is extremely difficult to interpret and understand these often ill-drafted and confusing contracts correctly.”

The Construction Industry Development Board Act³ defines the “construction industry” as the broad conglomeration of industries and sectors which add value in the creation and maintenance of fixed assets within the built environment.” This definition recognises that the industry is wide and the consequences of the contracts it executes are vast.

What is of concern is the apparent acceptance of the classification of these contracts as forming part of the *locatio conductio*.⁴ Very little consideration is given as to why, and if these contracts should in fact fall to be classified as such: Even the courts simply proceed from the basis that building or

² Wallace ID “Review Work(s): International Encyclopaedia of Comparative Law. Vol VIII: Specific Contracts. Ch. 8 Contracts for Work on Goods and Building Contracts by Werner Lorenz” Volume 32 ASCL, page 770.

³ Act 38 of 2000.

⁴ See chapter 2, paragraph 2.1.9 of this thesis.

construction contracts are *locatio conductio*.⁵ When regard is had to differences in types of construction contracts, not only in the standard forms published by the different governing bodies, but also the bespoke contracts used throughout the industry, it becomes apparent that these contracts may fall outside of this classification.⁶ If this is so, what should construction contracts be classified as? Has it perhaps evolved into a type of contract that deserves a new classification, with its own particular *essentialia* and *naturalia*? In either scenario, the question then becomes what is the relevance of the answer to these queries to the industry and the law applicable to it?

Simply, a specific classification attracts specific *essentialia* and *naturalia*.⁷ One example of an implied term that would have practical relevance here is the implied warranty against latent defects. Through this example I seek to demonstrate the relevance and importance of establishing what the classification of these contracts is, and its ensuing *essentialia* and *naturalia*.

The relevant contracts entered into in the engineering and construction industry that have passed my desk in the past 10 years or so clearly deal with warranties against patent defects, regularly in detail, and seek to bind the contractors for extensive periods. Many of these contracts span a number of years, some only being completed in another 4 to 6 years. Very few of these contracts, however,

⁵ See for instance, as examples, *BK Tooling (Edms) Bpk v Scope Precision Engineering (Edms) Bpk* 1979 (1) SA 391 (A), pages 393, 419, and 420; *Nieuwoudt v Maswabi NO and Others* 2002 (6) SA 96 (O), page 101, *Pellow NO and Another v Club Refrigeration CC* 2006 (1) SA 230 (SCA), page 231. Accordingly, writers on the subject of construction and engineering contracts also simply follow this designation: See McKenzie, page 1.

⁶ See chapter 2, paragraph 2.8 of this thesis.

⁷ Christie, page 164 and 165.

deal explicitly with the warranty against latent defects and the consequences of a breach of this warranty: It is the exception rather than the rule. It is only at the end of these projects that these warranties and their relevance – specifically in respect of the warranty given against latent defects – become apparent: When the employers seek to hold the contractors to these warranties.

It then becomes imperative to establish whether a warranty against latent defects may be implied into the contract, or not. But before this question can be answered, the classification of the contract needs to be established, because then only will it be possible to identify the relevant *essentialia* and ensuing *naturalia* and the consequences of a potential breach these terms.

However, the focus of this thesis is not the warranty against latent defects. The possibility of this warranty being implied is used merely to illustrate the relevance and importance of the classification of the construction contract. If it is uncertain whether the construction contract truly falls to be classified as a *locatio conductio*, or if it is time to recognise a new genus within which these contracts falls to be classified, how can there be corresponding certainty as to the relevant *essentialia* and *naturalia* of these contracts? How can it be accepted, with any certainty, that the warranty against latent defects, or any other warranty that may be implied *ex lege* or *ex contractu*, is to be implied into these contracts?

Accordingly, this warranty against latent defects is taken as an example to justify the necessity for this research, and why there may be a need for a new

genus for construction contracts. Where the contracts do not explicitly deal with the warranty against latent defects, the application of this example warranty (against latent defects) can only be applied as a default rule when a proper genus is identified where this warranty is accepted to be an implied term.

Due to the broad scope of and all the various types of construction and engineering contracts the purpose of this thesis is not to provide a particular genus detailing the particular *essentialia* and *naturalia*, but rather to illustrate why there is a dire need to do so.

1.2 PROCESS METHODOLOGY

The prominent question this thesis seeks to answer is whether it is correct to classify the construction contract as part of the *locatio conductio*, and, if it is found that it does not fall within this classification, if it is time to recognise a new nominate contract under South African law, which would attract its own *essentialia* and *naturalia*.

The scope of this thesis is not sufficiently broad to address all of these areas: This thesis aims to prove the necessity of development in this area of law, specifically in South Africa, so as to provide legal certainty for all of the players in this industry.

This thesis accordingly commences with a review of the accepted classifications of different contracts relevant to the *locatio conductio* and their

respective *essentialia* and *naturalia*.⁸ Thereafter the remedies relevant to a breach of contract⁹ and breach of warranty are considered.¹⁰ The standard forms of contract developed nationally and internationally are then considered in light of the findings in the preceding chapters.

The South African courts have simply accepted that the construction contract to fall under the classification of *locatio conductio*.¹¹ However, when we regard the decisive features of *locatio conductio*, and when it is considered against the terms of the building, construction and engineering contracts in use in South Africa, this classification becomes questionable.¹² It is accordingly valuable to look at other jurisdictions, and to consider how they have approached the matter.

This thesis will be limited to English law and German law for the purpose of interpreting the South African position. Looking to the English¹³ and German¹⁴ jurisdictions is particularly valuable as they have acknowledged, specifically through legislation, the nuances of the construction and engineering industry's contracting, and the fact that it consequently attracts the necessity for special

⁸ See chapter 2, paragraph 2.2 of this thesis.

⁹ See chapter 3, paragraph 3.2 of this thesis.

¹⁰ See chapter 3, paragraph 3.3 of this thesis.

¹¹ See chapter 2, paragraph 2.4 of this thesis.

¹² New Zimmermann, page 394.

¹³ See particularly Sir Michael Latham, "Constructing the Team, Joint Review of Procurement and Contractual Arrangements in the United Kingdom Construction Industry", Final Report, July 1994, published by HMSO.

¹⁴ Lorenz, page 7.

consideration:¹⁵ England has done so specifically by way of introducing specialised courts for this industry.¹⁶

A challenge faced in the research done for this thesis is the limited publications in the South African jurisdiction, specifically the South African courts, that address disputes arising out of these contracts. The reason for this scarcity seems to be because most of the contracts make provision for alternative dispute resolution procedures, such as adjudication and arbitration, which decisions are, more often than not, by agreement kept strictly confidential.¹⁷ Unfortunately, the inevitable result has been little development in this field of law, and uncertainty as to the applicable legal principles when a dispute does arise. This problem raised one further topic that is acknowledged in this thesis: For the sake of social justice and transparency it may be necessary to require this industry to address their disputes in a forum where the law applicable to them may be developed, and published,¹⁸ so that there is better certainty as to the parties' rights and obligations when contracting within this industry.

1.3 DELINEATION LIMITATIONS AND OUTLINE

Although most of the terms used in this thesis are defined by way of the relevant standard conditions of contracts that have been investigated,¹⁹ where the term

¹⁵ See chapter 2, paragraph 2.8 of this thesis.

¹⁶ The Technology and Construction Court, a sub-division of the Queen's Bench Division, part of the High Court of Justice, which is one of the Senior Courts of England and Wales.

¹⁷ See as examples, Sub-Clauses 20.2 to 20.8 of the FIDIC conditions of contract (Annex 1), and Clause W of the NEC conditions of contract (Annex 2).

¹⁸ See chapter 5, paragraph 5.2.5 of this thesis.

¹⁹ See the defined terms in chapter 9, paragraphs 4.2.2, 4.2.3, 4.3.1.1 and 4.3.2.1 of this thesis.

“he” or “his” is used, it includes a reference to the feminine, and is not restricted to natural persons. The terms “construction contract”, “building contract”, “construction and engineering contract” and “building, construction and engineering contract” are used synonymously for the purpose of illustrating the subject matter of this thesis.

The research referred to in this thesis was collected and reviewed over a period of approximately 4 years, concluding in September of 2018. Accordingly, account has not been taken of any changes to the law, or other writings, that may have occurred or been published after this date.

The participants in the construction and engineering industry jealously guard their reputations. This has led to a common practice of dealing with and resolving disputes privately. Most of the standard forms of contract, specifically FIDIC,²⁰ NEC²¹, JBCC²² and GCC,²³ which are considered in this thesis, provide for private dispute resolution mechanisms: Usually mediation, adjudication and arbitration.²⁴ Although these dispute resolution mechanisms have their advantages, they have resulted in fewer cases being brought before the courts. This has resulted in fewer published decisions. Unfortunately, the South African courts have not had the full opportunity to investigate and

²⁰ *Fédération Internationale des Ingénieurs-Conseils*.

²¹ The standard forms of contract developed and published by the Institution of Civil Engineers (ICE) and known as the NEC suite.

²² The standard forms of contract published by the Joint Building Contracts Committee.

²³ The General Conditions of Contract for Construction Works (GCC) published by the South African Institution of Civil Engineering (SAICE).

²⁴ See Sub-Clauses 20.2 to 20.8 of the FIDIC conditions of contract (Annex 1), and Clause W of the NEC conditions of contract (Annex 2).

consider the modern construction contract, and thus the scope of research into the South African case law was limited, and in some instances, lacking entirely.

Finally, because this thesis aims to prove the necessity of development in this area of law, specifically in South Africa, cross border contracting is not considered herein.

2. CLASSIFICATION OF CONTRACTS

2.1 INTRODUCTION AND BACKGROUND

2.2 *LOCATIO CONDUCTIO AND EMPTIO VENDITIO*

2.3 *ESSENTIALIA, NATURALIA AND INCIDENTALIA*

2.4 THE SOUTH AFRICAN COURTS' APPROACH TO CONSTRUCTION CONTRACTS

2.5 DOCTRINE OF ENTIRE CONTRACTS

2.6 OTHER JURISDICTIONS' APPROACH TO CONSTRUCTION CONTRACTS

2.7 COMPARISON OF A CONTRACT OF SALE AND CONTRACTS FOR THE EXECUTION OF WORKS

2.8 SOURCES OF LAW: THE POSSIBILITY OF A "SELF-MADE 'LAW'"

2.9 OBLIGATIONS UNDER THE BUILDING CONTRACTS FOR THE CONTRACTOR

2.10 CONCLUSION

2.1 INTRODUCTION AND BACKGROUND

"Construction contracts are not recognised in the English common law system as a distinct class of nominate contracts. Yet the thesis underlying this book calls that into question by examining such contracts not as ones to which the general principles of law should be applied but as a class which itself generates general principles. In other words, to borrow from the civilian legal systems, the contract

is the law of the parties – hence one should start at that point and work outwards.”¹

2.1.1 The construction and engineering industry is diverse, and so too the various contracts that are entered into in that industry. The reason is quite obvious: No two projects are alike. As such, the parties involved in each project seek to address and provide for every different circumstance that is and may become relevant to that relationship, and the conditions relating thereto. It is therefore not possible to consider every contract or every form of contract that is used in the construction and engineering industry. Nonetheless, companies who regularly execute projects and who have projects executed for them,² recognise that beyond the obvious *essentialia*³ required for a construction contract to come into existence, provision may be made for lessons learnt from previous projects in future contracts to protect the parties’ interests in respect of those events that may possibly re-occur.⁴ These entities moved to standardise terms and conditions⁵ that became known as their own standard terms and conditions, which would be contracted upon should they become involved in new projects.⁶

¹ Van Deventer, Foreword.

² As an example, as mining houses that follow new deposits across continents and who develop mines at these new finds, or that upgrade existing mines to process tailings with new technology now able to extract what could not be extracted before due to technological restraints.

³ See Chapter 2, paragraph 2.3.1 of this thesis.

⁴ Broome JC and Hayes RW “A comparison of the clarity of traditional construction contracts and of the New Engineering Contract” *International Journal of Project Management* Vol 15, No. 4, page 255-267, 1997, at page 256.

⁵ See Loots, page 6, and Claassen W “Development of general conditions of contract for construction works” 21 S. Afr. Mercantile L.J. 576 2009.

⁶ Certain major mining houses and petrochemical companies used their internally developed standard conditions of contracts for all of their major projects, and tenders were placed out to the market on those conditions. Construction and engineering companies that regularly did work for these entities became very familiar with these conditions and they spread throughout the industry.

2.1.2 Practitioners in the legal and technical fields alike also recognised the value of standardising some terms to provide for specific events that seem commonly reoccurring in engineering and construction projects. These practitioners gathered together to share experiences, learn from those experiences, and draft standard forms of contracts that may be used by the industry, taking account of past experiences, and which may be amended to suit a specific project's circumstances.⁷ Various standard forms of contracts have been developed in this manner, and bodies have been formed to review these forms of contracts every few years, to ensure that recent lessons are incorporated.⁸

2.1.3 Today, there are various standard forms of construction contracts published globally.⁹ The array of choice is vast and deciding which form to use can be a challenge, even when the company or person electing which form to use has many years' experience, the correct qualifications, and an understanding of the issues at hand. The consequences of the ultimate choice made in this regard reach much further than what may be anticipated. Despite choosing a suitable form of contract, the classification of that specific construction and engineering contract may or may not attract certain implied terms and consequently common law warranties, that may not have been considered by the parties thereto.

⁷ Lorenz submits that the conditions of contract developed by the construction and building industry are from "powerful groups of society", page 11.

⁸ A good example is FIDIC: Founded in 1913 through the founding member countries Belgium, France and Switzerland, and today covering 97 countries of the world. FIDIC states (on its website – www.fidic.org/about-FIDIC/federation) that its mission is "To work closely with our stakeholders to improve the business climate in which we operate and enable our members to contribute to making the world a better place to live in, now and in the future."

⁹ See a list of general conditions in Lorenz, page 146.

2.1.4 This thesis's investigation will focus on only one possible implied term: Whether the common law warranty against latent defects may be implied into the construction and engineering contracts, specifically in South Africa. The possibility of the warranty against latent defects being implied into these contracts is taken as an example to justify the necessity for this research, and why there may be a need for a new genus for construction contracts.

2.1.5 It is considered usual practice for the parties that enter into today's commonly used construction and engineering contracts – also referred to as building contracts – simply to assume that there is a warranty against latent defects contained in the contracts,¹⁰ even where there is no express term dealing with such a warranty. The parties therefore assume that in the instances that the contract does not expressly provide for such a warranty, it will be implied into their contracts through common law or trade usage.¹¹ To investigate whether this assumption is in fact correct, it is first necessary to investigate the classification of the construction and building contracts so as to establish whether a warranty against latent defects could be, and should be, implied by way of common law.

2.1.6 The question may arise: “Why does this classification matter where the contracts deal extensively with the parties’ rights, obligations and remedies?” With detailed terms and conditions extensively dealing with the parties’ rights and

¹⁰ Zimmermann, Lorenz and Van Deventer occasionally refers to these contracts as “building contracts”.

¹¹ *Alfred McAlpine & Son (Pty) Ltd v Transvaal Provincial Administration* 19743 SA 506 (A) at 531.

obligations,¹² and providing specialised remedies in the case of breach,¹³ is it necessary to consider the classification of these contracts? The answer can be summarised simply:¹⁴ Not all contractual terms are express and written terms of contract; certain terms may be implied by way of common law, even though they may not even have been considered or discussed by the parties to the agreement.¹⁵ The common law, and specifically relevant to this thesis, the common law warranty against latent defects, may or may not find application depending on what type of contract the relevant contract falls to be classified as. The parties will be bound by those terms, whether written or not.¹⁶ The consequence remains the same – *pacta sunt servanda*.¹⁷

2.1.7 Electing to use one of the standard forms of contract, or a specific contract offered within one of the suites of contract, may affect how this contract would be classified in law, and consequently what the *essentialia* and *naturalia* of that contract would be, and what remedies in common law additional to those specifically dealt with in the contract would apply thereto. Specific to this thesis is whether the warranty against latent defects may be implied *ex lege* into any one of these contracts.

2.1.8 Unfortunately, the classification of a nominate contract is often merely accepted, and not properly considered by the draftsmen, or by the parties who

¹² Where the contract deals expressly with such aspects, implied terms are of no relevance.

¹³ For instance, how defects are to be corrected and by whom, and for how long the liability exists (commonly referred to as the “Defects Liability Periods”).

¹⁴ Zimmermann, page 395.

¹⁵ Christie, page 164.

¹⁶ Christie, page 165.

¹⁷ Agreements must be kept.

enter into the contracts.¹⁸ To consider but a few options in respect of a construction contract's classification: Is it a contract of sale, a services contract, a contract of employment, a letting and hiring of work contract, or an amalgamation of two or more of these classifications?

2.1.9 It is generally accepted that a construction and engineering contract is a specific form of letting and hiring of work (*locatio conductio*).¹⁹ Ownership passes to the employer simply because the work is executed and eventually forms part of the employer's immovable property.²⁰ Even the South African courts follow this approach without questioning the origin of the designation.²¹

2.1.10 There is no criticism levelled at this approach as it is also the approach of most modern commentators that the engineering and construction contracts fall as a distinctive category within the framework of the *locatio conductio*,²² even though there is little written on the subject of the classification of the construction contract. The question remains, is this correct? The answer to this question may affect the common law warranties that flow from these types of contracts. For instance, the common law warranty against latent defects, which is central

¹⁸ Naudé T "The preconditions for recognition of a specific type or sub-type of contract – the *essentialia-naturalia* approach and the typological method" TSAR 2003 3, page 411.

¹⁹ Nagel, paragraph 39.03 at page 662, and paragraph 39.32 at page 667. See also Loots, page 4. The case law referred to below also demonstrates the South African courts' mere acceptance that the common construction contract falls within this classification.

²⁰ Lorenz, page 3.

²¹ See for instance, as examples, *Colonial Mutual Life Assurance Society v MacDonald* 1931 AD 412 at 433; *BK Tooling (Edms) Bpk v Scope Precision Engineering (Edms) Bpk* 1979 (1) SA 391 (A), pages 393, 419, and 420; *Nieuwoudt v Maswabi NO and Others* 2002 (6) SA 96 (O), page 101, *Pellow NO and Another v Club Refrigeration CC* 2006 (1) SA 230 (SCA), page 231. Accordingly, writers on the subject of construction and engineering contracts also simply follow this designation: See McKenzie, page 1.

²² Zimmermann, page 394, footnote 58.

to this thesis's research, certainly follows from a contract of *emptio venditio*.²³ That does not mean that it flows from a *locatio conductio*. If it could be argued that in some form the construction contract, in part or in whole, falls under the classification of an *emptio venditio*, then the warranty may apply. In conclusion, the classification of the construction contract may affect the terms that may be implied thereto *ex lege*.

2.1.11 Unfortunately, there is little clarity as to the classification of the construction contract when the respected writers on this subject are consulted. They acknowledge that this may not be a straightforward and simple task. Sharrock²⁴ comments that the construction and engineering contract may also fall within the ambit of a contract of sale,²⁵ especially if the employer is paying for the finished article as opposed to paying for the labour of the contractor.²⁶ Nagel²⁷ acknowledges this possibility in respect of a contractor that uses his own materials to manufacture the plant, rather than having been provided the materials. Lorenz comments that theoretically it may be easy to distinguish between the classification of the contracts, but that the lines quickly become blurred in practice.²⁸ Zimmermann²⁹ and Lorenz³⁰ go so far as to say that the engineering and construction industry may have developed a "self-made 'law'" in this regard. The inevitable conclusion is that there is no simple answer to the

²³ In the New Zimmermann an entire chapter is dedicated to the Liability for Latent Defects under the *emptio venditio*, from page 305 onwards. See also *Alfred McAlpine & Son (Pty) Ltd v Transvaal Provincial Administration* 1974 3 SA 506 (A) at 531. Also see chapter 3, paragraph 3.5 of this thesis.

²⁴ Sharrock, page 360. See also New Sharrock, page 365.

²⁵ *Emptio venditio*.

²⁶ Wille and Millin's, chapter 2.

²⁷ Nagel, paragraph 39.03, page 662.

²⁸ Lorenz, page 5.

²⁹ Page 394, footnote 58.

³⁰ Lorenz, page 11.

question of the classification of the building, construction and engineering contract.

2.1.12 With the South African courts accepting that the building, construction and engineering contract falls to be classified as the *locatio conductio*,³¹ the *locatio conductio* will be the starting point of this thesis's investigation.

2.2 LOCATIO CONDUCTIO AND EMPTIO VENDITIO

2.2.1 Lorenz describes the problem perfectly –

“It goes without saying that the complexity of problems surrounding building contracts calls for certain restrictions when an attempt is made to treat them in the context of contracts for work on goods.”³²

2.2.2 The Romans knew only the contract of *locatio conductio*; commonly referred to as the letting and hiring of work.³³

The *locatio conductio* has 3 different categories:³⁴

³¹ See for instance, as examples, *Colonial Mutual Life Assurance Society v MacDonald* 1931 AD 412 at 433; *BK Tooling (Edms) Bpk v Scope Precision Engineering (Edms) Bpk* 1979 (1) SA 391 (A), pages 393, 419, and 420; *Nieuwoudt v Maswabi NO and Others* 2002 (6) SA 96 (O), page 101, *Pellow NO and Another v Club Refrigeration CC* 2006 (1) SA 230 (SCA), page 231.

³² Lorenz, page 3.

³³ Zimmermann, page 305.

³⁴ *Smit v Workmen's Compensation Commissioner* 1979 (1) SA 51 (A), at 56; *Colonial Mutual Life Assurance Society v MacDonald* 1931 AD 412 at 433.

(a) Contract of services (*locatio conductio operarum*): Locator does the work (he renders the services in question) and the conductor pays the remuneration (he who engages the contractor).

(b) Contract for work (*locatio conductio operis*): The conductor is bound to do the job (he executes the work), the locator is bound to pay the money (he engaged the contractor for the execution of the work).

(c) Letting and hiring of things (*locatio conductio rei*).³⁵

2.2.3 Understanding the meaning of *locare* and *conducere* will make the investigation of each of these categories simpler. Zimmermann³⁶ gives good direction: He points out that the pivotal point for the Romans was that “*locare*” means to place, and in this instance, to place at the disposal of the “*conducere*”, who carries along, or takes with that which is placed at his disposal. He comments that this feature united the “seemingly disparate contracts of lease, of services and for work done under one and the same umbrella.”

“The lessor places a thing at the lessee’s disposal. The lessee may use it; he takes control of it and in this sense carries it with himself’. The employee places his services at the disposal of the employer, which the latter then ‘takes along’, i.e. is in a position to make use of. And the customer (in the case of letting and hiring of work) places out a specific job, a piece of work to be done; the contractor takes over the object(s) with regard to which he has to perform that task.”

³⁵ Warmelo, page 181.

³⁶ Zimmermann, page 339.

2.2.4 In summary, and to separate the examples Zimmermann³⁷ refers to above, falling under the *locatio* (letting) umbrella, something is “placed” at the disposal of a person.

Simply put –

- (a) A lessor places something at the disposal of a lessee.
- (b) An employee places his services at the disposal of an employer.
- (c) A customer places out a specific job or work to be done at the disposal of a client.

2.2.5 Under the *conductio* umbrella, something is “carried along” or “taken with one”.

Simply put –

- (a) A lessee may use a thing and carries it with himself.
- (b) An employee places services at the disposal of an employer, and the employer then takes those services with him.
- (c) A contractor takes over the object in respect of which he has to do certain work.

2.2.6 Even though Lorenz regards it “well known” that under Roman Law the *locatio conductio operis* included for the erection of buildings,³⁸ establishing whether

³⁷ Zimmermann, page 339.

³⁸ Lorenz, page 11.

the construction contract falls within the classification of the *locatio conductio operis*, or whether it falls within the classification of the *locatio conductio operarum* is not and has not been simple.

2.2.7 In South Africa specifically, with the *Workmen's Compensation Act*³⁹ many debates ensued as to the distinction between the *locatio conductio operis*, and the *locatio conductio operarum*.

2.2.8 With the “letting and hiring of work” a client requires a specific piece of work to be done to a specific object or objects, and the worker takes possession of that object or those objects in order to perform the task required.⁴⁰ One would easily make the conclusion therefore that building, engineering and construction contracts fall within that classification. These contracts could even fall within the *locatio custodiae*.⁴¹ Unfortunately, it is not always so simple to see which side of the border a specific contract falls on; and this problem exists and persists in all modern legal systems that have adopted the Roman *locatio conductio* in into their contract law.⁴²

2.2.9 In the past,⁴³ German law⁴⁴ recognised the problems in classifying contracts, especially within the *locatio conductio* and drawing a line between the *operarum* and *operis*. Zimmermann discusses them in some detail.⁴⁵

³⁹ Act 30 of 1941.

⁴⁰ Zimmermann, page 339.

⁴¹ *Sifris en 'n Ander, NNO v Vermeulen Broers* 1974 (2) SA 218 (T): The hiring of care and services to be performed or bestowed on the object or product delivered.

⁴² Zimmermann, page 395.

⁴³ This has now been solved by the legislator: See chapter 2, paragraph 2.2.12 of this thesis.

⁴⁴ “Bürgerliches Gesetzbuch”.

⁴⁵ Zimmermann, page 395.

2.2.10 The first example he refers to arises out of the relationship between a physician and his patient. This is generally accepted as falling within the *locatio conductio operis*: A contract of services. Zimmermann⁴⁶ looks to the duty of care that would be imposed in an attempt to illustrate the problem of classifying even this, what is seemingly, a simple contracting philosophy. He comments that generally the physician would be required to deliver his services with reasonable skill and care (as this is a services contract), and that the success of the procedure he is engaged for would not generally be a term of the contract. He then poses the question of whether this would be the case where the procedure is a sterilization procedure. In the case of sterilization, the patient is engaging the doctor to achieve a definitive result. In so doing, Zimmermann seeks to illustrate that even a services contract may attract a higher duty than what may generally be accepted.

2.2.11 In my view, this could be approached from a different perspective. Specifically, in the case of South African law, this does not mean that a *lacuna* is left because of the difficulty of classifying that contract. I do not believe that this predicament implies that the classification of the contract may need to be reconsidered, but rather that a term could be implied in this simple services contract, if not explicitly agreed upon between the parties, as a matter of fact, and not law.⁴⁷

The success of the procedure is the very reason the patient seeks expert

⁴⁶ Zimmermann, page 395.

⁴⁷ This issue is discussed in more detail below, in paragraph 2.6.6, where the English case of *Greaves & Co (Contractors) Ltd v Baynham Meikle and partners* [1975] 3 All ER 99, is considered. See also Adriaanse, page 123.

services from his physician: Accordingly, as a matter of fact, rather than law, the patient is contracting with the physician to achieve sterilisation.

2.2.11 The second example Zimmermann⁴⁸ considers is not too far removed from a physician and patient: He refers to the relationship between a dentist and a patient, where the dentist is engaged to produce a dental prosthesis, or where he is required to crown a tooth. Zimmermann comments that the German Federal Supreme Court has accepted this to be a contract of services. Jacobs,⁴⁹ however, believes this acceptance to be mistaken: Ridding a patient of the pain from a bad tooth cannot be the object of the contract (he can only exercise reasonable skill and care), but where he is producing a prosthesis, surely that has to be “fit for purpose”? The “fit for purpose” obligation does not necessarily flow from a contract of services: The contract for the production of the prosthesis may be subject to a different classification.

2.2.12 The German legislator has addressed the difficulty that an attempt to classify these contracts may result in:⁵⁰ CC S 651.⁵¹ Specifically, the predicament faced in trying to establish what the duty of care in these contracts is, and more pertinent to this thesis’s investigation, is that the possibility of an implied warranty against latent defects in these contracts is replaced with specialised

⁴⁸ New Zimmermann, page 395.

⁴⁹ Horst Heinrich Jakobs, *Die Zahnärztliche Behandlung als Werkleistung*, 1975 *Neue Juristische Wochenschrift* 1437.

⁵⁰ Lorenz, page 7.

⁵¹ Although this is the reference Lorenz uses, it is most likely to § 651 German CC.

rules for this specific contracting philosophy.⁵² The result has been that in German law, this investigation now has little relevance.⁵³

2.2.13 Lorenz⁵⁴ also refers to the relationship between a dentist and a patient, but in the context of English law. He refers to the very old case of *Lee v Griffin*⁵⁵ where it was held that the denture made by the dentist for his patient falls to be classified as a contract of “sale of a chattel”. Although the courts still turn to the test as expressed in the aforementioned case, namely, “whether the main purpose of the transaction is the supply of the complete article and the receipt of the price”,⁵⁶ it seems the law in England remains unclear as to what exactly the building contract’s classification is. In English law, as with German law, the distinction is no longer of great importance.⁵⁷ England’s legislator, by way of the Sales of Goods Act,⁵⁸ provides for an implied warranty and does not limit it to the sale of goods.

2.2.14 The Workmen’s Compensation Act⁵⁹ sparked interesting debates in South Africa as to how to draw a distinction between the *locatio conductio operarum* and the *locatio conductio operis* classification. This is however not unique to

⁵² See also the Verdingungsordnung für Bauleistungen (VOB), as an example of the private codification frequently used where the state or municipal corporation is the employer: Lorenz, page 11.

⁵³ Gruehn M “Updates from Around the World: Germany. Amendment of significant provisions of the German Civil Code relating to building law as a result of the Security of Claims Act” Construction Law International Volume 4 No 2 June 2009, page 8.

⁵⁴ Lorenz, page 5.

⁵⁵ (1861) 1 B. & S. 287, 121 E.R. 716.

⁵⁶ Lorenz, page 6.

⁵⁷ Many provisions of some of the standard form contracts (such as the FIDIC Silver Book) will be void due to the provisions of the German Civil code: See Zöns Jorn “The German Law on Standard Terms and Conditions – a dangerous trap for building and engineering contracts” Construction Law International, Volume 7, Issue 1, March 2012, page 8 and 9. See also Jaeger and Hök, page 107.

⁵⁸ 1893, s.4.

⁵⁹ Act 30 of 1941.

South Africa.⁶⁰ The necessity for the distinction once again lies in risk – if the contract is to be classified as a services contract, the risk for the work executed lies with the employer whilst the employee must be paid for the services provided.⁶¹ Finally, in *Smit v Workmen's Compensation Commissioner*,⁶² the Roman and Roman-Dutch law were reviewed.

2.2.15 The appellant (Smit) was employed by a company known as Union Guarantee and Insurance Co Ltd as an “agent” to obtain proposals for insurance. He was involved in a motor vehicle accident during the course of executing his duties and suffered severe injuries. Subsequently, a claim was instituted on his behalf for compensation under the Workmen's Compensation Act⁶³. The court considered the letting and hiring of labour or services in Roman law and the Roman-Dutch law under two species of *locatio conductio*, the *locatio conductio operarum* and the *locatio conductio operis (faciendi)*. The court found that the supervision and control test of English law was not the only aspect that needed to be considered. The construction of the entire contract, and as a consequence the entire legal relationship between the parties, needed to be considered.⁶⁴

2.2.16 This case gives some guidance as to the difference between a *locatio conductio operis*, and the *locatio conductio operarum*. The case's enquiry was related to

⁶⁰ Lorenz, page 7.

⁶¹ Lorenz, page 7.

⁶² 1979 (1) SA 51 (A).

⁶³ Act 30 of 1941.

⁶⁴ See Lorenz, page 8, where he comments that this is the case in the Common Law systems: He references Germany and the United States in this regard. See also Claassen W “Development of general conditions of contract for construction works” 21 S. Afr. Mercantile L.J. 576 2009.

whether the person providing a service was to be considered an employee of the employer, or an independent contractor.⁶⁵ Unfortunately, this does not offer much assistance to the classification of construction contract as the facts are too far removed from what is envisaged in the construction contract.

2.3 *ESSENTIALIA, NATURALIA AND INCEDENTIALIA*

The *essentialia*, *naturalia*, and *incidental* of the different forms of contracts need to be considered before it is possible to establish the remedies implicit to a breach of those terms. Each term is considered briefly before dealing with the relevance thereof to the construction contract.

2.3.1 *Essentialia*

The *essentialia* of a contract are those terms recognised by the common law that are required to classify a contract within a specific genus:⁶⁶ they are the essence of that particular contract.⁶⁷ *Essentialia* are those terms that are typical to and required for, for instance, a contract of sale, a contract of lease, or, relevant to this thesis, a construction contract to come into place. The *essentialia* directly affects the classification of each contract, from which the *naturalia* as implied by the law, will flow.

⁶⁵ See also *Colonial Mutual Life Assurance Society v MacDonald* 1931 AD 412 at 433, where the contract between master and servant was described as *locatio conductio oeprarum*, and the contract between principal and contractor for the letting and hiring of some definite piece of work as a *locatio conductio operis*.

⁶⁶ The Law of Contract in SA, page 247.

⁶⁷ Christie, page 164.

2.3.2 *Naturalia*

Pothier writes:⁶⁸ –

“Things which are only of the nature of the contract are those which, without being of the essence, form a part of it, though not expressly mentioned; it being of the nature of the contract that they shall be included and understood.”

Drafting contracts can be simple.⁶⁹ One does not need a law degree to record the express agreement reached between two parties: It is only necessary to understand what the parties have agreed to and record it simply and clearly. More often than not, the draftsman will succeed in recording all of the *essentialia* required for that particular contract to come into existence and to be enforceable. What one does need the study of law for is to understand which terms (rights and obligations) come into existence, even though they have not been discussed by the parties or recorded by a draftsman. Those terms are implied *ex lege* into a specific type of contract and are the *naturalia* of a contract.⁷⁰ These rights stem from our common law, and different types of nominate contracts attract different types of rights, as they do obligations.

Grotius⁷¹ gives a good account of this –

⁶⁸ Pothier's *Obligations*, para 7, as referred to by Van Deventer, page 85.

⁶⁹ The Law of Contract in SA, pages 408 to 432.

⁷⁰ The Law of Contract in SA, page 247 and Christie, page 164.

⁷¹ Grotius' *Introduction*, page 225.

“Some of these contracts are of such constant daily occurrence that it has been found necessary to attach certain conditions to them, which, even though not actually expressed, are regarded as expressed between the contracting parties by the mere mention of the name of the contract, so long as nothing stipulated to the contrary are consequently obligations by force of law.”

Accordingly, these terms exist whether the parties have agreed to them and included them in their contract or not.⁷² Pothier⁷³ explains that they differ from the *essentialia* (“the essence of the contract”) in that the contract will exist without those terms. It follows accordingly that the parties are free to contract out of some of those implied terms by way of their express agreement.⁷⁴

An example of *naturalia* would be an implied warranty of fitness for purpose arising out of a contract of sale where the buyer has made the purpose for which he is buying a particular item known.⁷⁵ So too, and more central to the purpose of this thesis’, the warranty against latent defects.⁷⁶ This of course, is only applicable in certain contracts.⁷⁷

The parties may therefore expressly agree that a certain term, usually implied into their specific type of contract, will not exist in their contract. For instance, the seller may refuse to give a buyer a warranty of fitness for purpose, which,

⁷² Christie, page 165; *Alfred McAlpine & Son (Pty) Ltd v Transvaal Provincial Administration* 1974 3 SA 506 (A) at 531.

⁷³ Pothier's Obligations, para 7, as referred to by Van Deventer, page 85.

⁷⁴ Not all *naturalia* may be excluded by agreement. See as an example, Section 51(1)(c)(i) of the Consumer Protection Act that prohibits the exclusion of liability caused by gross negligence in a contract of sale.

⁷⁵ Keating, pages 55 to 56; New Keating, page 59; Kerr on Sale, page 128; Glover, page 197.

⁷⁶ The Law of Contract in SA, page 247.

⁷⁷ The inclusion of such a warranty depends on the classification of the particular contract.

for whatever reason, the buyer may accept.⁷⁸ The courts have accepted that, for a term of a contract standing as *naturalia* to be removed from the contract, that intention has to be clearly stipulated.⁷⁹

In practice, this happens where new technology is at hand, and a seller cannot be sure if his product will deliver what the buyer is seeking to achieve. The parties then usually agree to exclude this implied term of fitness for purpose.

2.3.3 *Incidentalia*

Incidentalia are, as the term implies, those terms incidental to or additional to the *essentialia* and *naturalia* of a contract,⁸⁰ which the parties have agreed to in order to either supplement or amend the *naturalia* of their specific contract.⁸¹

2.4 THE SOUTH AFRICAN COURTS' APPROACH TO CONSTRUCTION CONTRACTS

“...the classification of the modern construction contract is a highly complex and delicate matter. Indeed there is considerable doubt as to whether such classification should be attempted at all.”⁸²

⁷⁸ The Law of Contract in SA, page 247.

⁷⁹ *Banda and Another v Van der Spuy and Another* 2013 (4) SA 77 (SCA).

⁸⁰ The Law of Contract in SA, page 248.

⁸¹ Christie, page 165.

⁸² Van Deventer, page 75.

2.4.1 Van Deventer comments⁸³ that the South African courts approach construction contracts from the assumption that they fall within the *locatio conductio operis*. He draws this conclusion from the fact that the South African courts have accepted the doctrine of entire contracts as one of the *naturalia* of the construction contract. In other words, that it applies as a matter of law that the undertaking by the contractor to execute work constitutes “*one single indivisible obligation, which is to execute the whole work undertaken.*”

Van Deventer calls upon two well-known cases to demonstrate this comment: *BK Tooling (Edms) Bpk Scope Precision Engineering (Edms) Bpk*⁸⁴ and *Thomas Construction (Pty) Ltd (In Liquidation) v Grafton Furniture Manufactures (Pty) Ltd*.⁸⁵

2.4.2 Jansen AJ summarises in *BK Tooling (Edms) Bpk Scope Precision Engineering (Edms) Bpk*⁸⁶ –

“In die geval van *locatio conductio operis* dit meer die geval dat die aannemer volledig moet presteer alvorens hy op die kontrakprys geregtig word. Met *opus* word bedoel *opera fato corpus aliquod perfectum* (D 50.15.5.1). Anders gestel, die *opus* is onverdeelbaar (vgl Pothier Verbintenissen para 291 vert Van der Linden 1^{ste} deel te 317 ev).”

⁸³ Van Deventer, pages 59 and 61.

⁸⁴ 1979 (1) SA 391 (A), at 419.

⁸⁵ 1986 (4) SA 510 (N), at 516.

⁸⁶ 1979 (1) SA 391 (A), at 419.

2.4.3 In *Thomas Construction (Pty) Ltd (In Liquidation) v Grafton Furniture Manufactures (Pty) Ltd*⁸⁷ Botha JA concludes -

“The contracts in question are of a type termed *locatio conductio operis*.

‘Die kontrak is die bekende *locatio conductio operis* waarby normaalweg die vergoeding verskuldig en betaalbaar raak by voltooiing van die werk as dit as een werkstuk aanbestee is. Voor voltooiing sou die kontrakteur wat vergoeding eis afgeweer kan word met die *exceptio non adimpleti contractus*.’”

2.4.5 In both cases, the contracts were construction contracts, and the courts in both instances simply accept that those contracts fall within the classification of a *locatio conductio operis*.

2.4.6 In fact, it is seen in cases as early as 1914 that the construction contract has been accepted as such (*Hauman Appellant v Nortje Respondent*).⁸⁸ In 2006 the Supreme Court of Appeal through Cloete JA commenced with its judgment on the same premise –

“At issue in this appeal is the effect of a reservation of ownership clause in a contract of *locatio conductio operis*, a lump sum building contract.”⁸⁹

⁸⁷ 1986 (4) SA 510 (N), at 516.

⁸⁸ 1914 AD 293, at 297 – 300.

⁸⁹ *Pellow NO and Another v Club Refrigeration CC* 2006 (10 SA 230 (SCA), page 231.

In this case, the contractor was engaged to construct a factory on a lump sum basis for the employer. The contractor completed the project but before payment was effected, the employer was liquidated.⁹⁰

2.4.7 The question then becomes whether it is correct to acceptance that the construction contract is part of the *locatio conductio operis*. To answer this question, the *naturalia*⁹¹ of the construction contract need to be understood.

2.4.8 What then is the *naturalia* of the construction contract? As discussed above,⁹² the South African courts have simply accepted that the construction contract is a form of *locatio conductio operis*. In order to investigate whether this acceptance is correct, Van Deventer⁹³ proposes the starting point be at how *naturalia* of contracts are applied by the courts. I agree that this is the correct approach to follow.

2.4.9 A relevant starting point is the English case of *Gilbert-Ash (Northern) Ltd v Modern Engineering (Bristol) Ltd*.⁹⁴ In casu, Lord Diplock considered the terms of a building contract, specifically those to be implied. It was found that when such a contract is interpreted, the starting point would be the presumption that each party is entitled to those remedies that exist by way of the operation of the law (*ex lege*), and which are implied into a contract (*ex contractu*). In this case, the “remedy of setting up breach of warranty in diminution or extinction of the

⁹⁰ *Pellow NO and Another v Club Refrigeration CC* 2006 (10 SA 230 (SCA), pages 231 and 232.

⁹¹ The terms law implies into a certain contract.

⁹² Chapter 2, paragraph 2.4 of this thesis.

⁹³ Van Deventer, page 84.

⁹⁴ (1973) 1 BLR 73 (HL) at 96.

price of material supplied or work executed under the contract” is employed. To disprove this presumption, the party seeking to do so, must be able to show an express term in “clear unequivocal words”, that that specific remedy so implied by the law has been agreed between the parties to be excluded.⁹⁵

2.4.10 *In casu*, Modern Engineering (Bristol) Ltd (hereinafter referred to as “ME”) were the main contractors to the Bradford City Council (hereinafter referred to as the “employer”), contracted to erect a building. Gilbert-Ash (Northern) Ltd (hereinafter referred to as “GA”) were ME’s subcontractors for steelwork. The employer’s architect issued three interim payment certificates in favour of GA, and ME only paid part of those certificates. GA made counterclaims for certain delays and bad workmanship. The matter then came to court. The main issue the court had to decide was whether ME had the right to set off the amounts claimed for delays and bad workmanship from GA’s interim payment certificates. However, the issue of entire contracts was examined, and that aspect is what is relevant to this thesis.

2.4.11 The South African courts accepted this in *Smith v Mouton*.⁹⁶ The court referred to English common law as a start, acknowledging that South African law does not differ materially thereto in this respect. It dealt with a defence that an employer may raise against a contractor that has sued him for payment, where the work or materials the contractor delivered were defective, that he is not liable for payment in whole or in part of the contract price. The court held that

⁹⁵ (1973) 1 BLR 73 (HL) at 96.

⁹⁶ 1977 (3) SA 9 (W) at 15A.

a “very clear expression in the contract concerned to show that the issue of an architect’s certificate was intended to take away that right.”⁹⁷

2.4.12 The plaintiff (the contractor) and the defendant (the employer) in this matter entered into two building contracts for work to be executed on a property, which included the erection of some outbuildings, and a covered terrace. The employer engaged an agent (referred to as the architect)⁹⁸ who issued certificates in the case of both contracts. There was some confusion as to whether the certificates were issued in respect of the one, or the other, or both of the contracts. Regardless, the relevant issue was in respect of the doctrine of entire contracts, and terms which may be implied into the construction contract.⁹⁹

2.4.13 The question is then what terms are to be implied into the modern construction contract, and specifically, will the warranty against latent defects be implied therein? To answer this question, we first need to establish the classification of the modern construction contract.

2.4.14 The South African courts have simply accepted that the doctrine of entire contracts applies to the modern construction contract, without considering what

⁹⁷ 1977 (3) SA 9 (W) at 15A.

⁹⁸ This role player is similar to the Engineer in the FIDIC Contracts (see chapter 4, paragraph 4.3.1.1 of this thesis), and the Project Manager in the NEC ECC contracts (see chapter 4, paragraph 4.3.2.1 of this thesis).

⁹⁹ 1977 (3) SA 9 (W) at 12D - 15C.

the modern construction contract's classicisation is, and what its *naturalia* would be.¹⁰⁰

2.4.15 The courts' investigations seem to have been taken the wrong way around –

“it would seem that the South African courts may be starting the interpretation process of construction contracts at the wrong end, by imposing on all such relationships the doctrine of entire contracts unless the parties have expressly and precisely excluded the operation of such a term, whereas this should be the final step in the interpretation process, where all other methods of interpretations have failed to reveal the parties' intention from the terms of their agreement.”¹⁰¹

2.4.16 Albeit the wrong way around, it seems to be clear that the South African courts have accepted the that construction contract falls within the *locatio conductio operis*, perhaps as a subcategory, but nevertheless as part of that classification.

2.4.17 Unfortunately, the South African courts have not had ample opportunity to investigate and consider the modern construction contract. This could be because of the popularity of alternate dispute resolution mechanisms, such as mediation, adjudication and arbitration. All of these dispute resolution mechanisms are attractive because of the privacy they offer, as well as the

¹⁰⁰ See for instance, as examples, *BK Tooling (Edms) Bpk v Scope Precision Engineering (Edms) Bpk* 1979 (1) SA 391 (A), pages 393, 419, and 420; *Nieuwoudt v Maswabi NO and Others* 2002 (6) SA 96 (O), page 101, *Pellow NO and Another v Club Refrigeration CC* 2006 (1) SA 230 (SCA), page 231. Accordingly, writers on the subject of construction and engineering contracts also simply follow this designation: See McKenzie, page 1.

¹⁰¹ Van Deventer, page 86.

opportunity to have a presiding officer with experience in the field of the dispute. Regrettably, this has led to less case law and writing on the topic than one would have hoped, as necessary for a thorough investigation of this matter.¹⁰²

2.5 DOCTRINE OF ENTIRE CONTRACTS

2.5.1 Van Deventer turns to the “doctrine of entire contracts” in an attempt to classify the nature of a building contract (the construction contract),¹⁰³ specifically by reference to the exception of *exceptio non adimpleti contractus*.¹⁰⁴

2.5.2 Under Roman-Dutch law, this exception meant that a contractor would only be eligible for payment once he had completed the project he had been contracted to execute.¹⁰⁵ Simply, if a contractor had been asked to build a house, the owner would only need to pay the contractor once the house was complete. Therefore, the owner or employer could raise the exception against a claim of payment where the contractor had not fulfilled his entire contract.¹⁰⁶

2.5.3 Presently, with the immensity of the construction projects underway, this approach is quite obviously not practicable. Contractors need to spend vast amounts of money on materials and labour, and very few are able to do so without some sort of interim payment during the course of the execution of the contract. Their purpose is to execute the work, not to fund the projects. This

¹⁰² See chapter 5, paragraph 6.1.18 of this thesis.

¹⁰³ Van Deventer, page 61.

¹⁰⁴ Van Deventer, page 63.

¹⁰⁵ Van Deventer, page 61.

¹⁰⁶ *Exceptio non adimpleti contractus*: Van Deventer, page 63.

is especially true in the mammoth projects seen in current times: Power stations, mines, train- and road infrastructure projects, and so on. These projects involve many hundreds of millions, and sometimes billions of Rands (or other currencies as may be applicable).

“I accept the importance of ‘cash flow’ in the building industry. In the vivid phrase of Lord Denning MR: ‘it is the lifeblood of the enterprise’.”¹⁰⁷

2.5.4 Modern construction contracts recognise this practicability and incorporate provisions for interim payments with the view of compensating the contractor as works progress.

2.5.5 The obligations of the parties, and the sequences of performance thereof, are dealt with in some infinite detail. In some instances, it even provides for advances to be paid before work commences, with which the contractor may then purchase some of the requisite materials and goods he requires to execute the works.¹⁰⁸ Despite these provisions in the sometimes very detailed contracts, it has not prevented this very issue of when payment is due to a contractor from becoming something of a debate in modern court cases.¹⁰⁹

¹⁰⁷ *Gilbert-Ash (Northern) Ltd v Modern Engineering (Bristol) Ltd* (1973) 1 BLR 73 (HL) at 96.

¹⁰⁸ See as an example the FIDIC Yellow Book (Annex 19), and the FIDIC Red Book (Annex 20), Sub-Clause 14.2 (Advance Payment), as well as NEC ECC Option X14 (Annex 21).

¹⁰⁹ Such as in *BK Tooling (Edms) Bpk v Scope Precision Engineering (Edms) Bpk* 1979 (1) SA 391 (A) and *Thomas Construction (Pty) Ltd (in Liquidation) v Grafton Furniture Manufactures (Pty) Ltd* 1986 (f) SA 510 (N).

2.5.6 In *BK Tooling (EDMS) Bpk v Scope Precision Engineering (EDMS) Bpk*¹¹⁰ the order of performance by the parties came about. *In casu*, the contractor was engaged to create certain moulds, which were to be used for the production of certain rubber mounting blocks for Ford motorcars' engines. Partial payment was made, and delivery effected. However, none of the moulding blocks complied with the specifications provided. A debate ensued as to who was responsible for the defects in the moulding blocks, and what payment the contractor was entitled to, if any.¹¹¹ The court considered, *inter alia*, the principle of reciprocity with the accompanying exception of *exceptio non adimpleti contractus* that may be raised.¹¹² In a fascinating review of the development of these principles from Roman law, the days of Voet, the *Corpus Juris*, as well as German law and English law, the court finally established the South African position in respect of these principles. Of relevance to this thesis is the link between this decision and the *locatio conductio operis*, as discussed in more detail below.

2.5.7 In *Thomas Construction (Pty) Ltd (in Liquidation) v Grafton Furniture Manufactures (Pty) Ltd*¹¹³ the employer entered into two contracts with the contractor, on what could be said to be identical terms. The one contract was for the civil and concrete works for a new factory at Canelands Township Extension No 2, and the other for the construction of an administration building, staff facilities and other outbuildings at Canelands Township. The employer's agent, referred to as the architect, certified works done by the contractor, and

¹¹⁰ 1979 (1) SA 391 (A).

¹¹¹ Pages 396 to 397.

¹¹² Pages 415 to 416.

¹¹³ 1986 (f) SA 510 (N).

issued interim payment certificates in that regard.¹¹⁴ The contractor went into liquidation before the contract was completed, and it was necessary for the employer to engage other contractors to complete the work, at a far greater expense than the contract price agreed to with the contractor. The employer exercised his right (which the contract explicitly allowed) to terminate the two contracts. The question before the court became whether the contractor's liquidators were entitled to recover the monies so certified by the architects, even though the contractor had not completed the works for which he was contracted.¹¹⁵ The court here concluded that interim payments made are simply as "an advance on account", and that the interim certificates issued did not survive the subsequent cancellation of the contracts.

2.5.8 Does this then imply that the exception of the *exceptio non adimpleti contractus* will not find application in these modern-day contracts? Does this more modern approach mean that the doctrine of an entire contract no longer applies?

2.5.9 I submit that this is not so. Today, in a modern construction contract, it may mean that a contractor is not entitled to the payment of a defined portion of the contract price until he has fulfilled all of the obligations required and identified in the contract for that milestone to be met. The owner or employer may raise the exception of *non adimpleti contractus* against a claim for payment from the contractor where the contractor has not fulfilled such a defined milestone obligation. However, this is the case where milestones are so defined. It may

¹¹⁴ Page 511.

¹¹⁵ Pages 515 to 516.

be different where they are not. A contractor would then have to look to the principle of *quantum meruit*¹¹⁶ in an attempt to achieve some form of payment for the work he has executed.¹¹⁷

2.5.10 Where the contract is not clear regarding the order in which performance may be required, the law may imply the order of performance by the parties, especially where one is linked to the other. A good example is always found in a contract of sale. Where the seller has not performed by delivering the item being purchased, or offering delivery of that item, the buyer does not have the obligation to pay for that item (in very simple terms). This is the principle of reciprocity.¹¹⁸ Jansen JA¹¹⁹ investigates this principle of reciprocity (*wederkerigheids beginsel*) while considering the *exceptio adimpleti contractus*.¹²⁰ He turns firstly to Gaius (his writings for law students in *Institutiones* 4.126 a) and then to the *Corpus Juris*¹²¹ –

*“Offeri pretium ab emptore debet, cum ex empto agitur, et ideo etsi pretii partem offerat nondum est ex empto action: venditor enim quasi pignus retinere potest eam rem quam vendidit.”*¹²²

¹¹⁶ To be paid a reasonable sum of money for the work he has executed.

¹¹⁷ *Smith v Mouton* 1977 (3) SA 9 (W); *Simmons NO v Bantoesake Administrasieraad (Vaaldriehoekgebied)* 1979 (1) SA 940 (T); *Thomas Construction (Pty) Ltd (In Liquidation) v Grafton Furniture Manufacturers (Pty) Ltd* 1986 (4) SA 510 (N).

¹¹⁸ Hutchinson A “Reciprocity in Contract Law” Stell LR 2013, page 3.

¹¹⁹ *BK Tooling (Edms) Bpk v Scope Precision Engineering (Edms) Bpk* 1979 (1) SA 391 (A).

¹²⁰ A defence that may be raised in South African law described as a right of retention – *weerhoudingsreg*.

¹²¹ Specifically, D 19.1.14.8; D 18.4.22; C 8.44.5, all dealing with the contract of sale, where a seller need not delivery to a buyer until the buyer has paid the seller, and the buyer need not pay until the seller has delivered to the buyer.

¹²² *BK Tooling (Edms) Bpk v Scope Precision Engineering (Edms) Bpk* 1979 (1) SA 391 (A), at 416.

2.5.11 He concludes that there can be no doubt that this “wederkerigheidsbeginsel” (principle of reciprocity) was accepted in Holland,¹²³ but that it was Voet who mentioned the principle when considering the *locatio conductio operis* (in *ad Pandectas* 19.2.40) and applied it in respect of the *exceptio non adimpleti contractus* (aw 19.1.23). He confirms that the South African Courts have accepted the principle of reciprocity and its accompanying exception as part of South African Law.¹²⁴

2.5.12 What is of relevance here, however, is Voet’s reference to the *exceptio* when considering the building contract, in what he accepts to be classified as the *locatio conductio operis*.

2.5.13 It bears mentioning that Jansen also considered German Law¹²⁵ and the writings of Pothier¹²⁶, and then summarises the development and acceptance in South African law¹²⁷ as follows:

“Dit blyk dus dat die wederkerigheidsbeginsel, met sy meeganger, die exceptio, by die klassieke Romeinse reg ontspring het, deur die Glossatore geformuleer is, in Europa geresipieer is en in die onderskeie nasionale regstelsels opgegaan het, en aldus vanuit Holland ook by ons uitgekom het. Gesien die gemeenskaplike oorsprong kan met vrug, wat ons reg betref, ook na die aanverwante

¹²³ Jansen JA refers to *Utrechtse Consultatein* 3.62.3, 3.114.3), Van den Berg *Nederlands Advysboek* 1.76, 77 en 78, *Bellum Juridicum* cas 3) in this regard.

¹²⁴ *BK Tooling (Edms) Bpk v Scope Precision Engineering (Edms) Bpk* 1979 (1) SA 391 (A), at 416. See also Hutchinson’s discussion thereon in “Reciprocity in Contract Law” *Stell LR* 2013, page 3.

¹²⁵ Glück in 1815 (D19.1 para 1043 band 17 at 227 ev).

¹²⁶ *Contract de Louage* (1699 – 1772).

¹²⁷ *BK Tooling (Edms) Bpk v Scope Precision Engineering (Edms) Bpk* 1979 (1) SA 391 (A), at 417 – 418.

stelsels gekyk word. Dit moet egter genoem word dat 'n ander newewerking van die beginsel ook op die Vasteland ontwikkel het, nl die reg tot ontbinding (terugtrede, kansellasië) op grond van die wederparty se wanprestasie. By ons word sodanige reg ook erken, maar veral na aanleiding van die Engelse reg, en gevolglik is Engelse presedente heel dikwels in hierdie verband in die verlede aangehaal.”

2.6 OTHER JURISDICTIONS' APPROACH TO CONSTRUCTION CONTRACTS

2.6.1 The English courts also accept and apply the doctrine of entire contracts.¹²⁸

However, the English courts, conversely to the South African courts, seem to consider the construction of the contract before considering whether certain *naturalia* are applicable or not.

2.6.2 In *Holland Hannon & Cubitts v Welsh Health Technical Services Organisation and Others*,¹²⁹ Judge Newey confirmed that the law in this regard is clear –

- “(1) An entire contract is one in which what is described as ‘complete performance’ by one party is a condition precedent to the liability of the other party’...¹³⁰
- (2) Whether a contract is an entire one is a matter of construction; it depends upon what the parties agreed. A lump sum contract is not necessarily an entire contract. A contract providing for

¹²⁸ *Cutter v Powell* (1795) 6 TR 320; *Munro v Butt* (1858) 8 EB 739; *Appleby v Myers* (1867) LR 2 CP 651.

¹²⁹ (1981) 80 at 122.

¹³⁰ Here Judge Newey referred to *Cutter v Powell* (1795) 6 TR 320, and *Munro v Butt* (1858) 8 EB 739.

interim payments, for example, as work proceeds, but for retention money to be held until completion is usually entire as to the retention moneys, but not necessarily for interim payments...”

2.6.3 *In casu*, Holland Hannen & Cubitts (Northern) Ltd (hereinafter referred to as “Holland”) were contracted by the Welsh Health Technical Services Organisation (hereinafter referred to as “WHTSO”) to build a 350-bed general hospital. A number of issues arose during the course of the construction of the hospital, and Holland consequently approach the court. Another contractor, Crittall Windows Ltd (hereinafter referred to as “Crittalls”) was contracted to supply and install window assemblies as a sub-contractor. The architects responsible for the design, including these window assemblies, were Percy Thomas Partnership (hereinafter referred to as “PTP”). These window assemblies failed in that they leaked when it rained. A debate ensued as to whether these leaks were attributable to design faults, or defective materials and workmanship, and which party, or parties may be responsible for these failures. Regardless, and before a practical completion certificate was issued, WHTSO occupied the hospital – after legal proceedings had already commenced.¹³¹ There were numerous complex questions in dispute, but the issue valuable to this thesis is the court’s findings in respect of the doctrine of entire contracts.¹³²

¹³¹ (1981) 80 at 122.

¹³² At pages 122 to 123 of the judgment.

- 2.6.4 The English courts approach *naturalia* of the contract very carefully, not wanting to interfere with the clear agreement reached between the parties. This is the case in South African law as well:¹³³ *Pacta sunt servanda*.¹³⁴ The English courts imply terms not only as a *matter of law* but also as a *matter of fact*.¹³⁵
- 2.6.5 For a term to be implied as a matter of law as the South African courts have approach it, the classification of the contract needs to be clear. A certain type of contract attracts certain *naturalia*.¹³⁶ In the case of *Greaves & Co (Contractors) Ltd v Baynham Meikle and Partners*,¹³⁷ the warranty for fitness of purpose was implied as a matter of fact.¹³⁸ The classification of the contract for this was less relevant, and not considered outright. Unfortunately, this again makes the research on this topic more challenging.
- 2.6.6 In this case, the contractors were engaged to construct a warehouse.¹³⁹ The employer disclosed the purpose of the warehouse, *inter alia*, for the storage of oil drums on the first floor that had to be moved by forklifts trucks. The floor did not stand the traffic created by the forklifts and cracked under the constant vibrations. The court held that the contractor was negligent in executing its design for this floor. However, what is of importance here, is that the court also held that even if negligence had not been established, the contractors would still have been held liable for the failure of the design, as the fitness of the

¹³³ The Law of Contract in SA, page 248.

¹³⁴ Agreements must be kept. Christie, chapter 5.

¹³⁵ See Murdoch, page 154.

¹³⁶ See the reference to Grotius and Pothier above.

¹³⁷ [1975] 3 All ER 99.

¹³⁸ Murdoch, page 183.

¹³⁹ (1981) 80 at 122.

warehouse's floor for the purpose of storing and moving oil drums by forklift trucks was implied as a matter of fact.

2.7 COMPARISON OF A CONTRACT OF SALE AND CONTRACTS FOR THE EXECUTION OF WORKS

2.7.1 What obscures the line between the building contract and the contract of sale is the production of the end result by the contractor, and the materials and labour used to achieve that end result, and the distinction between what exactly it is that the employer is paying for.¹⁴⁰

2.7.2 In this chapter, the definitions set out under the discussion of the FIDIC contracts¹⁴¹ and the NEC contracts¹⁴² are used correspondingly. Similarly, the terms “Employer”, “Contractor”, “Subcontractor”, FIDIC’s defined “Engineer” and the NEC equivalent “Project Manager”, and “Works”¹⁴³ (unless used generically and outside of the context of the FIDIC and NEC Contract) will be referred to as such.

2.7.3 Where the Contractor provides all of the materials to achieve the end result, is he not then, in theory at least, selling the product to the Employer? Although the FIDIC¹⁴⁴ and NEC¹⁴⁵ contracts provide for the instance in which the

¹⁴⁰ Lorenz, page 5.

¹⁴¹ See chapter 4, paragraph 4.3.1.1 of this thesis.

¹⁴² See chapter 4, paragraph 4.3.2.1 of this thesis.

¹⁴³ The equal defined term in NEC to the defined term “Works” as used in FIDIC, is not capitalised. In this chapter, for ease of reference, it will be capitalised whether it is a reference to NEC or FIDIC.

¹⁴⁴ See chapter 2, paragraphs 4.3.1.3(a) and 4.3.1.3(b) of this thesis.

¹⁴⁵ See chapter 2, paragraphs 4.3.2.3(a) and 4.3.2.3(b) of this thesis.

Employer may provide the Contractor with some materials, and even equipment (very rarely all of it), it is usual for the Contractor to provide for such aspects.

2.7.4 If one follows the argument of the possibility of a “mixed contract”, could it then be that the portion of the Works that is executed using the Contractor’s provided materials may fall subject to the classification of *emptio venditio*, and the portion where the Contractor uses the Employer’s materials fall subject to the classification of *locatio conductio*?

2.7.5 It may seem like a simple distinction, but the English courts have also held some debate on the subject. I turn to the English courts, as, as mentioned herein,¹⁴⁶ the South African courts seem to have simply accepted the classification of the construction contract to be *locatio conductio*.¹⁴⁷

2.7.6 *Lee v Griffin*,¹⁴⁸ does not deal with a construction contract, but is valuable in comparing work on an object not owned by the contractor (work on goods), and a contract of sale (*emptio venditio*). Blackburn J in this case considered whether work on an object or goods could become subject to a contract of sale. This case considered a dentist making a denture for a patient, and it was held that the work so executed comprised a sale of a chattel. During this time the English courts considered the value of the work compared to the value of the materials used; they then moved to considering the degree of skill and

¹⁴⁶ See chapter 2, paragraph 2.4 of this thesis.

¹⁴⁷ See for instance, as examples, *BK Tooling (Edms) Bpk v Scope Precision Engineering (Edms) Bpk* 1979 (1) SA 391 (A), pages 393, 419, and 420; *Nieuwoudt v Maswabi NO and Others* 2002 (6) SA 96 (O), page 101, *Pellow NO and Another v Club Refrigeration CC* 2006 (1) SA 230 (SCA), page 231.

¹⁴⁸ (1861) 1 B. & S. 272, 121 E.R. 716.

craftsmanship required to achieve the end result; and finally, they also considered what the main purpose of the transaction was.¹⁴⁹ None of these considerations gave a clear and unambiguous answer to the quandary of how to distinguish between the contract of sale and contract for work on goods, especially in the borderline cases.

2.7.7 Lorenz¹⁵⁰ demonstrates that the Court of Appeal¹⁵¹ and the Sales of Goods Act¹⁵² changed this position. Unfortunately for South Africa, it is no longer of much relevance in English law to make the distinction between the *emptio venditio* and the *locatio conductio*. The legislator's intervention¹⁵³ and the court's decisions in England – being that the warranty flowing from this legislation is not limited to the sale of goods – have made it unnecessary to consider this distinction.¹⁵⁴ German law has done the same.¹⁵⁵ CC S 651.¹⁵⁶ This legislation provides specialised rules for contracts for work and labour, and the warranties that flow therefrom, making it unnecessary to look to the law relating to *emptio venditio*.

2.7.8 In South Africa,¹⁵⁷ there is no legislation equivalent to that of English law and German law. This makes it necessary to pursue the investigation as to whether

¹⁴⁹ See Lorenz' discussion, pages 5 to 6.

¹⁵⁰ Page 5.

¹⁵¹ *Robinson v Graves* (1935) 1 K.B. 579 (C.A.), where an artist was contracted to paint a portrait of a lady, and that contract was held not to be a contract of sale, but rather for works.

¹⁵² 1893 56 & 57 Vict., C. 71.

¹⁵³ Sale of Goods Act 1893 56 & 57 Vict., C. 71, and Law Reform (Enforcement of Contracts) Act, 1954 2 & 3 Eliz. 2, c. 34.

¹⁵⁴ Lorenz, page 6.

¹⁵⁵ Lorenz, page 7.

¹⁵⁶ Although this is the reference Lorenz uses, it is most likely to § 651 German CC.

¹⁵⁷ See Lötj DJ "The law of purchase and sale" Annual Survey of South African Law 2012, page 1067.

the warranty against latent defects will apply to a construction contract when the contract does not provide for it explicitly.

2.8 SOURCES OF LAW: THE POSSIBILITY OF A “SELF-MADE ‘LAW’”

2.8.1 Lorenz seems to agree with Zimmermann that it is time to recognise that the building industry has developed a “self-made ‘law’”.¹⁵⁸ He, however, comments that in Roman law, although building contracts were accepted as falling within the *locatio conductio operis*, they ignored some of the special conditions under which construction work on lands is carried out, and accordingly “only very few specific rules dealing with this subject matter are to be found in the traditional civil codes.”¹⁵⁹ This may be the source of the current challenge.

2.8.2 It makes sense that the construction industry, in many jurisdictions, saw the need to address this *lacuna* and attempted to do so by way of express provisions in their contracts. Not all the contracts have achieved this successfully¹⁶⁰ but this has nonetheless developed into what is referred to as the “self-made ‘law’”, which Lorenz regards as “sociological fact of considerable importance”.¹⁶¹ It is discernibly not a law as one would have regard to as a reference source of law – it remains subject to the agreement between the parties. *Pacta sunt servanda* reigns supreme.

¹⁵⁸ Lorenz, page 11.

¹⁵⁹ Lorenz, page 11.

¹⁶⁰ See Lorenz’ extensive criticism of England’s RIBA (Royal Institute of British Architects) Standard Forms of contract throughout his writings.

¹⁶¹ Lorenz, page 11.

2.8.3 In German law, building contracts attract different responsibilities and liabilities depending on whether the Employer is state-owned or a private person. The German VOB¹⁶² has its origins in the private sector,¹⁶³ but is used where state-owned enterprises engage with contractors to have works executed.¹⁶⁴ The private sector mostly makes use of the freedom to contract, not being limited by the restrictions imposed on state-owned enterprises. Again: *Pacta sunt servanda*. The VOB takes account of legislation applicable to building contracts, and makes specific reference thereto.¹⁶⁵ These contracts are drafted and intended for specific use in Germany, where FIDIC¹⁶⁶ and NEC¹⁶⁷ are intended to be wide enough to cater for international contracts over a wide array of different jurisdictions and applicable laws.

2.8.4 In English law, it is a little different. The RIBA¹⁶⁸ Standard Form of contracts is similarly intended for exclusive use in England. These publications, however, have been met with stern criticism to the effect that “the stage has now been reached where architects and others recommending the RIBA standard forms to their clients in unmodified form should be held liable for professional negligence if damage or loss to the employer ensues”.¹⁶⁹ The criticism is levied

¹⁶² *Verdingungsordnung für Bauleistungen*.

¹⁶³ Drafted by the *Deutscher Normenausschuß (DNA)*.

¹⁶⁴ Lorenz, page 11.

¹⁶⁵ Lorenz gives examples on page 12: “VOB (b) S 2 no. (I) concerning deviations from the contract: Reference to rules relating to *negotiourm gestio* (CC S 677-678); VOB (B) S 8 no. I (2) concerning cancellation of the contract by the employer (CC S 649); VOB (B) S 9 cancellation of the contract by the contractor (CC S 293-304 and 642); VOB (B) S 11 no. I concerning liability of the contracting parties or liquidated damages (CC S 339-345).”

¹⁶⁶ Chapter 2, paragraph 4.3.1 of this thesis.

¹⁶⁷ Chapter 2, paragraph 4.3.2 of this thesis.

¹⁶⁸ Published by the Royal Institute of British Architects and issued by the Joint Contracts Tribunal.

¹⁶⁹ Old Hudsons, preface. Old Hudsons was a 10th edition. We of course now have Hudsons in its 13th edition, no longer at the hand of Duncan Wallace, but still by the prominent members of Atkin Chambers in full-time practise.

on a number of scores, but essentially denounces the lack of consideration given to providing protection for the employer. The ICE Conditions of Contract¹⁷⁰ are better balanced and have a more reasonable allocation of risk. Unfortunately, they too lack clarity.¹⁷¹ These contracts are also drafted for specific use in England, where FIDIC¹⁷² and NEC¹⁷³ are intended to be wide enough to cater for international contracts over a wide array of different jurisdictions and applicable laws. NEC, however, finding its roots in England,¹⁷⁴ caters for specific English laws¹⁷⁵ but leaves it up to the parties to choose a different option when contracting outside of this jurisdiction.

2.9 OBLIGATIONS UNDER THE BUILDING CONTRACTS FOR THE CONTRACTOR

Therefore, perhaps these “implied” terms by way of *naturalia* are not as simple to include as has been accepted in the past. Turn to what is expressly provided for in the contract, and then look at practice and custom. *Naturalia* should be a last resort. Then, perhaps, the common construction contract could be an amalgamation of quite a few of these different types of contracts – contract of sale, contract of letting and hiring of work, services contract.¹⁷⁶

¹⁷⁰ Published by the Institution of Civil Engineers.

¹⁷¹ Lorenz page 15.

¹⁷² Chapter 2, paragraph 4.3.1 of this thesis.

¹⁷³ Chapter 2, paragraph 4.3.2 of this thesis.

¹⁷⁴ NEC Engineering and Construction Contract, June 2005, Guidance Notes, Foreword.

¹⁷⁵ Taking cognisance of the Housing Grants, Construction and Regeneration Act, 1996, in its Dispute Resolution Options, as well as the Local Democracy, Economic Development and Construction Act, 2009.

¹⁷⁶ Van Deventer, page 87.

2.9.1 Lorenz¹⁷⁷ regards five specific obligations of the contractor of particular relevance to building contracts: Timely performance,¹⁷⁸ personal execution of the works,¹⁷⁹ the supply of materials,¹⁸⁰ performance according to plan,¹⁸¹ and the obligation to execute the works free from defects.¹⁸² Pothier's description of a contractor's obligations are similar.¹⁸³

2.9.2 For the purpose of this thesis, the latter is of foremost importance, specifically defects discovered after completion.¹⁸⁴ Nevertheless, the obligation of personal execution of the works, and the obligation to supply materials, will be considered in addition thereto as this affects the classification of these contracts.¹⁸⁵ These aspects will also be briefly considered in light of the FIDIC and NEC conditions, with specific reference to the influence of English law and German law. Finally, the South African legal position will be deliberated. This will not be done under specific headings, as there is some overlap.

2.9.3 Personal execution of the works

Modern construction contracts allow the contractor to engage subcontractors to execute a portion of the works on the contractor's behalf.¹⁸⁶ The

¹⁷⁷ Lorenz page 21 to 102.

¹⁷⁸ Pages 21 to 30.

¹⁷⁹ Pages 30 to 39.

¹⁸⁰ Pages 39 to 46.

¹⁸¹ Pages 46 to 56.

¹⁸² Pages 56 to 102.

¹⁸³ See Lorenz' translation and summary thereof, taken from the treatise *Contrat de Louage* (no. 392), at page 59.

¹⁸⁴ As they will most likely comprise latent defects.

¹⁸⁵ New Zimmermann, page 394.

¹⁸⁶ As examples, see Sub-Clause 4.4 of the FIDIC Silver Book (Annex 3), FIDIC Yellow Book (Annex 6), and FIDIC Red Book (Annex 9) (1999). In NEC see Core Clause 26 (Annex 15) of the Engineering and Construction Contract (June 2005).

subcontractors may be engaged not only to execute a portion of the works, but also to supply the relevant materials. This, however, does not mean that the contractor may subcontract the works as a whole. This stands for South African law, German law,¹⁸⁷ as well as English law.¹⁸⁸ In FIDIC and NEC the Employer's consent is required before a Contractor may subcontract any portion of the works:¹⁸⁹ The Employer accordingly exercises a great deal of control over who executes the Works and there is little regard as to whether the Contractor may subcontract and to what extent.

The conclusion is that it need not be the contractor who executes the entire works personally. He may subcontract to other contractors. This invites a debate as to liability opposite the Employer for any defective work, but this thesis will not be burdened with that investigation, which in itself is a subject for a thesis.

2.9.4 Supply of materials

Some legal systems require the Contractor to supply the materials, not the Employer, but the parties remain free to contract contrary to this requirement by agreement.¹⁹⁰ The FIDIC¹⁹¹ and NEC¹⁹² contracts accept that most of the materials will be supplied by the Contractor, but also make provision for the

¹⁸⁷ Lorenz, page 33.

¹⁸⁸ Lorenz, page 35.

¹⁸⁹ As examples, see Sub-Clause 4.4 of the FIDIC Silver Book (Annex 3), FIDIC Yellow Book (Annex 6), and FIDIC Red Book (Annex 9) (1999). In NEC see Core Clause 26 (Annex 15) of the Engineering and Construction Contract (June 2005).

¹⁹⁰ Lorenz refers to Ethiopia, Italy, Portugal, Switzerland and the Soviet Union on page 39.

¹⁹¹ See chapter 2, paragraphs 4.3.1.3(a) and 4.3.1.3(b) of this thesis.

¹⁹² See chapter 2, paragraphs 4.3.2.3(a) and 4.3.2.3(b) of this thesis.

Employer to supply material. The Employer is not limited to supply only some of the material, and accordingly it may transpire that the Employer chooses to supply all of the materials.¹⁹³

The relevance of the supply of the material lies in the line that distinguishes a *locatio conductio* from an *emptio venditio* and distorts it. It makes it difficult to distinguish whether the contract is then a contract for work and labour, or to sell goods.¹⁹⁴

2.9.5 Obligation to execute free of defects

Lorenz¹⁹⁵ acknowledges the influence of sales law on contracts for work and labour with regard to defects, especially for those jurisdictions influenced by Roman law. He¹⁹⁶ contends that “sales law has in many respects provided the basis for the proper development of rules governing defects liability in contracts for work and labour” and observes that these rules may have transferred into the area of contracts for work and labour in the common law systems.

I am not sure if this observation is entirely correct. It is true specifically in South African law that the courts have simply accepted, for instance, that the warranty against latent defects, which certainly applies to *emptio venditio*, also applies

¹⁹³ Although this then brings into question whether the contract's classification doesn't change. See chapter 2, paragraph 4.3.1.2(a) of this thesis.

¹⁹⁴ Although the law of Austria is not investigated in this thesis, it bears mentioning that in Austria a rule of construction exists where the supply of the materials by the Contractor raises a presumption in favour of an agreement to sell: Lorenz, page 39.

¹⁹⁵ Lorenz, page 56.

¹⁹⁶ Lorenz, page 57.

to *locatio conductio operis*.¹⁹⁷ However, that does not mean this acceptance without further investigation is correct, or that the implied warranty against latent defects has transferred into this contracting philosophy.¹⁹⁸

2.10 CONCLUSION

2.10.1 The English court's approach is therefore somewhat different to the South African courts' approach. The court did not begin its investigation accepting that the contract was one of *locatio conductio operis*.¹⁹⁹ It commenced with an investigation as to the agreement between the parties and the intent thereof. Unfortunately, this has not assisted in establishing what the *naturalia* of the construction contract is.

2.10.2 What if the work executed cannot be a "whole works"? What if it comprises sections or parts of works and the contract itself makes that distinction? For instance, what if the contractor is contracted to design the works, construct the works, and then to supervise the commissioning of the works, each with defined parameters and completion requirements? Could that not be construed as three separate parts, attracting different *naturalia* and the according consequences?

¹⁹⁷ See chapter 2, paragraph 2.4 of this thesis.

¹⁹⁸ Or that of the building contract.

¹⁹⁹ Here I mention specifically the narrower classification of *locatio conductio operis*. I have made mention before of the wider classification of *locatio conductio*, which *locatio conductio operis* forms an integral part of, in order to attempt so show that even if one goes beyond the narrow scope of the classification of *locatio conductio operis*, looking beyond such a narrow classification and wider at *locatio conductio* also does not provide an adequate answer.

2.10.3 With these admittedly confusing principles in mind, the construction contracts, with reference to the standard form of contracts found in the FIDIC,²⁰⁰ NEC²⁰¹, JBCC²⁰², and GCC²⁰³ will be considered in an attempt to find the correct classification for the construction contract. Before this is done, however, and what may further assist in finding this classification, the principles surrounding breach of contract and the consequent remedies will be considered.

²⁰⁰ See chapter 2, paragraph 4.3.1 of this thesis.

²⁰¹ See chapter 2, paragraph 4.3.2 of this thesis.

²⁰² See chapter 2, paragraph 4.2.1 of this thesis.

²⁰³ See chapter 2, paragraph 4.2.3 of this thesis.

3. BREACH AND REMEDIES

“The parties to a contract are bound to respect their agreement and to perform all the obligations that it imposes upon them: pacta sunt servanda.”¹

3.1 INTRODUCTION AND BACKGROUND

3.2 GENERAL PRINCIPLES OF BREACH OF CONTRACT AND REMEDIES

3.3 GENERAL PRINCIPLES RELATING TO WARRANTIES

3.4 WARRANTY AGAINST LATENT DEFECTS

3.5 WARRANTY AGAINST LATENT DEFECTS UNDER AN *EMPTIO VENDITIO* AND THE REMEDIES EXPLICIT THERETO

3.1 INTRODUCTION AND BACKGROUND

“The subject-matter of the law of contract is in all legal systems the same, viz. agreements and promises. What agreements, what promises, will the law enforce? This is the problem to be solved, and it is solved by different systems of law in different ways. But the definition of contract in the abstract is always the same, viz. ‘an agreement enforceable at law’ or, what comes to the same thing, ‘an agreement which creates a legal obligation between the parties to it’.”²

¹ The Law of Contract in SA, page 290.

² Lee, page 208.

3.1.1 At the very least, what is certain is that the warranty against latent defects in South African law will be implied in a contract falling within the classification of *emptio venditio*.³ The question whether the building, construction and engineering contract attracts this warranty remains unanswered, as well as whether it is classifiable as a *locatio conductio* or not. It is also not clear what the building or construction contract, or possibly each of the FIDIC Books⁴ or NEC Options,⁵ should be classified as, and depending on that classification, whether it will attract this warranty.

3.1.2 With South African courts simply accepting that the construction contract falls under the classification of a *locatio conductio*,⁶ it may be valuable to look at other jurisdictions. This thesis will be limited to English law, and German law for the purpose of this comparison. The English⁷ and German⁸ jurisdictions have acknowledged the nuances that the construction and engineering industry's contracting bring through legislation, and that they accordingly attract the necessity for special consideration.⁹ England has done so specifically by way of introducing specialised courts for this industry.¹⁰

³ See chapter 3, paragraph 3.5 of this thesis.

⁴ See chapter 4, paragraph 4.3.1.5 of this thesis.

⁵ See chapter 4, paragraph 4.3.3.3 of this thesis.

⁶ See chapter 2, paragraph 2.4 of this thesis.

⁷ See particularly Sir Michael Latham, "Constructing the Team, Joint Review of Procurement and Contractual Arrangements in the United Kingdom Construction Industry", Final Report, July 1994, published by HMSO.

⁸ Lorenz, page 7.

⁹ See chapter 2, paragraphs 2.7 and 2.8 of this thesis.

¹⁰ The Technology and Construction Court, a sub-division of the Queen's Bench Division, part of the High Court of Justice, which is one of the Senior Courts of England and Wales.

3.1.3 Although Lorenz's work has been met with some criticism,¹¹ the queries he has raised and the investigations he has done in this regard, especially comparing the laws of the different countries, are extremely valuable. He too¹² acknowledges that this field of contracting is highly specialised and complex, and may well justify the necessity for it to be treated separately from the other legal classifications.¹³ He comments that if one had to deal with the rapidly changing and voluminous published general conditions (like those of FIDIC and NEC), it would have to be a handbook in the form of a loose-leaf edition that can take account of these ever-changing conditions. He is entirely correct.¹⁴ The industry is in a continuous process of evolution.¹⁵

3.1.4 One of the incentives of establishing what classification a contract falls within is that each classification imposes specific *naturalia* with consequent specific remedies for breach of such terms. With the investigation into the classification of the construction contracts not yielding a conclusive answer,¹⁶ the remedies flowing from these contracts possibly by way of a tacit term through trade usage could be useful.¹⁷ The usual parties to the construction contracts and the trade relevant thereto may have tacitly incorporated certain warranties into their contracts through trade usage. However, that would imply that a breach of such a tacit term warranty would attract specific remedies. Accordingly, considering

¹¹ In the review of Wallace I.D. in the "Review Work(s): International Encyclopaedia of Comparative Law. Vol VIII: Specific Contracts. Ch. 8. Contracts for Work on Goods and Building Contracts by Werner Lorenz. American Society of Comparative Law [Vol 32] page 768 (www.jstor.org/stable/840379; last accessed 01 March 2017).

¹² As Zimmermann and Van Deventer does too.

¹³ Page 4.

¹⁴ See Murdoch's account of the nature of the industry, pages 1 to 2.

¹⁵ Claassen W "Development of general conditions of contract for construction works" 21 S. Afr. Mercantile L.J. 576 2009.

¹⁶ See chapter 4, paragraph 4.6 of this thesis.

¹⁷ The Law of Contract in SA, page 258.

the remedies that are attracted by, specifically and relevant to this thesis, the warranty against latent defects, is relevant.

3.1.5 Terms implied through trade usage are incorporated into a contract because of the “presumed common intension of the parties to include a term customarily included to the knowledge of both of them.”¹⁸ In order to avoid injustice, much consideration is required before a term will be implied as a result of trade usage: “it must be clear convincing and consistent”.¹⁹ Corbett J²⁰ defined the requirements for a term to be implied through trade usage:

“... the contract in question would be subject to – the alleged trade usage provided that it is shown to be universally and uniformly observed within the particular trade concerned, long-established, notorious, reasonable and certain, and does not conflict with positive law (in the sense of endeavouring to alter a rule of law which the parties could not alter by their agreement) or with the clear provisions of the contract.”

3.1.6 English law makes a distinction between custom and trade usage.²¹ South African law has also recognised this distinction,²² and accepted that custom may qualify as a legal rule where it is reasonable, where it has existed for a

¹⁸ Christie, page 168.

¹⁹ *Golden Cape Fruits (Pty) Ltd v Fotoplate (Pty) Ltd* 1973 2 SA 642 (C) at 647.

²⁰ *Golden Cape Fruits (Pty) Ltd v Fotoplate (Pty) Ltd* 1973 2 SA 642 (C) at 645G.

²¹ Christie, page 169.

²² See *Golden Cape Fruits (Pty) Ltd v Fotoplate (Pty) Ltd* 1973 2 SA 642 (C) at 647 where Corbett J discusses *Van Breda v Jacobs* 1921 AD 330. In the former trade usage was the primary consideration, where in the latter it was custom.

reasonable period, where it has generally been observed by the community in which it applies, and where it is certain and clear.²³

3.1.7 Terms implied from the facts or more correctly tacit terms²⁴ are terms that, although not expressed by the parties, are derived from the surrounding circumstances to have been the common intention of the parties, and are required for business efficacy:²⁵

“if it is such a term that it can confidently be said that if at the time the contract was being negotiated some one had said to the parties: ‘What will happen in such a case?’ they would both have replied: ‘Of course so and so will happen; we did not trouble to say that; it is too clear’.”²⁶

3.2 GENERAL PRINCIPLES OF BREACH OF CONTRACT AND REMEDIES

3.2.1 Breach of contract

A breach of contract is where a party to a contract fails to honour his obligations provided for in that contract.²⁷ Remedies in the case of a breach of contract may either be explicitly agreed to by the parties (through the terms and conditions of a contract) or exist as an operation of law.²⁸

²³ Nagel 2, page 12.

²⁴ *Alfred McAlpine & Son v Transvaal Provincial Administration* 1974 3 SA 506 (A) at 531 – 532; Christie, page 174.

²⁵ *Wilkins v Voges* 1994 3 SA 230 (A) at 137.

²⁶ *Reigate v Union Manufacturing Co (Ramsbottom)* [1918] KB 592 at 605.

²⁷ The Law of Contract in SA, page 290.

²⁸ Nagel 2015, page 127.

3.2.2 There are five different forms of breach of contract:²⁹

- (a) The debtor in terms of a contract does not perform (*mora debitoris*).³⁰
- (b) The creditor in terms of a contract fails to accept performance (*mora creditoris*).³¹
- (c) The debtor in terms of a contract does not deliver proper performance (positive malperformance).³²
- (d) Either party to a contract expresses the clear intention not to continue with the contractual obligations (repudiation).³³
- (e) Either party to a contract renders performance impossible (prevention of performance).³⁴

Each of these five different forms of breach of contract attracts specific remedies that are available to the innocent party.³⁵ The different forms of breach of contract and the remedies specific to them are discussed briefly in turn below.

3.2.3 *Mora debitoris*

²⁹ Nagel 2015, page 127.

³⁰ Nagel 2015, page 127.

³¹ Nagel 2015, page 129.

³² Nagel 2015, page 131.

³³ Nagel 2015, page 132.

³⁴ Nagel 2015, page 133.

³⁵ The Law of Contract in SA, page 291.

Although some sources state unequivocally that fault, whether wilful or through negligence is not a requirement for *mora debitoris*³⁶ this appears to be uncertain.³⁷ It simply comes into effect when a party to a contract does not perform his obligations on time, and when the following requirements are met:³⁸

- (a) Performance is still possible.³⁹
- (b) Performance is late.⁴⁰
- (c) Performance is due enforceable.⁴¹

Where a party to a contract is in *mora debitoris* the innocent party may look to the specific contractual remedies that the parties have explicitly agreed to, or, as an operation of law either cancel the contract, require specific performance with or without a claim for damages, or only claim damages.⁴²

3.2.4 *Mora creditoris*⁴³

Similar to *mora debitoris* it appears uncertain whether fault is a requirement for *mora creditoris* or not.⁴⁴ Differing from *mora debitoris*, *mora creditoris* occurs

³⁶ *Scoin Trading (Pty) Ltd v Bernstein NO 2011 (1) SA 118 (SCA)*.

³⁷ The Law of Contract in SA, page 291: In this source it is described as being “Debatable”.

³⁸ Nagel 2015, page 127.

³⁹ *Algoa Milling Co v Arkell & Douglas* 1918 AD, page 145.

⁴⁰ *Van der Merwe v Reynolds* 1972 (3) SA 740 (A).

⁴¹ Nagel 2015, page 128.

⁴² Nagel 2015, page 157, The Law of Contract, pages 304 to 306.

⁴³ Consider also *LTA Construction Ltd v Minister of Public Works and Land Affairs* 1992 (1) SA 837 (C) at page 848 and *Martin Harris & Seuns OVS (Edms) Bpk v Qwa-Qwa Regersingsdiens* 2000 (3) SA 339 (SCA).

⁴⁴ In Nagel 2015, page 130 it is stated that fault is not a requirement, whereas in The Law of Contract in SA, page 291 it is stated to be “Debatable”. See also *Scoin Trading (Pty) Ltd v Bernstein NO 2011 (1) SA 118 (SCA)* and *Venter v Venter* 1949 (1) SA 768 (A). In the latter case (at page 785) an obiter statement by Van den Heever JA appears to conclude that fault is not a requirement, but this obiter may be incorrect.

when a party to a contract offers proper performance, but the other party fails to accept such performance, or a party places the innocent party to a contract in a position where he is not able to perform, and where the following requirements are met:⁴⁵

- (a) Performance is still possible.
- (b) Performance is delayed.
- (c) Performance is due and enforceable.
- (d) Proper performance is offered.

The same remedies in the case of *mora debitoris* are afforded to the innocent party in the case of *mora creditoris*⁴⁶ with a few additions. The duty to protect the subject of his performance is diminished and the risk of impossibility of performance transfers to the party in breach of the contract.⁴⁷ It is important, however, to remember that *mora creditoris* does not relieve the innocent party from his obligation to perform (if the party who is in breach of contract requires the innocent party to perform he will be obliged to do so),⁴⁸ and *mora debitoris* and *mora creditoris* cannot exist simultaneously (the existence of *mora creditoris* will cancel *mora debitoris*).⁴⁹

3.2.5 Positive malperformance

⁴⁵ Nagel 2015, page 129.

⁴⁶ See paragraph 3.2.3 above.

⁴⁷ Nagel 2015, page 131.

⁴⁸ Nagel 2015, page 130.

⁴⁹ Nagel 2015, page 131.

Positive malperformance is where a party to a contract does deliver or perform his obligation but the performance is not correct: Performance is incomplete or defective.⁵⁰ Here it appears that fault may in some instances be a requirement.⁵¹

The remedies in the case of positive malperformance are those that have been explicitly agreed to in addition with the remedies consequent upon the operation of law: The innocent party may either cancel the contract, require specific performance with or without a claim for damages, or claim damages.⁵²

3.2.6 Repudiation

Repudiation is an anticipatory form of breach of contract:⁵³ A party to a contract has repudiated the contract where he expresses, either through words or conduct and without any lawful excuse, the clear intention not to abide by his contractual obligations.⁵⁴

In the case of repudiation, the innocent party may either accept the repudiation and claim damages⁵⁵ or elect to reject the repudiation and claim specific performance with or without a claim for damages.⁵⁶

⁵⁰ Nagel 2015, page 131.

⁵¹ Nagel 2015, page 132; The Law of Contract in SA, pages 291 and 307.

⁵² Nagel 2015, page 157; The Law of Contract in SA., pages 307 to 309.

⁵³ Nagel 2015, page 132.

⁵⁴ *South African Forestry v York Timbers* 2005 (3) SA 323 (SCA), at 342E-F.

⁵⁵ The Law of Contract in SA, pages 312 to 313.

⁵⁶ Nagel 2015, page 133, The Law of Contract in SA, pages 314 to 315.

3.2.7 Prevention of Performance

Here it is clear that fault is a requirement for this type of breach of contract.⁵⁷

The act committed by the party that makes performance impossible must either be wilful or negligent but can be an act of either the creditor or the debtor.⁵⁸

Where the debtor prevents performance, the innocent party has two options: He may elect to cancel the contract, claim back any performance that he has rendered, and claim damages, or he may elect to uphold the contract (not specific performance),⁵⁹ deliver his performance and claim damages in *lieu* of the other party's performance.⁶⁰ Where the creditor prevents performance, the innocent party also has two options: He may elect to cancel the contract, return any performance that he may have received, and claim damages, or he may elect to uphold the contract and claim delivery of counter-performance after taking into account any saving he may have gained as a result of not having to perform any longer.⁶¹

3.3 GENERAL PRINCIPLES RELATING TO WARRANTIES

3.3.1 A warranty given by a party to another party in a contract is a term of that contract.⁶² Accordingly, a breach of warranty attracts the usual remedies for a

⁵⁷ The Law of Contract in SA, pages 291 and 316.

⁵⁸ Nagel 2015, page 134.

⁵⁹ Remembering that the object of the performance no longer exists.

⁶⁰ *ISEP Structural Engineering and Plating (Pty) Ltd v Inland Exploration Co (Pty) Ltd* 1981 (4) SA 1 (A).

⁶¹ *BK Tooling (Edms) Bpk v Scope Precision Engineering (Edms) Bpk* 1979 (1) SA 391 (A) at 413.

⁶² The Law of Contract in SA, page 122 and 124.

breach of contract and some other specific remedies (that extend the liability of the party giving that warranty).

3.3.2 A warranty comprises “a promise that something relating to the contract is guaranteed by one of the contracting parties; especially, a promise by a seller that the thing sold is as represented”.⁶³ In other words, the liability of the party giving the warranty is extended beyond what it would ordinarily be: For instance, a party giving a warranty will not escape liability where there is an impossibility to perform.⁶⁴

3.3.3 A warranty may arise as a result of express agreement (as an express term) or even as a tacit term.⁶⁵ It may also be implied as a matter of law (*ex lege*) either through common law⁶⁶ or by way of statute⁶⁷.

3.4 WARRANTY AGAINST LATENT DEFECTS

3.4.1 When the classification of the FIDIC⁶⁸, NEC⁶⁹, JBCC⁷⁰ and GCC⁷¹ contracts are considered, the investigation will advance to whether the warranty against latent defects will be implied where it is not specifically provided for. It is worth

⁶³ The Law of Contract in SA, page 522. See also *Nuade v Harrison* 1925 CPD, at 90.

⁶⁴ The Law of Contract in SA, page 218; and Zimmermann, page 696.

⁶⁵ *SS Thekla Bohlen* (1910) 65 Seufferts Archiv, n. 160; Zimmermann, page 696.

⁶⁶ The Law of Contract in SA, page 254.

⁶⁷ See specifically the warranty as to quality of goods provided for in terms of the Consumer Protection Act, 68 of 2008, section 56(1).

⁶⁸ See chapter 4, paragraph 4.3.1.5 of this thesis.

⁶⁹ See chapter 4, paragraph 4.3.3.3 of this thesis.

⁷⁰ See chapter 4, paragraph 4.2.2 of this thesis.

⁷¹ See chapter 4, paragraph 4.2.3 of this thesis.

bearing in mind that this warranty is only one of the *naturalia* that may be implied into a contract.⁷²

3.4.2 The first question that must be considered is what a latent defect is. This of course has to be distinguished from an ordinary defect.⁷³ Corbett JA defined a latent defect in *Holmdene Brickworks (Pty) Ltd v Roberts Construction Co Ltd*⁷⁴ (“Holmdene-case”) as follows:

“Broadly speaking in this context a latent defect may be described as an abnormal quality or attribute which destroys or substantially impairs the utility or effectiveness of the *res vendita* for the purpose for which it was sold or for which it is commonly used.... Such a defect is latent when it is one which is not visible or discoverable upon an inspection of the *res vendita*.”

3.4.3 In this case,⁷⁵ the respondent, a building and engineering contractor, purchased bricks from the appellant, a manufacturer and seller of bricks. The bricks were used to construct some factory buildings for Nestlé (SA). After the completion of the brickwork required for the factory, it was found that a substantial portion of the bricks had begun to crumble and decompose. This resulted in extensive rework being required. Corbett JA accepted⁷⁶ that as a manufacturer, the seller (the appellant) could become liable for consequential damages, but then went on to consider whether the appellant sold goods

⁷² See chapter 2, paragraph 2.3.2 of this thesis.

⁷³ McKenzie, page 213. Kahn, page 139.

⁷⁴ 1977 (3) SA 670 (A), pages 683 and 684.

⁷⁵ 1977 (3) SA 670 (A), at pages 674 and 675.

⁷⁶ 1977 (3) SA 670 (A), at page 683.

containing a latent defect. He accepted this, too. Both counsel in this matter argued that the liability for consequential damages arising from a latent defect in the *res vendita* is founded upon breach of contract.⁷⁷ Corbett JA was not convinced, and commented that it would depend on knowledge of the defect on the part of the appellant; however, the matter was not considered much further as it did not affect the quantum of the liability.⁷⁸

3.4.4 The intent of this thesis is also not to investigate whether liability arising from a latent defect is founded upon breach of contract or if, and under what circumstances, it may be delictual.⁷⁹ That would comprise the second step and may involve a thesis in its own right. This thesis is concerned only with the first step: Whether the warranty exists or not. This thesis will briefly consider the consequences and possible remedies for a breach of a warranty against latent defects: The two aedilician remedies *actio redhibitoria* and the *actio quanti minoris*.⁸⁰

3.4.5 The Holmdene-case case makes it clear that the warranty against latent defects is without a doubt applicable to *emptio venditio*.⁸¹ The warranty provides a remedy to the purchaser of an object against the seller of the object, if the object that was sold subsequently presents with a defect that was not apparent upon reasonable inspection at the time of purchasing the object, and which reduces

⁷⁷ 1977 (3) SA 670 (A), at page 686.

⁷⁸ 1977 (3) SA 670 (A), at page 687.

⁷⁹ Maritz MJ and Gerber SC "Construction works: Defects liability before and after the issuing of the final completion certificate" 2016 (79) THRHR, page 28.

⁸⁰ See *Claston House (Pty) Ltd v INAG (Pty) Ltd* 1977 (2) SA 846 (A), page 849, and *Truman v Leonard* 1994 (4) SA 371 (SE) for good discussions on the two aedilician remedies: *actio redhibitoria* and the *actio quanti minoris*.

⁸¹ In the New Zimmermann an entire chapter is dedicated to the Liability for Latent Defects under the *emptio venditio*, from page 305 onwards.

the object's value.⁸² There is even a presumption against a seller who professes to have expert skill and knowledge when selling an article that he is aware has a latent defect.⁸³

3.4.6 According to Zimmermann,⁸⁴ under modern German law, which follows Roman common law, the test for liability lies in the object being fit for the ordinary purpose for which it was purchased.⁸⁵ However, that opens up another host of investigations as to the liability of the seller. It does not answer the question as to whether this warranty against latent defects extends to any other form of contracting.

3.4.7 Zimmermann⁸⁶ seems to suggest that the warranty against a latent defect may extend to a contract of lease. He mentions, as an example, a case where hired vats have been found to leak, when the hirer sees his wine running out, or where a farmer leases land for cattle to graze on, only to lose most of his herd to poisonous plants. I am not convinced that the warranty against latent defects extends to a contract of lease under South African law. I believe the lessor's remedy falls into classification under a different type of contractual liability. If it were English law, the warranty that the vats would be leak free may have been regarded as being implied as a matter of fact.⁸⁷ As this does not pertain to the construction contract, there is no need to deal with this any further in this thesis.

⁸² New Zimmermann, page 305.

⁸³ *Ciba-Geigy (Pty) Ltd v Lushof Farms (Pty) Ltd en 'n Ander* 2002 (2) SA 447 (SA), page 465 [48]. Maleka "Manufacture, Sell and Be Liable for Latent Defects: *D & H Piping Systems (Pty) Ltd v Trans Hex Group Ltd* (2009) 21 SA Merc LJ 576, page 576.

⁸⁴ New Zimmermann, page 327.

⁸⁵ MJ and Gerber SC "Construction works: Defects liability before and after the issuing of the final completion certificate" 2016 (79) THRHR, page 29.

⁸⁶ New Zimmermann, page 365.

⁸⁷ See chapter 2, paragraph 2.6.4 of this thesis.

3.4.8 Zimmermann then touches on the warranty against latent defects under the topic of a *locatio conductio operis*,⁸⁸ but concludes that even when reference is made to German law, where the courts have attempted to take a practical approach rather than a rigid classification,⁸⁹ the classification of these contracts is problematic. Accordingly, it makes it difficult to establish whether the warranty may be implied into a construction contract, whether it falls within the classification of a *locatio conductio operis* or not.

3.4.9 Hudson⁹⁰ does not even deal with latent defects or any warranty against them. He only deals with defects after completion of the works, for which the construction contracts⁹¹ usually specifically provide.⁹² He comments that the “sophisticated” construction contract will have specific provisions dealing with the employer’s (client’s) taking over of the works, and a specific defined period thereafter wherein the employer may call on the contractor to come back and repair defects that manifest. This is usually termed as the “maintenance, defects liability, correction, or rectification period”.⁹³

3.4.10 At first consideration, it may be questioned whether this period would not also include liability for latent defects.⁹⁴ Latent defects are, however, those defects that are not easily discoverable, and may appear after the acceptance of the

⁸⁸ New Zimmermann, page 395.

⁸⁹ Following the Pandectists’ approach.

⁹⁰ Section 4.

⁹¹ FIDIC and NEC deals with it specifically by way of a “defects liability period”.

⁹² Page 604.

⁹³ Hudson, page 606.

⁹⁴ Adriaanse contends that it does, see page 152.

works and this period.⁹⁵ Hudson,⁹⁶ however, concedes that a provision such as this cannot be presumed to exclude all other remedies for defects. With reference to *H.W. Nevill (Sunblest) Ltd v William Press & Son Ltd*,⁹⁷ which will be persuasive to South African law's interpretation of contracts,⁹⁸ it is concluded that the final certificate (signifying the end of a "maintenance, defects liability, correction or rectification period") only signifies that all work was done in accordance with the requirements of the particular contract. The implication must be that, should a defect arise thereafter, latent or otherwise, the Employer will still have a right to claim damages.

3.4.11 McKenzie⁹⁹ seems to corroborate this conclusion: He refers to the "maintenance, defects liability, correction or rectification period" as, *inter alia*, the "patent defects liability period", thereby making a distinction between the liability for patent defects, and the liability for latent defects. He does, however, concede that it is not clear what the liability of a contractor would be after such a liability period.¹⁰⁰ The cases he cites,¹⁰¹ however, relate to contracts of sale, and not construction. A seller's obligations to deliver the items or thing sold, or manufactured and sold, is dealt with extensively in many cases and articles.¹⁰²

⁹⁵ See Sweet, page 465. See also Herbert Smith "Construction dispute avoidance newsletter" number 35, January 2012.

⁹⁶ Page 604.

⁹⁷ [1981] 20 B.L.R. 78. See also *Hancock v Brazier (Anerley) Ltd* [1966] 2 All E.R. 901.

⁹⁸ Lorenz, page 15.

⁹⁹ Page 195.

¹⁰⁰ Page 196.

¹⁰¹ *Inter alia*: *Holmdene Brickworks (Pty) Ltd v Roberts Construction Co Ltd* 1977 (3) SA 670 (A) (relating to the sale of bricks), and *Langeberg Voesel Bpk v Sarculum Boerdery BPK* 1996 (2) SA 565 (A) (relating to the sale of seeds).

¹⁰² As further examples, *De Vries v Wholesale Cars en 'n Ander* 1986 (2) SA 22 (O), where a latent defect in a car that was sold is the subject of the case; and *Odendaal v Ferraris* 2008 4 All SA 529 (SA) where lack of statutory approval related to a purchase of a residential property was held to be a latent defect.

This is not the case for construction matters.¹⁰³ This underscores the confusion surrounding the application of the warranty against latent defects in these types of contracts.

3.4.12 Loots¹⁰⁴ does not deal with latent defects explicitly, only with defects that are discovered during the equivalent of the liability period mentioned above.

3.4.13 At the very least, if it is established that a contractor is liable for latent defects in a construction contract under English law, the Latent Damage Act¹⁰⁵ limits that liability by prescribing time periods where after such liability will end.¹⁰⁶

3.5 WARRANTY AGAINST LATENT DEFECTS UNDER AN *EMPTIO VENDITIO* AND THE REMEDIES EXPLICIT THERETO

3.5.1 In an *emptio venditio* (contract of sale) one of the obligations of the seller comprises a warranty against latent defects in the object or thing sold:¹⁰⁷ This warranty is part of the *naturalia* of this specific type of contract and accordingly will only be excluded through explicit agreement by the parties thereto (such as through a voetstoets clause).¹⁰⁸

¹⁰³ See for instance Maleka M "Manufacture, Sell and be Liable for Latent Defects: *D & H Piping Systems (Pty) Ltd v Trans Hex Group Ltd*" 21 S.Afr. Mercantile L.J 576 2009.

¹⁰⁴ Page 431.

¹⁰⁵ 1986.

¹⁰⁶ See ICE Pamphlet, "ICE Legal Note Liability for Latent Defects", January 2006.

¹⁰⁷ Nagel 2015, page 226.

¹⁰⁸ *Minister van Landbou-Tegniese Dienste v Scholtz* 1971 (3) SA 188 (A); *Consol Tld t/a Consol Glass v Twee Jonge Gezellen (Pty) Ltd* 202 (6) SA 256 (C).

3.5.2 Where a seller in an *emptio venditio* breaches the warranty given in respect of latent defects (whether it was given expressly or by way of a tacit term) the buyer may turn to the *actio empti* for relief.¹⁰⁹ Under the *actio empti* the buyer may either cancel the contract of sale (where the defect is material) and claim damages or elect to only claim damages from the seller.¹¹⁰

3.5.3 For the sake of completeness, where there is no warranty against latent defects, but a latent defect appears in the object sold, the buyer may turn to the aedilician actions of *actio redhibitoria* and *actio quanti minoris*.¹¹¹ Under the *actio redhibitoria* the buyer will look for restitution. He may only look to this specific aedilician action where he is not able to use the object sold for the intended purpose and where restitution is accordingly justified.¹¹² The intent is to place both parties in the position they were in before the breach of the warranty. Under the *actio quanti minoris* the buyer may ask for a reduction in the purchase price where a latent defect appears in the object sold.¹¹³ The reduction of the purchase price will be calculated by determining the difference between the price paid and the true value of the object taking into consideration the latent defect.¹¹⁴ As such it is in essence a form of specific performance: Money is made available to remedy the defect that exists.

¹⁰⁹ Nagel 2015, page 229.

¹¹⁰ *Minister van Landbou-Tegniese Dienste v Scholtz* 1971 (3) SA 188 (A); *Holmdene Brickworks (Pty) Ltd v Roberts Construction Co Ltd* 1977 (3) SA 670 (A).

¹¹¹ Nagel 2015, page 230.

¹¹² *De Vries v Wholesale Cars en 'n Ander* 1986 (O); *Janse van Rensburg v Grieve Trust* CC 2000 (1) SA 315 (C).

¹¹³ Nagel 2015, page 232.

¹¹⁴ *Phame (Pty) Ltd v Paizes* 1973 (3) SA 397 (A).

4. SPECIFIC CONTRACTS

4.1 INTRODUCTION AND BACKGROUND

4.2 SOUTH AFRICAN STANDARD FORMS OF CONTRACT

4.3 INTERNATIONAL STANDARD FORMS OF CONTRACT

4.4 WARRANTY AGAINST LATENT DEFECTS IN THE FIDIC SILVER BOOK, YELLOW BOOK AND RED BOOK

4.5 WARRANTY AGAINST LATENT DEFECTS IN THE NEC ECC BOOK

4.6 CONCLUSION

4.1 INTRODUCTION AND BACKGROUND

4.1.1 The Construction Industry Development Board of South Africa (CIDB)¹ published its recommendations of standard form contracts, which it suggests be used in the building, construction and engineering industry. These recommendations serve merely to guide the private sector but are binding on state owned companies.²

4.1.2 The CIDB recommends one of the following standard forms of contract be used:

¹ The Construction Industry Development Board (CIDB) is a national body established by an Act of Parliament (Act 38 of 2000).

² See www.cidb.org.za/procurement/Pages/Construction-Contracts.aspx (last accessed on 30 September 2018).

- (a) The standard forms of contract published by the *Fédération Internationale des Ingénieurs-Conseils* (FIDIC).³
- (b) The standard forms of contract developed and published by the Institution of Civil Engineers (ICE) and known as the NEC suite.⁴
- (c) The standard forms of contract published by the Joint Building Contracts Committee (JBCC).⁵
- (d) The General Conditions of Contract for Construction Works (GCC) published by the South African Institution of Civil Engineering (SAICE).⁶

4.1.3 All of these contracts, albeit some more than others, are now widely used in South Africa, and in Africa, in the private sector as well as the public sector. Even though the CIDB's recommendations are not binding on the private sector, the private sector recognises the sensibleness of the CIDB's recommendations, and consequently mainly uses the standard forms of contracts.⁷ Sensible though the choice may be, the quantity of work flowing from state owned enterprises to the private sector has seen the private sector become exposed to these standard form contracts in the course of the execution of these projects. FIDIC and NEC remain some of the most popular

³ See chapter 4, paragraph 4.3.1 of this thesis.

⁴ See chapter 4, paragraph 4.3.2 of this thesis.

⁵ See chapter 4, paragraph 4.2.2 of this thesis.

⁶ See chapter 4, paragraph 4.2.3 of this thesis.

⁷ Law firms professing to specialise in this industry specifically note that their expertise includes FIDIC, NEC, JBCC and GCC. See as an example Markram Inc Attorneys, under their Construction Law topic, at www.markraminc.co.za (last accessed on 30 September 2018).

forms for large scale projects,⁸ and many consulting and training firms offer extensive courses on their use and application.⁹

4.1.4 This research will be limited to the national publications of JBCC and GCC, and the internationally published FIDIC suite of contracts and NEC suite of contracts.

4.2 SOUTH AFRICAN STANDARD FORMS OF CONTRACT

4.2.1 Introduction and background

With this thesis's investigation focussing specifically on whether the common law warranty against latent defects may be implied into the construction and engineering contracts, specifically in South Africa, it is necessary to look into the South African publications of construction contracts first. As aforesaid, two such national publications recommended by the CIDB are particularly relevant and will be investigated herein:

(a) The standard forms of contract published by the Joint Building Contracts Committee (JBCC).

⁸ FIDIC, for instance, has been primarily used by Eskom for the execution of their two new, massive power station projects (Medup and Kusile).

⁹ Consulting firms such as Binnington Copeland and Associates (now part of Hill International Inc.), and MDA Consulting offer extensive courses covering the different forms of construction and engineering contracts on a regular basis. See www.bca.co.za and www.mdaconsulting.co.za respectively for more information in this regard (last accessed respectively 01 March 2017 and 30 September 2018).

(b) The General Conditions of Contract for Construction Works (GCC) published by the South African Institution of Civil Engineering (SAICE).

4.2.2 JBCC

In the twentieth century, with many professionals practising in South Africa receiving their training in England, the industry turned to the publications of the Royal Institute of British Architects (RIBA) to contract on.¹⁰ The Institute of South African Architects¹¹ and the National Federation of Building Trade Employers¹² prepared a building agreement for South Africa based on the 1931 publication of RIBA, with the last amendment thereof published in 1981.¹³ Representatives of the Association of South African Quantity Surveyors, the Building Industries Federation of South Africa, the South African Association of Consulting Engineers, the South African Institute of Architects, the South African Property Owners' Association and the Specialist Engineering Contractors Committee, with an observer from the Department of Public Works, established a new committee in 1984 entitled the Joint Building Contracts Committee: The JBCC.¹⁴

The JBCC published the first edition of its Principal Building Agreement with its associated contractual documents in 1991,¹⁵ and in 1997 the JBCC registered

¹⁰ Finsen, page 41.

¹¹ Today the South African Institute of Architects.

¹² Today the Master Builders South Africa.

¹³ Finsen, page 42.

¹⁴ Finsen, page 42.

¹⁵ Finsen, Preface, and page 42.

as a non-profit company.¹⁶ In an attempt to keep the contractual documents current and to keep up with the ever changing circumstances within the construction and engineering industry,¹⁷ there has since been various updates and changes to these contractual documents, with the latest published in March of 2014.¹⁸ The CIDB has approved all of the contractual documents so published by the JBCC for use by national, provincial and local authorities in South Africa.¹⁹

The latest JBCC suite comprises the Principal Building Agreement,²⁰ and the Minor Works Agreement.²¹ These documents include and provide for provisions and documents relating to price adjustment, payment guarantees, and the relevant certificates. The JBCC Minor Works Agreement is less extensive than the JBCC Principal Building Agreement in that it does not contain provisions such as those relating to nominated or selected subcontractors, adjustment of the contract amount, etc., and accordingly, is intended for lower risk and less complex projects.²²

With this thesis's investigation focusing on only one possible implied term (whether the common law warranty against latent defects may be implied into the construction and engineering contracts specifically in South Africa), it is not necessary to deal in detail with the specific clauses that may see the JBCC

¹⁶ www.jbcc.co.za (last accessed 30 September 2018).

¹⁷ Finsen, Preface.

¹⁸ Edition 6.1.

¹⁹ www.jbcc.co.za (last accessed 30 September 2018).

²⁰ The Joint Building Contracts Committee *Principal Building Agreement*, Edition 6.1, March 2014.

²¹ The Joint Building Contracts Committee *Minor Works Agreement*, Edition 5.1, March 2014.

²² Finsen, page 240.

Principal Building Agreement and JBCC Minor Works Agreement move away from the classification of *locatio conductio operis*. It appears that JBCC recognised that the warranty against latent defects may not necessarily be implied into the engineering and construction contracts. In both forms of contract JBCC deals with it explicitly.²³ I say “may” as it could also be argued that such a warranty against latent defects does indeed exist as an implied term and that JBCC’s explicit reference thereto merely supports the contention that the warranty against latent defects should be implied into construction contracts as a matter of *naturalia*. Nevertheless, and as will be discussed in more detail below, this explicit reference to the warranty against latent defects is lacking in the internationally published standard forms of contract.²⁴

The JBCC Principal Building Agreement²⁵ as well as the JBCC Minor Works Agreement²⁶ defines “Defect” and “Latent Defect” separately thereby clearly making a distinction between the two concepts. Defect is defined the same in the JBCC Principal Building Agreement as well as the JBCC Minor Works Agreement, simply as “Any aspect of materials and workmanship forming part of the **works** that does not conform to the **contract documents**”.²⁷ The words in bold are defined terms.²⁸

²³ MJ and Gerber SC “Construction works: Defects liability before and after the issuing of the final completion certificate” 2016 (79) THRHR, page 37.

²⁴ Paragraphs 4.4 and 4.5 below.

²⁵ The Joint Building Contracts Committee *Principal Building Agreement*, Edition 6.1, March 2014.

²⁶ The Joint Building Contracts Committee *Minor Works Agreement*, Edition 5.1, March 2014.

²⁷ The Joint Building Contracts Committee *Principal Building Agreement*, Edition 6.1, March 2014, page 4, and the Joint Building Contracts Committee *Minor Works Agreement*, Edition 5.1, March 2014, page 4.

²⁸ Clause 1.1 in the JBCC Principal Building Agreement (Annex 139), as well as in the JBCC Minor Works Agreement (Annex 140).

Latent Defect is defined in the JBCC Principal Building Agreement as “A **defect** that a reasonable inspection of the **works** by the **principal agent** and/or **agents** would not have revealed”.²⁹ In the JBCC Minor Works Agreement, Latent Defect is defined as “A **defect** that a reasonable inspection of the **works** by the **principal agent** would not have revealed”.³⁰

The JBCC Principal Building Agreement expressly deals with latent defects. In clause 22 it provides that –

“22.1 The latent defects liability period for the **works** shall commence at the start of the construction period and end five (5) years from the certified date of **final completion**.

22.2 Where termination of this **agreement** occurs before the date of **final completion**, the latent defects liability period shall end:

22.2.1 Five (5) years from the date of termination
[29.10] for the completed portion of the **works**
only
Or ...

22.2.2 On the date of termination where execution of the **works** has become impossible due to circumstances beyond the control of either **party** [29.20], or on the date of termination by

²⁹ The Joint Building Contracts Committee *Principal Building Agreement*, Edition 6.1, March 2014, page 5.

³⁰ The Joint Building Contracts Committee *Minor Works Agreement*, Edition 5.1, March 2014, page 5.

the contractor due to default by the **employer**

[29.16]

22.3 The contractor shall make good all latent defects that appear up to the date of expiry of the **latent defects** liability period [32]”.³¹

The JBCC Minor Works Agreement also expressly deals with latent defects. In clause 16.8 it provides that –

“The **contractor** shall make good all **latent defects** that appear up to the date of expiry of the latent **defects** liability period [3.2].”³²

Accordingly, there is no need to consider whether the warranty against latent defects will be implied into these contract documents or not. It is explicitly dealt with. In both the JBCC Principal Building Agreement and the JBCC Minor Works Agreement the Contractor is obliged to rectify latent defects that appear during a defined period of time. In the case of the JBCC Principal Building Agreement this period is 5 years,³³ and in the case of the JBCC Minor Works Agreement, this period will be specified in a separate document forming part of the contract, entitled the contract data.³⁴ In the contract data other information

³¹ The Joint Building Contracts Committee *Principal Building Agreement*, Edition 6.1, March 2014, page 20.

³² The Joint Building Contracts Committee *Minor Works Agreement*, Edition 5.1, March 2014, page 14.

³³ The Joint Building Contracts Committee *Principal Building Agreement*, Edition 6.1, March 2014, page 20.

³⁴ The Joint Building Contracts Committee *Minor Works Agreement*, Edition 5.1, March 2014, page 14.

that is agreement specific, such as the project's name, the site's description, the Employer's name, etc., will be completed and specified.³⁵

4.2.3 GCC

Interestingly, as with FIDIC³⁶ and NEC,³⁷ the General Conditions of Contract for Construction Works (GCC) that is published by the South African Institution of Civil Engineering³⁸ has attracted a colour as a nickname: It is commonly referred to as the "Blue Book".³⁹ It has been in use for over 45 years,⁴⁰ and the latest edition was published in 2015.⁴¹

As with the other South African standard form contract (JBCC),⁴² GCC also appears to recognise that the warranty against latent defects may not be implied into this standard form contract.⁴³ As with JBCC,⁴⁴ and with this thesis's investigation focusses on only one possible implied term (whether the common law warranty against latent defects may be implied into the construction and engineering contracts, specifically in South Africa), and accordingly it is not necessary to deal in detail with the specific clauses that may see the GCC Blue

³⁵ See the definition of contract data in the Joint Building Contracts Committee *Minor Works Agreement*, Edition 5.1, March 2014, page 4: It is defined as "The document listing the contract variables".

³⁶ See chapter 4, paragraph 4.3.1 of this thesis.

³⁷ See chapter 4, paragraph 4.3.2 of this thesis.

³⁸ Commonly referred to as the SAICE.

³⁹ Forward to the *Guide to the General Conditions of Contract 2015 2nd Edition* (2015) The South African Institution of Civil.

⁴⁰ Forward to the *Guide to the General Conditions of Contract 2015 2nd Edition* (2015) The South African Institution of Civil.

⁴¹ *General Conditions of Contract for Construction Works 3rd Edition* (2015) The South African Institution of Civil Engineering.

⁴² See chapter 4, paragraph 4.2.2 of this thesis.

⁴³ As with JBCC, my comment "may" is qualified: See paragraph 4.2.2 above.

⁴⁴ See chapter 4, paragraph 4.3.2 of this thesis.

Book move away from the classification of *locatio conductio operis*. The GCC Blue Book also deals with latent defects explicitly.⁴⁵

In Clause 5.16.3 it is stated that –

“The Contractor’s liability for any latent defects shall continue beyond the date of the Final Approval Certificate but the Employer shall have no claim against the Contractor arising out of any latent defects which first manifests itself later than the period, stated in the Contract Data, after the issue of the Final Approval Certificate in terms of this Clause.”⁴⁶

GCC, through the introduction of this clause, makes provision for a defects liability period specifically for latent defects: Should a latent defect become apparent during this period, the Contractor may be liable to correct it.⁴⁷

4.3 INTERNATIONAL STANDARD FORMS OF CONTRACT

4.3.1 FIDIC standard forms of contracts

The Fédération Internationale des Ingénierus-Conseils (“FIDIC”) is an international federation of national member associations of consulting engineers, founded in Europe emerging from research conducted by

⁴⁵ MJ and Gerber SC “Construction works: Defects liability before and after the issuing of the final completion certificate” 2016 (79) THRHR, page 38.

⁴⁶ Page 35.

⁴⁷ See *Guide to the General Conditions of Contract 2015* 2nd Edition (2015), page 86.

independent expert consultants for the World Fair Exhibitions in 1913, currently based in the World Trade Centre II in Geneva.⁴⁸

FIDIC contracts are used throughout the world, especially on international projects, recognised by international institutions such as the World Bank and the International Monetary Fund.⁴⁹ As one of the forms of contracts the Construction Industry Development Board recommends, and prescribes in the case of state entities,⁵⁰ the FIDIC suite of contracts is particularly relevant to this thesis, especially since this suite of contracts is used so commonly in the construction and engineering industry in South Africa⁵¹ and abroad.⁵²

This thesis' investigation will focus will be on whether the construction contract falls to be classified as part of the *locatio conductio*, and then on whether the common law warranty against latent defects may be implied into the construction contracts, specifically in South Africa, but with reference to English law and German law, which may be persuasive to the South African courts.⁵³

⁴⁸ <http://www.fidic.org> (accessed on 01 March 2017).

⁴⁹ Pickavance, page 167. Czech, page 172. Köksal JT *FIDIC Conditions of Contract as a Model for an International Construction Contract*, International Journal of Humanities and Social Science, Vol 1, No. 8; July 2011, at page 140.

⁵⁰ See chapter 4, paragraphs 4.1.1 and 4.1.2 of this thesis.

⁵¹ Many of the contracts let on Eskom's new Kusile and Medupi Power Stations are based on one of the FIDIC standard form contracts.

⁵² The cover pages to the books forming the FIDIC suite states that FIDIC covers over 70 countries in the world. Shnookal T and Charrett D "Standard Form Contracting: The Role for FIDIC Contracts Domestically and Internationally" Society of Construction Law Conference 2010, Melbourne TEC Chambers, page 1/30.

⁵³ Lorenz, page 15.

FIDIC is well known throughout the construction industry worldwide for the standard conditions of contract it publishes.⁵⁴ It caters for a variety of different arrangements for different construction and engineering projects. Many different forms of contract have been published in the years since FIDIC's inception.⁵⁵ The federation has taken account of comments and reviews of drafts it has published, and drafts circulated that it intended to publish, drawing from the expertise and experiences of practitioners in the field of construction contracts throughout the world.⁵⁶

In 1999 FIDIC published its "rainbow suite" of standard form documents, consisting of the following:

- (a) Conditions of Contract for Design Build and Operate Project, First Edition (2008): Commonly referred to as the "FIDIC Gold Book".
- (b) Short Form of Contract, First Edition (1999): Commonly referred to as the "FIDIC Green Book".⁵⁷
- (c) Client/Consultant Model Services Agreement, Fourth Edition (2006): Commonly referred to as the "FIDIC White Book".

⁵⁴ Köksal JT *FIDIC Conditions of Contract as a Model for an International Construction Contract*, International Journal of Humanities and Social Science, Vol 1, No. 8; July 2011, at page 140.

⁵⁵ Czech, page 173.

⁵⁶ For examples of acknowledgements in this regard see the Acknowledgements page in any one of the FIDIC 1999 suites of standard forms of contract, where reference is made to the Contracts Committee, and the persons and organisations who reviewed and commented on the then-existing published FIDIC contracts, and the drafts that were circulated for such reviews and comments.

⁵⁷ Köksal JT *FIDIC Conditions of Contract as a Model for an International Construction Contract*, International Journal of Humanities and Social Science, Vol 1, No. 8; July 2011, at page 141.

(d) Conditions of Contract for EPC/Turnkey Projects, First Edition (1999):
Commonly referred to as the “FIDIC Silver Book”.⁵⁸

(e) Conditions of Contract for Plant and Design Build for Electrical and
Mechanical Plant, and for Building and Engineering Works, designed by the
Contractor, First Edition (1999): Commonly referred to as the “FIDIC Yellow
Book”.⁵⁹

(f) Conditions of Contract for Construction, for Building and Engineering Works
designed by the Employer, First Edition (1999): Commonly referred to as
the “FIDIC Red Book”.⁶⁰

A thorough investigation and discussion of each of these published books falls
outside of the scope and purpose of this thesis.⁶¹ The focus of the research
will be on the latter three of the books listed above: The FIDIC Silver Book, the
FIDIC Yellow Book, and the FIDIC Red Book.⁶²

This chapter will first consider the classification of each of each of these three
published FIDIC books, and then turn to the existence and relevance of the
warranty against latent defects, if any, that may be applicable.

⁵⁸ Köksal JT *FIDIC Conditions of Contract as a Model for an International Construction Contract*, International Journal of Humanities and Social Science, Vol 1, No. 8; July 2011, at page 141.

⁵⁹ Köksal JT *FIDIC Conditions of Contract as a Model for an International Construction Contract*, International Journal of Humanities and Social Science, Vol 1, No. 8; July 2011, at page 141.

⁶⁰ Köksal JT *FIDIC Conditions of Contract as a Model for an International Construction Contract*, International Journal of Humanities and Social Science, Vol 1, No. 8; July 2011, at page 141.

⁶¹ It will unnecessarily tax this thesis only in volume without achieving any more clarity on the subject.

⁶² In this chapter of the thesis, these books will be referred to simply as the Silver Book, Yellow Book, and Red Book respectively.

Not one of the books in the FIDIC suite of contracts contains an express provision dealing with the warranty against latent defects. This investigation will thus centre on whether such a warranty exists by way of common law and whether it may be implied into the contract.

In July 2017 FIDIC published a new edition of the White Book, and in December 2017 new editions of the Red Book, Yellow Book and Silver Book, now referred to as the 2nd Edition. These new publications have not yet been adequately tested in the industry, and accordingly will not be considered in this thesis. What is of relevance, however, is that, as with the previous editions, none of these contracts contain an express provision dealing with the warranty against latent defects.

4.3.1.1 Basic terms referenced in the FIDIC Books

It is necessary to understand some of the basic terms used by the FIDIC books so as to explain the intent of each of the books. Most of the FIDIC books are consistent in their use of these defined terms, even maintaining similar clause references for terms that appear in most of the different books. The consistent use of definitions appears mostly in the FIDIC Gold Book, the FIDIC Green Book, the Silver Book, the Yellow Book, and the Red Book. Slightly different terminology and definitions are used in the FIDIC White Book, consistent with the different purpose of this book.⁶³

⁶³ The FIDIC White Book relates to the rendering of services, usually professional services, such as those rendered by consulting engineers or designers.

If the terms are capitalised when defined in these books, they will also be capitalised when referenced in this thesis.

(a) The parties to the contract

The parties to the contract are defined as the “Employer”⁶⁴ and “Contractor”⁶⁵ respectively. The Employer is the client engaging with a Contractor to execute the work he requires to be completed on his behalf, be it to construct (and possibly design) a building, a plant or otherwise. The Contractor is usually the successful tenderer who has bid on the Employer’s invitation to tender, and who ultimately executes the work required by the Employer, against payment.

A further role player in these contracts, who is not a party thereto, is the “Engineer”.⁶⁶ Essentially, and even though he is expected to be an independent and fair decision maker,⁶⁷ the Engineer acts as the Employer’s agent,⁶⁸ with specific functions allocated to him in the contract,⁶⁹ thereby making it clear to the parties of the contract what the extent of the Engineer’s agency is.

⁶⁴ Defined in Sub-Clause 1.1.2.2 of the Silver Book (Annex 22), the Red Book (Annex 23), and the Yellow Book (Annex 24).

⁶⁵ Defined Sub-Clause 1.1.2.3 of the Silver Book (Annex 25), the Red Book (Annex 26), and the Yellow Book (Annex 27).

⁶⁶ Defined Sub-Clause 1.1.2.4 of the Red Book (Annex 28), and the Yellow Book (Annex 29).

⁶⁷ Jaeger and Hök, page 104.

⁶⁸ Boxall T, Hutchison A, Wright M “NEC3ECC clause 10.1: An enforceable contractual duty of trust and co-operation in the construction industry?” 2017 Stell LR 97, page 99.

⁶⁹ The Engineer’s duties and authority is dealt with in Sub-Clause 3.1 of the Yellow Book (Annex 30) as well as the Red Book (Annex 31).

The term “Engineer” may in some instances cause confusion as to the qualification and function of the person, or entity, acting as the Engineer. The Engineer does not have to be a professional engineer or an engineering firm: No engineering background is necessary to act as the Engineer, and no engineering responsibilities are assigned to this role player. He is simply the Employer’s representative and agent in the execution of the contract.⁷⁰ However, in the FIDIC Red Book,⁷¹ the Engineer may do the design, in which instance the description is more relevant.

In other forms of contracting (such as the NEC or JBCC), the Employer’s representative acting in a capacity similar to the Engineer in FIDIC has a less ambiguous description, such as the “project manager”⁷² or “principal agent”⁷³.

(b) Work to be executed under the contract

The work that the Employer has engaged the Contractor to execute on his behalf, be it to construct (and possibly also design) a building, a plant or otherwise, is defined as the “Works”.⁷⁴ The Works are then divided into what is defined as “Permanent Works”⁷⁵ and “Temporary Works”.⁷⁶ As the definitions imply, the Permanent Works are those works that the Employer ultimately

⁷⁰ Boxall T, Hutchison A, Wright M “NEC3ECC clause 10.1: An enforceable contractual duty of trust and co-operation in the construction industry?” 2017 Stell LR 97, page 99.

⁷¹ See chapter 5, paragraph 4.3.1.2(c) of this thesis.

⁷² Equivalent of the Engineer in the NEC form of contract.

⁷³ Equivalent of the Engineer in the JBCC form of contract.

⁷⁴ Defined Sub-Clause 1.1.5.8 of the Silver Book (Annex 32), the Red Book (Annex 33), and the Yellow Book (Annex 34).

⁷⁵ Defined Sub-Clause 1.1.5.4 of the Silver Book (Annex 35), the Red Book (Annex 36), and the Yellow Book (Annex 37).

⁷⁶ Defined Sub-Clause 1.1.5.7 of the Silver Book (Annex 38), the Red Book (Annex 39), and the Yellow Book (Annex 40).

requires as his end product. The Temporary Works on the other hand, are those works that the Contractor must execute to produce the end product, but which may not necessarily remain as part of the end product.

(c) Compensation for the Works to be executed

There are two definitions relevant to establishing what compensation is payable by the Employer to the Contractor:⁷⁷ “Accepted Contract Amount”⁷⁸ and “Contract Price”⁷⁹.

The Accepted Contract Amount is the total amount the Contractor and Employer agree is due to the Contractor for the execution of the Works, as described in the relevant contract. That takes into account everything known at the time of contracting, on the specifications provided then. In a perfect world, where no unknown events occur and where the parties have provided for all eventualities, this amount would be the total price payable to the Contractor for the execution of the Works.

However, these contracts acknowledge that it is necessary to make provision for eventualities, which may not be foreseen at the time of contracting: Unexpected ground conditions may be encountered, the Employer may require certain changes that could improve the performance of the Works, etc.

⁷⁷ These two definitions are used in the Red Book, and the Yellow Book. Because of the difference in risk profile in the Silver Book, the Silver Book only uses the definition for “Contract Price”.

⁷⁸ Defined Sub-Clause 1.1.4.1 of the Silver Book (Annex 41), Red Book (Annex 42), and the Yellow Book (Annex 43).

⁷⁹ Defined Sub-Clause 1.1.4.2 of the Silver Book (Annex 44), the Red Book (Annex 45), and the Yellow Book (Annex 46).

Resultantly, a further definition arises: The Employer will ultimately pay the Contractor the Contract Price for the Works he executes. This comprises the total monies paid to the Contractor at the end of the Project, taking account of all changes (variations) that may have come about, as well as any and all claims the Contractor may have had.

4.3.1.2 An overview of uses intended for the FIDIC Silver Book, Yellow Book, and Red Book

(a) The Silver Book

The Silver Book was drafted to cater for a market where the Employer seeks greater certainty regarding the price he is ultimately going to pay (the price is more certain and consequently described as a “lump sum” pricing scenario), and where the Contractor carries most, if not all of the risk.⁸⁰ The Employer provides the Contractor with the requirements of what the end product must be, or what must be produced, and the Contractor agrees to a specified price for doing so. Because the Contractor takes all the risk, the prudent contractor will always build in a margin for risk under this contracting philosophy. The Contractor is required to do all that is necessary to meet the Employer’s requirements: He will not only execute the Works, but also be responsible for its design.

⁸⁰ See Pickavance, page 168.

In this contracting philosophy, the Employer has very little involvement while the Contractor executes the Works. For this reason, the Employer does not have an active participant representing him by way of the Engineer.⁸¹

The project is described as a “turnkey project”.⁸² Essentially the Employer requires that the Contractor executes a well-specified project (the Employer’s requirements should be clear and well defined), steps back while the Contractor does the work accordingly, and at the end of the day accepts the “key” from the Contractor, which he turns to gain access to and start his plant.

The NEC suite of contracts, focussing on what may be considered a more “fair” risk allocation, does not have an equivalent for this FIDIC book, where most of the risks are allocated to the Contractor. Accordingly, no comparison will be drawn with any one of the NEC ECC Options to the Silver Book. However, the Silver Book remains relevant to this research where, with the Employer essentially paying for the end result rather than the labour to achieve it, it becomes questionable whether this contract falls into the classification of *locatio conductio*.⁸³

(b) The Yellow Book

The Yellow Book is used where the Contractor is responsible for the design, as well as the execution of the Works: A design and build scenario.⁸⁴ The

⁸¹ See Van Dyk “What’s in a name? EPC vs EPCM” (December 2013) Without Prejudice, page 38.

⁸² See Huse, chapter 2.

⁸³ As it is commonly accepted to be: See chapter 2, paragraph 2.4 of this thesis.

⁸⁴ See Murdoch, chapter 4, pages 46 to 62; and Pickavance, page 168.

Employer has active representation by way of the Engineer, who may instruct the Contractor in various instances.⁸⁵

Although the Contractor is required to produce the design for the Works, the contract allows the Employer to change the requirements of the contract while the Works are being executed. However, if the Employer elects to make such changes, he may encounter cost implications, as the Contractor is granted the ability to claim for the costs consequential of any such changes. For this reason, the Contract provides for a more flexible payment mechanism than that of the Silver Book: The Works the Contractor executes may be measured (by the Engineer) at specified instances (usually monthly), against specified rates and prices for specified items, and the Contractor is paid accordingly.⁸⁶

The less changes the Employer requires, the closer the price he pays at the end of the Project (the Contract Price)⁸⁷ will be to that the Contractor agreed to at its commencement (the Accepted Contract Amount)⁸⁸.

The Yellow Book also allows for works to be paid against a Schedule of Payment,⁸⁹ akin to the activity schedule of the NEC ECC Option A.⁹⁰ This may be done either as the sole method of payment, or specific to a part of the Works, allowing some flexibility as to the contracting method in respect of payment.⁹¹

⁸⁵ The Engineer's duties and authority is dealt with in Sub-Clause 3.1 of the Yellow Book (Annex 30).

⁸⁶ Clause 14 (Annex 47) of the contract sets out the payment method.

⁸⁷ Sub-Clause 1.1.4.2 (Annex 46) defines Contract Price.

⁸⁸ Sub-Clause 1.1.4.1 (Annex 43) defines the Accepted Contract Amount.

⁸⁹ Sub-Clause 14.4 (Annex 47).

⁹⁰ See chapter 4, paragraph 4.3.2.1 of this thesis.

⁹¹ See Sub-Clause 14.1 (Annex 47) where reference is made to the "lump sum Accepted Contract Amount", but provision is made for quantities to be set out in a schedule and are not taken to be the actual and correct quantities (implying it may be re-measured).

(c) The Red Book

Under the Red Book the Employer is responsible for the design (be it producing it “in house”, or obtaining it from an outside design firm), which he provides to the Contractor and the Contractor executes the Works accordingly.⁹²

The design may be provided to the Contractor up front, before the Contractor commences with the execution of the Works, or at intervals while the Contractor is busy executing the Works. This allows the Employer great flexibility.

The Employer’s agent (the Engineer) has extensive involvement here too,⁹³ and may issue instructions to the Contractor on behalf of the Employer.

Payment to the Contractor is on a re-measurable basis:⁹⁴ The Engineer measures the progress of the Works executed by the Contractor at specified intervals (usually monthly), and the Employer pays the Contractor that which the Engineer certifies as due. The Contractor usually provides a price to the Employer through his tender. This is in the form of pricing a bill with specific items and quantities, which will have been produced by the Employer regarding the design information he has on hand at that time. This is commonly referred to as a “bill of quantities” (“BOQ”).

⁹² See Murdoch, page 32; and Pickavance, page 167.

⁹³ The Engineer’s duties and authority is set out in Sub-Clause 3.1 (Annex 31) of the Red Book.

⁹⁴ Clause 12 (Annex 48) of the Contract sets out the method of how measurement will be conducted, and Clause 14 (Annex 49) deals with Payment.

4.3.1.3 Classification of the FIDIC Silver Book, Yellow Book, and Red Book

At the outset, three things will be considered under each of these contracting philosophies. This will not necessarily be in a specific order, as there may be some overlap. The first consideration is the purpose for which the Employer engages with the Contractor. The second is the price and payment terms under each of the contracts. The third is the extent of the Employer's involvement while the Contractor executes the Works.

Some nominate provisions must also be considered throughout this investigation, and in conclusion, each Book will be considered under the classification of *locatio conductio*, and finally the *emptio venditio*.⁹⁵

The reason for investigating these specific three issues relates to Zimmermann's conclusion that the construction contract falls to the classification of a *locatio conductio*, the South African courts' acceptance thereof,⁹⁶ and what Zimmermann regards as the decisive features of the *locatio conductio operis*.⁹⁷

Although this thesis considers the position of German law and English law over and above South African law, the primary purpose of the thesis is to establish what the South African position is. The German law and English law positions

⁹⁵ A contract of sale.

⁹⁶ See for instance *BK Tooling (Edms) Bpk v Scope Precision Engineering (Edms) Bpk* 1979 (1) SA 391 (A), as well as *SIFRIS en 'n Ander, NNO v Vermeulen Broers* 1974 (2) SA 218 (T).

⁹⁷ New Zimmermann, page 394.

are therefore considered insofar as they may have relevance to the South African position.

(a) The Silver Book

The Silver Book houses the contracting philosophy often described as a "turn key" contracting arrangement, in that it involves very little involvement by the Employer during the time that the Contractor is executing the Works. Without repetitively iterating what has been described above, this summarily denotes that the Employer accepts the "key" at the conclusion of the project, which he then symbolically turns in order to start the plant.

This lack of participation on the part of the Employer is emphasised by there being no Engineer to represent the Employer during the execution of the Works, as there is in the Yellow Book⁹⁸ and in the Red Book. The Contractor is required to design and complete the Works so that it is ultimately fit for the purpose for which the Employer requires it, and intends to use it.⁹⁹ The Contractor is further required to do any work that is necessary or even implied – even if that work is not mentioned in the Contract – to complete the Works and ensure that it operates properly.¹⁰⁰ Emphasising the requirement to produce a result where the Employer, when taking over, simply turns the key to begin using that which has been produced.

⁹⁸ See Clause 3 (The Engineer) in both the Yellow Book (Annex 50) and the Red Book (Annex 51).

⁹⁹ See Sub-Clause 4.1 (Contractor's Obligations) of the Silver Book (Annex 52).

¹⁰⁰ See Sub-Clause 4.1 (Contractor's General Obligations) of the Silver Book (Annex 52).

The price in this contract is much more certain than under the other contracting forms,¹⁰¹ the philosophy being that of a lump sum contract.¹⁰² The result is accordingly that the Employer pays for the end product, rather than for the services or labour to achieve that end product. The description in the contract is what the Employer seeks to achieve, and the Contractor is obliged to do all that is necessary to achieve that purpose, even if the exact specifications are not provided for in the Contract.¹⁰³

This is not only so because of the lump sum price. A lump sum price could simply be an allocation of risk: The Contractor agrees that for a price (which could be described as a contingency)¹⁰⁴ he will execute the Works and all that is necessary to achieve the purpose the Employer requires. He accepts the risk that he may need to do more than what is explicitly provided for in the contract.

For a moment setting aside the lump sum contract price, we realise that the Employer pays for a finished product, as opposed to the execution of labour or services. This is evident in the clear obligation on the Contractor to design, execute and complete the Works, even that which may be implied to be necessary and not explicitly provided for in the scope of the contract, so as to ensure that the Works are fit for the purpose for which the Employer intends it.

¹⁰¹ Where works are measured, for instance under Clause 14 of the Red Book (Annex 49).

¹⁰² See Sub-Clause 14.1 (The Contract Price) of the Silver Book (Annex 53).

¹⁰³ See Sub-Clause 4.1 [Contractor's General Obligations] (Annex 52).

¹⁰⁴ In other words, providing for the risk the Contractor is taking. See Murdoch, page 9 regarding risk and price.

The scarce involvement of the Employer whilst the Contractor executes the Works as such further supports this contention.

The question then becomes whether, under this philosophy, the Silver Book may be classified as a *locatio conductio*, *emptio venditio* or otherwise.

If we do not consider a division of construction contracts the way that Roman Dutch law does, we mimic the way the South African courts investigate the matter.¹⁰⁵ This lends itself to the conclusion that this contract could be classified as falling within the ambit of the *emptio venditio* (a contract of sale)¹⁰⁶ rather than the *locatio conductio*. The reason for this inference is that the Employer essentially pays for the finished product (the article) rather than the labour to achieve the finished product. Furthermore, for the most part, and apart from a provision that the Employer may freely issue some materials, the Contractor will provide all that is required to complete the Works. This of course does not fall outside of what the *locatio conductio* envisages: To perform or execute a piece of work, with the promise to produce a certain specified result.¹⁰⁷

However, Zimmermann¹⁰⁸ explains that a decisive feature of the *locatio conductio operis* is that the customer (or the Employer under these contracts) was not interested in the service or the labour, or who performed it (in other words the Contractor himself, or another entity or person who the Contractor

¹⁰⁵ Van Deventer, page 71.

¹⁰⁶ See Sharrock's comment on this point, page 360. See also New Sharrock, page 365.

¹⁰⁷ See chapter 2, paragraph 2.2 of this thesis.

¹⁰⁸ New Zimmermann, page 394.

may have engaged). The Employer would only be interested in the result – not how it was achieved. Thus, the Contractor would not be required to take instruction or direction from the Employer. When these characteristics are compared to what the Silver Book envisages, it becomes uncertain whether the *locatio conductio* is the correct fit.

The first deviation from these decisive features is the Employer's clear right under the Silver Book to issue instructions to the Contractor.¹⁰⁹ These instructions may even depart from what the Contractor and Employer agreed to; they may alter the Works.¹¹⁰

The Contractor is required to abide by such instructions unless it will adversely affect safety, or adversely affect the achievement of the performance of the Works that the Contractor guaranteed. Thus, the Contractor is bound to obey instructions regarding the manner in which work from the Employer must be carried out, moving away from the principles of the *locatio conductio operis*.¹¹¹

Sub-Clause 4.4¹¹² of the Silver Book deals with Subcontractors.¹¹³ This clause requires, *inter alia*, that the Contractor provide detailed particulars to the Employer of the Subcontractor the Contractor intends using 28 days before the intended appointment of that Subcontractor. This of course allows the Employer to consider the intended Subcontractor well before he is appointed

¹⁰⁹ See Sub-Clause 3.4 (Instructions) (Annex 54).

¹¹⁰ See Clause 13 (Variations) (Annex 55).

¹¹¹ Zimmermann, page 394.

¹¹² Annex 3.

¹¹³ Annex 3.

and gives him an opportunity to raise an objection (although there is no formal provision in the Contract through which such an objection should be raised).¹¹⁴

The Employer may even instruct the Contractor not to use that Subcontractor should the Employer so choose. This provides the Employer with clear control over who executes the work the Contractor is contracted to do.¹¹⁵

It goes even further: The Silver Book allows the Employer to nominate subcontractors.¹¹⁶ The Silver Book's clause in this regard is not as extensive as the Red Book's equivalent,¹¹⁷ but the Employer nevertheless has the same right to nominate a subcontractor that the Employer requires the Contractor to use. In terms of this clause, the Employer may instruct the Contractor to use and contract with a specific subcontractor. Indeed, nothing prohibits the Employer from nominating all the subcontractors that he would prefer the Contractor to use. The Contractor is then obliged to abide by the Employer's instructions¹¹⁸ and to use the subcontractor the Employer so nominates. The Contractor could only escape this instruction should he be able to raise what is termed a "reasonable objection". The Silver Book does not undertake to explain what such a reasonable objection may comprise. Some guidance may be found in the Red Book where a sub-clause is dedicated to what an objection may include.¹¹⁹

¹¹⁴ Gorley T "The missing link in construction contracts" JBL Vol 2 Part 3 (ISSN 1021-7061), page 129.

¹¹⁵ This applies to all jurisdictions that recognise Roman Law: South Africa, England, and Germany inclusive.

¹¹⁶ See Sub-Clause 4.5 (Nominated Subcontractors) (Annex 56).

¹¹⁷ Clause 5 (Nominated Subcontractors) (Annex 57).

¹¹⁸ See Sub-Clause 3.4 (Instructions) (Annex 54).

¹¹⁹ See Sub-Clause 5.2 (Objection to Nomination) in the Red Book (Annex 57).

In practise, whether the Red Book, Yellow Book, Silver Book or any other suite of contracts or nominate contract is used, it often occurs that the Employer provides the Contractor with a vendor list of approved subcontractors that the Employer is prepared to let the Contractor use to execute a part of the Works. In South Africa, BEE legislation¹²⁰ has also become relevant to the appointment of contractors and subcontractors alike; the Employer very much having an interest in the compliance and score level of each.

Again, the Silver Books allows the Employer even more control over whom the Contractor engages to execute the Works. It goes so far as to deal with the specific people – not only the subcontractors – that the Contractor intends to use and uses: Contractor's Personnel¹²¹ and Contractor's Representative.¹²² The Contractor's Personnel is a wide definition. It includes the Contractor's Representative, but also the staff, labour and other employees of the Contractor, its subcontractors utilised on Site, and any other personnel that assist the Contractor in executing the Works.¹²³ Through Sub-Clause 6.9¹²⁴ the Contractor is required to use appropriately qualified, skilled and experienced personnel. This clause also allows the Employer to require the Contractor to remove any person employed on the Site or for the Works, citing specific reasons for such a requirement. The reference to "any person" is of significance. It goes much further than an entity (a subcontractor) that is engaged to execute the Works. It deals with a specific person.

¹²⁰ See the Broad-Based Black Economic Empowerment Act, Act 53 of 2003, Broad-Based Black Economic Empowerment Amendment Act, 2013; B-BBEE Act 2003-2004.

¹²¹ Defined in Sub-Clause 1.1.2.7 (Annex 58) and includes the Contractor's Representative.

¹²² Defined in Sub-Clause 1.1.2.6 (Annex 59).

¹²³ Sub-Clause 1.1.2.7 (Annex 58).

¹²⁴ Annex 4.

The Contractor's Representative is the person representing the Contractor (the Contractor being an entity and needing a "face" for the Employer to engage with),¹²⁵ and takes instructions from the Employer.¹²⁶ Sub-Clause 4.3 (Contractor's Representative)¹²⁷ stipulates that the Contractor's Representative may be named in the Contract. In other words, that person would be agreed to at the outset. If that is not done, the Contractor must propose a person for the Employer's consent. The Employer even has the right to revoke that consent, and then the Contractor is required to submit an alternative to the Employer for his consideration and approval. The Contractor may not, without the Employer's prior consent, revoke or appoint a replacement representative. This emphasises the Employer's involvement and control over who executes the Works.

Accordingly, it cannot be said that the Employer under the Silver Book is only interested in the product or result of the labour.¹²⁸ Further to what is set out above, the Employer exercises a degree of control in the Contractor's engagement of staff and labour.¹²⁹ This includes the rates and wages paid to the staff, and conditions of their labour;¹³⁰ the hours that the Contractor requires such staff and labour to work;¹³¹ and the health and safety provisions that are in place to protect the Contractor's staff and labour. Finally,¹³² the Contractor

¹²⁵ Sub-Clause 1.1.2.5 (Annex 60).

¹²⁶ Sub-Clause 4.3 (Contractor's Representative) (Annex 5).

¹²⁷ Annex 5.

¹²⁸ Zimmermann, page 394.

¹²⁹ See Sub-Clause 6.1 (Engagement of Staff and Labour) (Annex 61).

¹³⁰ See Sub-Clause 6.2 (Rates of Wages and Conditions of Labour) (Annex 62).

¹³¹ See Sub-Clause 6.5 (Working Hours) (Annex 63).

¹³² See Sub-Clause 6.7 (Health and Safety) (Annex 64).

is also required to report the number of each class of his personnel to the Employer, by way of detailed monthly records.¹³³

Moreover, the Silver Book does not anticipate an Employer who leaves the Contractor to achieve the result on his terms.¹³⁴ The Silver Book prescribes the manner in which the Contractor is required to execute the Works,¹³⁵ which the particular conditions accompanying the general conditions may obviously add to or prescribe more detail to. The Contractor is also required to submit samples to the Employer for review,¹³⁶ and to allow the Employer full access to inspect the Works during its execution,¹³⁷ and to test it before it is completed.¹³⁸ The Contractor is even required to provide the Employer with the facilities to carry out such inspections,¹³⁹ including the apparatus, assistance, electricity, equipment, consumables, instruments, labour, materials, and staff to do the tests the Employer requires.¹⁴⁰ Should the Employer not be satisfied with the Works so executed, the Employer may reject that part of the Works¹⁴¹ and the Contractor is required to make good the defect. The Contractor is required to keep the Employer informed as to the intended timing of the Works, by submitting a time programme to the Employer.¹⁴² Should the Contractor foresee any event or circumstance that may delay the execution, the Contractor is required to notify the Employer.¹⁴³ Should the Contractor's progress be too

¹³³ See Sub-Clause 6.10 (Records of Contractor's Personnel and Equipment) (Annex 65).

¹³⁴ Zimmermann, page 394.

¹³⁵ See Sub-Clause 7.1 (Manner of Execution) (Annex 66).

¹³⁶ See Sub-Clause 7.2 (Samples) (Annex 67).

¹³⁷ See Sub-Clause 7.3 (Inspection) (Annex 68).

¹³⁸ See Sub-Clause 7.4 (Testing) (Annex 69).

¹³⁹ See Sub-Clause 7.3 (Inspection) (Annex 68).

¹⁴⁰ See Sub-Clause 7.4 (Testing) (Annex 69).

¹⁴¹ Bearing in mind it is not yet complete.

¹⁴² See Sub-Clause 8.3 (Programme) (Annex 70).

¹⁴³ See Sub-Clause 8.3 (Programme) (Annex 71).

slow to complete by the agreed upon finishing date,¹⁴⁴ or fall behind the programme, the Contractor is required to advise the Employer and give details as to how they intend to catch up.¹⁴⁵ Thus, at all times keeping the Employer advised on of the progress of the Works executed.

With all the above in mind, it is clear that the Employer under the Silver Book, especially in South Africa with BEE legislation, has a very real interest in the services or the labour, who performs the Works and how it is performed. The Silver Book accordingly falls short of this decisive feature of the *locatio conductio operis*.

The twofold classification that Roman Dutch law recognises deals with the letting and hiring of work for a measured price, or for a lump sum price. If it were possible to persuade the South African courts that a twofold classification is relevant, then it may still be arguable that the Silver Book could be classified as a *locatio conductio*. In other words, the Employer may still be required to pay for the work as executed and measured, or for a lump sum price agreed to at the outset,¹⁴⁶ yet the contract remains under the classification of a *locatio conductio*.

However, under Roman Dutch law, the lump sum provision seems to be considered as having been paid at the completion of the works,¹⁴⁷ rather than per instalments. The Silver Book provides for payment to be made in pre-

¹⁴⁴ The Time for Completion.

¹⁴⁵ See Sub-Clause 8.6 (Rate of Progress) (Annex 72).

¹⁴⁶ Van Deventer, page 70.

¹⁴⁷ Van Deventer, page 73.

agreed instalments.¹⁴⁸ Nevertheless, this should not make a material difference to the classification of the contract: It relates only to payment terms. The payment terms of an *emptio venditio*¹⁴⁹ could be by way of instalments as well. This should therefore not be the material consideration deciding into which classification a contract falls. In any event, Van Deventer criticises this approach and believes that it would do the industry an injustice should it be adopted in South Africa.¹⁵⁰ He gives three reasons for this belief. Firstly, because it suggests that the South African courts have not given any consideration to what the industry has sought to achieve by the inclusion of these terms. Secondly, because it is too rigid in an industry that requires flexibility. Finally, practices in this industry have changed since the time of the Romans. I find these grounds reasonable and thus I agree with his critique.

Could one then argue that the Silver Book may be a combination of the different classifications? German law recognises “mixed contracts”:¹⁵¹ “[C]ombining elements of sales law with rules pertaining to contracts for work and labour.” A portion of the contract could fall to be classified as a *locatio conductio*, whilst another portion could be classified as *emptio venditio*.

Lorenz¹⁵² acknowledges that the systems which do not recognise possibly having “mixed contracts” will face considerable difficulties, specifically in establishing and defining what classification should be given to a contract and

¹⁴⁸ See Clause 14 (Contract Price and Payment) (Annex 73).

¹⁴⁹ A contract of sale.

¹⁵⁰ Van Deventer, page 73.

¹⁵¹ Lorenz, page 3.

¹⁵² Lorenz, page 3.

what law would accordingly be applicable thereto. This could fit the Silver Book well.

The problem, however, is that should a portion be classified as being *emptio venditio*, that portion would attract an implied warranty against latent defects. Whereas, should a section be classified as a *locatio conductio (operis* or otherwise¹⁵³) it may not attract this warranty. It may be difficult to establish which portion attracts each of the classifications.

(b) The FIDC Yellow Book ("Yellow Book")

The Yellow Book is described as being for "Plant and Design Build for Electrical and Mechanical Plant, and for Building and Engineering Works, designed by the Contractor".¹⁵⁴ In this contracting philosophy, the Employer has more participation while the Contractor executes the Works through his representative, the Engineer,¹⁵⁵ than what he has under the Silver Book philosophy. As with the Silver Book, however, the Contractor is required to design and complete the Works so that it is ultimately fit for the purpose for which the Employer requires it and intends to use it.¹⁵⁶ Accordingly, there will be some overlap and apparent repetition of what is discussed under the Silver Book. Some repetition is unfortunate but necessary for a full investigation of

¹⁵³ In other words, should a Zimmermann's suggestion that a new classification of the *locatio conductio* arise to cater for the building contracts find favour.

¹⁵⁴ Cover page of the Yellow Book.

¹⁵⁵ See Clause 3 (The Engineer), where his functions are set out (Annex 50).

¹⁵⁶ See Sub-Clause 4.1 (Contractor's Obligations) of the Yellow Book (Annex 74).

the Yellow Book.¹⁵⁷ Here too, the Contractor is required to do any work which is necessary, or even implied (even if that work is not mentioned in the Contract), to complete the Works and ensure that it operates properly.¹⁵⁸

The price in this contract is more flexible than under the Silver Book,¹⁵⁹ but then more firm than that of the Red Book.¹⁶⁰ The philosophy is to have a lump sum price – defined as the “Accepted Contract Amount.”¹⁶¹ However, provision is made that quantities which may be set out in a schedule forming part of the Contract would be estimated quantities (not actual and correct quantities required for the execution of the Works), and that parts of the works may be subject to measurement and evaluation. The final price to be paid to the Contractor (defined as the “Contract Price”¹⁶²) becomes more flexible thereby and is open to adjustment (not necessarily attributable to a Variation¹⁶³ of the Works).¹⁶⁴

Should there be no schedule wherein quantities are set out, or a provision made for measurement and evaluation, the price will ultimately stand as a lump sum price, which is synonymous with the Silver Book’s pricing philosophy. Then the Employer will also be paying for the end product, rather than for the services or labour to achieve that end product. The Contractor’s obligations are similar to that of the Silver Book, and the Contractor is required to do all that is necessary

¹⁵⁷ I attempt to limit this repetition by a cross reference to the conclusions reached in paragraph 4.3.1.3(a).

¹⁵⁸ See Sub-Clause 4.1 (Contractor’s General Obligations) of the Yellow Book (Annex 74).

¹⁵⁹ See Sub-Clause 14.1 (The Contract Price) (Annex 47).

¹⁶⁰ Where works are measured, for instance under Clause 14 (Annex 49) of the Red Book.

¹⁶¹ See Sub-Clause 14.1 (The Contract Price) of the Yellow Book (Annex 47).

¹⁶² See the definition at Sub-Clause 1.1.4.2.

¹⁶³ See the definition at Sub-Clause 1.1.6.9 of the Yellow Book.

¹⁶⁴ Initiated through Clause 13 (Variations and Adjustments).

to achieve the purpose for which the Employer requires to use the Works, even if the exact specifications are not provided for in the Contract. However, the pricing clauses¹⁶⁵ here do not affect the Contractor's obligations in this regard.¹⁶⁶ Therefore, even if the price changes as a result of measurement and evaluation, the Contractor's obligations in respect of the execution of the Works – and the fit for purpose obligation – remain unchanged.¹⁶⁷

Here too, as with the Silver Book, there is a clear obligation on the Contractor to design, execute and complete the Works, even that which may be implied to be necessary and not explicitly provided for in the scope of the contract. This ensures that the Works are fit for the purpose for which the Employer intends it, and this obligation in its entirety lends itself more to the Employer paying for a finished product rather than the execution of services or labour.

We then face the same question as with the Silver Book: Does the Yellow Book fall to classification as a *locatio conductio* (specifically the *locatio conductio operis*), *emptio venditio* or otherwise?¹⁶⁸ We can also look at the Yellow Book in sections or parts: Where it is elected that the price should be paid completely as a lump sum, or in part as subject to a measure. It can also be considered where the Contractor provides all the materials required to complete the Works, or in part where the Employer provides some of the materials (freely issues them).

¹⁶⁵ At Clause 14 of the Yellow Book (Annex 47).

¹⁶⁶ Set out in Sub-Clause 4.1 (Contractor's General Obligations) (Annex 74).

¹⁶⁷ Sub-Clause 4.1 (Contractor's General Obligations) (Annex 74) being unaffected by an election made in Sub-Clause 14.1 (The Contract Price) (Annex 47).

¹⁶⁸ See chapter 2, paragraphs 2.2 and 2.4 of this thesis.

Where the contract is elected to be subject to a lump sum price only, should we investigate this question, as the South African courts seem to have done in the past? That is, not recognising the possibility of having a division of construction contracts as the Roman Dutch law has.¹⁶⁹ This may lead to the conclusion that this contract could be classified as falling within the *emptio vendito* (a contract of sale)¹⁷⁰ rather than one of *locatio conductio*. Especially where the Contractor provides all the materials required to execute the Works.¹⁷¹

Here too we turn to Zimmermann¹⁷² and his explanation of the decisive features of the *locatio conductio operis*.¹⁷³ Especially with the Yellow Book having much more involvement from the Employer than what the Silver Book has.

The first division from these decisive features is the right under the Yellow Book to issue instructions to the Contractor.¹⁷⁴ The Engineer issues the instructions under the Yellow Book,¹⁷⁵ and so instructions are not necessary directly issued by the Employer. These instructions may even depart from what the Contractor and Employer agreed to at the time of contracting: As a result, they may vary the Works.¹⁷⁶ The Contractor is required to abide by such instructions, unless the Contractor is not able to obtain the Goods required for the Variation, it would adversely affect safety, or adversely affect the achievement of the performance

¹⁶⁹ Van Deventer, page 71.

¹⁷⁰ See Sharrock's comment on this point, page 360. See also New Sharrock, page 356.

¹⁷¹ See paragraph 4.3.1.3(a) for the reason for this inference.

¹⁷² New Zimmermann, page 394.

¹⁷³ See chapter 2, paragraph 2.2 of this thesis.

¹⁷⁴ See Sub-Clause 3.4 (Instructions) (Annex 75).

¹⁷⁵ See Sub-Clause 3.4 (Instructions) (Annex 75).

¹⁷⁶ See Clause 13 (Variations) (Annex 76).

of the Works that the Contractor guaranteed.¹⁷⁷ Thus, the Contractor is bound to obey instructions regarding the manner in which work from the Employer (issued through the Engineer) is carried out, quite clearly moving away from the principles of the *locatio conductio operis*.¹⁷⁸

Sub-Clause 4.4¹⁷⁹ of the Yellow Book deals with Subcontractors. This clause requires, *inter alia*, that the Contractor provide detailed particulars to the Employer's agent (the Engineer) of the Subcontractors the Contractor intends using, 28 days before the intended appointment of any one of the Subcontractors. This of course allows the Employer to consider the intended Subcontractor well before he is appointed, and gives him an opportunity to raise an objection (although there is no formal provision in the Contract through which such an objection should be raised), and to instruct the Contractor not to use that Subcontractor should the Employer so choose.¹⁸⁰ This provides the Employer with clear control over who executes the work the Contractor is contracted to do.¹⁸¹

Nevertheless, as in the Silver Book, it goes further: The Yellow Book allows the Employer to nominate subcontractors.¹⁸² As in the Silver Book, the Yellow Book devotes but a paragraph to nominated subcontractors,¹⁸³ where, by

¹⁷⁷ See Sub-Clause 13.1 (Right to Vary) (Annex 76), as read with Sub-Clause 3.3 (Instructions of the Engineer) (Annex 75).

¹⁷⁸ Zimmermann, page 394.

¹⁷⁹ Annex 6.

¹⁸⁰ Gorley T "The missing link in construction contracts" JBL Vol 2 Part 3 (ISSN 1021-7061), page 129.

¹⁸¹ This applies to all jurisdictions that recognise Roman Law: South Africa, England, and Germany inclusive.

¹⁸² See Sub-Clause 4.5 (Nominated Subcontractors) (Annex 77).

¹⁸³ Sub-Clause 4.5 (Nominated Subcontractors) (Annex 77).

comparison, the Red Book has a chapter on it.¹⁸⁴ The Employer nevertheless has the same right to nominate a subcontractor that the Employer requires the Contractor to use.¹⁸⁵

As mentioned above, what is often seen in practice, be it when the Red Book, Yellow Book, Silver Book or any other suite of contracts or nominate contract is used, is that the Employer provides the Contractor with a vendor list of approved subcontractors that the Employer is prepared to let the Contractor use to execute a part of the Works. In South Africa, BEE legislation¹⁸⁶ has also become relevant to the appointment of contractors and subcontractors alike; the Employer very much having an interest in the compliance and score level of each.

Again, as with the Silver Book, the Yellow Book allows the Employer extensive control over who the Contractor engages to execute the Works. It goes so far as to deal with the specific people – not only the subcontractors – that the Contractor intends to use and uses.¹⁸⁷

The Employer is not only interested in the product or the result of the labour under the Yellow Book, not unlike the case with the Silver Book.¹⁸⁸

¹⁸⁴ Clause 5 (Nominated Subcontractors) (Annex 57).

¹⁸⁵ See paragraph 4.3.1.3(a) above.

¹⁸⁶ See the Broad-Based Black Economic Empowerment Act, Act 53 of 2003, Broad-Based Black Economic Empowerment Amendment Act, 2013; B-BBEE Act 2003-2004.

¹⁸⁷ See paragraph 4.3.1.3(a) above where this is expanded upon.

¹⁸⁸ Zimmermann, page 394. See also paragraph 4.3.1.3(a) above.

The Yellow Book does not consider an Employer who leaves the Contractor to achieve the result on his terms.¹⁸⁹ The Yellow Book prescribes the manner in which the Contractor is required to execute the Works,¹⁹⁰ which may the contract may obviously add to, and prescribe more detail in the particular conditions that accompany the general conditions. The Contractor is also required to submit samples to the Employer for review,¹⁹¹ and to allow the Employer full access to inspect the Works during its execution,¹⁹² and to test it before it is completed.¹⁹³ The Contractor is even required to provide the Employer with the facilities to carry out such inspections,¹⁹⁴ and the apparatus, assistance, electricity, equipment, consumables, instruments, labour, materials, and staff to do the tests the Employer requires.¹⁹⁵ Should the Employer not be satisfied with the Works so executed, the Employer may reject that part of the Works¹⁹⁶ and the Contractor is required to make good the defect. The Employer is required to be kept abreast of how timing is intended in the execution the Works by submitting a time programme to the Employer.¹⁹⁷ Should the Contractor foresee any event or circumstance that may delay the execution, the Contractor is required to notify the Employer.¹⁹⁸ Should the Contractor's progress be too slow for completion by the date it agreed upon,¹⁹⁹ or fall behind the programme, the Contractor is required to advise the Employer

¹⁸⁹ Zimmermann, page 394.

¹⁹⁰ See Sub-Clause 7.1 (Manner of Execution) (Annex 86).

¹⁹¹ See Sub-Clause 7.2 (Samples) (Annex 87).

¹⁹² See Sub-Clause 7.3 (Inspection) (Annex 88).

¹⁹³ See Sub-Clause 7.4 (Testing) (Annex 89).

¹⁹⁴ See Sub-Clause 7.3 (Inspection) (Annex 88).

¹⁹⁵ See Sub-Clause 7.4 (Testing) (Annex 89).

¹⁹⁶ Bearing in mind it is not yet complete.

¹⁹⁷ See Sub-Clause 8.3 (Programme) (Annex 90).

¹⁹⁸ See Sub-Clause 8.3 (Programme) (Annex 108).

¹⁹⁹ The Time for Completion.

and give details as to how he intends catching up.²⁰⁰ Thus, at all times keeping the Employer advised on the progress of Works executed.

With all the above in mind, it is clear that the Employer under the Yellow Book, especially in South Africa with BEE legislation, has a very real interest in the services or the labour performing the Works, and how it is performed. The Yellow Book accordingly falls short of this decisive feature of the *locatio conductio operis*.

The twofold classification that the Roman Dutch law recognises deals with the letting and hiring of work for a measured price, or for a lump sum price. If it were possible to persuade the South African courts that a twofold classification is relevant, then it may still be arguable that the Yellow Book could be classified as a *locatio conductio*. In other words, the Employer may still be required to pay for the work as executed and measured, or for a lump sum price agreed to at the outset,²⁰¹ yet the contract remains under the classification of a *locatio conductio*. However, under Roman Dutch law, the lump sum provision seems to be considered to be paid at the completion of the works,²⁰² rather than per instalments.

The Yellow Book provides for payment slightly differently to the Silver Book. Not only does it deal with payment to be made in pre-agreed instalments, but also for measurement to take place, either as a combination of the two payment

²⁰⁰ See Sub-Clause 8.6 (Rate of Progress) (Annex 91).

²⁰¹ Van Deventer, page 70.

²⁰² Van Deventer, page 73.

provisions, or the election of either one.²⁰³ As this should not make a material difference to the classification of the contract, there is no need to discuss these terms in more detail: They relate to payment terms and do not materially affect the classification of the contract. The payment terms of an *emptio venditio*²⁰⁴ could be by way of instalments as well. This should therefore not be the material consideration to decide into which classification a contract falls. In any event, Van Deventer criticises this approach and believes that it would do an injustice to the industry should it be adopted in South Africa, an argument with which I agree.²⁰⁵

The possibility of having a “mixed contract” as suggested for the Silver Book²⁰⁶ could also apply to the Yellow Book. Here, too, a portion of the contract could be classified as a *locatio conductio operis*, whilst another portion could be classified as *emptio venditio*, each possible section attracting a different liability.

(c) The Red Book

The Red Book is described as the “Conditions of Contract for Construction for Building and Engineering Works designed by the Employer”. It is a very different contracting philosophy to the Silver Book and the Yellow Book. In this contracting philosophy, the Employer is much more actively involved than in the Silver Book or the Yellow Book through his representative the Engineer,²⁰⁷ and

²⁰³ See Clause 14 (Contract Price and Payment) (Annex 47).

²⁰⁴ A contract of sale.

²⁰⁵ Van Deventer, page 73.

²⁰⁶ See chapter 2, paragraph 2.7.4 of this thesis.

²⁰⁷ See Clause 3 (The Engineer).

provides the design to the Contractor usually by way of an outside consulting or designing firm.²⁰⁸ The Contractor is required to then execute and complete the Works in accordance with the requirements of the Contract, and the Engineer's instructions.²⁰⁹

The price in this contract is less certain than under the Silver Book and the Yellow Book,²¹⁰ the philosophy being that of a re-measurable contract.²¹¹ Resultantly, the Employer pays for the services rendered and labour used to achieve the end product he requires. Where the Employer is able to complete a design before he engages with the Contractor, he will be able to get a more definite price from the Contractor and obtain more certainty as to the final price he will pay. Where, however, the design is still in progress when he engages the Contractor, the Employer will have very little certainty and will simply pay the Contractor for the work he executes, duly measured and evaluated at the end of each prescribed period (usually monthly), against the rates provided for in the Contract.²¹² The Employer thus accepts the risk for any changes that may be required to achieve the end product he seeks: The Contractor has no control over the design, and accordingly the risk for any changes thereto (as at contracting stage) is not allocated to him.

²⁰⁸ Also through the Engineer: See the Foreword to the Red Book where it is recommended that the Red Book be used for building or engineering works designed by the Employer, or by his representative (the Engineer).

²⁰⁹ See Sub-Clause 4.1 (Contractor's Obligations) of the Silver Book.

²¹⁰ The Silver Book providing for a "lump sum" price, and the Yellow Book making provision for a "lump sum" price.

²¹¹ See Sub-Clause 12 (Measurement and Evaluation), as read with Sub-Clause 14 (Contract Price and Payment) of the Red Book (Annex 49).

²¹² See Sub-Clause 12 (Measurement and Evaluation) (Annex 48), as read with Sub-Clause 14 (Contract Price and Payment) of the Red Book (Annex 49).

Thus far, this seems to fall within what the *locatio conductio operis* envisages. But what if the Employer makes full use of the provisions,²¹³ allowing him to provide the materials (and the plant) to the Contractor to execute the works, and does it to its fullest extent? In other words, the Contractor simply provides the skill and labour, and perhaps even the plant, to execute the Works. It may then even be possible to argue that the Contractor is simply providing services to the Employer. This will not happen in every contract but is a possibility that the Red Book allows.

As this does not assist in the classification of the Red Book, it may be better to consider what Zimmermann²¹⁴ explains to be a decisive feature of the *locatio conductio operis* again, as discussed under the Yellow Book and the Red Book.²¹⁵

The first deviation from these decisive features is the Employer's clear right under the Red Book to issue instructions to the Contractor through his Engineer.²¹⁶ The Engineer takes his instructions from the Employer, and accordingly the Employer has influence on what the Engineer requires the Contractor to do: The Engineer is the Employer's agent.²¹⁷ These instructions may even depart from what the Contractor and Employer agreed to: It may vary the Works.²¹⁸ The Contractor is required to abide by such instructions,

²¹³ See Sub-Clause 4.20 (Employer's Equipment and Free-Issue Material) (Annex 92).

²¹⁴ New Zimmermann, page 394.

²¹⁵ See paragraphs 4.3.1.3(a) and 4.3.1.3(b) above.

²¹⁶ See Sub-Clause 3.3 (Instructions of the Engineer) (Annex 93).

²¹⁷ Boxall T, Hutchison A, Wright M "NEC3ECC clause 10.1: An enforceable contractual duty of trust and co-operation in the construction industry?" 2017 Stell LR 97, page 99.

²¹⁸ See Clause 13 (Variations and Adjustments) (Annex 94).

and may only object, where the instruction constitutes a Variation, where he is not readily able to obtain the Goods required for the Variation.²¹⁹ Thus, the Contractor is bound to obey instructions as to the manner of carrying out the work from the Engineer, moving away from the principles of the *locatio conductio operis*.²²⁰

Sub-Clause 4.4²²¹ of the Red Book deals with Subcontractors. This clause requires, *inter alia*, that the Contractor provide detailed particulars to the Engineer of the Subcontractor the Contractor intends using, 28 days before the intended appointment of that Subcontractor. This of course allows the Employer to consider the intended Subcontractor well before he is appointed and gives him an opportunity to raise an objection (although there is no formal provision in the Contract through which such an objection should be raised), and to instruct the Contractor not to use that Subcontractor should the Employer so choose. This provides the Employer with clear control over who executes the work the Contractor is contracted to do.²²²

The Red Book has a substantial clause dealing with the Employer's right to nominate subcontractors.²²³ Either the Employer may prescribe subcontractors at contracting stage, including those subcontractors as part of the Contract, or he may have the Engineer instruct the Contractor to use a particular

²¹⁹ See Sub-Clause 13.1 (Right to Vary) (Annex 94), as read with Sub-Clause 3.3 (Instructions of the Engineer) (Annex 93), and Sub-Clause 4.1 (Contractor's General Obligations) (Annex 95).

²²⁰ Zimmermann, page 394.

²²¹ Annex 9.

²²² This applies to all jurisdictions that recognise Roman Law: South Africa, England, and Germany inclusive.

²²³ See Clause 5 (Nominated Subcontractors) (Annex 57).

subcontractor.²²⁴ The Contractor is obliged to use such a nominated subcontractor unless he is able to raise “reasonable” objection, with particulars to motivate his objection. The Red Book in Sub-Clause 5.2²²⁵ gives detailed particulars as to what such a reasonable objection may comprise, and it is in the most limited to the effect the subcontractor would have on the Contractor’s ability to provide the Employer with what he is required to.

The Red Book allows the Employer even more control over whom the Contractor engages to execute the Works. Not only in respect of subcontractors, but also with regard to the specific natural people that the Contractor intends to engage and engages.²²⁶

Here, as under the Silver and Yellow Books, it cannot be said that the Employer under the Red Book is only interested in the product or result of the labour.²²⁷ Further to what is set out above, the Employer exercises a degree of control in the Contractor’s engagement of staff and labour.²²⁸

It is clear that the Red Book does not consider an Employer who leaves the Contractor to achieve the required result on his terms.²²⁹ Not only does it allow the Employer extensive control, through the Engineer, over whom the

²²⁴ See Sub-Clause 5.1 (Definition of “nominated subcontractor”) (Annex 57).

²²⁵ Annex 10.

²²⁶ See paragraphs 4.3.1.3(a) and 4.3.1.3(b) above.

²²⁷ Zimmermann, page 394.

²²⁸ See Sub-Clause 6.1 (Engagement of Staff and Labour) (Annex 98) and paragraphs 4.3.1.3(a) and 4.3.1.3(b) above.

²²⁹ Zimmermann, page 394.

Contractor engages to execute the Works on his behalf, but it also prescribes the manner in which the Contractor is required to execute the Works.²³⁰

With all the above in mind, it is clear that the Employer under the Red Book, has a very real interest in the services or the labour, who performs the Works and how it is performed. The Red Book accordingly falls short of this decisive feature of the *locatio conductio*.

4.3.1.5 Conclusion

The Silver Book, Yellow Book and Red Book seek to provide for an intricate industry that must take into consideration ever-changing and complex technology and economic circumstances – as do the other FIDIC Books. This is easily achieved through the use of particular conditions that have to be read with the particular book's general conditions.²³¹

The conclusion is inevitable: The Silver Book, Yellow Book and Red Book do not fit the mould of the *locatio conductio operis*, *locatio conductio operarum*, or the *emptio venditio*. There are too many facets of each of the books that fit within any one of these classifications, in part, and in whole.

²³⁰ See Sub-Clause 7.1 (Manner of Execution) (Annex 104). See also paragraph 4.3.1.3(a) and 4.3.1.3(b) above.

²³¹ See the “Conditions of Contract for EPC/Turkey Projects Guidance for the Preparation of Particular Conditions”, published as part of the Silver Book.

As Van Deventer has suggested, trying to fit the construction contract into a specific classification is indeed inappropriate.²³² Zimmermann's²³³ conclusion that the construction contract has developed into a type of "self-made law" thus finds substance. However, his observation was that it should be within the *conductio operis*. From what is set out above, it appears that neither the Silver Book, Red Book, nor Yellow Book, will even fit into that general category.

4.3.2 NEC standard form contracts

In the late 1980's and early 1990's England realised that excessive money was being spent on litigation flowing from contracts in the construction and engineering industry, and that, for the sake of the industry, reform was required.²³⁴ The consequence was that the late Sir Michael Latham was tasked by the United Kingdom Government (in collaboration with the construction industry and its professions) to investigate this obvious problem.²³⁵ The result was Sir Michael Latham's report, "Constructing the Team", which is now commonly referred to as the "Latham Report".²³⁶

The NEC (New Engineering Contract) suite of standard form contracts finds its origin in England. It was developed by the Institution of Civil Engineers (ICE) when, in 1985, the ICE recognised the need "to lead a fundamental review of alternative contract strategies for civil engineering design and construction with

²³² Van Deventer, page 75.

²³³ Page 394, footnote 58.

²³⁴ Latham Report, Foreword and Executive Summary.

²³⁵ Latham Report, Foreword.

²³⁶ Latham Report.

the objective of identifying the needs for good practice”.²³⁷ The NEC has taken the findings and recommendations of the Latham report into consideration in the development of its contracts.²³⁸ The first edition of the NEC was published in 1993, the second in 1995, and the third version, NEC 3, in 2005 (the June 2005 edition). The newest edition, NEC 4, was published in June 2017.

The Latham Report made various recommendations, such as that the very common “pay when paid”²³⁹ clauses relevant to subcontracts be excluded from these types of contracts, but importantly also recommended that the NEC be used as the national (the UK’s) standard contract²⁴⁰ across the engineering and construction industries.²⁴¹

As one of the forms of contracts the Construction Industry Development Board recommends, and in the case of state entities prescribes,²⁴² the NEC suite of contracts is particularly relevant to this thesis, especially since this suite of contracts is so commonly used in the construction and engineering industry in South Africa and abroad.²⁴³

²³⁷ NEC Engineering and Construction Contract, June 2005, Guidance Notes, Foreword.

²³⁸ Latham Report, Foreword.

²³⁹ Latham Report, page 34. These clauses typically provide that the Contractor need not pay his Subcontractor until his Employer has paid him.

²⁴⁰ Latham Report, Recommendations 12.1 – 12.2 (page 42).

²⁴¹ NEC Engineering and Construction Contract, June 2005, Guidance Notes, Foreword. Latham Report chapter 5 and chapter 10.

²⁴² See chapter 4, paragraph 4.1.2 of this thesis.

²⁴³ Particularly in England, where it originates. Gerrard R “Relational Contracts – NEC in Perspective” *Lean Construction Journal* 2005 Vol 2 (April 2005), page 86. Shnookal T and Charrett D “Standard Form Contracting: The Role for FIDIC Contracts Domestically and Internationally” *Society of Construction Law Conference 2010, Melbourne TEC Chambers*, page 5/30.

This thesis' investigation will focus will be on whether specifically the NEC ECC contract,²⁴⁴ falls within the classification of the *locatio conductio operis*, and then turn to whether the common law warranty against latent defects may be implied into this contract, specifically in South Africa. Reference will be made to English law and German law, which may be persuasive to the South African courts,²⁴⁵ in order to compare what has been done in other jurisdictions to answer this query.

The NEC contracts have evolved from a single contract between a client and a contractor, to a much more intricate suite of contracts,²⁴⁶ catering for various different contracting scenarios, now referred to as the "NEC family of Contracts".²⁴⁷

NEC added to and amended this family of contracts and published additional and revised contracts in June 2017. Because this suite is brand new to the industry, and it has not been used as extensively as NEC 3, this thesis' focus will remain with the older suite: NEC 3.

The NEC 3 family of contracts consist of the following:²⁴⁸

²⁴⁴ This thesis' scope is not broad enough to cover the entire suite of contracts within the NEC family. The ECC is used because of its similarities to the FIDIC Yellow Book and Red Book that is discussed earlier in this chapter (paragraph 4.3.1).

²⁴⁵ Lorenz, page 15.

²⁴⁶ Alike to that of the FIDIC suite of Contracts.

²⁴⁷ NEC Engineering and Construction Contract, June 2005, Guidance Notes, Foreword. Gerrard R "Relational Contracts – NEC in Perspective" Lean Construction Journal 2005 Vol 2 (April 2005), page 80.

²⁴⁸ Broome, page 7. Gerrard R "Relational Contracts – NEC in Perspective" Lean Construction Journal 2005 Vol 2 (April 2005), page 80 – 81.

- (a) NEC Professional Services Contract.
- (b) NEC Engineering and Construction Short Contract.
- (c) NEC Engineering and Construction Subcontract.
- (d) NEC Engineering and Construction Short Subcontract.
- (e) NEC Term Service Contract.
- (f) NEC Framework Contract.
- (g) NEC Adjudicator's Contract.

The NEC 4 family of contracts are more extensive than NEC 3's, and consist of the following:²⁴⁹

- (a) NEC 4 Engineering and Construction Contract (ECC).
- (b) NEC 4 Engineering and Construction Subcontract (ECS).
- (c) NEC 4 Engineering and Construction Short Contract (ECSC).
- (d) NEC 4 Engineering and Construction Short Subcontract (ECSS).
- (e) NEC 4 Professional Service Contract (PSS).
- (f) NEC 4 Professional Service Short Contract (PSSC).
- (g) NEC 4 Term Service Contract (TSC).
- (h) NEC 4 Term Service Subcontract (TSSC).
- (i) NEC 4 Supply Contract (SC).
- (j) NEC 4 Supply Short Contract (SCC).
- (k) NEC 4 Design Build and Operate Contract (DBOC).
- (l) NEC 4 Framework Contract (FC).
- (m) NEC 4 Dispute Resolution Services Contract (DRSC).

²⁴⁹ NEC 4 *Establishing a Procurement and Contract Strategy* (Volume 1), June 2017, page 5.

It is not possible to explore and research the topic of this thesis by investigating each of the aforementioned published books without unnecessarily taxing this research with particularly voluminous references. In the circumstances, and so as to compare similar types of contracts (drawing a comparison with those dealt with under FIDIC),²⁵⁰ this thesis will be limited to the Engineering and Construction Contract (“ECC”) of NEC 3. This method of analysis and comparison is also in line with the core research aim of the thesis.²⁵¹

The NEC 3 ECC and the NEC 4 ECC Contract provide six options (“Options”):

- (a) Option A – Priced Contract with an Activity Schedule.
- (b) Option B – Priced Contract with a Bill of Quantities (“BOQ”).
- (c) Option C – Target Contract with an Activity Schedule.
- (d) Option D – Target Contract with a BOQ.
- (e) Option E – Cost-reimbursable Contract.
- (f) Option F – Management Contract.

The language used in the NEC suite is unique: In an attempt to simplify its use, it has deliberately moved away from legalistic wording, to ordinary language.²⁵²

As an example, the NEC 3 has become famous for using the word “shall” (a

²⁵⁰ See chapter 4, paragraph 4.3.1 of this thesis.

²⁵¹ See chapter 1, paragraph 1.1 of this thesis.

²⁵² This is for NEC 3 as well as NEC 4: NEC Engineering and Construction Contract, June 2005, Guidance Notes, Introduction, page 2; NEC 4 Establishing a Procurement and Contract Strategy (Volume 1), June 2017, page 2. Also see Broome, page 51; and Broome JC and Hayes RW “A comparison of the clarity of traditional construction contracts and of the New Engineering Contract” International Journal of Project Management Vol 15, No. 4, page 255 – 261, at page 257.

commonly used term by lawyers drafting contracts)²⁵³ only once throughout the entire document. This theory may find substance: Ultimately, the user of these conditions will not be lawyers, but rather the engineers, construction managers, contract managers, and other personnel employed to see to the execution of what is to be built.²⁵⁴ In theory, this was a good approach but has resulted in the development of other adverse issues.²⁵⁵

This chapter will first consider the classification of the NEC 3 ECC book, specifically Option A and Option B thereto, and then turn to the existence and relevance of the warranty against latent defects (if any) that may be applicable thereto. The investigation is limited to these two options as they are comparable to the three FIDIC Books considered earlier.²⁵⁶

Not one of the options in this NEC ECC book contains an express provision dealing with the warranty against latent defects. This investigation will therefore be centred on whether such a warranty exists by way of common law, and thus may be implied into the contract.

4.3.2.1 Basic terms referenced in the NEC Books

²⁵³ Used numerous times throughout FIDIC.

²⁵⁴ Gerrard R "Relational Contracts – NEC in Perspective" *Lean Construction Journal* 2005 Vol 2 (April 2005), page 81 – 82.

²⁵⁵ The extreme effort to simplify language has unfortunately also left some room for interpretation where it may have been avoided. Gerrard R "Relational Contracts – NEC in Perspective" *Lean Construction Journal* 2005 Vol 2 (April 2005), page 82.

²⁵⁶ See chapter 4, paragraph 4.3.1 of this thesis.

It is necessary to understand some of the basic terms used by the NEC ECC Book and its Options so as to explain the intent of each of the Options. Even though, for the purpose of this thesis, only the ECC book will be investigated and discussed – specifically Option A and Option B thereof – it is relevant to note that the different forms of contract are consistent in their use of defined terms, even maintaining similar clause references for terms that appear in most of the different books.

Terms that are capitalised when defined in these books will also be capitalised when referenced in this thesis.

(a) The parties to the contract

The parties to the contract are defined as the “Employer”²⁵⁷ and “Contractor”²⁵⁸ respectively.²⁵⁹ The Employer is the client engaging with a contractor to execute the work he requires to be completed on his behalf, be it to construct a building, a plant, or otherwise. The Contractor is usually the successful tenderer who bid on the Employer’s invitation to tender, and who ultimately executes the work required to be done by the Employer against payment.

²⁵⁷ The Employer will be defined in the Contract Data (Part one – Data provided by the Employer), under clause 1 (General) (Annex 110). The pro-forma Contract Data where this information is contained is set out in page 61 (Annex 111) of the ECC book.

²⁵⁸ The Contractor will be defined in the Contract Data (Part two – Data provided by the Contractor). The pro-forma Contract Data where this information is contained is at page 70 (Annex 113) of the ECC book.

²⁵⁹ Core Clause 11.2(11) (Annex 112) specifically states that the Employer and the Contractor are the parties to the Contract.

A role player in these contracts, but who is not a party thereto, is the “Project Manager”.²⁶⁰ Essentially the Project Manager acts as the Employer’s agent,²⁶¹ with specific functions allocated to him in the contract,²⁶² thereby making the extent of the Project Manager’s agency clear to the parties to the contract.

A further role player is the “Supervisor”. The Supervisor’s role, although also acting on behalf of the Employer, is much more limited than that of the Project Manager.

There are a number of examples of instances in which the Project Manager acts, and not the Supervisor. These include giving notice of an early warning notice,²⁶³ giving instructions in respect of ambiguities and inconsistencies that may appear in the contract,²⁶⁴ deciding the date of Completion,²⁶⁵ accepting and accessing revisions to the programme,²⁶⁶ giving instructions on stopping or starting work,²⁶⁷ assessing amounts due to the Contractor from time to time,²⁶⁸ and certifying payment due to the Contractor.²⁶⁹ The Supervisor, on the other

²⁶⁰ The Project Manager will be named in the Contract Data (Part one – Data provided by the Employer), under clause 1 (General) (Annex 110). The pro-forma Contract Data where this information is contained is set out in page 61 (Annex 111) of the ECC book.

²⁶¹ Boxall T, Hutchison A, Wright M “NEC3ECC clause 10.1: An enforceable contractual duty of trust and co-operation in the construction industry?” 2017 Stell LR 97, page 99.

²⁶² Core Clause 10 (Actions) (Annex 114), at 10.1 specifically records that the Project Manager (as well as the Employer, Contractor and Supervisor) shall act as stated in the contract. Interestingly, this is the only clause in the entire NEC that uses the word “shall”. The Project Manager’s and Supervisor’s roles are further defined in Core Clause 14 (The *Project Manager* and the *Supervisor*) (Annex 115), page 5 of the ECC contract.

²⁶³ Core clause 16 (Early warning) (Annex 35), page 5 of the ECC contract.

²⁶⁴ Core Clause 17 (Ambiguities and inconsistencies) (Annex 117), page 6 of the ECC contract.

²⁶⁵ Core Clause 30 (Starting, Completion and Key Dates) (Annex 118), specifically Core Clause 30.2.

²⁶⁶ Core Clause 32 (Revising the programme) (Annex 119), specifically Core Clause 32.2 page 10 of the ECC contract.

²⁶⁷ Core Clause 34 (Instructions to stop or not to start work) (Annex 120), page 10 of the ECC contract.

²⁶⁸ Core Clause 50 (Assessing the amount due) (Annex 121), page 13 of the ECC contract.

²⁶⁹ Core Clause 51 (Payment) (Annex 122), page 13 of the ECC contract.

hand, would be responsible for (amongst others) notifying the Contractor that they have passed certain tests or inspections²⁷⁰ and instructing the Contractor to search for a Defect.²⁷¹ The combined role of the Project Manager and Supervisor is akin to that of the Engineer in FIDIC.²⁷²

(b) Work to be executed under the contract

The work for which the Employer engages the Contractor to execute on his behalf, be it to construct a building, a plant or otherwise, is set out in the document entitled “Works Information”.²⁷³

“The Works Information is information which either

- specifies and describes the works, or
- states any constraints on how the Contractor provides the Works,

and is either

- in the document which the Contract Data states it is in,
- or
- in an instruction given in accordance with this contract.”

²⁷⁰ Core Clause 41 (Testing and inspection before delivery) (Annex 123), page 11 of the ECC contract.

²⁷¹ Core Clause 42 (Searching for and notifying Defects) (Annex 124), page 11 of the ECC contract.

²⁷² See chapter 4, paragraph 4.3.1.1 of this thesis.

²⁷³ The Works Information is defined at Core Clause 11 (Identified and defined terms) (Annex 125), specifically 11.2(19).

Here the details of what is required to be designed, fabricated, and built are set out in detail. The extent of the detail depends on what type of contract²⁷⁴ the parties are entering into. In FIDIC, this is termed (with a capital) “Works”,²⁷⁵ and the detail required for it set out in the defined term “Specification”.

(c) Compensation for the works to be executed

Payment is dealt with in Core Clause 50 (Payment).²⁷⁶ This clause is then complimented by the election of an option. For the purposes of comparing the NEC contracts with the FIDIC contracts, only options A and B will be considered. Option A will be compared to the FIDIC Yellow Book,²⁷⁷ and Option B to the FIDIC Red Book.²⁷⁸

Option A is for a priced contract with an Activity Schedule.²⁷⁹ The contractor prices the works that he is to provide by way of an Activity Schedule. An Activity Schedule is, as the name suggests, a schedule of activities. These are the activities that the contractor expects he would have to complete in order to provide the works. He then prices those activities, in essence giving a lump sum price for each activity. Once each respective activity is completed, the price allocated to that activity becomes due for payment to the Contractor by

²⁷⁴ If it is to be on a lump sum basis, then the design and detail provided for in the Works Information has to be detailed and extensive. If the works are to be re-measurable (by way of a Bill of Quantities or Rates), then the design and information in the Works information may be less detailed and extensive.

²⁷⁵ See chapter 4, paragraph 4.3.1.1 of this thesis.

²⁷⁶ Annex 13.

²⁷⁷ See chapter 4, paragraphs 4.3.1.2(b) and 4.3.1.3(b) of this thesis.

²⁷⁸ See chapter 4, paragraphs 4.3.1.2(c) and 4.3.1.3(c) of this thesis.

²⁷⁹ Main Option Clauses (Annex 126), pages 27 to 28.

the Employer.²⁸⁰ This is similar to what the FIDIC Yellow Book allows for.²⁸¹ The Yellow Book allows for the payment of the Contract Price by way of a Schedule of Payments²⁸² that would have a similar effect to payment by way of an Activity Schedule.

Option B is for a priced Contract, with a bill of quantities.²⁸³ A bill of quantities is a schedule setting out specific items, quantities, and the prices for those items and quantities. The work is then measured from time to time, as specified by the Contract – but usually on a monthly basis – applied against the agreed Bill of Quantities, and certified and paid accordingly. The construction and engineering industry publishes standard forms of measurement,²⁸⁴ which may be incorporated into the contract. Alternatively, each contract may deal with its own method of measurement. In summary therefore, the work executed by the Contractor is measured at specified intervals, against specified values, and in accordance with an agreed method, and paid accordingly. This is similar to what the FIDIC Red Book envisages.²⁸⁵ The FIDIC Red Book provides for a Bill of Quantities,²⁸⁶ and method of measurement.²⁸⁷

Even though the other options are not suitable to compare to the FIDIC Books, and therefore less relevant to this thesis, a brief explanation of each will be

²⁸⁰ NEC 3 Engineering and Construction Contract, June 2005, Guidance notes, page 14.

²⁸¹ See chapter 4, paragraphs 4.3.1.2(b) and 4.3.1.3(b) of this thesis.

²⁸² Sub-Clause 14.4 of the FIDIC Yellow Book (Annex 47).

²⁸³ Main Option Clauses (Annex 127), pages 29 to 30.

²⁸⁴ For example, the South African Institution of Civil Engineering's "Civil Engineering Standard Method of Measurement Southern Africa". Also, in South Africa, SABS (South African Bureau for Standards), as statutory body in terms of the Standards Act, 24 of 1945) developed methods to measures, which may be incorporated by reference into building contracts.

²⁸⁵ See chapter 4, paragraphs 4.3.1.2(c) and 4.3.1.3(c) of this thesis.

²⁸⁶ Defined in Sub-Clause 1.1.1.10 of the FIDIC Red Book (Annex 128).

²⁸⁷ Specifically, Sub-Clause 12.2 of the FIDIC Red Book (Annex 48).

given. Option C is a target contract with an Activity Schedule.²⁸⁸ Option D is a target contract with a bill of quantities.²⁸⁹ They are unique as the Employer and Contractor share some risk: These contracts are typically used where there is some uncertainty as to the extent of the work required. The Contractor estimates what is required and prices the work appropriately. If the price is less, he and the Employer should share in the saving, and *vice versa*. The FIDIC suite does not have an equivalent.

Option E is a cost reimbursable contract.²⁹⁰ Again, the FIDIC suite does not have an equivalent of this type of contract. This contract simply sees the Contractor paid for whatever work he executes, at the proven cost plus an agreed margin.

Option F is a Management Contract.²⁹¹ The Management Contract is a form of services contract. This is akin to the FIDIC white book.²⁹² This contract is not relevant to the subject under current investigation.

Paragraph 4.3 to this thesis deals in some detail with the FIDIC Silver Book.²⁹³ As mentioned there, and in the introduction section to this chapter, the NEC suite of contracts attempts to provide a “fair” risk allocation between the parties. The FIDIC Silver Book allocates most of the risk to the Contractor; thus, there is no sufficiently similar NEC Book to draw a comparison here.

²⁸⁸ Main Option Clauses, pages 31 to 33 (Annex 129).

²⁸⁹ Main Option Clauses, pages 34 to 37 (Annex 130).

²⁹⁰ Main Option Clauses, pages 38 to 39 (Annex 131).

²⁹¹ Main Option Clauses, pages 40 to 41 (Annex 132).

²⁹² See chapter 4, paragraph 4.3.1.1 of this thesis.

²⁹³ See paragraphs 4.3.1.2(a) and 4.3.1.3(a).

4.3.2.2 Overview of uses intended for the different options within the NEC ECC Book

(a) The NEC Option A

Option A is intended, as the FIDIC Yellow Book is,²⁹⁴ to cater for a market where the Employer seeks more certainty as to what price he is ultimately going to pay. The price is established and only subject to change under very specific circumstances,²⁹⁵ and therefore more certain – described as a “lump sum” pricing scenario. The Contractor accepts risk in that should he have omitted to price specifically for an item required for the execution of the works, it is deemed to be included in the prices for other items.²⁹⁶

Option A allows for the Contractor to design all of the work, but also for design to be provided by the Employer, in part or in whole.²⁹⁷ The Project Manager may accept the Contractor’s design,²⁹⁸ or request changes to it. Where he requires changes, and the change is not any fault of the Contractor, this may be subject to a claim for additional cost and time.²⁹⁹

²⁹⁴ When the price is selected to be only lump-sum and not subject to any remeasure (remembering the FIDIC Yellow Book allows some measure to take place).

²⁹⁵ Only in case of Compensation Events allowing the Contractor to claim for additional payment: See *NEC Engineering and Construction Contract Guidance Notes* (June 2005), page 64.

²⁹⁶ *NEC Engineering and Construction Contract Guidance Notes* (June 2005), page 64.

²⁹⁷ *NEC Engineering and Construction Contract Guidance Notes* (June 2005), page 40. Although, it is advised here that Option F is also suitable for a design and construct contract.

²⁹⁸ See Core Clause 23.1 (Annex 133). Such acceptance of the design of the Contractor does not affect the Contractor’s responsibilities.

²⁹⁹ By way of a compensation event: Core Clause 6.0 (Annex 134).

Accordingly, as with the FIDIC Yellow Book there is a large degree of flexibility afforded to the Employer, in that he may require changes to the works originally provided for in the contract. The Employer is allowed extensive involvement and control through his agent,³⁰⁰ the Project Manager,³⁰¹ under Option A – and in fact in all of the other options too – as the Employer in the FIDIC Yellow Book is through his Engineer.³⁰²

(b) The NEC Option B

Option B is akin to that of the FIDIC Red Book.³⁰³ Payment becomes due to the Contractor for work executed by the Contractor and measured or evaluated by the Project Manager³⁰⁴, using the Bill of Quantities.³⁰⁵ Clearly, it is better suited where the Contractor does no design, or very little of it. Where the Employer is in control of the design, through the Project Manager or another designer contracted to him, he has better control over the cost of execution as well. Option B also affords the Employer extensive involvement and control over the execution of the works through his agent, the Project Manager,³⁰⁶ as the Employer in the FIDIC Red Book is through his Engineer.³⁰⁷

4.3.2.3 Classification of the NEC Book and its options

³⁰⁰ Boxall T, Hutchison A, Wright M “NEC3ECC clause 10.1: An enforceable contractual duty of trust and co-operation in the construction industry?” 2017 Stell LR 97, 99.

³⁰¹ See Core Clause 14 (the *Project Manager* and the *Supervisor*) (Annex 115), page 5 of the ECC contract.

³⁰² See chapter 4, paragraphs 4.3.1.2(b) and 4.3.1.3(b) of this thesis.

³⁰³ See chapter 4, paragraphs 4.3.1.2(c) and 4.3.1.3(c) of this thesis.

³⁰⁴ Certified.

³⁰⁵ *NEC Engineering and Construction Contract Guidance Notes* (June 2005), page 65.

³⁰⁶ See Core Clause 14 (the *Project Manager* and the *Supervisor*) (Annex 115), page 5 of the ECC contract.

³⁰⁷ See chapter 4, paragraphs 4.3.1.1, 4.3.1.2(c) and 4.3.1.3(c) of this thesis.

As mentioned earlier, where the classification of the FIDIC Books were discussed,³⁰⁸ three things will be considered under each of these contracting philosophies as well (not necessarily in a specific order as they may overlap to some extent). The first consideration is the purpose for which the Employer engages with the Contractor. The second is the price and payment terms under each of the Options. The third is the extent of the Employer's involvement while the Contractor executes the works.

Some nominate provisions must also be considered throughout this investigation, and in conclusion, each Option will be considered under the classicisation of *locatio conductio*, and finally the *emptio venditio*.³⁰⁹

The reason for investigating these specific three issues are the same as under the investigation of the FIDIC books and relates to Zimmermann's conclusion that the construction contract falls under the classification of *locatio conductio operis*, the South African courts' acceptance thereof,³¹⁰ and what Zimmermann regards as being the decisive features of the *locatio conductio operis*.³¹¹

Although this thesis considers the position of German law and English law, as well as South African law, its primary purpose is to establish what the South

³⁰⁸ See chapter 4, paragraph 4.3.1.3 of this thesis.

³⁰⁹ A contract of sale.

³¹⁰ See for instance *BK Tooling (Edms) Bpk v Scope Precision Engineering (Edms) Bpk* 1979 (1) SA 391 (A), and *SIFRIS en 'n Ander, NNO v Vermeulen Broers* 1974 (2) SA 218 (T), where the courts commence their investigation after accepting the contract to fall within the classification of *locatio conductio*.

³¹¹ New Zimmermann, page 394.

African position is. As such, the German law and English law positions are considered insofar as they may have relevance to the South African position.

(a) Option A

Option A is described as the “Priced contract with Activity Schedule”.³¹² The pricing methodology hereof closely relates to that of the FIDIC Yellow Book.³¹³ In accordance with this, the ECC book Option B will be compared therewith. As summarised above,³¹⁴ in this contracting philosophy the Employer has much participation while the Contractor executes the works through his representatives, the Project Manager and Supervisor.³¹⁵ This is akin to the FIDIC Yellow Book’s philosophy and the involvement of the Engineer therein.³¹⁶

The Contractor’s main responsibilities are similar across all of the Options: They are provided for in the Core Clauses and apply regardless of which Option is elected.³¹⁷ Core clause 2³¹⁸ deals with the Contractor’s design responsibility in respect of the works, which may encompass designing the entire works, or merely a part thereof.³¹⁹ Where the Contractor accepts risk, however, is in his

³¹² See the ECC book, Main Option Clauses, page 27 (Annex 126).

³¹³ FIDIC Yellow Book, Clause 4.1 (The Contract Price) (Annex 74), described as a lump sum price, and providing for a payment mechanism of a schedule of payments in Sub-Clause 14.4 (Schedule of Payments) (Annex 47).

³¹⁴ Chapter 4, paragraph 4.3.2.2 of this thesis.

³¹⁵ See the Project Manager’s and Supervisor’s roles as defined in Core Clause 14 (The *Project Manager* and the *Supervisor*) (Annex 115), page 5 of the ECC contract.

³¹⁶ See chapter 4, paragraphs 4.3.1.2(b) and 4.3.1.3(b) of this thesis.

³¹⁷ Should the parties wish to amend them further, they may do so either by way of the Z-clauses, or by way of the Works Information where they may be defined in detail (rather than amending Core Clause 2 to the ECC).

³¹⁸ Annex 14.

³¹⁹ Core clause 2 (Annex 14) allows for the “parts of the works” to be designed as specified in the Works Information. Accordingly, the parties may specify that the Contractor is responsible for the entire design or specify for which part of the design the Contractor is responsible.

pricing. He is required to achieve an end result,³²⁰ and, should he have omitted to price specifically for an item required for the execution of the works, it is deemed to be included in the prices for other items.³²¹

The method of establishing what is due to the Contractor at each payment interval is not dissimilar to that of the Yellow Book,³²² even though different terminology is used. The FIDIC Yellow Book allows for a Schedule of Payments,³²³ where the ECC Option A refers to an Activity Schedule.³²⁴ The Activity Schedule, like the Schedule of Payments, allows for a lump sum price to be broken into activities or groups that, when completed according to the criteria stated in the specific contract, will trigger payment.³²⁵

This method of assessment and payment is more rigid and certain than that of Option B,³²⁶ and by comparison, of the FIDIC Red Book.³²⁷ The philosophy is to have a more certain and established price paid to the Contractor at the end of the Contract, akin to a lump sum price – herein defined as the Price for Work done,³²⁸ or total of the Prices^{329, 330}

³²⁰ The works specified in the Works Information.

³²¹ *NEC Engineering and Construction Contract Guidance Notes* (June 2005), page 64.

³²² See chapter 4, paragraphs 4.3.1.2(b) and 4.3.1.3(b) of this thesis.

³²³ See Sub-Clause 14.4 (Schedule of Payments) (Annex 47).

³²⁴ See the ECC book, Main Option Clauses, specifically clauses 11.2(20) and 54, page 27 (Annex 125).

³²⁵ *NEC Engineering and Construction Contract Guidance Notes* (June 2005), page 60.

³²⁶ Allowing works to be re-measured and calculated using the Bill of Quantities.

³²⁷ Where works are measured, for instance under Clause 14 (Annex 49) of the Red Book.

³²⁸ ECC clause 11.2(27), defined under Option A, page 27 (Annex 125).

³²⁹ ECC clause 11.2(30), defined under Option A, page 27 (Annex 125).

³³⁰ See Sub-Clause 14.1 (The Contract Price) of the Yellow Book (Annex 74).

One could argue that the Employer here will also be paying for the end product, rather than for the services or labour to achieve that end product, as in the FIDIC Silver Book, and under specific circumstances, the FIDIC Yellow Book.³³¹

Unlike in the FIDIC Yellow Book,³³² there is no explicit obligation in ECC Option A for the Contractor to do all that is necessary to achieve the purpose for which the Employer requires the works. In FIDIC, this applies even if the exact specifications are not provided for in the Contract, and ultimately the works has to be fit for the purpose for which it is intended. In NEC EEC Option A, the Contractor is simply required to provide the works in accordance with the Works Information.³³³ This, however, does not detract from the conclusion that the Employer is essentially paying for the end product, which should be properly specified in the Works Information.

We are then faced with the same question as with the FIDIC Yellow Book:³³⁴

Does the ECC, when Option A is elected, fall to be classified as a *locatio conductio* (specifically the *locatio conductio operis*), *emptio venditio* or otherwise?

Where the ECC Option A departs from the FIDIC Yellow Book is that it does not seem to allow for payment to be divided in parts against different mechanisms. There is no provision to have part of the works executed against

³³¹ See chapter 4, paragraphs 4.3.1.2(b) and 4.3.1.3(b) of this thesis.

³³² Sub-Clause 4.1 (Contractor's General Obligations) (Annex 74).

³³³ ECC Core Clause 20.1, page 7.

³³⁴ See chapter 4, paragraphs 4.3.1.2(b) and 4.3.1.3(b) of this thesis.

an Activity Schedule (a lump-sum basis), and another part executed on the basis of being paid against a Priced contract with a Bill of Quantities (a measurement basis).³³⁵ It is a choice of one or the other. That, of course, does not disallow the parties to choose more than one Option, but is the exception to the rule and will not be explored in this thesis.

The ECC conditions allow the free issue of materials to the Contractor: They do not deal with this in a separate clause as the FIDIC Yellow Book and FIDIC Red Book do but identify the risk in such materials to the Employer's. Accordingly, the conditions contemplate a possibility of the Employer providing the Contractor with materials. As the Contract merely mentions this possibility, almost in passing, it must be presumed that it does not foresee all of the material being free-issued to the Contractor.

With Option A providing for a lump sum price contracting philosophy, implying the Employer is paying for the end product (the article) rather than the services or labour required to achieve this end product, this contract could possibly fall to be classified as falling within the *emptio venditio* (a contract of sale)³³⁶ rather than the *locatio conductio*. However, it does not mean we should disregard the *locatio conductio*. The *locatio conductio operis* also envisages the execution of work, with the promise to produce a certain specified result,³³⁷ making the classification once again challenging.

³³⁵ Option B, ECC book, page 29.

³³⁶ See Sharrock's comment on this point, page 360. See also New Sharrock, page 365.

³³⁷ See chapter 2, paragraph 2.2 of this thesis.

Here Zimmermann³³⁸ and his explanation of the decisive features of the *locatio conductio operis* are once again helpful.³³⁹ The customer (Employer under these contracts) was not interested in the service or the labour, or who performed it (in other words the Contractor himself, or another entity or person whom the Contractor may have engaged). The Employer would only be interested in the result; not how it was achieved. Thus, the Contractor would not be required to take instruction or direction from the Employer. When these characteristics are considered and compared to what the ECC Option A envisages, it becomes even more uncertain whether the *locatio conductio operis* is the correct fit. The extensive involvement of the Project Manager and the Supervisor on behalf of the Employer during the execution of the works is in direct conflict with an assumption of a customer that is only interested in the end result.

The first deviation from these decisive features is the obligation of the Contractor to abide by instructions given by the Project Manager and the Supervisor (acting on behalf of the Employer).³⁴⁰ These instructions are not limited to, and may even depart from, what the Contractor and Employer agreed to at the time of contracting. In fact, they may vary the Works Information.³⁴¹

The Contractor is bound to obey instructions as to the manner of carrying out the work from the Employer (issued through the Project Manager or Supervisor). This quite clearly moves away from the principles of the *locatio*

³³⁸ New Zimmermann, page 394.

³³⁹ See chapter 2, paragraph 2.2 of this thesis.

³⁴⁰ See ECC Core Clause 27.3 (Other responsibilities) (Annex 136), page 8.

³⁴¹ See ECC Core Clause 14.3 (The Project Manager and the Supervisor) (Annex 115), page 5.

conductio operis,³⁴² in that the customer is not interested in how the end result is achieved. This involvement of the Employer goes even further.

Core clause 26³⁴³ of the ECC (applicable to all of the Options) deals with subcontracting. This clause requires, *inter alia*, that the Contractor submit the name of each proposed Subcontractor to the Project Manager for his acceptance,³⁴⁴ as well as the proposed conditions the Contractor intends using to contract with this Subcontractor.³⁴⁵ The Contractor may not contract with a Subcontractor without the Project Manager's acceptance.³⁴⁶ This, of course, allows the Employer a great deal of control over which Subcontractors the Contractor engages to execute the works, and who ultimately does the physical work.³⁴⁷ However, unlike the FIDIC Yellow Book and FIDIC Red Book,³⁴⁸ the ECC does not make any provision for the nomination or proposal of subcontractor, which the Employer may require the Contractor to use.³⁴⁹

The ECC book also offers the Employer control over which natural persons the Contractor engages. The specific people – not only the subcontractor – that the Contractor intends to use and uses, are dealt with in Core clause 24³⁵⁰: “People”.³⁵¹ The Contractor is required to name the key persons he intends

³⁴² Zimmermann, page 394.

³⁴³ Annex 15.

³⁴⁴ Core clause 26.2 of the ECC (page 8) (Annex 15).

³⁴⁵ Core clause 26.3 of the ECC (page 8) (Annex 15).

³⁴⁶ Core clause 26.3 of the ECC (page 8) (Annex 15).

³⁴⁷ Gorley T “The missing link in construction contracts” JBL Vol 2 Part 3 (ISSN 1021-7061), page 129.

³⁴⁸ See Sub-Clause 4.5 (Nominated Subcontractors) in the FIDIC Yellow Book (Annex 77), and Clause 5 (Nominated Subcontractors) in the FIDIC Red Book (Annex 57).

³⁴⁹ See *NEC Engineering and Construction Contract Guidance Notes* (June 2005), page 43.

³⁵⁰ Annex 16.

³⁵¹ ECC book, page 7.

using in the execution of the works in the Contract Data.³⁵² Practically, of course, this allows the Employer an opportunity to consider those persons at contracting stage and to either agree to them, or require them to be changed. Where the Contractor intends replacing such a person, either by necessity or choice,³⁵³ the Contractor is required to submit to the Project Manager the names and particulars the replacement person for the Project Manager's acceptance.³⁵⁴ The Project Manager may, on behalf of the Employer, reject such a proposed replacement person should he believe that person is not as suitably qualified or experienced as the person he is replacing.³⁵⁵

This clause also allows the Project Manager (on behalf of the Employer) to instruct the Contractor to remove any employee. He is required to give reasons, but the Contractor is obliged to arrange, after one day, that the particular employee has no further connection with the work included in that particular contract.³⁵⁶

As with the FIDIC Yellow Book, here too it cannot be said that the Employer under the ECC book Option A is only interested in the product or result of the labour.³⁵⁷ The ECC book Option A certainly does not consider an Employer who leaves the Contractor to achieving the result on his terms.³⁵⁸ The ECC Option A prescribes the manner in which the Contractor is required to execute

³⁵² Core clause 24.1 (People) (Annex 16), ECC book, page 7.

³⁵³ A person may have left his employ.

³⁵⁴ Core clause 24.1 (People) (Annex 16), ECC book, page 7.

³⁵⁵ Core clause 24.1 (People) (Annex 16), ECC book, page 7.

³⁵⁶ Core clause 24.2 (People) (Annex 16), ECC book, page 7.

³⁵⁷ Zimmermann, page 394.

³⁵⁸ Zimmermann, page 394.

the works, and the Contractor is required to allow the Supervisor to test the works before it is completed.³⁵⁹ The Contractor is further required to keep the Project Manager (on behalf of the Employer) abreast of how the Contractor intends timing the executing the works by submitting a time programme to the Project Manager.³⁶⁰ Should the Contractor foresee any event or circumstance that may delay the execution, the Contractor is required to notify the Project Manager of the matter so that the Project Manager is afforded an opportunity to mitigate against the effects thereof.³⁶¹ The Contractor is required to submit revised programmes to the Project Manager at specified intervals³⁶² with a great deal of information,³⁶³ which place the Project Manager (and thereby the Employer) in a position where at all times he is aware of the progress whilst the Contractor is executing the works.

With all the above in mind, it is clear that the Employer under the ECC Option A, has a very real interest in the services or the labour the Contractor offers, who performs the services and labour, and ultimately executes the works, and how it is performed. The ECC Option A therefore falls short of what Zimmermann describes to be a decisive feature of the *locatio conductio operis*.³⁶⁴

(b) Option B

³⁵⁹ Core clause 40 (Tests and inspections) (Annex 137), ECC book, page 11, and Core Clause 41 (Testing and inspection before delivery) (Annex 123), ECC book, page 11.

³⁶⁰ Core clause 31 (The programme) (Annex 138), ECC book, page 9.

³⁶¹ Core clause 16 (Early Warning) (Annex 116), ECC book, page 5.

³⁶² Core clause 32 (Revising the Programme) (Annex 119), ECC book, page 10.

³⁶³ Core clause 31.2 (The programme) (Annex 138), ECC book, page 9.

³⁶⁴ New Zimmermann, page 394.

Option B is described as the “Priced contract with bill of quantities”.³⁶⁵ The pricing methodology closely relates to that of the FIDIC Red Book,³⁶⁶ and accordingly the ECC Option B will be compared in the most therewith. As summarised above,³⁶⁷ in this contracting philosophy the Employer has much participation while the Contractor executes the works through his representatives, the Project Manager and Supervisor.³⁶⁸ This is akin to the FIDIC Red Book’s philosophy and the involvement of the Engineer therein.³⁶⁹

The Contractor’s main responsibilities are similar across all of the Options. They are provided for in the Core Clauses and apply regardless of which Option is elected.³⁷⁰ Core clause 2³⁷¹ deals with the Contractor’s design responsibility in respect of the works, which may encompass designing the entire works, or merely a part thereof.³⁷² Under this contracting philosophy, the Contractor is paid for work executed against a Bill of Quantities.³⁷³ He accordingly does not take the same risk as under a lump sum price philosophy.³⁷⁴

³⁶⁵ See the ECC book, Main Option Clauses (Annex 127), page 29.

³⁶⁶ FIDIC Red Book, Clause 12 (Method of Measurement) (Annex 48).

³⁶⁷ Chapter 4, paragraph 4.3.2.2 of this thesis.

³⁶⁸ See the Project Manager’s and Supervisor’s roles as defined in Core Clause 14 (The *Project Manager* and the *Supervisor*) (Annex 115), page 5 of the ECC contract.

³⁶⁹ See chapter 4, paragraphs 4.3.1.2(c) and 4.3.2.1(c) of this thesis.

³⁷⁰ Should the parties wish to amend them further, they may do so either by way of the Z-clauses, or by way of the Works Information where they may be defined in detail (rather than amending Core Clause 2 to the ECC).

³⁷¹ Annex 14.

³⁷² Core clause 2 (Annex 14) allows for the “parts of the works” to be designed as specified in the Works Information. Accordingly, the parties may specify that the Contractor is responsible for the entire design or specify for which part of the design the Contractor is responsible.

³⁷³ *NEC Engineering and Construction Contract Guidance Notes* (June 2005), page 65.

³⁷⁴ *NEC Engineering and Construction Contract Guidance Notes* (June 2005), page 64.

The method of establishing what is due to the Contractor at each payment interval is not dissimilar to that of the Red Book,³⁷⁵ even though different terminology is used. The FIDIC Red Book allows for a Method of Measurement³⁷⁶ where the ECC Option B refers to a Bill of Quantities.³⁷⁷ A Bill of Quantities may be included in the FIDIC Red Book, and the Method of Measurement applied against it. The end result is the same: The Contractor is paid for the work executed against prices and rates included in the Contract, using a measurement and evaluation method provided for in the specific contract.

Here it is clearer that the Employer is paying for the services or labour to achieve the end product, as he does under the FIDIC Red Book.³⁷⁸ In both the FIDIC Red Book and the NEC ECC Option A, the Contractor is simply required to provide the works in accordance with the Works Information.³⁷⁹

We are then faced with the same question as with the FIDIC Red Book:³⁸⁰ Is the ECC, when Option B is elected, classified as a *locatio conductio* (specifically the *locatio conductio operis*), *emptio venditio* or otherwise? Up to this point, it seems that the ECC Option B may well fall comfortably within the *locatio conductio operis*. Accordingly, what Zimmermann regards as the decisive features of this classification³⁸¹ need to be investigated.

³⁷⁵ See chapter 4, paragraphs 4.3.1.2(c) and 4.3.2.1(c) of this thesis.

³⁷⁶ See Clause 12 (Measurement and Evaluation) (Annex 48), specifically Sub-Clause 12.2 (Method of Measurement).

³⁷⁷ See the ECC book, Main Option Clauses, specifically clauses 11.2(21) and 55, page 29 (Annex 11).

³⁷⁸ See chapter 4, paragraphs 4.3.1.2(c) and 4.3.2.1(c) of this thesis.

³⁷⁹ ECC Core Clause 20.1 (Annex 135), page 7.

³⁸⁰ See chapter 4, paragraphs 4.3.1.2(c) and 4.3.2.1(c) of this thesis.

³⁸¹ New Zimmermann, page 394.

Before those features are investigated, it bears mentioning once again that the ECC book (also under Option B) allows the free issue of materials to the Contractor: It does not deal with this in a separate clause as the FIDIC Red Book does, but identifies the risk in such materials to be that of the Employer. Accordingly, the conditions consider the possibility of the Employer providing the Contractor with materials. As the Contract merely mentions this possibility, almost in passing, it must be presumed that it does not foresee all of the material being free-issued to the Contractor. It is then not necessary to consider what the position would be where the Contractor simply provides the labour.³⁸²

According to Zimmermann,³⁸³ one of the decisive features of the *locatio conductio operis* is that the customer (Employer under these contracts) was not interested in the service or the labour, or who performed it (in other words the Contractor himself, or another entity or person whom the Contractor may have engaged). The Employer would only be interested in the result; not how it was achieved. Thus, the Contractor would not be required to take instruction or direction from the Employer. When these characteristics are considered and compared to what the ECC Option B envisages, it becomes less certain whether the *locatio conductio operis* is the correct fit. The extensive involvement of the Project Manager and the Supervisor on behalf of the

³⁸² Which may be closer related to the *locatio conductio operarum*.

³⁸³ New Zimmermann, page 394.

Employer during the execution of the works is in direct conflict with the assumption of a customer that is only interested in the end result.

Another deviation from these decisive features is the obligation of the Contractor to abide by instructions given by the Project Manager and the Supervisor – acting on behalf of the Employer.³⁸⁴ These instructions are not limited to, and may even depart from, what the Contractor and Employer agreed to at the time of contracting. They may vary the Works Information.³⁸⁵

The Contractor is bound to obey instructions as to the manner of carrying out the work from the Employer, issued through the Project Manager or Supervisor. This quite clearly moves away from the principles of the *locatio conductio operis*,³⁸⁶ that the customer is not interested in how the end result is achieved, only that the end result is achieved. This involvement of the Employer goes even further.

Core clause 26³⁸⁷ of the ECC (applicable to all of the Options) deals with subcontracting. This clause requires, *inter alia*, that the Contractor submit the name of each proposed Subcontractor to the Project Manager for his acceptance,³⁸⁸ as well as the proposed conditions the Contractor intends using to contract with this Subcontractor.³⁸⁹ The Contractor may not contract with a Subcontractor without the Project Manager's acceptance of that

³⁸⁴ See ECC Core Clause 27.3 (Other responsibilities) (Annex 136), page 8.

³⁸⁵ See ECC Core Clause 14.3 (The Project Manager and the Supervisor) (Annex 115), page 5.

³⁸⁶ Zimmermann, page 394.

³⁸⁷ Annex 15.

³⁸⁸ Core clause 26.2 of the ECC (page 8) (Annex 15).

³⁸⁹ Core clause 26.3 of the ECC (page 8) (Annex 15).

Subcontractor.³⁹⁰ This of course allows the Employer a great deal of control over which Subcontractors the Contractor engages with to execute the works,³⁹¹ and who ultimately does the physical work.³⁹² However, unlike the FIDIC Red Book,³⁹³ the ECC does not make any provision for the nomination or proposal of a subcontractor which the Employer may require or prefer the Contractor to use.³⁹⁴ Even though it added to and supported the argument that the FIDIC Red Book does not fall under the *locatio conductio operis*, there are sufficient deviations from Zimmermann's decisive features.³⁹⁵ These deviations prove that the lack of a provision dealing with the nomination of subcontractors, does not affect the current argument.

The ECC book also offers the Employer control over which natural persons the Contractor engages. The specific people – not only the subcontractors – that the Contractor intends to use and uses are dealt with under Core clause 24³⁹⁶: “People”.³⁹⁷ The Contractor is required to name the key persons³⁹⁸ he intends using in the execution of the works in the Contract Data.³⁹⁹ Practically, of course, this allows the Employer an opportunity to consider those persons at contracting stage and to either agree to them, or require that they be changed. Where the Contractor intends to replace such a person, either by necessity or

³⁹⁰ Core clause 26.3 of the ECC (page 8) (Annex 15).

³⁹¹ Gorley T “The missing link in construction contracts” JBL Vol 2 Part 3 (ISSN 1021-7061), page 129.

³⁹² Gorley T “The missing link in construction contracts” JBL Vol 2 Part 3 (ISSN 1021-7061), page 129.

³⁹³ See Sub-Clause 4.5 (Nominated Subcontractors) (Annex 77) in the FIDIC Yellow Book, and Clause 5 (Nominated Subcontractors) (Annex 57) in the FIDIC Red Book.

³⁹⁴ See *NEC Engineering and Construction Contract Guidance Notes* (June 2005), page 43.

³⁹⁵ New Zimmermann, page 394.

³⁹⁶ Annex 16.

³⁹⁷ ECC book, page 7.

³⁹⁸ Persons that are important, almost vital, and accordingly key to his operations.

³⁹⁹ Core clause 24.1 (People) (Annex 16), ECC book, page 7.

choice,⁴⁰⁰ the Contractor is required to submit to the Project Manager the names and particulars of the replacement person for the Project Manager's acceptance.⁴⁰¹ The Project Manager may, on behalf of the Employer, reject such a proposed replacement person should he believe that person is not as suitably qualified or experienced as the person he is replacing.⁴⁰²

This clause also allows the Project Manager (on behalf of the Employer) to instruct the Contractor to remove any employee. He is required to give reasons, but the Contractor is obliged to arrange, after one day, that the particular employee has no further connection with the work included in that particular contract.⁴⁰³

As with the FIDIC Red Book, here too it cannot be said that the Employer under the ECC Option B is only interested in the product or result of the labour.⁴⁰⁴ The ECC Option B certainly does not consider an Employer who leaves the Contractor to achieving the result on his own terms.⁴⁰⁵ The ECC Option B prescribes the manner in which the Contractor is required to execute the works, and the Contractor is required to allow the Supervisor to test the works before it is completed.⁴⁰⁶ The Contractor is further required to keep the Project Manager (on behalf of the Employer) abreast of how the Contractor intends timing executing the works by submitting a time programme to the Project

⁴⁰⁰ A person may have left his employ.

⁴⁰¹ Core clause 24.1 (People) (Annex 16), ECC book, page 7.

⁴⁰² Core clause 24.1 (People) (Annex 16), ECC book, page 7.

⁴⁰³ Core clause 24.2 (People) (Clause P), ECC book, page 7.

⁴⁰⁴ Zimmermann, page 394.

⁴⁰⁵ Zimmermann, page 394.

⁴⁰⁶ Core clause 40 (Tests and inspections) (Annex 137), ECC book, page 11, and Core Clause 41 (Testing and inspection before delivery) (Annex 123), ECC book, page 11.

Manager.⁴⁰⁷ Should the Contractor foresee any event or circumstance which may delay the execution, the Contractor is required to notify the Project Manager of the matter so that the Project Manager is afforded an opportunity to mitigate against the effects thereof.⁴⁰⁸ The Contractor is required to submit revised programmes to the Project Manager at specified intervals⁴⁰⁹ with a great deal of information,⁴¹⁰ which places the Project Manager (and thereby the Employer) in a position at all times where he is aware of the progress whilst the Contractor is executing the works.

With all the above in mind, it is clear that the Employer under the ECC Option B has a very real interest in the services or the labour the Contractor offers, who performs the services and labour, and ultimately executes the works, and how it is performed. The ECC Option B accordingly falls short of what Zimmermann describes to be a decisive feature of the *locatio conductio operis*.⁴¹¹

Apart from the method of payment, Option B is almost identical to Option A with regard to the features that affect the decisive features of the *locatio conductio operis* that Zimmermann describes.⁴¹²

4.3.3.3 Conclusion

⁴⁰⁷ Core clause 31 (The programme) (Annex 138), ECC book, page 9.

⁴⁰⁸ Core clause 16 (Early Warning) (Annex 116), ECC book, page 5.

⁴⁰⁹ Core clause 32 (Revising the Programme) (Annex 119), ECC book, page 10.

⁴¹⁰ Core clause 31.2 (The programme) (Annex 138), ECC book, page 9.

⁴¹¹ New Zimmermann, page 394.

⁴¹² The discussion under this paragraph dealing with the ECC Option B, is almost identical to that of the preceding paragraph where the ECC Option A is discussed.

The ECC book (inclusive of all of the Options thereto), as the FIDIC books do as well, seeks to provide for an intricate industry that must take into consideration ever-changing and complex technological and economic circumstances. This is relatively easily achieved by providing particular conditions applicable to a particular project, by way of electing one of the Options on offer and completing required particulars unique to a project in the Contract Data, or by using the Z clauses⁴¹³ to change certain aspects of the standard agreement specifically.⁴¹⁴

The conclusion is inevitable: The ECC book's Option A and Option B do not fit the mould of the *locatio conductio operis*, *locatio conductio operarum*, or the *emptio venditio*. There are too many facets of each of the books that fit within any one of these classifications, in part, and in whole.

As Van Deventer has suggested, trying to fit the construction contract into a specific classification is indeed inappropriate.⁴¹⁵ Zimmermann's⁴¹⁶ conclusion that the construction contract has developed into a type of "self-made 'law'" accordingly finds substance. However, his observation was that it should be within the *conductio operis*. From what is set out above, it appears that neither the ECC book's Option A, nor Option B, will even fit into that general category.

⁴¹³ Annex 17.

⁴¹⁴ See *NEC Engineering and Construction Contract Guidance Notes* (June 2005), page 1.

⁴¹⁵ Van Deventer, page 75.

⁴¹⁶ Page 394, footnote 58.

It is time for the industry, perhaps with the assistance of the courts or the legislator, to develop this law with appropriate principles that suit its needs.

4.4 WARRANTY AGAINST LATENT DEFECTS IN THE FIDIC SILVER BOOK, YELLOW BOOK AND RED BOOK

4.4.1 None of the FIDIC books discussed provide explicitly for a warranty against latent defects, and accordingly, if it applies, it would have to be by way of common law – it would have to be implied.

4.4.2 With the classifications of the Silver Book, Yellow Book and Red Book contracts being inconclusive, it makes the possibility of the warranty against latent defects being implied into each of these contracts even more uncertain.

4.4.3 Should South African law heed Lorenz's warning⁴¹⁷ and also accept “mixed contracts” (as German law does),⁴¹⁸ allowing a portion of the construction contract to be classified as *emptio vendito*, that portion at the very least would without a doubt attract the warranty against latent defects.⁴¹⁹ But what of the rest? Should another section be classified as a *locatio conductio*,⁴²⁰ or should it be accepted that the construction contract does not fit either in part or in whole?⁴²¹ It may not attract this warranty at all. I support the comments of

⁴¹⁷ Lorenz, page 3.

⁴¹⁸ Lorenz, page 3.

⁴¹⁹ In the new Zimmermann an entire chapter is dedicated to the Liability for Latent Defects under the *emptio vendito*, from page 305 onwards.

⁴²⁰ In other words, should Zimmermann's suggestion that a new classification of the *locatio conductio* arise to cater for the building contracts find favour?

⁴²¹ Emphasising the need for a specialised field: Lorenz and Zimmermann's references to it possibly becoming a “self-made ‘law’” as discussed in chapter 2, paragraph 2.8 of this thesis.

Zimmermann⁴²² and Lorenz⁴²³ that this industry has developed a “self-made ‘law’”, and this law needs to be treated as a specialist field – in the way that England has done⁴²⁴ – so that it may be developed further to cater for its specific nuances and particular needs.

4.4.4 I accept that the construction contract may be classified in sections as previously mentioned. However, practically that would not address the problem.⁴²⁵ It may evolve into a never-ending debate as to what the criteria are for each of the divisions, and how to separate each portion of the contract into each division clearly.⁴²⁶ It will not provide legal certainty. I do not believe that an Employer should leave this aspect open for debate and wait for the law to develop. The parties should deal with the warranty expressly in the written terms of the contract,⁴²⁷ by way of a specific Particular Condition to the relevant FIDIC General Conditions.⁴²⁸

4.5 WARRANTY AGAINST LATENT DEFECTS IN THE NEC ECC BOOK

4.5.1 As with the FIDIC books, none of the NEC ECC Options provides explicitly for a warranty against latent defects, and if it applies, it would also have to be by way of common law – meaning that it would have to be implied.

⁴²² Page 394, footnote 58.

⁴²³ Lorenz, page 11.

⁴²⁴ The Technology and Construction Court, a sub-division of the Queen's Bench Division, part of the High Court of Justice, which is one of the Senior Courts of England and Wales.

⁴²⁵ See chapter 5, paragraphs 5.1.4 and 5.1.5 of this thesis.

⁴²⁶ Into the *emptio venditio*, or *locatio conductio*, or a new “self-made” section.

⁴²⁷ See chapter 5, paragraph 5.1.6 of this thesis.

⁴²⁸ See clause 1.1 to each of the FIDIC Books where provision is made for the Particular Conditions.

4.5.2 As is the case with the FIDIC Silver Book, the FIDIC Yellow Book, and the FIDIC Red Book, with the classifications of the NEC ECC Option A and the NEC ECC Option B contracts being inconclusive, it makes the possibility of the warranty against latent defects being implied into each of these as uncertain.

4.5.3 Even if South African law accepts the concept of a “mixed contract”,⁴²⁹ and allows a portion of the construction contract to be classified as *emptio venditio*, and that portion at the very least without a doubt attracts the warranty against latent defects,⁴³⁰ the same problem remains as with the FIDIC Books.⁴³¹

4.5.4 In the case of the NEC ECC contracts, I do not believe that an Employer should leave this aspect open for debate and wait for the law to develop. The parties should deal with the warranty expressly in the written terms of the contract.⁴³² This may easily be done by adding a Z-clause to the particular contracts.⁴³³

4.6 CONCLUSION

4.6.1 Many respected legal scholars have considered the law applicable to construction contracts in South Africa,⁴³⁴ England, and Germany.⁴³⁵ Even they have not been able to give clear direction as to the classification of the construction contract, or as to the law on the warranty against latent defects in

⁴²⁹ See chapter 5, paragraphs 5.1.4 and 5.1.5 of this thesis.

⁴³⁰ In the New Zimmermann an entire chapter is dedicated to the Liability for Latent Defects under the *emptio venditio*, from page 305 onwards.

⁴³¹ See chapter 4, paragraph 4.4.3 of this thesis.

⁴³² See chapter 5, paragraph 5.1.6 of this thesis.

⁴³³ Z-clauses are additional conditions of contract, where the parties wish to include additional conditions to that which the ECC provides for.

⁴³⁴ See chapter 2, paragraph 2.4 of this thesis.

⁴³⁵ See chapter 2, paragraph 2.6 of this thesis.

construction contracts. This then begs the question whether this warranty should in fact be implied into these contracts.

4.6.2 The construction contract – when considered as a whole and not dividing the contract into possible different sections – does not fall within the ambit of the *emptio venditio*: It is not merely a contract of sale. There may be an argument that facets of it, under certain circumstances,⁴³⁶ are synonymous with an *emptio venditio*. Here, the investigation of the FIDIC Silver Book, where the parties contract on a “turn-key” philosophy and the Employer is seemingly purchasing an end result rather than paying for the labour to achieve that end result, is interesting.⁴³⁷

4.6.3 With the lack of clarity as to the classification of the construction contract, it appears that the views that Zimmermann⁴³⁸ and Lorenz⁴³⁹ have expressed find substance: This field of law has developed sufficient intricacies unique to this industry that it justifies special consideration. The building, construction and engineering industries’ continued efforts to deal with these intricacies may well have developed a “self-made ‘law’”.

4.6.4 Is it not possible to argue that unless these specific contracts deal with latent defects explicitly, and provide for a warranty against them in their express terms, the liability does not arise? I do not believe that an employer (client) could, with certainty, rely on or argue that a contractor has provided him with

⁴³⁶ See chapter 4, paragraph 4.3.1.3(a) of this thesis.

⁴³⁷ See chapter 2, paragraph 2.2 of this thesis.

⁴³⁸ Page 394, footnote 58.

⁴³⁹ Lorenz, page 11.

an implied warranty against latent defects under these contracting philosophies. Even if it could be argued that he did, what would the remedies of a breach of this warranty be? It would not be justifiable to hold a contractor to the same consequences for a breach of a warranty against latent defects in an *emptio venditio*.⁴⁴⁰ It is my contention that a limited warranty against latent defects should be implied into these contracts.⁴⁴¹ But, where parties do not want to risk the possibility of later having the debate as to whether the warranty applies or not, they should deal with it expressly in the written terms of the contract.⁴⁴²

4.6.5 The classification of the construction and engineering contracts are inconclusive.⁴⁴³ Accordingly, it makes the possibility of the warranty against latent defects being implied into each of these contracts more uncertain. It appears that, unlike the international publications of FIDIC and NEC, the South African publications have recognised this possible difficulty: These South African publications have expressly dealt with and made a distinction between patent defects and latent defects.⁴⁴⁴ Until such time as the construction contract's true *essentialia* is carefully considered and developed, practitioners should take guidance from JBCC and GCC's approach and when contracting on the basis of the internationally published documents,⁴⁴⁵ provide for and deal explicitly with latent defects.

⁴⁴⁰ See chapter 3, paragraph 3.5 of this thesis.

⁴⁴¹ See paragraph 5.1.13 and 5.1.4 of this thesis.

⁴⁴² See chapter 5, paragraph 5.1.6 of this thesis.

⁴⁴³ See chapter 4, paragraphs 4.4.2 and 4.5.2 of thesis.

⁴⁴⁴ See chapter 4, paragraph 4.2 of this thesis.

⁴⁴⁵ Such as FIDIC and NEC.

4.6.6 It may be arguable that a warranty against latent defects may be implied into these construction contracts through custom or perhaps even trade usage: There appears to be an expectation in the industry that some form of a warranty exists and should indeed exist.⁴⁴⁶ This proposition, however, will need to be tested properly against the circumstances and requirements laid down by the courts.⁴⁴⁷ Should it be found that the warranty against latent defects is indeed to be implied into these contracts, I doubt that it will be to the extent as under the case of a contract of sale: The remedies applicable to such a warranty in a contract of sale and the fact that fault is not required for it to become applicable may have too harsh implications under a construction contract. It is improbable that a contractor would be held liable for latent defects to the extent that a seller of an object would be.⁴⁴⁸

4.6.7 I suggest that where such a warranty against latent defects is found to be implied into a construction contract, it would have to be a limited warranty, unique to this industry. This warranty should attract the question of causation and fault. In other words, the defect that has now become apparent (latent defect) should have been caused by something the Contractor did or didn't do before the Employer took over the executed contract works. Where the defect is a result of events beyond that of an act or inaction of the Contractor, the Contractor should not be held liable.⁴⁴⁹ This would be unjustifiable.

⁴⁴⁶ See chapter 4, paragraph 4.2 of this thesis. The South African publications have recognised that it should be dealt with expressly.

⁴⁴⁷ See chapter 5, paragraph 5.1.18 of this thesis.

⁴⁴⁸ See chapter 3, paragraph 3.5 of this thesis.

⁴⁴⁹ Where, under a contract of sale, the seller would have been liable.

4.6.8 What will also need to be considered and developed is certainty as to the period of time that a Contractor would be held liable for a breach of the proposed limited warranty against latent defects. Would it extend beyond the defects liability periods imposed by the respective forms of contract? Specifically where the contract does not explicitly deal with what could be termed a “latent defects liability period”.⁴⁵⁰ With the warranty against latent defects only serving as an example of possible *naturalia* of the construction contract, it is not necessary to discuss or deal with the liability to correct defects that may appear during the different defects liability periods provided for in the international standard forms of contracts.⁴⁵¹ McKenzie⁴⁵² comments that “where defects are of a latent character and are only discovered after the stipulated period, the employer is not precluded from claiming the costs of remedying such defects.” His view is accordingly that the expiry of the defects liability period would not preclude an employer to claiming the costs of remedying such a defect from the contractor. He does not deal with why it would be the cost of remedying the defect, rather than any other remedy: Such as is provided for by way of the *action empti* under the *emptio venditio*.⁴⁵³

⁴⁵⁰ As the nationally published construction contracts do: See paragraph 3.2 above.

⁴⁵¹ This defects liability period is dealt with in Sub-Clause 11 [Defects Liability] of the Silver Book, Yellow Book and Red Book. NEC ECC deals with the defects liability period by way of what it refers to as a defect correction period. In both these publications the special conditions to the contract will specify the period of liability. However, neither publications make a distinction between latent and patent defects as the South African publications clearly do.

⁴⁵² Page 214.

⁴⁵³ See chapter 3, paragraph 3.5.2 of this thesis.

5. CONCLUSION AND RECOMMENDATIONS

5.1 CONCLUSION

5.2 RECOMMENDATIONS

5.1 CONCLUSION

“The modern construction contract contains a most impressive and comprehensive set of regulations to govern the contractual relationship between the parties. If such a complete express set of regulations does not oust the *naturalia* of the construction contract, it is difficult to see that they can ever be ousted. If this is correct, then the *naturalia* have become irrebuttable presumptions of law, which is completely unacceptable.”¹

5.1.1 When regard is given to the specific provisions of the FIDIC² and NEC³ standard forms of contracts, it appears that parts of each contract may lend themselves to be classified as *emptio venditio*,⁴ where other parts suggest that a particular portion may rather be classified as *locatio conductio operis*,⁵ or even *locatio conductio operarum*.⁶

¹ Van Deventer, page 89.

² See chapter 4, paragraph 4.3.1 of this thesis.

³ See chapter 4, paragraph 4.3.2 of this thesis.

⁴ A good example is where the Contractor is responsible to provide the end product as a whole on a “turn-key” basis. See for instance the FIDIC Silver Book discussion in chapter 3, part D hereof.

⁵ The FIDIC Yellow Book may to some extent fall under this classification where the Employer chooses not to exercise a great degree of control over the Contractor’s operations (where the Yellow Book allows a lot of control) and provides for this variance from the standard conditions through the special conditions. See the discussion on the FIDIC Yellow Book in chapter 2, part E hereof.

⁶ This may be the case where the FIDIC Red Book where the Employer chooses to “free-issue” all of the required materials to the Contractor, and, essentially, the Contractor is simply paid for labour. That, however, opens the discussion as to the independent contractor, and an employee.

5.1.2 In other words, and as an example, let us turn to the FIDIC Yellow Book where a Contractor⁷ may be required to provide a plant on a turn key basis. In such a case, he would also be responsible for the design, providing all materials, all labour and any work required to achieve the purpose for that particular plant, for a lump sum price. The Employer⁸ agrees not to interfere with how the Contractor achieves the result, and thus that part of the contract may be considered closer to *emptio venditio*: The Employer purchases the end product.

5.1.3 However, in the same contract, the Employer may prefer to provide the design for a particular part of that plant. The design may be specialised or protected intellectual property unknown to the Contractor or provided through a specific design firm.⁹ The Employer may supply materials (free-issued) to the Contractor, and the Contractor is only required to provide the labour to execute that part of the Works. That part of the contract does not lend itself to *emptio venditio* any longer but is now closer to *locatio conductio*.¹⁰ The Yellow Book allows for all of these different possibilities and gives the choice to contract on any one of these bases.¹¹ Could one therefore argue that this contract comprises an amalgamation of the *emptio venditio* and the *locatio conductio*? Or do two distinct contracts exist that even though in one document, have no other relevance to each other?

⁷ See the definition in chapter 4, paragraph 4.3.1.1 of this thesis.

⁸ See the definition in chapter 4, paragraph 4.3.1.1 of this thesis.

⁹ And that firm may act as his Engineer under that contract.

¹⁰ For the purposes of this debate, accepting for the moment that the common construction contract may under some circumstances fall to be classified as part of the *locatio conductio*.

¹¹ See chapter 4, paragraphs 4.3.2.2(b) and 4.3.1.3(b) of this thesis.

5.1.4 It is interesting to note that German law recognises “mixed contracts”¹² and accepts that “combining elements of sales law with rules pertaining to contracts for work and labour” may occur and be relevant. Consequently, at least under German law, a portion of the construction contract could be classified as a *locatio conductio operis*, whilst another portion could be classified as *emptio venditio*. Lorenz¹³ acknowledges that the systems that do not recognise such a possibility of having “mixed contracts” will face considerable difficulty in specifically establishing and defining what classification should be given to a contract and what law would accordingly be applicable thereto. Where two distinct contracts are in one document, then the question begs which laws apply to which portions of the document, especially where clauses from both are integrated into one singular document.

5.1.5 Recognising the possibility of “mixed contracts” may provide South African law with the beginnings of a solution. That is not to say that South African law has disregarded this possibility: Differentiation within contract types are accepted, acknowledging that there may be sub-types to certain contracts.¹⁴ However, does that mean that a warranty against latent defects will apply only to the *emptio venditio* portion of that contract, where at least there is certainty that the *emptio venditio* attracts that warranty *ex lege*,¹⁵ or will it apply to the entire contract? Will it be artificially applied to a proportionate of the performance

¹² Lorenz, page 3.

¹³ Lorenz, page 3.

¹⁴ Naudé T “The preconditions for recognition of a specific type or sub-type of contract – the *essentialia-naturalia* approach and the typological method” TSAR 2003 3, page 412.

¹⁵ See chapter 3, paragraph 3.5 of this thesis.

where the materials and work done with it have merged into a single end-product?

5.1.6 It would be prudent of drafters of these contracts, and the parties to them, to deal with such a warranty and the consequences for a breach thereof explicitly, rather than risk argument ensuing thereon at a later stage. This proposition is made, firstly, in light of the conclusions drawn in this thesis¹⁶ to the effect that there is no certainty as to whether or not the warranty against latent defects should be implied into a *locatio conductio* (or for that matter the construction contract). It is submitted that, where no clear remedy for breach of such a warranty is apparent, the warranty cannot exist. The usual remedies available for a breach of a warranty against latent defects in an *emptio venditio* would be unjustifiable in the case of the construction contract.¹⁷ Specifically, because no fault is required.¹⁸

5.1.7 Even though the comment is made in the case of exception clauses, Lötzt¹⁹ recognises and advises that careful drafting can give clarity and security. Furthermore, prudence remains the recommendation in light of the conclusion that the modern construction contract (specifically those published by FIDIC and NEC) may not fall within the classic ambit of the *locatio conductio* classification.

¹⁶ See chapter 4, paragraphs 4.3.1.5 and 4.3.3.3 of this thesis.

¹⁷ See chapter 3, paragraph 3.6.7 of this thesis.

¹⁸ See chapter 3, paragraphs 3.4 and 3.5 of this thesis.

¹⁹ Lötzt DJ "Drafting exception clauses" *De Rebus Procuratoriis*, May 1975, page 219.

5.1.8 Keating²⁰ comments that where there are comprehensive written terms, as found in the standard forms of building, construction and engineering contracts, there may be little room to imply any terms. If subject matter is expressly dealt with, there will not be room to imply any terms. This of course is entirely correct.²¹ The difficulty lies with the contract that do not deal with latent defects or the warranty against latent defects at all.²² This issue becomes particularly apparent where the work and the materials used for the end product cannot be clearly distinguished from each other. Should a latent defect be considered as an *ex lege* provision for the whole process or not at all.

5.1.9 The investigation as to whether the warranty against latent defects may be implied into the building, construction and engineering contracts has been challenging, specifically when dealing with the common law applicable thereto. Some solution for this predicament is found in Wallace²³ where he comments that when considering the common law in this field “practitioners and judges [are] faced with a bailment or related implied term problem where common law authority, as is so often the case, is sketchy or lacking, or its rationale unclear.” Nevertheless, the common law was consulted, and the investigation commenced with the consideration of the classification of these contracts.²⁴

This investigation must be read in light of Wallace’s²⁵ observation that –

²⁰ Keating, page 37; New Keating, page 52.

²¹ Christie, page 168.

²² Such as FIDIC and NEC.

²³ Wallace ID “Review Work(s): International Encyclopaedia of Comparative Law. Vol VIII: Specific Contracts. Ch. 8 Contracts for Work on Goods and Building Contracts by Werner Lorenz” ASCL, page 770.

²⁴ See chapter 2, paragraph 2.4 and 2.6, as well as chapter 3 paragraphs 4.3.1.3(a), 4.3.1.3(b), 4.3.1.3(c), and 4.3.2.3 of this thesis.

²⁵ Wallace ID “Review Work(s): International Encyclopaedia of Comparative Law. Vol VIII: Specific Contracts. Ch. 8 Contracts for Work on Goods and Building Contracts by Werner Lorenz” ASCL, page 769.

“Since most of the civilized systems of law [...] can be expected to give effect to the expressed agreement of freely contracting parties in a commercial matter, a comparative study of building contract law is likely, therefore, to be largely a study of the building contracts most commonly in use in the countries involved, whereas a comparative study of contracts for “work on goods” is likely to involve an in-depth study of often differing (and sometimes archaic) legal rules or principles.”

5.1.10 The South African courts have simply accepted that the construction contract falls under the classification of a *locatio conductio*.²⁶ Having investigated and considered the decisive features²⁷ of the *locatio conductio*, with particular reference to the FIDIC Silver Book, the FIDIC Yellow Book, and the FIDIC Red Book, as well as the NEC ECC Option A and Option B conditions, the conclusion is that none of these conditions falls comfortably within this classification.

5.1.11 It was also established that the building, engineering and construction contract (when considered as a whole and not dividing the contract into possible different sections) also does not fall within the ambit of the *emptio venditio*. It is not merely a contract of sale. There may be an argument that facets of it, under certain circumstances,²⁸ are synonymous with an *emptio venditio*. Here the investigation as to the FIDIC Silver Book, where the parties contract on a “turn-key” philosophy, and the Employer seemingly purchases an end result

²⁶ See chapter 2, paragraph 2.4 of this thesis.

²⁷ New Zimmermann, page 394.

²⁸ See paragraph 4.3.1.3 and 4.3.3.3 of this thesis.

rather than paying for the labour to achieve that end result, found relevance.²⁹

This led to the consideration of a possibility of having “mixed contracts”.³⁰

5.1.12 Should South African law heed Lorenz’s warning,³¹ and accept “mixed contracts” as German law does,³² allowing a portion of the construction contract to be classified as *emptio venditio*, that portion at the very least would without a doubt attract the warranty against latent defects.³³ But there has not been as satisfactory answer as to the rest. Should another section be classified as a *locatio conductio*,³⁴ or should it be accepted that the construction contract doesn’t fit either in part or in whole,³⁵ the problem remains: Will the warranty against latent defects be implied into the contract or not? Moreover, although I accept that the construction contract may be classified in sections as aforesaid,³⁶ this does not address the practical problem at hand.³⁷ It may devolve into a never-ending debate as to what the criteria are for each of the divisions, and how to separate each portion of the contract into each clear division.³⁸ This is accordingly not recommended.

²⁹ See chapter 2, paragraph 2.2 of this thesis.

³⁰ See chapter 2, paragraph 2.7.4 of this thesis.

³¹ Lorenz, page 3.

³² Lorenz, page 3.

³³ In the New Zimmermann an entire chapter is dedicated to the Liability for Latent Defects under the *emptio venditio*, from page 305 onwards.

³⁴ In other words, should a Zimmermann’s suggestion that a new classification of the *locatio conductio* arise to cater for the building contracts find favour.

³⁵ Emphasising the need for a specialised field: Lorenz and Zimmermann’s references to it possibly becoming a “self-made ‘law’” as discussed in chapter 2, paragraph 2.8 of this thesis.

³⁶ See chapter 4, paragraphs 4.3.1.5 and 4.3.3 of this thesis.

³⁷ See chapter 5, paragraphs 5.1.4 and 5.1.5 of this thesis.

³⁸ Into the *emptio venditio*, or *locatio conductio*, or a new “self-made” section.

5.1.13 I support the comments of Zimmermann³⁹ and Lorenz⁴⁰ that the building, construction and engineering industry's continuous efforts to deal with the intricacies and challenges that come with it, has resulted in the development of a "self-made 'law'". This law needs to be treated as a specialist field (as it is in England)⁴¹ so that it may be developed further to cater for its specific nuances and particular needs. It has become necessary for the law relating to these specialised contracts to be reconsidered and to develop anew the *essentialia* and accordingly the *naturalia* applicable and relevant thereto. This development will ensure much greater certainty to the industry.

5.1.14 I found it arguable that a warranty against latent defects may be implied into construction and engineering contracts through custom or perhaps even trade usage: There appears to be an expectation in the industry that such a warranty exists and should indeed exist.⁴² This proposition, however, will need to be tested properly against the circumstances and requirements laid down by the courts.⁴³ Should it be found that the warranty against latent defects is indeed to be implied into these contracts, I doubt that it will be to the extent as under the case of a contract of sale: With no requirement of fault on the part of the contractor.⁴⁴ It is improbable that a contractor would be held liable for latent defects to the extent that a seller would be.

³⁹ Page 394, footnote 58.

⁴⁰ Lorenz, page 11.

⁴¹ The Technology and Construction Court, a sub-division of the Queen's Bench Division, part of the High Court of Justice, which is one of the Senior Courts of England and Wales.

⁴² See chapter 4, paragraph 4.2 of this thesis. The South African publications have recognised that it should be dealt with expressly.

⁴³ See chapter 5, paragraph 5.2 of this thesis.

⁴⁴ As discussed in Zimmermann, pages 305 to 337.

5.1.15 I suggest that the parties to construction contracts in general have already shown this common intent through their dealings on other aspects. For instance, and as an example, their approach to a *force majeure* event. A *force majeure* event is an event that is outside of the control of both parties and not as a result of an action or inaction of either party.⁴⁵ Nevertheless, the parties accept that the contractor should not bear the entire risk and allows him to at the very least claim for additional time (albeit not always money).⁴⁶

5.1.16 Accordingly, and following this intent, I suggest that such a warranty against latent defects should be implied into a construction contract but that this warranty be a limited warranty, unique to this industry. This warranty should attract the question of causation. In other words, the defect that has now become apparent (latent defect) should have been caused by something the contractor did or didn't do before the employer took over the executed contract works. Where the defect is a result of events beyond that of an act or inaction of the contractor, the contractor should not be held liable.⁴⁷ This would be unjustifiable. Accordingly, along with the *essentialia* and *naturalia* of the construction contract such a warranty should be addressed and developed.

5.1.17 It appears that the South African publications of construction and engineering contracts (JBCC and GCC) have acknowledged the difficulty and peculiarity facing the classification of the construction contract, specifically in that it does

⁴⁵ See in this regard Sub-Clause 19.1 of the Silver Book, Yellow Book and Red Book where this term is defined.

⁴⁶ See in this regard Sub-Clause 19.4 of the Silver Book, Yellow Book and Red Book where the consequences of an event of *force majeure* is dealt with.

⁴⁷ Where, under a contract of sale, the seller would have been liable.

not assume that the warranty against latent defects will be implied into these standard form contracts:⁴⁸ These South African publications deal with the warranty against latent defects explicitly and set out in detail the consequences of a breach thereof. It was accordingly not necessary to investigate the warranty against latent defects further against these publications. It must be noted, however, that their classification is equally important as there may be further *naturalia* that are relevant to them, and for legal certainty, required to be developed.

5.1.18 The Latham Report⁴⁹ states that the best solution, as is obvious, is to avoid disputes. That is not always possible, and so it recommends Adjudication as the preferred dispute resolution mechanism,⁵⁰ bringing in Arbitrations and the courts only after the works have been completed.⁵¹ The consequence has been that the standard forms of contract now make specific provision for such alternate dispute resolution mechanisms.⁵² Perhaps also because South Africa does not have the benefit of specialised courts in this field of law,⁵³ these alternate dispute resolution mechanisms, outside of the courts, have become more popular: Mediation, adjudication and arbitration.⁵⁴ These dispute resolution mechanisms are especially attractive in an industry that jealously

⁴⁸ See chapter 4, paragraph 4.2 of this thesis

⁴⁹ Latham Report, pages 87 and 91.

⁵⁰ Dancaister C “Construction Adjudication in the United Kingdom: Past, Present, and Future” Journal of Professional Issues in Engineering Education and Practice © ASCE, April 2008, page 204.

⁵¹ Latham Report, page 91.

⁵² See Sub-Clauses 20.2 to 20.8 of the FIDIC conditions of contract (Annex 1), and Clause W of the NEC conditions of contract (Annex 2).

⁵³ As England does: Technology and Construction Court, a sub-division of the Queen's Bench Division, part of the High Court of Justice, which is one of the Senior Courts of England and Wales

⁵⁴ Gaitskell R “International statutory adjudication: its development and impact” Construction Management and Economics (July 2007) 25, 777-784, page 779.

protects its reputations because of the privacy they offer.⁵⁵ Of course, the opportunity to have a presiding officer with experience in the field of the dispute is also attractive.⁵⁶

5.1.19 Unfortunately, the South African courts have as a result not had the full opportunity to investigate and consider the modern construction contract. This has regrettably led to less publishing in the form of case law and writings on the topic than would usually be consulted for a thesis of this nature and provides limited resources to investigate this subject matter.⁵⁷ This has proven to be a particular challenge in researching the subject matter of this thesis.

5.1.20 Moreover, because awards and findings in adjudications and arbitrations are not published,⁵⁸ and because they are not binding or even persuasive to the South African courts,⁵⁹ it has led to uncertainty in the industry. It does not mean that because a particular argument was successful in one arbitration, it will succeed in another. Any previous arbitration award need not be considered by any other arbitrator, or court for that matter, as the case would be in court where

⁵⁵ Many are made subject to stringent confidentiality provisions. Boxall T, Hutchison A, Wright M “NEC3ECC clause 10.1: An enforceable contractual duty of trust and co-operation in the construction industry?” 2017 Stell LR 97, 117.

⁵⁶ Having the benefit of agreeing to an adjudicator or arbitrator, rather than having a judge appointed, provides the parties with the opportunity to choose a practitioner well versed in their field of dispute. Also see Cornes, chapter 13.

⁵⁷ The decisions are not for public record in South Africa, and, as aforesaid, in many instances subject to stringent confidentiality provisions.

⁵⁸ The contracts in question require the process to be a private and confidential dispute resolution process. In other words, even though the arbitrators provide reasoned decisions, those decisions and the reasoning behind them are not made available to any other persons other than those parties who are part of the arbitration.

⁵⁹ Should there be an opportunity to present such an award in court where it is not subject to confidentiality clauses.

a court of similar standing (or higher standing) has considered a particular point of law.

5.2 RECOMMENDATIONS

“Modern building projects [...] involve substantial sums of money, complex technical descriptions of the works and other contractual documentation, relatively long-term rights and obligations between the parties, and fairly detailed administrative and financial arrangements during the duration of the project.”⁶⁰

5.2.1 For the time being, until there is greater certainty in the industry, either by way of the legislator or through the courts, practitioners, specifically the drafters of these contracts, should not leave this aspect open for possible deliberation should a dispute arise. The parties should deal with the warranty against latent defects expressly in the written terms of their contracts, by way of specific particular conditions to the relevant FIDIC General Conditions,⁶¹ or by adding Z-clauses to the NEC ECC particular contracts:⁶²

“...in a comprehensive written contract such as the standard form of building contract there may be very little room for the implication of any terms for if the parties have dealt expressly with them in the

⁶⁰ Wallace ID “Review Work(s): International Encyclopaedia of Comparative Law. Vol VIII: Specific Contracts. Ch. 8 Contracts for Work on Goods and Building Contracts by Werner Lorenz” ASCL, page 769.

⁶¹ See clause 1.1 to each of the FIDIC Books where provision is made for the Particular Conditions.

⁶² Z-clauses are additional conditions of contract, where the parties wish to include additional conditions to that which the ECC provides for.

contract no terms dealing with the same subject matter can be implied.”⁶³

5.2.2 Custom should accordingly find preference over rigid rules, especially in an industry that requires flexibility, such as this. It is “constantly developing and adapting to changing requirements of the commercial world, in particular economic and technological situations.”⁶⁴

5.2.3 There certainly is justification for a separate classification for the construction contract. It is crucial for the construction and engineering industry to carefully consider and develop the true and relevant *essentialia* and consequent *naturalia* applicable to these types of contracts. The CIDB⁶⁵ may have to take on this challenge and give certainty as to the classification of the construction contract, and consequently the development of *essentialia* and *naturalia* of this genus of contracts. This may well need to be done through legislation. Only then will there be certainty as to what may be implied into these contracts, and what will not so be implied, and what the remedies are for a breach of these terms.

5.2.4 I suggest that a limited warranty against latent defects, attracting the question of causation and unique to this industry⁶⁶ form part of the *naturalia* proposed to be developed, with consequences for the breach thereof.⁶⁷ This would be of

⁶³ Keating, page 37. New Keating, page 52.

⁶⁴ Van Deventer, page 74.

⁶⁵ See chapter 4, paragraph 4.1 of this thesis.

⁶⁶ See chapter 3, paragraph 3.6.7 of this thesis.

⁶⁷ See chapter 3, paragraph 3.6.8 as to a discussion on the period of such a suggested limited warranty against latent defects.

assistance to the smaller contractors that do not have the resources available to them to investigate and fully understand the terms relevant to their specific contracts.⁶⁸ They will accordingly find some protection through the operation of law that limits their liability.

5.2.5 What will also need to be considered and developed is certainty as to the period of time that a Contractor would be held liable for a breach of the proposed limited warranty against latent defects.⁶⁹ Would it extend beyond the defects liability periods imposed by the respective forms of contract? Specifically where the contract does not explicitly deal with what could be termed a “latent defects liability period”.⁷⁰ With the warranty against latent defects only serving as an example of possible *naturalia* of the construction contract, it is not necessary to discuss or deal with the liability to correct defects that may appear during the different defects liability periods provided for in the international standard forms of contracts.⁷¹ McKenzie⁷² comments that “where defects are of a latent character and are only discovered after the stipulated period, the employer is not precluded from claiming the costs of remedying such defects.” His view is accordingly that the expiry of the defects liability period would not preclude an employer to claiming the costs of remedying such a defect from the contractor. He does not deal with why it would be the cost of remedying the defect, rather

⁶⁸ As some of the major construction contractors and employers may have.

⁶⁹ See chapter 3, paragraph 3.6.8 of this thesis.

⁷⁰ As the nationally published construction contracts do: See paragraph 3.2 above.

⁷¹ This defects liability period is dealt with in Sub-Clause 11 [Defects Liability] of the Silver Book, Yellow Book and Red Book. NEC ECC deals with the defects liability period by way of what it refers to as a defect correction period. In both these publications the special conditions to the contract will specify the period of liability. However, neither publications make a distinction between latent and patent defects as the South African publications clearly do.

⁷² Page 214.

than any other remedy: Such as is provided for by way of the *action empti* under the *emptio venditio*.⁷³

5.2.6 Finally, what may assist the building, construction and engineering industry in South Africa is to offer the industry a specialised venue to which they may refer the disputes that arise. That will provide for a much wider pool of knowledge, record and precedent. I accept that this does not offer the privacy that is so attractive of the alternative dispute resolution procedures, but the law applicable to this industry is in desperate need to be developed, and it will be in the industry's best interest to allow such development of the law. There may be justification to consider specialised courts in South Africa, as have been provided for in England.⁷⁴ Published decisions on important and relevant points of law, which are then required to be considered and followed in subsequent disputes, allow for greater certainty in the industry. Currently, with a lack of available case law, the law on this point is scant. It is my opinion that it is time to move this industry forward and develop it into modern law: Clarity is needed.

⁷³ See chapter 3, paragraph 3.5.2 of this thesis.

⁷⁴ As England does: Technology and Construction Court, a sub-division of the Queen's Bench Division, part of the High Court of Justice, which is one of the Senior Courts of England and Wales.

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ANNEX 1

20 CLAIMS DISPUTES AND ARBITRATION

20.1

Contractor's Claims

If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give notice to the Engineer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.

If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.

The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Engineer. Without admitting the Employer's liability, the Engineer may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/or instruct the

Contractor to keep further contemporary records. The Contractor shall permit the Engineer to inspect all these records, and shall (if instructed) submit copies to the Engineer.

Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Engineer, the Contractor shall send to the Engineer a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed.

If the event or circumstance giving rise to the claim has a continuing effect:

- (a) this fully detailed claim shall be considered as interim;
- (b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Engineer may reasonably require; and
- (c) the Contractor shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Engineer.

Within 42 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Engineer and approved by the Contractor, the Engineer shall respond with approval, or with disapproval and detailed comments, He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within such time.

Each Payment Certificate shall include such amounts for any claim as have been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

The Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] ID agree or determine i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [Extension of Time for Completion], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.

The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to, which the failure has prevented or prejudiced proper investigation of the claim, unless• the claim is excluded under the second paragraph of this Sub-Clause.

20.2

Appointment of the Dispute Adjudication Board

Disputes shall be adjudicated by a DAB in accordance with Sub-Clause 20.4 [Obtaining Dispute Adjudication Board's Decision]. The Parties shall jointly appoint a

DAB by the date 28 days after a Party gives notice to the other Party of its intention to refer a dispute to a DAB in accordance with Sub-Clause 20.4.

The DAB shall comprise, as stated in the Appendix to Tender, either one or three suitably qualified persons ("the members"). If the number is not so stated and the Parties do not agree otherwise, the DAB shall comprise three persons.

If the DAB is to comprise three persons, each Party shall nominate one member for the approval of the other Party. The Parties shall consult both these members and shall agree upon the third member, who shall be appointed to act as chairman.

However, if a list of potential members is included in the Contract, the members shall be selected from those on the list, other than anyone who is unable or unwilling to accept appointment to the DAB.

The agreement between the Parties and either the sole member ("adjudicator") or each of the three members shall incorporate by reference the General Conditions of Dispute Adjudication Agreement contained in the Appendix to these General Conditions, with such amendments as are agreed between them.

The terms of the remuneration of either the sole member or each of the three members, shall be mutually agreed upon by the Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration. If at any time the Parties so agree, they may appoint a suitably qualified person or persons to replace any one or more members of the DAB. Unless the Parties agree otherwise, the appointment will come into effect if a member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment.

The replacement shall be appointed in the same manner as the replaced person was required to have been nominated or agreed upon, as described in this Sub-Clause.

The appointment of any member may be terminated by mutual agreement of both Parties, but not by the Employer or the Contractor acting alone. Unless otherwise agreed by both Parties, the appointment of the DAB (including each member) shall expire when the DAB has given its decision on the dispute referred to it under Sub-Clause 20.4 [Obtaining Dispute Adjudication Board's Decision], unless other disputes have been referred to the DAB by that time under Sub-Clause 20.4, in which event the relevant date shall be when the DAB has also given decisions on those disputes.

20.3

Failure to Agree Dispute Adjudication Board

If any of the following conditions apply, namely:

- (a) the Parties fail to agree upon the appointment of the sole member of the DAB by the date stated in the first paragraph* of Sub-Clause 20.2 [Appointment of the Dispute Adjudication Board,
- (b) either Party fails to nominate a member (for approval by the other Party) of a DAB of three persons by such date,
- (c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DAB by such date, or
- (d) the Parties fail to agree Upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members

declines to act or is unable to act as a result of death, disability, resignation or termination of appointment,

then the appointing entity or official named in the Particular Conditions shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the DAB. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.

20.4

Obtaining Dispute Adjudication Board's Decision

If a dispute (of any kind whatsoever) arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Engineer, then after a DAB has been appointed pursuant to Sub-Clause 20.2 [Appointment of the DAB] and 20.3 [Failure to Agree DAB] either Party may refer the dispute in writing to the DAB for its decision, with copies to the other Party and the Engineer. Such reference shall state that it is given under this Sub-Clause.

For a DAB of three persons, the DAB shall be deemed to have received such reference on the date when it is received by the chairman of the DAB.

Both Parties shall promptly make available to the DAB all information, access to the Site, and appropriate facilities, as the DAB may require for the purposes of making a decision on such dispute. The DAB shall be deemed to be not acting as arbitrator(s). Within 84 days after receiving such reference, or the advanced payment referred to in Clause 6 of the Appendix - General Conditions of the Dispute Adjudication Agreement, whichever date is later, or within such other period as may be proposed by the DAB and approved by both Parties, the DAB shall give its decision, which shall be reasoned and shall state that it is given under this Sub-Clause. However, if neither of the Parties has paid in full the invoices submitted by each member pursuant to Clause 6 of the Appendix, the DAB shall not be obliged to give its decision until such invoices have been paid in full. The decision shall be binding on both Parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award as described below. Unless the Contract has already been abandoned, repudiated or terminated, the Contractor shall continue to proceed with the Works in accordance with the Contract.

If either Party is dissatisfied with the DAB's decision, then either Party may, within 28 days after receiving the decision, give notice to the other Party of its dissatisfaction. If the DAB fails to give its decision within the period of 84 days (or as otherwise approved) after receiving such reference or such payment, then either Party may, within 28 days after this period has expired, give notice to the other Party of its dissatisfaction.

In either event, this notice of dissatisfaction shall state that it is given under this Sub-Clause, and shall set out the matter in dispute and the reason(s) for dissatisfaction.

Except as stated in Sub-Clause 20.7 [Failure to Comply with Dispute Adjudication Board's Decision] and Sub-Clause 20.8 [Expiry of Dispute Adjudication Board's Appointment], neither Party shall be entitled to commence arbitration of a dispute unless a notice of dissatisfaction has been given in accordance with this Sub-Clause. If the DAB has given its decision as to a matter in dispute to both Parties, and no notice of dissatisfaction has been given by either Party within 28 days after it received the DAB's decision, then the decision shall become final and binding upon both Parties.

20.5

Amicable Settlement

Where notice of dissatisfaction has been given under Sub-Clause 20.4 above, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, arbitration may be commenced on or after the fifty-sixth day after the day on which notice of dissatisfaction was given, even if no attempt at amicable settlement has been made

20.6

Arbitration

Unless settled amicably, any dispute in respect of which the DAB's decision (if any) has not become final and binding shall be finally settled by international arbitration. Unless otherwise agreed by both Parties:

- (a) the dispute shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce,
- (b) the dispute shall be settled by three arbitrators appointed in accordance with these Rules, and
- (c) the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [Law and Language].

The arbitrator(s) shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, and any decision of the DAB, relevant to the dispute. Nothing shall disqualify the Engineer from being called as a witness and giving evidence before the arbitrator(s) on any matter whatsoever relevant to the dispute.

Neither Party shall be limited in the proceedings before the arbitrator(s) to the evidence or arguments previously put before the DAB to obtain its decision, or to the reasons for dissatisfaction given in its notice of dissatisfaction. Any decision of the DAB shall be admissible in evidence in the arbitration.

Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, the Engineer and the DAB shall not be altered by reason of any arbitration being conducted during the progress of Works.

20.7

Failure to Comply with Dispute Adjudication Board's Decision

In the event that:

- (a) neither Party has given notice of dissatisfaction within the period stated in Sub-Clause 20.4 [Obtaining Dispute Adjudication Board's Decision],
- (b) the DAB's related decision (if anN4 has become final and binding, and a Party fails to comply with this decision,

then the other Party may, without prejudice to any other rights it may have, refer the failure itself to arbitration under Sub-Clause 20.6 [Arbitration]. Sub-Clause 20.4 [Obtaining Dispute Adjudication Board's Decision] and Sub-Clause 20.5 [Amicable Settlement] shall not apply to this reference.

20.8

Expiry of Dispute Adjudication Board's Appointment

If a dispute arises between the Parties in connection with, or arising out of, the Contract or the execution of the Works and there is no DAB in place, whether by reason of the expiry of the DAB's appointment or otherwise:

- (a) Sub-Clause 20.4 [Obtaining Dispute Adjudication Board's Decision] and Sub-Clause 20.5 [Amicable Settlement] shall not apply, and
- (b) the dispute may be referred directly to arbitration under Sub-Clause 20.6 [Arbitration].

ANNEX 2

DISPUTE RESOLUTION

Option W1

Dispute resolution procedure (used unless the United Kingdom Housing Grants, Construction and Regeneration Act 1996 applies).

Dispute resolution W1

W1.1

A dispute arising under or in connection with this contract is referred to and decided by the Adjudicator.

The Adjudicator

W1.2

- (1) The Parties appoint the Adjudicator under the NEC Adjudicator's Contract current at the starting date.
- (2) The Adjudicator acts impartially and decides the dispute as an independent adjudicator and not as an arbitrator.
- (3) If the Adjudicator is not identified in the Contract Data or if the Adjudicator resigns or is unable to act, the Parties choose a new adjudicator jointly. If the Parties have

not chosen an adjudicator, either Party may ask the Adjudicator nominating body to choose one. The Adjudicator nominating body chooses an adjudicator within four days of the request. The chosen adjudicator becomes the Adjudicator.

(4) A replacement Adjudicator has the power to decide a dispute referred to his predecessor but not decided at the time when the predecessor resigned or became unable to act. He deals with an undecided dispute as if it had been referred to him on the date he was appointed.

(5) The Adjudicator, his employees and agents are not liable to the Parties for any action or failure to take action in an adjudication unless the action or failure to take action was in bad faith.

The adjudication

W1.3

(1) Disputes are notified and referred to the Adjudicator in accordance with the Adjudication Table.

ADJUDICATION TABLE

Dispute about	Which Party may refer it to the Adjudicator?	When may it be referred to the Adjudicator?
---------------	--	---

An action of the Project Manager or the Supervisor	The Contractor	Between two and four weeks after the Contractor's notification of the dispute to the Employer and the Project Manager, the notification itself being made not more than four weeks after the Contractor becomes aware of the action
The Project Manager or Supervisor not having taken an action	The Contractor	Between two and four weeks after the Contractor's notification of the dispute to the Employer and the Project Manager, the notification itself being made not more than four weeks after the Contractor becomes aware that the action was not taken
A quotation for a compensation event which is treated as having been accepted	The Employer	Between two and four weeks after the Project Manager's notification of the dispute to the Employer and the Contractor, the notification itself being made not more than four weeks after the quotation was treated as accepted
Any other matter	Either Party	Between two and four weeks after notification of the dispute to the other Party and the Project Manager

(2) The times for notifying and referring a dispute may be extended by the Project Manager if the Contractor and the Project Manager agree to the extension before the notice or referral is due. The Project Manager notifies the extension that has been agreed to the Contractor. If a disputed matter is not notified and referred within the times set out in this contract, neither Party may subsequently refer it to the Adjudicator or the tribunal.

(3) The Party referring the dispute to the Adjudicator includes with his referral information to be considered by the Adjudicator. Any more information from a Party to be considered by the Adjudicator is provided within four weeks of the referral. This period may be extended if the Adjudicator and the Parties agree.

(4) If a matter disputed by the Contractor under or in connection with a subcontract is also a matter disputed under or in connection with this contract and if the subcontract allows, the Contractor may refer the subcontract dispute to the Adjudicator at the same time as the main contract referral. The Adjudicator then decides the disputes together and references to the Parties for the purposes of the dispute are interpreted as including the Subcontractor.

(5) The Adjudicator may

- review and revise any action or inaction of the Project Manager or Supervisor related to the dispute and alter a quotation which has been treated as having been accepted,
- take the initiative in ascertaining the facts and the law related to the dispute,

- instruct a Party to provide further information related to the dispute within a stated time and
- instruct a Party to take any other action which he considers necessary to reach his decision and to do so within a stated time.

(6) A communication between a Party and the Adjudicator is communicated to the other Party at the same time.

(7) If the Adjudicator's decision includes assessment of additional cost or delay caused to the Contractor, he makes his assessment in the same way as a compensation event is assessed.

(8) The Adjudicator decides the dispute and notifies the Parties and the Project Manager of his decision and his reasons within four weeks of the end of the period for receiving information. This four week period may be extended if the Parties agree.

(9) Unless and until the Adjudicator has notified the Parties of his decision the Parties, the Project Manager and the Supervisor proceed as if the matter disputed was not disputed.

(10) The Adjudicator's decision is binding on the Parties unless and until revised by the tribunal and is enforceable as a matter of contractual obligation between the Parties and not as an arbitral award. The Adjudicator's decision is final and binding if neither Party has notified the other within the timer required by this contract that

he is dissatisfied with a decision of the Adjudicator and intends to refer the matter to the tribunal.

(11) The Adjudicator may, within two weeks of giving his decision to the Parties, correct any clerical mistake or ambiguity.

Review by the tribunal

W1.4

(1) A Party does not refer any dispute under or in connection with this contract to the tribunal unless it has first been referred to the Adjudicator in accordance with this contract.

(2) If, after the Adjudicator notifies his decision a Party is dissatisfied, he may notify the other Party that he intends to refer it to the tribunal. A Party may not refer a dispute to the tribunal unless this notification is given within four weeks of notification of the Adjudicator's decision.

(3) If the Adjudicator does not notify his decision within the time provided by this contract, a Party may notify the other Party that he intends to refer the dispute to the tribunal. A Party may not refer a dispute to the tribunal unless this notification is given within four weeks of the date by which the Adjudicator should have notified his decision.

(4) The tribunal settles the dispute referred to it. The tribunal has the power to reconsider any decision of the Adjudicator and review and revise any action or inaction of the Project Manager or the Supervisor related to the dispute. Party is not limited in the tribunal proceedings to the information, evidence c arguments put to the Adjudicator.

(5) If the tribunal is arbitration, the arbitration procedure, the place where the arbitration is to be held and the method of choosing the arbitrator are those stated in the Contract Data.

(6) A Party does not call the Adjudicator as a witness in tribunal proceedings.

Option W2

Dispute resolution procedure (used in the United Kingdom when the Housing Grants, Construction and Regeneration 296 applies).

Dispute resolution W2

W2.1

(1) A dispute arising under or in connection with this contract is referred to and decided by the Adjudicator. A Party may refer a dispute to the Adjudicator at any time.

- (2) In this Option, time periods stated in days exclude Christmas Day, Good Friday and bank holidays.

The Adjudicator

W2.2

- (1) The Parties appoint the Adjudicator under the NEC Adjudicator's Contract current at the starting date.
- (2) The Adjudicator acts impartially and decides the dispute as an independent adjudicator and not as an arbitrator.
- (3) If the Adjudicator is not identified in the Contract Data or if the Adjudicator resigns or becomes unable to act
- the Parties may choose an adjudicator jointly or
 - a Party may ask the Adjudicator nominating body to choose an adjudicator.

The Adjudicator nominating body chooses an adjudicator within four days of the request. The chosen adjudicator becomes the Adjudicator.

- (4) A replacement Adjudicator has the power to decide a dispute referred to his predecessor but not decided at the time when his predecessor resigned or

became unable to act. He deals with an undecided dispute as if it had been referred to him on the date he was appointed.

- (5) The Adjudicator, his employees and agents are not liable to the Parties for any action or failure to take action in an adjudication unless the action or failure to take action was in bad faith.

The adjudication

W2.3

- (1) Before a Party refers a dispute to the Adjudicator, he gives a notice of adjudication to the other Party with a brief description of the dispute and the decision which he wishes the Adjudicator to make. If the Adjudicator is named in the Contract Data, the Party sends a copy of the notice of adjudication to the Adjudicator when it is issued. Within three days of the receipt of the notice of adjudication, the Adjudicator notifies the Parties

- that he is able to decide the dispute in accordance with the contract or
- that he is unable to decide the dispute and has resigned.

If the Adjudicator does not so notify within three days of the issue of the notice of adjudication, either Party may act as if he has resigned.

- (2) Within seven days of a Party giving a notice of adjudication he

- refers the dispute to the Adjudicator,
- provides the Adjudicator with the information on which he relies, including any supporting documents and
- provides a copy of the information and supporting documents he has provided to the Adjudicator to the other Party.

Any further information from a Party to be considered by the Adjudicator is provided within fourteen days of the referral. This period may be extended if the Adjudicator and the Parties agree.

(3) If a matter disputed by the Contractor under or in connection with subcontract is also a matter disputed under or in connection with this contract, the Contractor may, with the consent of the Subcontractor, refer the subcontract dispute to the Adjudicator at the same time as the main contract referral. The Adjudicator then decides the disputes together and references to the Parties for the purposes of the dispute are interpreted as including the Subcontractor.

(4) The Adjudicator may

- review and revise any action or inaction of the Project Manager or Supervisor related to the dispute and alter a quotation which has been treated as having been accepted,
- take the initiative in ascertaining the facts and the law related to the dispute,

- instruct a Party to provide further information related to the dispute within a stated time and
- instruct a Party to take any other action which he considers necessary to reach his decision and to do so within a stated time.

(5) If a Party does not comply with any instruction within the time stated by the Adjudicator, the Adjudicator may continue the adjudication and make his decision based upon the information and evidence he has received.

(6) A communication between a Party and the Adjudicator is communicated to the other Party at the same time.

(7) If the Adjudicator's decision includes assessment of additional cost of delay caused to the Contractor, he makes his assessment in the same way as a compensation event is assessed.

(8) The Adjudicator decides the dispute and notifies the Parties and the Project Manager of his decision and his reasons within twenty-eight days of the dispute being referred to him. This period may be extended by up to fourteen days with the consent of the referring Party or by any other period agreed by the Parties.

(9) Unless and until the Adjudicator has notified the Parties of his decision the Parties, the Project Manager and the Supervisor proceed as if the matter disputed was not disputed.

(10) If the Adjudicator does not make his decision and notify it to the Parties within the time provided by this contract, the Parties and the Adjudicator may agree to extend the period for making his decision. If they do not agree to an extension, either Party may act as if the Adjudicator has resigned.

(11) The Adjudicator's decision is binding on the Parties unless and until revised by the tribunal and is enforceable as a matter of contractual obligation between the Parties and not as an arbitral award. The Adjudicator's decision is final and binding if neither Party has notified the other within the time; required by this contract that he is dissatisfied with a matter decided by the Adjudicator and intends to refer the matter to the tribunal.

(12) The Adjudicator may, within fourteen days of giving his decision to the Parties, correct a clerical mistake or ambiguity.

Review by the tribunal

W2.4

(1) A Party does not refer any dispute under or in connection with this contract to the tribunal unless it has first been decided by the Adjudicator in accordance with this contract.

(2) If, after the Adjudicator notifies his decision a Party is dissatisfied, that Party may notify the other Party of the matter which he disputes and state that he intends to

refer it to the tribunal. The dispute may not be referred to the tribunal unless this notification is given within four weeks of the notification of the Adjudicator's decision.

- (3) The tribunal settles the dispute referred to it. The tribunal has the powers to reconsider any decision of the Adjudicator and to review and revise any action or inaction of the Project Manager or the Supervisor related to the dispute. A Party is not limited in tribunal proceedings to the information or evidence put to the Adjudicator.
- (4) If the tribunal is arbitration, the arbitration procedure, the place where the arbitration is to be held and the method of choosing the arbitrator are those stated in the Contract Data.
- (5) A Party does not call the Adjudicator as a witness in tribunal proceedings.

ANNEX 3

4.4

Subcontractors

The Contractor shall not subcontract the whole of the Works.

The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were the acts or defaults of the Contractor. Where specified in the Particular Conditions, the Contractor shall give the Employer not less than 28 days' notice of:

- (a) the intended appointment of the Subcontractor, with detailed particulars which shall include his relevant experience,
- (b) the intended commencement of the Subcontractor's work, and
- (c) the intended commencement of the Subcontractor's work on the Site.

ANNEX 4

6.9

Contractor's Personnel

The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Employer may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:

- (a) persists in any misconduct or lack of care,
- (b) carries out duties incompetently or negligently,
- (c) fails to conform with any provisions of the Contract, or
- (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment.

If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

ANNEX 5

4.3

Contractor's Representative

The Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract.

Unless the Contractor's Representative is named in the Contract, the Contractor shall, prior to the Commencement Date, submit to the Employer for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked, or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.

The Contractor shall not, without the prior consent of the Employer, revoke the appointment of the Contractor's Representative or appoint a replacement.

The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.4 [Instructions].

The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Employer has received prior notice signed by

the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.

The Contractor's Representative and all these persons shall be fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language].

ANNEX 6

4.4

Subcontractors

The Contractor shall not subcontract the whole of the Works.

The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were the acts or defaults of the Contractor. Unless otherwise stated in the Particular Conditions:

- (a) the Contractor shall not be required to obtain consent to suppliers of Materials, or to a subcontract for which the Subcontractor is named in the Contract;
- (b) the prior consent of the Engineer shall be obtained to other proposed Subcontractors; and
- (c) the Contractor shall give the Engineer not less than 28 days' notice of the intended date of the commencement of each Subcontractor's work, and of the commencement of such work on the Site.

ANNEX 7

6.9

Contractor's Personnel

The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Engineer may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:

- (a) persists in any misconduct or lack of care,
- (b) carries out duties incompetently or negligently,
- (c) fails to conform with any provisions of the Contract, or
- (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment.

ANNEX 8

4.3

Contractor's Representative

The Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract.

Unless the Contractor's Representative is named in the Contract, the Contractor shall, prior to the Commencement Date, submit to the Engineer for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked, or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.

The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint a replacement.

The whole time of the Contractor's Representative shall be given to directing the Contractor's performance of the Contract. If the Contractor's Representative is to be temporarily absent from the Site during the execution of the Works, a suitable ' replacement person shall be appointed, subject to the Engineer's prior consent, and the 'Engineer shall be notified accordingly.

The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [instructions of the Engineer].

The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Engineer has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.

The Contractor's Representative and all these persons shall be fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language].

ANNEX 9

4.4

Subcontractors

The Contractor shall not subcontract the whole of the Works.

The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were the acts or defaults of the Contractor. Unless otherwise stated in the Particular Conditions:

- (a) the Contractor shall not be required to obtain consent to suppliers of Materials, or to a subcontract for which the Subcontractor is named in the Contract;
- (b) the prior consent of the Engineer shall be obtained to other proposed Subcontractors;
- (c) the Contractor shall give the Engineer not less than 28 days' notice of the intended date of the commencement of each Subcontractor's work, and of the commencement of such work on the Site; and
- (d) each subcontract shall include provisions which would entitle the Employer to require the subcontract to be assigned to the Employer under Sub-Clause 4.5 [Assignment of Benefit of Subcontract] (if or when applicable) or in the event of termination under Sub-Clause 15.2 [Termination by Employer].

ANNEX 10

5.2

Objection to Nomination

The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Engineer as soon as practicable, with supporting particulars. An objection shall be deemed reasonable if it arises from (among other things) any of the following matters, unless the Employer agrees to indemnify the Contractor against and from the consequences of the matter:

- (a) there are reasons to believe that the Subcontractor does not have sufficient competence, resources or financial strength;
- (b) the subcontract does not specify that the nominated Subcontractor shall indemnify the Contractor against and from any negligence or misuse of Goods by the nominated Subcontractor, his agents and employees; or
- (c) the subcontract does not specify that, for the subcontracted work (including design, if any), the nominated Subcontractor shall:
 - (i) undertake to the Contractor such obligations and liabilities as will enable the Contractor to discharge his obligations and liabilities under the Contract, and
 - (ii) indemnify the Contractor against and from all obligations and liabilities arising under or in connection with the Contract and from the

consequences of any failure by the Subcontractor to perform these obligations or to fulfil these liabilities.

ANNEX 11

6.9

Contractor's Personnel

The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Engineer may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:

- (a) persists in any misconduct or lack of care,
- (b) carries out duties incompetently or negligently,
- (c) fails to conform with any provisions of the Contract, or
- (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment.

If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

ANNEX 12

6.3

Persons in the Service of Employer

The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel.

ANNEX 13

PAYMENT

50 Assessing the amount due

50.1

The Project Manager assesses the amount due at each assessment date. The first assessment date is decided by the Project Manager to suit the procedures of the Parties and is not later than the assessment interval after the starting date. Later assessment dates occur

- at the end of each assessment interval until four weeks after the Supervisor issues the Defects Certificate and
- at Completion of the whole of the works.

50.2

The amount due is

- the Price for Work Done to Date,
- plus other amounts to be paid to the Contractor,
- less amounts to be paid by or retained from the Contractor.

Any tax which the law requires the Employer to pay to the Contractor is included in the amount due.

50.3

If no programme is identified in the Contract Data, one quarter of the Price for Work Done to Date is retained in assessments of the amount due until the Contractor has submitted a first programme to the Project Manager for acceptance showing the information which this contract requires.

50.4

In assessing the amount due, the Project Manager considers any application for payment the Contractor has submitted on or before the assessment date. The Project Manager gives the Contractor details of how the amount due has been assessed.

50.5

The Project Manager corrects any wrongly assessed amount due in a later payment certificate.

ANNEX 14

THE CONTRACTOR'S MAIN RESPONSIBILITIES

Providing the Works 20

20.1

The Contractor Provides the Works in accordance with the Works Information.

ANNEX 15

Subcontracting 26

26.1

If the Contractor subcontracts work, he is responsible for Providing the Work as if he had not subcontracted. This contract applies as if a Subcontractor' employees and equipment were the Contractor's.

26.2

The Contractor submits the name of each proposed Subcontractor to the Project Manager for acceptance. A reason for not accepting the Subcontractor is that his appointment will not allow the Contractor to Provide the Works. The Contractor does not appoint a proposed Subcontractor until the Project Manager has accepted him.

26.3

The Contractor submits the proposed conditions of contract for each subcontract to the Project Manager for acceptance unless

- an NEC contract is proposed or
- the Project Manager has agreed that no submission is required.

The Contractor does not appoint a Subcontractor on the proposed subcontract conditions submitted until the Project Manager has accepted them. A reason for not accepting them is that

- they will not allow the Contractor to Provide the Works or
- they do not include a statement that the parties to the subcontract shall act in a spirit of mutual trust and co-operation.

ANNEX 16

People 24

24.1

The Contractor either employs each key person named to do the job stated in the Contract Data or employs a replacement person who has been accepted by the Project Manager. The Contractor submits the name, relevant qualifications and experience of a proposed replacement person to the Project Manager for acceptance. A reason for not accepting the person is that his relevant qualifications and experience are not as good as those of the person who is to be replaced.

24.2

The Project Manager may, having stated his reasons, instruct the Contractor to remove an employee. The Contractor then arranges that, after one day, the employee has no further connection with the work included in this contract.

ANNEX 17

Option Z: Additional conditions of contract

Additional conditions of contract Z1

Z1.1

The additional conditions of contract stated in the Contract Data are part of this contract.

SCHEDULE OF COST COMPONENTS

This schedule is part of the conditions of contract only when Option C, D or E is used. In this schedule the Contractor means the Contractor and not his Subcontractors. An amount is included only in one cost component and only if it is incurred in order to Provide the Works.

People 1

The following components of the cost of

- people who are directly employed by the Contractor and whose normal place of working is within the Working Areas and

- people who are directly employed by the Contractor and whose normal place of working is not within the Working Areas but who are working in the Working Areas.

11 Wages, salaries and amounts paid by the Contractor for people paid according to the time worked while they are within the Working Areas.

12 Payments to people for

- (a) bonuses and incentives
- (b) overtime
- (c) working in special circumstances
- (d) special allowances
- (e) absence due to sickness and holidays
- (f) severance related to work on this contract.

13 Payments made in relation to people for

- (a) travel
- (b) subsistence and lodging
- (c) relocation
- (d) medical examinations
- (e) passports and visas
- (f) travel insurance
- (g) items (a) to (f) for dependants

- (h) protective clothing
- (i) meeting the requirements of the law
- (j) pensions and life assurance
- (k) death benefit
- (l) occupational accident benefits
- (m) medical aid
- (n) a vehicle
- (o) safety training.

- 14 The following components of the cost of people who are not directly employed by the Contractor but are paid for by him according to the time worked while they are within the Working Areas.

Amounts paid by the Contractor.

Equipment 2

The following components of the cost of Equipment which is used within the Working Areas (including the cost of accommodation but excluding Equipment cost covered by the percentage for Working Areas overheads).

- 21 Payments for the hire or rent of Equipment not owned by
- the Contractor,
 - his parent company or

- by a company with the same parent company

at the hire or rental rate multiplied by the time for which the Equipment is required.

22 Payments for Equipment which is not listed in the Contract Data but is

- owned by the Contractor,
- purchased by the Contractor under a hire purchase or lease agreement or
- hired by the Contractor from the Contractor's parent company or from a company with the same parent company

at open market rates, multiplied by the time for which the Equipment is required.

23 Payments for Equipment purchased for work included in this contract listed with a time-related on cost charge, in the Contract Data, of

- the change in value over the period for which the Equipment is required and
- the time-related on cost charge stated in the Contract Data for the period for which the Equipment is required.

The change in value is the difference between the purchase price and either the sale price or the open market sale price at the end of the period for which the Equipment is required. Interim payments of the change in value are made

at each assessment date. A final payment is made in the next assessment after the change in value has been determined.

If the Project Manager agrees, an additional item of Equipment may be assessed as if it had been listed in the Contract Data.

- 24 Payments for special Equipment listed in the Contract Data. These amounts are the rates stated in the Contract Data multiplied by the time for which the Equipment is required.

If the Project Manager agrees, an additional item of special Equipment may be assessed as if it had been listed in the Contract Data.

- 25 Payments for the purchase price of Equipment which is consumed.

- 26 Unless included in the hire or rental rates, payments for

- transporting Equipment to and from the Working Areas other than for repair and maintenance,
- erecting and dismantling Equipment and
- constructing, fabricating or modifying Equipment as a result of a compensation event.

- 27 Payments for purchase of materials used to construct or fabricate Equipment.

- 28 Unless included in the hire rates, the cost of operatives is included in the cost of people.

Plant and Materials 3

The following components of the cost of Plant and Materials.

- 31 Payments for

- purchasing Plant and Materials,
- delivery to and removal from the Working Areas,
- providing and removing packaging and
- samples and tests.

- 32 Cost is credited with payments received for disposal of Plant and Materials unless the cost is disallowed.

Charges 4

The following components of the cost of charges paid by the Contractor.

- 41 Payments for provision and use in the Working Areas of

- water,
- gas and

- electricity.

42 Payments to public authorities and other properly constituted authorities of charges which they are authorised to make in respect of the works.

43 Payments for

- (a) cancellation charges arising from a compensation event
- (b) buying or leasing land
- (c) compensation for loss of crops or buildings
- (d) royalties
- (e) inspection certificates
- (f) charges for access to the Working Areas
- (g) facilities for visits to the Working Areas by Others
- (h) specialist services
- (i) consumables and equipment provided by the Contractor for the Project Manager's and Supervisor's offices.

44 A charge for overhead costs incurred within the Working Areas calculated by applying the percentage for Working Areas overheads stated in the Contract Data to the total of people items 11, 12, 13 and 14. The charge includes provision and use of equipment, supplies and services, but excludes accommodation, for

- (a) catering
- (b) medical facilities and first aid

- (c) recreation
- (d) sanitation
- (e) security
- (f) copying
- (g) telephone, telex, fax, radio and CCTV
- (h) surveying and setting out
- (i) computing
- (j) hand tools not powered by compressed air.

Manufacture and fabrication 5

The following components of the cost of manufacture and fabrication of Plant and Materials which are

- wholly or partly designed specifically for the works and
- manufactured or fabricated outside the Working Areas.

51 The total of the hours worked by employees multiplied by the hourly rates stated in the Contract Data for the categories of employees listed.

52 An amount for overheads calculated by multiplying this total by the percentage for manufacturing and fabrication overheads stated in the Contract Data.

Design 6

The following components of the cost of design of the works and Equipment done outside the Working Areas.

- 61 The total of the hours worked by employees multiplied by the hourly rates stated in the Contract Data for the categories of employees listed.
- 62 An amount for overheads calculated by multiplying this total by the percentage for design overheads stated in the Contract Data.
- 63 The cost of travel to and from the Working Areas for the categories of design employees listed in the Contract Data.

Insurance 7

The following are deducted from cost

- the cost of events for which this contract requires the Contractor to insure and
- other costs paid to the Contractor by insurers.

ANNEX 18

4.3

Contractor's Representative

The Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract.

Unless the Contractor's Representative is named in the Contract, the Contractor shall, prior to the Commencement Date, submit to the Engineer for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked, or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.

The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint a replacement.

The whole time of the Contractor's Representative shall be given to directing the Contractor's performance of the Contract, If the Contractor's Representative is to be temporarily absent from the Site during the execution of the Works, a suitable replacement person shall be appointed, subject to the Engineer's prior consent, and the Engineer shall be notified accordingly.

The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [Instructions of the Engineer].

The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Engineer has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.

The Contractor's Representative and all these persons shall be fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language].

ANNEX 19

14.2

Advanced Payment

The Employer shall make an advance payment, as an interest-free loan for mobilisation and design, when the Contractor submits a guarantee in accordance with this Sub-Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the Appendix to Tender.

Unless and until the Employer receives this guarantee, or if the total advance payment is not stated in the Appendix to Tender, this Sub-Clause shall not apply.

The Engineer shall issue an Interim Payment Certificate for the first instalment after receiving a Statement (under Sub-Clause 14.3 [Application for Interim Payment Certificates]) and after the Employer receives (i) the Performance Security in accordance with Sub-Clause 412 [Performance Security] and (ii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer, and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer.

The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount may be progressively reduced by

the amount repaid by the Contractor as indicated in the Payment Certificates. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.

The advance payment shall be repaid through percentage deductions in Payment Certificates. Unless other percentages are stated in the Appendix to Tender:

- (a) deductions shall commence in the Payment Certificate in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds ten per cent (10%) of the Accepted Contract Amount less Provisional Sums; and
- (b) deductions shall be made at the amortisation rate of one quarter (25%) of the amount of each Payment Certificate (excluding the advance payment and deductions and repayments of retention) in the currencies and proportions of the advance payment until such time as the advance payment has been repaid.

If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [Termination by Employer], Clause 16 [Suspension and Termination by Contractor] or Clause 19 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer.

ANNEX 20

14.2

Advance Payment

The Employer shall make an advance payment, as an interest-free loan for mobilisation, when the Contractor submits a guarantee in accordance with this Sub-Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the Appendix to Tender.

Unless and until the Employer receives this guarantee, or if the total advance payment is not stated in the Appendix to Tender, this Sub-Clause shall not apply.

The Engineer shall issue an Interim Payment Certificate for the first instalment after receiving a Statement (under Sub-Clause 14.3 [Application for Interim Payment Certificates]) and after the Employer receives (i) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security] and (ii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer, and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer.

The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount may be progressively reduced by the amount repaid by the Contractor as indicated in the Payment Certificates. If the

terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.

The advance payment shall be repaid through percentage deductions in Payment Certificates. Unless other percentages are stated in the-Appendix to Tender:

- (a) deductions shall commence in the Payment Certificate in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds ten per cent (10%) of the Accepted Contract Amount less Provisional Sums; and
- (b) deductions shall be made at the amortisation rate of one quarter (25%) of the amount of each Payment Certificate (excluding the advance payment and deductions and repayments of retention) in the currencies and proportions of the advance payment, until such time as the advance payment has been repaid.

If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [Termination by Employer], Clause 16 [Suspension and Termination by Contractor] or Clause 19 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer.

ANNEX 21

Option X14: Advanced payment to the Contractor

Advanced payment X14

X14.1

The Employer makes an advanced payment to the Contractor of the amount stated in the Contract Data.

X14.2

The advanced payment is made either within four weeks of the Contract Date or, if an advanced payment bond is required, within four weeks of the later of

- the Contract Date and
- the date when the Employer receives the advanced payment bond.

The advanced payment bond is issued by a bank or insurer which the Project Manager has accepted. A reason for not accepting the proposed bank or insurer is that its commercial position is not strong enough to carry the bond. The bond is for the amount of the advanced payment which the Contractor has not repaid and is in the form set out in the Works Information. Delay in making the advanced payment is a compensation event.

X14.3

The advanced payment is repaid to the Employer by the Contractor in instalments of the amount stated in the Contract Data. An instalment is included in each amount due assessed after the period stated in the Contract Data has passed until the advanced payment has been repaid.

ANNEX 22

1.1.2

Parties and Persons

1.1.2.2 "Employer" means the person named as employer in the Contract Agreement and the legal successors in title to this person.

ANNEX 23

1.1.2

Parties and Persons

1.1.2.2 "Employer" means the person named as employer in the Appendix to Tender and the legal successors in title to this person.

ANNEX 24

1.1.2

Parties and Persons

1.1.2.2 "Employer" means the person named as employer in the Appendix to Tender and the legal successors in title to this person.

ANNEX 25

1.1.2

Parties and Persons

1.1.2.3 "Contractor" means the person(s) named as contractor in the Contract Agreement and the legal successors in title to this person(s).

ANNEX 26

1.1.2

Parties and Persons

1.1.2.3 "Contractor" means the person(s) named as contractor in the Letter of Tender accepted by the Employer and the legal successors in title to this person(s).

ANNEX 27

1.1.2

Parties and Persons

1.1.2.3 "Contractor" means the person(s) named as contractor in the Letter of Tender accepted by the Employer and the legal successors in title to this person(s).

ANNEX 28

1.1.2

Parties and Persons

1.1.2.1 "Party" means the Employer or the Contractor, as the context requires.

1.1.2.2 "Employer" means the person named as employer in the Appendix to Tender and the legal successors in title to this person.

1.1.2.3 "Contractor" means the person(s) named as contractor in the Letter of Tender accepted by the Employer and the legal successors in title to this person(s).

1.1.2.4 "Engineer" means the person appointed by the Employer to act as the Engineer for the purposes of the Contract and named in the Appendix to Tender, or other person appointed from time to time by the Employer and notified to the Contractor under Sub-Clause 3.4 [Replacement of the Engineer].

1.1.2.5 "Contractor's Representative" means the person named by the Contractor in the Contract or appointed from time to time by the Contractor under Sub-Clause 4.3 [Contractor's Representative], who acts on behalf of the Contractor.

- 1.1.2.6 "Employer's Personnel" means the Engineer, the assistants referred to in Sub-Clause 3.2 [Delegation by the Engineer] and all other staff, labour and other employees of the Engineer and of the Employer; and any other personnel notified to the Contractor, by the Employer or the Engineer, as Employer's Personnel. .
- 1.1.2.7 "Contractor's Personnel" means the Contractor's Representative and all personnel whom the Contractor utilises on Site, who may include the staff, labour and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.
- 1.1.2.8 "Subcontractor" means any person named in the Contract as a subcontractor, or any person appointed as a subcontractor, for a part of the Works; and the legal successors in title to each of these persons.
- 1.1.2.9 "DAB" means the person or three persons so named in the Contract, or other person(s) appointed under Sub-Clause 20.2 [Appointment of the Dispute Adjudication Board] or under Sub-Clause 20.3 [Failure to Agree Dispute Adjudication Board].
- 1.1.2.10 "FIDIC" means the Federation Internationale des Ingenieurs-Conseils, the international federation of consulting engineers.

1.1.3

Dates, Tests, Periods and Completion

1.1.3.1 "Base Date" means the date 28 days prior to the latest date for submission of the Tender.

1.1.3.2 "Commencement Date" means the date notified under Sub-Clause 8.1 [Commencement of Works].

1.1.3.3 "Time for Completion" means the time for completing the Works or a Section (as the case may be) under Sub-Clause 8.2 [Time for Completion], as stated in the Appendix to Tender (with any extension under Sub-Clause 8.4 [Extension of Time for Completion]), calculated from the Commencement Date.

1.1.3.4 "Tests on Completion" means the tests which are specified in the Contract or agreed by both Parties or instructed as a Variation, and which are carried

ANNEX 29

1.1.2

Parties and Persons

1.1.2.4 "Engineer" means the person appointed by the Employer to act as the Engineer for the purposes of the Contract and named in the Appendix to Tender, or other person appointed from time to time by the Employer and notified to the Contractor under Sub-Clause 3.4 [Replacement of the Engineer].

ANNEX 30

3 THE ENGINEER

3.1

Engineer's Duties and Authority

The Employer shall appoint the Engineer who shall carry out the duties assigned to him in the Contract. The Engineer's staff shall include suitably qualified engineers and other professionals who are competent to carry out these duties.

The Engineer shall have no authority to amend the Contract.

The Engineer may exercise the authority attributable to the Engineer as specified in or necessarily to be implied from the Contract. If the Engineer is required to obtain the approval of the Employer before exercising a specified authority, the requirements shall be as stated in the Particular Conditions. The Employer undertakes not to impose further constraints on the Engineer's authority, except as agreed with the Contractor. However, whenever the Engineer exercises a specified authority for which the Employer's approval is required, then (for the purposes of the Contract) the Employer shall be deemed to have given approval.

Except as otherwise stated in these Conditions:

- (a) whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Engineer shall be deemed to act for the Employer;

- (b) the Engineer has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract; and
- (c) any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Engineer (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances.

ANNEX 31

3 THE ENGINEER

3.1

Engineer's Duties and Authority

The Employer shall appoint the Engineer who shall carry out the duties assigned to him in the Contract. The Engineer's staff shall include suitably qualified engineers and other professionals who are competent to carry out these duties.

The Engineer shall have no authority to amend the Contract.

The Engineer may exercise the authority attributable to the Engineer as specified in or necessarily to be implied from the Contract. If the Engineer is required to obtain the approval of the Employer before exercising a specified authority, the requirements shall be as stated in the Particular Conditions. The Employer undertakes not to impose further constraints on the Engineer's authority, except as agreed with the Contractor. However, whenever the Engineer exercises a specified authority for which the Employer's approval is required, then (for the purposes of the Contract) the Employer shall be deemed to have given approval.

Except as otherwise stated in these Conditions:

- (a) whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Engineer shall be deemed to act for the Employer;
- (b) the Engineer has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract; and
- (c) any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Engineer (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances.

ANNEX 32

1.1.5.8 "Works" mean the Permanent Works and the Temporary Works, or either of them as appropriate.

ANNEX 33

1.1.5

Works and Goods

1.1.5.8 "Works" mean the Permanent Works and the Temporary Works, or either of them as appropriate.

ANNEX 34

1.1.5

Works and Goods

1.1.5.8 "Works" mean the Permanent Works and the Temporary Works, or either of them as appropriate.

ANNEX 35

1.1.5

Works and Goods

1.1.5.4 "Permanent Works" means the permanent works to be designed and executed by the Contractor under the Contract.

ANNEX 36

1.1.5

Works and Goods

1.1.5.4 "Permanent Works" means the permanent works to be executed by the Contractor under the Contract.

ANENX 37

1.1.5

Works and Goods

1.1.5.4 "Permanent Works" means the permanent works to be executed by the Contractor under the Contract.

ANNEX 38

1.1.5.7 "Temporary Works" means all temporary works of every kind (other than Contractor's Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.

1.1.5.8 "Works" mean the Permanent Works and the Temporary Works, or either of them as appropriate.

ANNEX 39

1.1.5

Works and Goods

1.1.5.7 "Temporary Works" means all temporary works of every kind (other than Contractor's Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.

ANNEX 40

1.1.5

Works and Goods

1.1.5.7 "Temporary Works" means all temporary works of every kind (other than Contractor's Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.

ANNEX 41

1.1.4

Money and Payments

- 1.1.4.1 "Contract Price" means the agreed amount stated in the Contract Agreement for the design, execution and completion of the Works and the remedying of any defects, and includes adjustments (if any) in accordance with the Contract.

ANNEX 42

1.1.4

Money and Payments

- 1.1.4.1 "Accepted Contract Amount" means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.

ANNEX 43

1.1.4

Money and Payments

- 1.1.4.1 'Accepted Contract Amount" means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.

ANNEX 44

1.1.4

Money and Payments

- 1.1.4.2 "Cost" means all expenditure reasonably incurred (or to be incurred) by the Contractor, whether on or off the Site, including overhead and similar charges, but does not include profit.

ANNEX 45

1.1.4

Money and Payments

1.1.4.2 "Contract Price" means the price defined in Sub-Clause 14.1 [The Contract Price], and includes adjustments in accordance with the Contract.

ANNEX 46

1.1.4

Money and Payments

1.1.4.2 "Contract Price" means the price defined in Sub-Clause 14.1 [The Contract Price], and includes adjustments in accordance with the Contract.

ANNEX 47

14 CONTRACT PRICE AND PAYMENT

14.1

The Contract Price

Unless otherwise stated in the Particular Conditions:

- (a) the Contract Price shall be the lump sum Accepted Contract Amount and be subject to adjustments in accordance with the Contract;
- (b) the Contractor shall pay all taxes, duties and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs, except as stated in Sub-Clause 13.7 [Adjustments for Changes in Legislation];
- (c) any quantities which may be set out in a Schedule are estimated quantities and are not to be taken as the actual and correct quantities of the Works which the Contractor is required to execute; and
- (d) any quantities or price data which may be set out in a Schedule shall be used for the purposes stated in the Schedule and may be inapplicable for other purposes.

However, if any part of the Works is to be paid according to quantity supplied or work done, the provisions for measurement and evaluation shall be as stated in the

Particular Conditions. The Contract Price shall be determined accordingly, subject to adjustments in accordance with the Contract.

14.2

Advanced Payment

The Employer shall make an advance payment, as an interest-free loan for mobilisation and design, when the Contractor submits a guarantee in accordance with this Sub-Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the Appendix to Tender.

Unless and until the Employer receives this guarantee, or if the total advance payment is not stated in the Appendix to Tender, this Sub-Clause shall not apply.

The Engineer shall issue an Interim Payment Certificate for the first instalment after receiving a Statement (under Sub-Clause 14.3 [Application for Interim Payment Certificates]) and after the Employer receives (i) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security] and (ii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer, and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer.

The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount may be progressively reduced by the amount repaid by the Contractor as indicated in the Payment Certificates. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.

The advance payment shall be repaid through percentage deductions in Payment Certificates. Unless other percentages are stated in the Appendix to Tender:

- (a) deductions shall commence in the Payment Certificate in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds ten per cent (10%) of the Accepted Contract Amount less Provisional Sums; and
- (b) deductions shall be made at the amortisation rate of one quarter (25%) of the amount of each Payment Certificate (excluding the advance payment and deductions and repayments of retention) in the currencies and proportions of the advance payment, until such time as the advance payment has been repaid.

If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [Termination by Employer], Clause 16 [Suspension and Termination by Contractor] or Clause 19 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer.

14.3

Application for Interim Payment Certificates

The Contractor shall submit a Statement in six copies to the Engineer after the end of the period of payment stated in the Contract (if not stated, after the end of each month), in a form approved by the Engineer, showing in detail the amounts to which the Contractor considers himself to be entitled, together with supporting documents which shall include the relevant report on progress in accordance with Sub-Clause 4.21 [Progress Reports].

The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:

- (a) the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month (including Variations but excluding items described in sub-paragraphs (b) to (g) below);
- (b) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost];
- (c) any amount to be deducted for retention, calculated by applying the percentage of retention stated in the Appendix to Tender to the total of the above amounts, until the amount so retained by the Employer reaches the limit of Retention Money (if any) stated in the Appendix to Tender;
- (d) any amounts to be added and deducted for the advance payment and repayments in accordance with Sub-Clause 14.2 [Advance Payment];

- (e) any amounts to be added and deducted for Plant and Materials in accordance with Sub-Clause 14.5 [Plant and Materials intended for the Works];
- (f) any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [Claims, Disputes and Arbitration]; and
- (g) the deduction of amounts certified in all previous Payment Certificates.

14.4

Schedule of Payments

If the Contract includes a Schedule of Payments specifying the instalments in which the Contract Price will be paid, then, unless otherwise stated in this Schedule:

- (a) the instalments quoted in the Schedule of Payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates];
- (b) Sub-Clause 14.5 [Plant and Materials intended for the Works] shall not apply; and
- (c) if these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less than on which the Schedule of Payments was based, then the Engineer may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine revised instalments, which shall take account of the extent to which progress is less than that on which the instalments were previously based.

If the Contract does not include a Schedule of Payments, the Contractor shall submit non-binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

14.5

Plant and Materials intended for the Works

If this Sub-Clause applies, Interim Payment Certificates shall include, under sub-paragraph (e) of Sub-Clause 14.3, (i) an amount for Plant and Materials which have been sent to the Site for incorporation in the Permanent Works, and (ii) a reduction when the contract value of such Plant and Materials is included as part of the Permanent Works under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates].

If the lists referred to in sub-paragraphs (b)(i) or (c)(i) below are not included in the Appendix to Tender, this Sub-Clause shall not apply.

The Engineer shall determine and certify each addition if the following conditions are satisfied:

(a) the Contractor has:

- (i) kept satisfactory records (including the orders, receipts, Costs and use of Plant and Materials) which are available for inspection, and
 - (ii) submitted a statement of the Cost of acquiring and delivering the Plant and Materials to the Site, supported by satisfactory evidence; and either
- (b) the relevant Plant and Materials:
 - (i) are those listed in the Appendix to Tender for payment when shipped,
 - (ii) have been shipped to the Country, en route to the Site, in accordance with the Contract; and
 - (ii) are described in a clean shipped bill of lading or other evidence of shipment, which has been submitted to the Engineer together with evidence of payment of freight and insurance, any other documents reasonably required, and a bank guarantee in a form and issued by an entity approved by the Employer in amounts and currencies equal to the amount due under this Sub-Clause: this guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [Advance Payment] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration;or
- (c) the relevant Plant and Materials:
 - (i) are those listed in the Appendix to Tender for payment when delivered to the Site, and

- (ii) have been delivered to and are properly stored on the Site, are protected against loss, damage or deterioration, and appear to be in accordance with the Contract.

14.6

Issue of Interim Payment Certificates

The additional amount to be certified shall be the equivalent of eighty percent of the Engineer's determination of the cost of the Plant and Materials (including delivery to Site), taking account of the documents mentioned in this Sub-Clause and of the contract value of the Plant and Materials.

The currencies for this additional amount shall be the same as those in which payment will become due when the contract value is included under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates]. At that time, the Payment Certificate shall include the applicable reduction which shall be equivalent to, and in the same currencies and proportions as, this additional amount for the relevant Plant and Materials.

No amount will be certified or paid until the Employer has received and approved the Performance Security. Thereafter, the Engineer shall, within 28 days after receiving a Statement and supporting documents, issue to the Employer an Interim Payment Certificate which shall state the amount which the Engineer fairly determines to be due, with supporting particulars.

However, prior to issuing the Taking-Over Certificate for the Works, the Engineer shall not be bound to issue an Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment Certificates (if any) stated in the Appendix to Tender. In this event, the Engineer shall give notice to the Contractor accordingly.

An Interim Payment Certificate shall not be withheld for any other reason, although:

- (a) if any thing supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
- (b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Engineer, the value of this work or obligation may be withheld until the work or obligation has been performed.

The Engineer may in any Payment Certificate make any correction or modification that should properly be made to any previous Payment Certificate. A Payment Certificate shall not be deemed to indicate the Engineer's acceptance, approval, consent or satisfaction.

14.7

Payment

The Employer shall pay to the Contractor:

- (a) the first instalment of the advance payment within 42 days after issuing the Letter of Acceptance or within 21 days after receiving the documents in accordance with Sub-Clause 4.2 [Performance Security] and Sub-Clause 14.2 [Advance Payment], whichever is later;
 - (b) the amount certified in each Interim Payment Certificate within 56 days after the Engineer receives the Statement and supporting documents; and
 - (c) the amount certified in the Final Payment Certificate within 56 days after the Employer receives this Payment Certificate.
- (a) Payment of the amount due in each currency shall be made into the bank account, nominated by the Contractor, in the payment country .(for this currency) specified in the Contract.

14.8

Delayed Payment

If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [Payment], the Contractor shall be entitled to receive financing charges compounded monthly on the amount unpaid during the period of delay. This period shall be deemed to commence on the date for payment specified in Sub-Clause 14.7 [Payment], irrespective (in the case of its sub-paragraph (b)) of the date on which any Interim Payment Certificate is issued.

Unless otherwise stated in the Particular Conditions, these financing charges shall be calculated at the annual rate of three percentage points above the discount rate of the

central bank in the country of the currency of payment, and shall be paid in such currency.

The Contractor shall be entitled to this payment without formal notice or certification, and without prejudice to any other right or remedy.

14.9

Payment of Retention Money

When the Taking-Over Certificate has been issued for the Works, and the Works have passed all specified tests (including the Tests after Completion, if any), the first half of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate is issued for a Section, the relevant percentage of the first half of the Retention Money shall be certified and paid when the Section passes all tests.

Promptly after the -latest of the expiry dates of the Defects Notification Periods, the outstanding balance of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate was issued for a Section, the relevant percentage of the second half of the Retention Money shall be certified and paid promptly after the expiry date of the Defects Notification Period for the Section. However, if any work remains to be executed under Clause 11 [Defects liability] or Clause 12 [Tests after Completion], the Engineer shall be entitled to withhold certification of the estimated cost of this work until it has been executed.

The relevant percentage for each Section shall be the percentage value of the Section as stated in the Appendix to Tender. If the percentage value of a Section is not stated in the Appendix to Tender, no percentage of either half of the Retention Money shall be released under this Sub-Clause in respect of such Section.

14.10

Statement at Completion

Within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Engineer six copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 14.3 [Application for Interim Payment Certificates], showing:

- (a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,
- (b) any further sums which the Contractor considers to be due, and
- (c) an estimate of any other amounts which the Contractor considers will become due to him under the Contract. Estimated amounts shall be shown separately in this Statement at completion.

The Engineer shall then certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates].

14.11

Application for Final Payment Certificate

Within 56 days after receiving the Performance Certificate, the Contractor shall submit, to the Engineer, six copies of a draft final statement with supporting documents showing detail in a form approved by the Engineer:

- (a) the value of all work done in accordance with the Contract, and
- (b) any further sums which the Contractor considers to be due to him under the Contract or otherwise.

If the Engineer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Engineer may reasonably require and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Engineer the final, statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".

However if, following discussions between the Engineer and the Contractor and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Engineer shall deliver to the Employer (with a copy to the Contractor) an Interim Payment Certificate for the agreed parts of the draft final statement. Thereafter, if the dispute is finally resolved under Sub-Clause 20.4 [Obtaining Dispute Adjudication Board's Decision] or Sub-Clause 20.5 [Amicable Settlement], the Contractor shall then prepare and submit to the Employer (with a copy to the Engineer) a Final Statement.

14.12

Discharge

When submitting the Final Statement, the Contractor shall submit a written discharge which confirms that the total of the Final Statement represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the out-standing balance of this total in which event the discharge will be effective on such date.

14.13

Issue of Final Payment Certificate

Within 28 days after receiving the Final Statement and written discharge in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Engineer shall issue, to the Employer, the Final Payment Certificate which shall state:

- (a) the amount which is finally due, and
- (b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled, the balance (if any) due from the Employer to the Contractor or from the Contractor to the Employer, as the case may be.

If the Contractor has not applied for a Final Payment Certificate in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Engineer shall request the Contractor to do so. If the Contractor fails to submit an application within a period of 28 days, the Engineer shall issue the Final Payment Certificate for such amount as he fairly determines to be due.

14.14

Cessation of Employer's Liability

The Employer shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:

- (a) in the Final Statement and also
- (b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [Statement at Completion].

However, this Sub-Clause shall not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer.

14.15

Currencies of Payment

The Contract Price shall be paid in the currency or currencies named in the Appendix to Tender. Unless otherwise stated in the Particular Conditions, if more than one currency is so named, payments shall be made as follows:

- (a) if the Accepted Contract Amount was expressed in Local Currency only:
 - (i) the proportions or amounts of the Local and Foreign Currencies, and the fixed rates of exchange to be used for calculating the payments, shall be as stated in the Appendix to Tender, except as otherwise agreed by both Parties;
 - (ii) payments and deductions under Sub-Clause 13.5 [Provisional Sums] and Sub-Clause 13.7 [Adjustments for Changes in Legislation] shall be made in the applicable currencies and proportions; and
 - (iii) other payments and deductions under sub-paragraphs (a) to (d) of Sub-Clause 14.3 [Application for Interim Payment Certificates] shall be made in the currencies and proportions specified in sub-paragraph (a)() above;
- (b) payment of the damages specified in the Appendix to Tender shall be made in the currencies and proportions specified in the Appendix to Tender;
- (c) other payments to the Employer by the Contractor shall be made in the currency in which the sum was expended by the Employer, or in such currency as may be agreed by both Parties;
- (d) if any amount payable by the Contractor to the Employer in a particular currency exceeds the sum payable by the Employer to the Contractor in that currency, the

Employer may recover the balance of this amount from the sums otherwise payable to the Contractor in other currencies; and

(e) if no rates of exchange are stated in the Appendix to Tender, they shall be those prevailing on the Base Date and determined by the central bank of the Country.

ANNEX 48

12 MEASUREMENT AND EVALUATION

12.1

Works to be Measured

The Works shall be measured, and valued for payment, in accordance with this Clause.

Whenever the Engineer requires any part of the Works to be measured, reasonable notice shall be given to the Contractor's Representative, who shall:

- (a) promptly either attend or send another qualified representative to assist the Engineer in making the measurement, and
- (b) supply any particulars requested by the Engineer.

If the Contractor fails to attend or send a representative, the measurement made by (or on behalf of) the Engineer shall be accepted as accurate.

Except as otherwise stated in the Contract, wherever any Permanent Works are to be measured from records, these shall be prepared by the Engineer. The Contractor shall, as and when requested, attend to examine and agree the records with the Engineer, and shall sign the same when agreed. If the Contractor does not attend, the records shall be accepted as accurate.

If the Contractor examines and disagrees the records, and/or does not sign them as agreed, then the Contractor shall give notice to the Engineer of the respects in which the records are asserted to be inaccurate. After receiving this notice, the Engineer shall review the records and either confirm or vary them. If the Contractor does not so give notice to the Engineer within 14 days after being requested to examine the records, they shall be accepted as accurate.

12.2

Method of Measurement

Except as otherwise stated in the Contract and notwithstanding local practice:

- (a) measurement shall be made of the net actual quantity of each item of the Permanent Works, and
- (b) the method of measurement shall be in accordance with the Bill of Quantities or other applicable Schedules.:

12.3

Evaluation

Except as otherwise stated in the Contract, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the Contract Price by evaluating each item of work, applying the measurement agreed or determined in

accordance with the above Sub-Clauses 12.1 and 12.2 and the appropriate rate or price for the item.

For each item of work, the appropriate rate or price for the item shall be the rate or price specified for such item in the Contract or, if there is no such item, specified for similar work. However, a new rate or price shall be appropriate for an item of work if:

- (a)
 - (i) the measured quantity of the item is changed by more than 10% from the quantity of this item in the Bill of Quantities or other Schedule,
 - (ii) this change in quantity multiplied by such specified rate for this item exceeds 0.01 % of the Accepted Contract Amount,
 - (iii) this change in quantity directly changes the Cost per unit quantity of this item by more than 1%, and
 - (iv) this item is not specified in the Contract as a "fixed rate item"; or
- (b)
 - (i) the work is instructed under Clause 13 [Variations and Adjustments],
 - (ii) no rate or price is specified in the Contract for this item, and
 - (iii) no specified rate or price is appropriate because the item of work is not of similar character, or is not executed under similar conditions, as any item in the Contract.

Each new rate or price shall be derived from any relevant rates or prices in the Contract, with reasonable adjustments to take account of the matters described in subparagraph (a) and/or (b), as applicable. If no rates or prices are relevant for the derivation of a new rate or price, it shall be derived from the reasonable Cost of

executing the work, together with reasonable profit, taking account of any other relevant matters.

Until such time as an appropriate rate or price is agreed or determined, the Engineer shall determine a provisional rate or price for the purposes of Interim Payment Certificates.

12.4

Omissions

Whenever the omission of any work forms part (or all) of a Variation, the value of which has not been agreed, if:

- (a) the Contractor will incur (or has incurred) cost which, if the work had not been omitted, would have been deemed to be covered by a sum forming part of the Accepted Contract Amount;
- (b) the omission of the work will result (or has resulted) in this sum not forming part of the Contract Price; and
- (c) this cost is not deemed to be included in the evaluation of any substituted work;

then the Contractor shall give notice to the Engineer accordingly, with supporting particulars. Upon receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this cost, which shall be included in the Contract Price.

ANNEX 49

14 CONTRACT PRICE AND PAYMENT

14.1

The Contract Price

Unless otherwise stated in the Particular Conditions:

- (a) the Contract Price shall be agreed or determined under Sub-Clause 12.3 [Evaluation] and be subject to adjustments in accordance with the Contract;
- (b) the Contractor shall pay all taxes, duties and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs except, as stated in Sub-Clause 13.7 [Adjustments for Changes in Legislation];
- (c) any quantities which may be set out in the Bill of Quantities or other Schedule are estimated quantities and are not to be taken as the actual and correct quantities:
 - (i) of the Works which the Contractor is required to execute, or
 - (ii) for the purposes of Clause 12 [Measurement and Evaluation]; and
- (d) the Contractor shall submit to the Engineer, within 28 days after the Commencement Date, a proposed breakdown of each lump sum price in

the Schedules. The Engineer may take account of the breakdown when preparing Payment Certificates, but shall not be bound by it.

14.2

Advance Payment

The Employer shall make an advance payment, as an interest-free loan for mobilisation, when the Contractor submits a guarantee in accordance with this Sub-Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the Appendix to Tender,

Unless and until the Employer receives this guarantee, or if the total advance payment is not stated in the Appendix to Tender, this Sub-Clause shall not apply.

The Engineer shall issue an Interim Payment Certificate for the first instalment after receiving a Statement (under Sub-Clause 14.3 [Application for Interim Payment Certificates]) and after the Employer receives (i) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security] and (ii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer, and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer.

The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount may be progressively reduced by

the amount repaid by the Contractor as indicated in the Payment Certificates. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.

The advance payment shall be repaid through percentage deductions in Payment Certificates. Unless other percentages are stated in the-Appendix to Tender:

- (a) deductions shall commence in the Payment Certificate in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds ten per cent (10%) of the Accepted Contract Amount less Provisional Sums; and
- (b) deductions shall be made at the amortisation rate of one quarter (25%) of the amount of each Payment Certificate (excluding the advance payment and deductions and repayments of retention) in the currencies and proportions of the advance payment, until such time as the advance payment has been repaid.

If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [Termination by Employer], Clause 16 [Suspension and Termination by Contractor] or Clause 19 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer.

14.3

Application for Interim Payment Certificates

The Contractor shall submit a Statement in six copies to the Engineer after the end of each month, in a form approved by the Engineer, showing in detail the amounts to which the Contractor considers himself to be entitled, together with supporting documents which shall include the report on the progress during this month in accordance with Sub-Clause 4.21 Progress Reports].

The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:

- (a) the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month (including Variations but excluding items described in sub-paragraphs (b) to (g) below);
- (b) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost];
- (c) any amount to be deducted for retention, calculated by applying the percentage of retention stated in the Appendix to Tender to the total of the above amounts, until the amount so retained by the Employer reaches the limit of Retention Money (if any) stated in the Appendix to Tender;
- (d) any amounts to be added and deducted for the advance payment and repayments in accordance with Sub-Clause 14.2 [Advance Payment];
- (e) any amounts to be added and deducted for Plant and Materials in accordance with Sub-Clause 14.5 [Plant and Materials intended for the Works];

- (f) any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [Claims, Disputes and Arbitration]; and
- (g) the deduction of amounts certified in all previous Payment Certificates.

14.4

Schedule of Payments

If the Contract includes a schedule of payments specifying the instalments in which the Contract Price will be paid, then unless otherwise stated in this schedule:

- (a) the instalments quoted in this schedule of payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates];
- (b) Sub-Clause 14.5 [Plant and Materials intended for the Works] shall not apply; and
- (c) if these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less than that on which this schedule of payments was based, then the Engineer may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine revised instalments, which shall take account of the extent to which progress is less than that on which the instalments were previously based.

If the Contract does not include a schedule of payments, the Contractor shall submit non-binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the

Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

14.5

Plant and Materials intended for the Works

If this Sub-Clause applies, Interim Payment Certificates shall include, under subparagraph (e) of Sub-Clause 14.3, (i) an amount for Plant and Materials which have been sent to the Site for incorporation in the Permanent Works, and (ii) a reduction when the contract value of such Plant and Materials is included as part of the Permanent Works under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates].

If the lists referred to in sub-paragraphs (b)(i) or (c)(i) below are not included in the Appendix to Tender, this Sub-Clause shall not apply.

The Engineer shall determine and certify each addition if the following conditions are satisfied:

- (a) the Contractor has:
 - (i) kept satisfactory records (including the orders, receipts, Costs and use of Plant and Materials) which are available for inspection, and
 - (ii) submitted a statement of the Cost of acquiring and delivering the Plant and Materials to the Site, supported by satisfactory evidence;

and either:

(b) the relevant Plant and Materials:

- (i) are those listed in the Appendix to Tender for payment when shipped,
- (ii) have been shipped to the Country, en route to the Site, in accordance with the Contract; and
- (iii) are described in a clean shipped bill of lading or other evidence of shipment, which has been submitted to the Engineer together with evidence of payment of freight and insurance, any other documents reasonably required, and a bank guarantee in a form and issued by an entity approved by the Employer in amounts and currencies equal to the amount due under this Sub-Clause: this guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [Advance Payment] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration;

or

(c) the relevant Plant and Materials:

- (i) are those listed in the Appendix to Tender for payment when delivered to the Site, and
- (ii) have been delivered to and are properly stored on the Site, are protected against loss, damage or deterioration, and appear to be in accordance with the Contract.

The additional amount to be certified shall be the equivalent of eighty percent of the Engineer's determination of the cost of the Plant and Materials (including delivery to Site), taking account of the documents mentioned in this Sub-Clause and of the contract value of the Plant and Materials.

The currencies for this additional amount shall be the same as those in which payment will become due when the contract value is included under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates]. At that time, the Payment Certificate shall include the applicable reduction which shall be equivalent to, and in the same currencies and proportions as, this additional amount for the relevant Plant and Materials.

14.6

Issue of Interim Payment Certificates

No amount will be certified or paid until the Employer has received and approved the Performance Security. Thereafter, the Engineer shall, within 28 days after receiving a Statement and supporting documents, issue to the Employer an Interim Payment Certificate which shall state the amount which the Engineer fairly determines to be due, with supporting particulars.

However, prior to issuing the Taking-Over Certificate for the Works, the Engineer shall not be bound to issue an Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment

Certificates (if any) stated in the Appendix to Tender. In this event, the Engineer shall give notice to the Contractor accordingly.

An Interim Payment Certificate shall not be withheld for any other reason, although:

- (a) if any thing supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
- (b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Engineer, the value of this work or obligation may be withheld until the work or obligation has been performed.

The Engineer may in any Payment Certificate make any correction or modification that should properly be made to any previous Payment Certificate. A Payment Certificate shall not be deemed to indicate the Engineer's acceptance, approval, consent or satisfaction.

14.7

Payment

The Employer shall pay to the Contractor:

- (a) the first instalment of the advance payment within 42 days after issuing the Letter of Acceptance or within 21 days after receiving the documents in accordance with

Sub-Clause 4.2 [Performance Security] and Sub-Clause 14.2 [Advance Payment], whichever is later;

- (b) the amount certified in each Interim Payment Certificate within 56 days after the Engineer receives the Statement and supporting documents; and
- (c) the amount certified in the Final Payment Certificate within 56 days after the Employer receives this Payment Certificate.

Payment of the amount due in each currency shall be made into the bank account, nominated by the Contractor, in the payment country (for this currency) specified in the Contract.

14.8

Delayed Payment

If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [Payment], the Contractor shall be entitled to receive financing charges compounded monthly on the amount unpaid during the period of delay. This period shall be deemed to commence on the date for payment specified in Sub-Clause 14.7 [Payment], irrespective (in the case of its sub-paragraph (b)) of the date on which any Interim Payment Certificate is issued.

Unless otherwise stated in the Particular Conditions, these financing charges shall be calculated' at the annual rate of three percentage points above the discount rate of the central bank in the country of the currency of payment, and shall be paid in such currency.

The Contractor shall be entitled to this payment without formal notice or certification, and without prejudice to any other right or remedy.

14.9

Payment of Retention Money

When the Taking-Over Certificate has been issued for the Works, the first half of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate is issued for a Section or part of the Works, a proportion of the Retention Money shall be certified and paid. This proportion shall be two-fifths (40%) of the proportion calculated by dividing the estimated contract value of the Section or part, by the estimated final Contract Price.

Promptly after the latest of the expiry dates of the Defects Notification Periods, the outstanding balance of the Retention Money shall be certified by the Engineer for payment to the Contractor. If a Taking-Over Certificate was issued for a Section, a proportion of the second half of the Retention Money shall be certified and paid promptly after the expiry date of the Defects Notification Period for the Section. This proportion shall be two-fifths (40%) of the proportion calculated by dividing the estimated contract value of the Section by the estimated final Contract Price.

However, if any work remains to be executed under Clause 11 [Defects Liability], the Engineer shall be entitled to withhold certification of the estimated cost of this work until it has been executed.

When calculating these proportions, no account shall be taken of any adjustments under Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost].

14.10

Statement at Completion

Within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Engineer six copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 14.3 [Application for Interim Payment Certificates], showing:

- (a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,
- (b) any further sums which the Contractor considers to be due, and
- (c) an estimate of any other amounts which the Contractor considers will become due to him under the Contract. Estimated amounts shall be shown separately in this Statement at completion.

The Engineer shall then certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates].

14.11

Application for Final Payment Certificate

Within 56 days after receiving the Performance Certificate, the Contractor shall submit, to the Engineer, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Engineer:

- (a) the value of all work done in accordance with the Contract, and
- (b) any further sums which the Contractor considers to be due to him under the Contract or otherwise.

If the Engineer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Engineer may reasonably require and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Engineer the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".

However if, following discussions between the Engineer and the Contractor and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Engineer shall deliver to the Employer (with a copy to the Contractor) an Interim Payment Certificate for the agreed parts of the draft final statement. Thereafter, if the dispute is finally resolved under Sub-Clause 20.4 [Obtaining Dispute Adjudication Board's Decision] or Sub-Clause 20.5 [Amicable Settlement], the Contractor shall then prepare and submit to the Employer (with a copy to the Engineer) a Final Statement.

14.12

Discharge

When submitting the Final Statement, the Contractor shall submit a written discharge which confirms that the total of the Final Statement represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the outstanding balance of this total, in which event the discharge shall be effective on such date.

14.13

Issue of Final Payment Certificate

Within 28 days after receiving the Final Statement and written discharge in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Engineer shall issue, to the Employer, the Final Payment Certificate which shall state:

- (a) the amount which is finally due, and
- (b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled, the balance (if any) due from the Employer to the Contractor or from the Contractor to the Employer, as the case may be.

If the Contractor has not applied for a Final Payment Certificate in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Engineer shall request the Contractor to do so. If the Contractor fails to submit an application within a period of 28 days, the Engineer shall issue the Final Payment Certificate for such amount as he fairly determines to be due.

14.14

Cessation of Employer's Liability

The Employer shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:

- (a) in the Final Statement and also
- (b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [Statement at Completion].

However, this Sub-Clause shall not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer.

14.15

Currencies of Payment

The Contract Price shall be paid in the currency or currencies named in the Appendix to Tender. Unless otherwise stated in the Particular Conditions, if more than one currency is so named, payments shall be made as follows:

- (a) if the Accepted Contract Amount was expressed in Local Currency only:
 - (i) the proportions or amounts of the Local and Foreign Currencies, and the fixed rates of exchange to be used for calculating the payments, shall be as stated in the Appendix to Tender, except as otherwise agreed by both Parties;
 - (ii) payments and deductions under Sub-Clause 13.5 [Provisional Sums] and Sub-Clause 13.7 [Adjustments for Changes in Legislation] shall be made in the applicable currencies and proportions; and
 - (iii) other payments and deductions under sub-paragraphs (a) to (d) of Sub-Clause 14.3 [Application for Interim Payment Certificates] shall be made in the currencies and proportions specified in sub-paragraph (a)(i) above;
- (b) payment of the damages specified in the Appendix to Tender shall be made in the currencies and proportions specified in the Appendix to Tender;
- (c) other payments to the Employer by the Contractor shall be made in the currency in which the sum was expended by the Employer, or in such currency as may be agreed by both Parties;
- (d) if any amount payable by the Contractor to the Employer in a particular currency exceeds the sum payable by the Employer to the Contractor in that

currency, the Employer may recover the balance of this amount from the sums otherwise payable to the Contractor in other currencies; and

- (e) if no rates of exchange are stated in the Appendix to Tender, they shall be those prevailing on the Base Date and determined by the central bank of the Country.

ANNEX 50

3 THE ENGINEER

3.1

Engineer's Duties and Authority

The Employer shall appoint the Engineer who shall carry out the duties assigned to him in the Contract. The Engineer's staff shall include suitably qualified engineers and other professionals who are competent to carry out these duties.

The Engineer shall have no authority to amend the Contract.

The Engineer may exercise the authority attributable to the Engineer as specified in or necessarily to be implied from the Contract. If the Engineer is required to obtain the approval of the Employer before exercising a specified authority, the requirements shall be as stated in the Particular Conditions. The Employer undertakes not to impose further constraints on the Engineer's authority, except as agreed with the Contractor. However, whenever the Engineer exercises a specified authority for which the Employer's approval is required, then (for the purposes of the Contract) the Employer shall be deemed to have given approval.

Except as otherwise stated in these Conditions:

- (a) whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Engineer shall be deemed to act for the Employer;
- (b) the Engineer has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract; and
- (c) any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Engineer (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances.

3.2

Delegation by the Engineer

The Engineer may from time to time assign duties and delegate authority to assistants, and may also revoke such assignment or delegation. These assistants may include a resident engineer, and/or independent inspectors appointed to inspect and/or test items of Plant and/or Materials. The assignment, delegation or revocation shall be in writing and shall not take effect until copies have been received by both Parties. However; unless otherwise agreed by both Parties, the Engineer shall not delegate the authority to determine any matter in accordance with Sub-Clause 3.5 [Determinations].

Assistants shall be suitably qualified persons, who are competent to carry out these duties and exercise this authority, and who are fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language].

Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorised to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar` act by an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Engineer. However:

- (a) any failure to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Engineer to reject the work, Plant or Materials;
- (b) if the Contractor questions any determination or instruction of an assistant, the Contractor may refer the matter to the Engineer, who shall promptly confirm,

3.3

Instructions of the Engineer

The Engineer may issue to the Contractor (at any time) instructions which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Engineer, or from an assistant to whom the appropriate authority has been delegated under this Clause. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

The Contractor shall comply with the instructions given by the Engineer or delegated assistant, on any matter related to the Contract. These instructions shall be given in writing.

3.4

Replacement of the Engineer

If the Employer intends to replace the Engineer, the Employer shall, not less than 42 days before the intended date of replacement, give notice to the Contractor of the name, address and relevant experience of the intended replacement Engineer. The Employer shall not replace the Engineer with a person against whom the Contractor raises reasonable objection by notice to the Employer, with supporting particulars.

3.5

Determinations

Whenever these Conditions provide that the Engineer shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Engineer shall consult with each Party in an endeavour to reach agreement. If agreement is not achieved, the Engineer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.

The Engineer shall give notice to both Parties of each agreement or determination, with supporting particulars. Each Party shall give effect to each agreement or

determination unless and until revised under Clause 20 [Claims, Disputes and Arbitration].

ANNEX 51

3 THE ENGINEER

3.1

Engineer's Duties and Authority

The Employer shall appoint the Engineer who shall carry out the duties assigned to him in the Contract. The Engineer's staff shall include suitably qualified engineers and other professionals who are competent to carry out these duties.

The Engineer shall have no authority to amend the Contract.

The Engineer may exercise the authority attributable to the Engineer as specified in or necessarily to be implied from the Contract. If the Engineer is required to obtain the approval of the Employer before exercising a specified authority, the requirements shall be as stated in the Particular Conditions. The Employer undertakes not to impose further constraints on the Engineer's authority, except as agreed with the Contractor.

However, whenever the Engineer exercises a specified authority for which the Employer's approval is required, then (for the purposes of the Contract) the Employer shall be deemed to have given approval.

Except as otherwise stated in these Conditions:

- (a) whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Engineer shall be deemed to act for the Employer;
- (b) the Engineer has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract; and
- (c) any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Engineer (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances.

3.2

Delegation by the Engineer

The Engineer may from time to time assign duties and delegate authority to assistants, and may also revoke such assignment or delegation. These assistants may include a resident engineer, and/or independent inspectors appointed to inspect and/or test items of Plant and/or Materials. The assignment, delegation or revocation shall be in writing and shall not take effect until copies have been received by both Parties. However, unless otherwise agreed by both Parties, the Engineer shall not delegate the authority to determine any matter in accordance with Sub-Clause 3.5 [Determinations].

Assistants shall be suitably qualified persons, who are competent to carry out these duties and exercise this authority, and who are fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language].

Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorised to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Engineer. However:

- (a) any failure to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Engineer to reject the work, Plant or Materials;
- (b) if the Contractor questions any determination or instruction of an assistant, the Contractor may refer the matter to the Engineer, who shall promptly confirm, reverse or vary the determination or instruction.

3.3

Instructions of the Engineer

The Engineer may issue to the Contractor (at any time) instructions and additional or modified Drawings which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Engineer, or from an assistant to whom the appropriate authority has been delegated under this Clause. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

The Contractor shall comply with the instructions given by the Engineer or delegated assistant, on any matter related to the Contract. Whenever practicable, their instructions shall be given in writing. If the Engineer or a delegated assistant:

- (a) gives an oral instruction,
- (b) receives a written confirmation of the instruction, from (or on behalf of) the Contractor, within two working days after giving the instruction, and
- (c) does not reply by issuing a written rejection and/or instruction within two working days after receiving the confirmation,

then the confirmation shall constitute the written instruction of the Engineer or delegated assistant (as the case may be).

3.4

Replacement of the Engineer

If the Employer intends to replace the Engineer, the Employer shall, not less than 42 days before the intended date of replacement, give notice to the Contractor of the name, address and relevant experience of the intended replacement Engineer. The Employer shall not replace the Engineer with a person against whom the Contractor raises reasonable objection by notice to the Employer, with supporting particulars.

3.5

Determinations

Whenever these Conditions provide that 'the Engineer shall proceed' in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Engineer shall consult with each Party in an endeavour to reach agreement. If 'agreement is not achieved, the Engineer shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.

The Engineer shall give notice to both Parties of each agreement or determination, with supporting particulars. Each Party shall give effect to each agreement or determination unless and until revised under Clause 20 [Claims, Disputes and Arbitration].

ANNEX 52

4 THE CONTRACTOR

4.1

Contractor's General Obligations

The Contractor shall design, execute and complete the Works in accordance with the Contract, and shall remedy any defects in the Works. When completed, the Works shall be fit for the purposes for which the Works are intended as defined in the Contract.

The Contractor shall provide the Plant and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects.

The Works shall include any work which is necessary to satisfy the Employer's Requirements, or is implied by the Contract, and all works which (although not mentioned in the Contract) are necessary for stability or for the completion, or safe and proper operation, of the Works.

The Contractor shall be responsible for the adequacy, stability and safety of all Site operations, of all methods of construction and of all the Works.

The Contractor shall, whenever required by the Employer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Employer.

ANNEX 53

14 CONTRACT PRICE AND PAYMENT

14.1

The Contract Price

Unless otherwise stated in the Particular Conditions:

- (a) payment for the Works shall be made on the basis of the lump sum Contract Price, subject to adjustments in accordance with the Contract; and
- (b) the Contractor shall pay all taxes, duties and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs, except as stated in Sub-Clause 13.7 [Adjustments for Changes in Legislation].

ANNEX 54

3.4

Instructions

The Employer may issue to the Contractor instructions which may be necessary for the Contractor to perform his obligations under the Contract. Each instruction shall be given in writing and shall state the obligations to which It relates and the Sub-Clause (or other term of the Contract) in which the obligations are specified. If any such instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply. The Contractor shall take instructions from the Employer, or from the Employer's Representative or an assistant to whom the appropriate authority has been delegated under this Clause.

ANNEX 55

13 VARIATIONS AND ADJUSTMENTS

13.1

Right to Vary

Variations may be initiated by the Employer at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal. A Variation shall not comprise the omission of any work which is to be carried out by others.

The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Employer stating (with supporting particulars) that (I) the Contractor cannot readily obtain the Goods required for the Variation, (ii) it will reduce the safety or suitability of the Works, or (iii) it will have an adverse impact on the achievement of the Performance Guarantees. Upon receiving this notice, the Employer shall cancel, confirm or vary the instruction.

13.2

Value Engineering

The Contractor may, at any time, submit to the Employer a written proposal which (in the Contractor's opinion) will, if adopted, (i) accelerate completion, (li) reduce the cost to the Employer of executing, maintaining or operating the Works, (Ili) improve the

efficiency or value to the Employer of the completed Works, or (iv) otherwise be of benefit to the Employer.

The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [Variation Procedure].

13.3

Variation Procedure

If the Employer requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:

- (a) a description of the proposed design and/or work to be performed and a programme for its execution,
- (b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [Programme] and to the Time for Completion, and
- (c) the Contractor's proposal for adjustment to the Contract Price.

The Employer shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst awaiting a response.

Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Employer to the Contractor, who shall acknowledge receipt.

Upon instructing or approving a Variation, the Employer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine adjustments to the Contract Price and the Schedule of Payments. These adjustments shall include reasonable profit, and shall take account of the Contractor's submissions under Sub-Clause 13.2 [Value Engineering] if applicable.

13.4

Payment in Applicable Currencies

If the Contract provides for payment of the Contract Price in more than one currency, then whenever an adjustment is agreed, approved or determined as stated above, the amount payable in each of the applicable currencies shall be specified. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.

13.5

Provisional Sums

Each Provisional Sum shall only be used, in whole or In part, in accordance with the Employer's instructions, and the Contract Price shall be adjusted accordingly. The total sum paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Employer shall have instructed. For each Provisional Sum, the Employer may instruct:

- (a) work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [Variation Procedure]; and/or
- (b) Plant, Materials or services to be purchased by the Contractor, for which there shall be added to the Contract Price less the original Provisional Sums:
 - (i) the actual amounts paid (or due to be paid) by the Contractor, and
 - (ii) a sum for overhead charges and profit, calculated as a percentage of these actual amounts by applying the relevant percentage rate (if any) stated in the Contract.

The Contractor shall, when required by the Employer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

13.6

Daywork

For work of a minor or incidental nature, the Employer may instruct that a Variation shall be executed on a daywork basis. The work shall then be valued in accordance with the daywork schedule included in the Contract, and the following procedure shall apply. If a daywork schedule is not included in the Contract, this Sub-Clause shall not apply.

Before ordering Goods for the work, the Contractor shall submit quotations to the Employer. When applying for payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any Goods.

Except for any items for which the daywork schedule specifies that payment is not due, the Contractor shall deliver each day to the Employer accurate statements in duplicate which shall include the following details of the resources used in executing the previous day's work:

- (a) the names, occupations and time of Contractor's Personnel,
- (b) the identification, type and time of Contractor's Equipment and Temporary Works, and
- (c) the quantities and types of Plant and Materials used.

One copy of each statement will, if correct, or when agreed, be signed by the Employer and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Employer, prior to their inclusion in the next Statement under Sub-Clause 14.3 [Application for Interim Payments].

13.7

Adjustments for Changes in Legislation

The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change In the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or In the judicial or official

governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract,

If the Contractor suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost, which shall be added to the Contract Price.

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

13.8

Adjustments for Changes in Costs

If the Contract Price is to be adjusted for rises or falls in the cost of labour, Goods and other Inputs to the Works, the adjustments shall be calculated in accordance with the provisions in the Particular Conditions.

ANNEX 56

4.5

Nominated Subcontractors

In this Sub-Clause, "nominated Subcontractor" means a Subcontractor whom the Employer, under Clause 13 [Variations and Adjustments], instructs the Contractor to employ as a Subcontractor. The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Employer as soon as practicable, with supporting particulars.

ANNEX 57

5 NOMINATED SUBCONTRACTORS

5.1

Definition of "nominated Subcontractor"

In the Contract, "nominated Subcontractor" means a Subcontractor:

- (a) who is stated in the Contract as being a nominated Subcontractor, or
- (b) whom the Engineer, under Clause 13 [Variations and Adjustments], instructs the Contractor to employ as a Subcontractor.

5.2

Objection to Nomination

The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Engineer as soon as practicable, with supporting particulars. An objection shall be deemed reasonable if it arises from (among other things) any of the following matters, unless the Employer agrees to indemnify the Contractor against and from the consequences of the matter:

- (a) there are reasons to believe that the Subcontractor does not have sufficient competence, resources or financial strength;

- (b) the subcontract does not specify that the nominated Subcontractor shall indemnify the Contractor against and from any negligence or misuse of Goods by the nominated Subcontractor, his agents and employees; or
- (c) the subcontract does not specify that, for the subcontracted work (including design, if any), the nominated Subcontractor shall:
 - (i) undertake to the Contractor such obligations and liabilities as will enable the Contractor to discharge his obligations and liabilities under the Contract, and
 - (ii) indemnify the Contractor against and from all obligations and liabilities arising under or in connection with the Contract and from the consequences of any failure by the Subcontractor to perform these obligations or to fulfil these liabilities.

5.3

Payments to nominated Subcontractors

The Contractor shall pay to the nominated Subcontractor the amounts which the Engineer certifies to be due in accordance with the subcontract. These amounts plus other charges shall be included in the Contract Price in accordance with subparagraph (b) of Sub-Clause 13.5 [Provisional Sums], except as stated in Sub-Clause 5.4 [Evidence of Payments].

5.4

Evidence of Payments

Before issuing a Payment Certificate which includes an amount payable to a nominated Subcontractor, the Engineer may request the Contractor to supply reasonable evidence that the nominated Subcontractor has received all amounts due in accordance with previous Payment Certificates, less applicable deductions for retention or otherwise. Unless the Contractor:

- (a) submits this reasonable evidence to the Engineer, or
- (b) (i) satisfies the Engineer in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and
(ii) submits to the Engineer reasonable evidence that the nominated Subcontractor has been notified of the Contractor's entitlement,

then the Employer may (at his sole discretion) pay, direct to the nominated Subcontractor, part or all of such amounts previously certified (less applicable

ANNEX 58

1.1.2.7 "Contractor's Personnel" means the Contractor's Representative and all personnel whom the Contractor utilises on Site, who may include the staff, labour and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.

ANNEX 59

1.1.2.6 "Employer's Personnel" means the Employer's Representative, the assistants referred to in Sub-Clause 3.2 [Other Employer's Personnel and all other staff, labour and other employees of the Employer and of the Employer's Representative; and any other personnel notified to the Contractor, by the Employer or the Employer's Representative, as Employer's Personnel.

ANNEX 60

1.1.2.5 "Contractor's Representative" means the person named by the Contractor in the Contract or appointed from time to time by the Contractor under Sub-Clause 4.3 [Contractor's Representative], who acts on behalf of the Contractor.

ANNEX 61

6 STAFF AND LABOUR

6.1

Engagement of Staff and Labour

Except as otherwise stated in the Employer's Requirements, the Contractor shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, housing, feeding and transport.

ANNEX 62

6.2

Rates of Wages and Conditions of Labour

The Contractor shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.

ANNEX 63

6.5

Working Hours

No work shall be carried out on the Site on locally recognised days of rest, or outside normal working hours, unless:

- (a) otherwise stated in the Contract,
- (b) the Employer gives consent, or
- (c) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Employer.

ANNEX 64

6.7

Health and Safety

The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.

The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.

The Contractor shall send, to the Employer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Employer may reasonably require.

ANNEX 65

6.10

Records of Contractor's Personnel and Equipment

The Contractor shall submit, to the Employer, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Employer, until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

ANNEX 66

7 PLANT MATERIALS AND WORKMANSHIP

7.1

Manner of Execution

The Contractor shall carry out the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works:

- (a) in the manner (if any) specified in the Contract,
- (b) in a proper workmanlike and careful manner, in accordance with recognised good practice, and
- (c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.

ANNEX 67

7.2

Samples

The Contractor shall submit samples to the Employer, for review in accordance with the procedures for Contractor's Documents described in Sub-Clause 5.2 [Contractor's Documents], as specified in the Contract and at the Contractor's cost. Each sample shall be labelled as to origin and intended use in the Works.

ANNEX 68

7.3

Inspection

The Employer's Personnel shall at all reasonable times:

- (a) have full access to all parts of the Site and to all places from which natural Materials are being obtained, and
- (b) during production, manufacture and construction (at the Site and, to the extent specified in the Contract, elsewhere), be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of manufacture of Plant and production and manufacture of Materials.

The Contractor shall give the Employer's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.

In respect of the work which Employer's Personnel are entitled to examine, inspect, measure and/or test, the Contractor shall give notice to the Employer whenever any such work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Employer shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Employer does not require to do so. If the Contractor fails to give

the notice, he shall, if and when required by the Employer, uncover the work and thereafter reinstate and make good, all at the Contractor's cost.

ANNEX 69

7.4

Testing

This Sub-Clause shall apply to all tests specified in the Contract, other than the Tests after Completion (if any).

The Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. The Contractor shall agree, with the Employer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.

The Employer may, under Clause 13 [Variations and Adjustments], vary the location or details of specified tests, or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall be borne by the Contractor, notwithstanding other provisions of the Contract.

The Employer shall give the Contractor not less than 24 hours' notice of the Employer's intention to attend the tests. If the Employer does not attend, at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Employer, and the tests shall then be deemed to have been made in the Employer's presence.

If the Contractor suffers delay and/or incurs Cost from complying with these instructions or as a result of a delay for which the Employer is responsible, the Contractor shall give notice to the Employer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims) to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost plus reasonable profit, which shall be added to the Contract Price.

After receiving this notice, the Employer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

The Contractor shall promptly forward to the Employer duly certified reports of the tests. When the specified tests have been passed, the Employer shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Employer has not attended the tests, he shall be deemed to have accepted the readings as accurate.

ANNEX 70

8 COMMENCEMENT, DELAYS AND SUSPENSION

8.1

Commencement of Works

Unless otherwise stated in the Contract Agreement:

- (a) the Employer shall give the Contractor not less than 7 days' notice of the Commencement Date; and
- (b) the Commencement Date shall be within 42 days after the date on which the Contract comes into full force and effect under Sub-Clause 1.6 [Contract Agreement].

The Contractor shall commence the design and execution of the Works as soon as is reasonably practicable after the Commencement Date, and shall then proceed with the Works with due expedition and without delay.

ANNEX 71

8.3

Programme

The Contractor shall submit a time programme to the Employer within 28 days after the Commencement Date. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Unless otherwise stated in the Contract, each programme shall include:

- (a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of each major stage of the Works,
- (b) the periods for reviews under Sub-Clause 5.2 [Contractor's Documents],
- (c) the sequence and timing of inspections and tests specified in the Contract, and
- (d) a supporting report which includes:
 - (i) a general description of the methods which the Contractor., intends to adopt for the execution of each major stage of the Works, and
 - (ii) the approximate number of each class of Contractor's Personnel and of each type of Contractor's Equipment for each major stage.

Unless the Employer, within 21 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the

Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Employer's Personnel shall be entitled to rely upon the programme when planning their activities.

The Contractor shall promptly give notice to the Employer of specific probable future events or circumstances which may adversely affect or delay the execution of the Works. In this event, or if the Employer gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Employer in accordance with this Sub-Clause.

ANNEX 72

8.6

Rate of Progress

If, at any time:

- (a) actual progress is too slow to complete within the Time for Completion, and/or
- (b) progress has fallen (or will fall) behind the current programme under Sub-Clause 8.3 [Programme],

other than as a result of a cause listed in Sub-Clause 8.4 [Extension of Time for Completion], then the Employer may instruct the Contractor to submit, under Sub-Clause 8.3 [Programme], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.

Unless the Employer notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [Employer's Claims] pay these costs to the Employer, in addition to delay damages (if any) under Sub-Clause 8.7 below.

ANNEX 73

14 CONTRACT PRICE AND PAYMENT

14.1

The Contract Price

Unless otherwise stated in the Particular Conditions:

- (a) payment for the Works shall be made on the basis of the lump sum Contract Price, subject to adjustments in accordance with the Contract; and
- (b) the Contractor shall pay all taxes, duties and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs, except as stated in Sub-Clause 13.7 [Adjustments for Changes in Legislation].

14.2

Advanced Payment

The Employer shall make an advance payment, as an interest-free loan for mobilization and design, when the Contractor submits a guarantee in accordance with this Sub-Clause including the details stated in the Particular Conditions. If the Particular Conditions does not state:

- (a) the amount of the advance payment, then this Sub-Clause shall not apply;

- (b) the number and timing of instalments, then there shall be only one;
- (c) the applicable currencies and proportions, then they shall be those in which the Contract Price is payable; and/or
- (d) the amortisation rate for repayments, then it shall be calculated by dividing the total amount of the advance payment by the Contract Price stated in the Contract Agreement less Provisional Sums.

The Employer shall pay the first instalment after receiving (i) a Statement (under Sub-Clause 14.3 [Application for Interim Payments]), (ii) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security], and (iii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer, and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer. Unless and until the Employer receives this guarantee, this Sub-Clause shall not apply.

The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount may be progressively reduced by the amount repaid by the Contractor. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.

The advance payment shall be repaid through proportional deductions in interim payments. Deductions shall be made at the amortization rate stated in the Particular

Conditions (or, if not so stated, as stated in sub-paragraph (d) above), which shall be applied to the amount otherwise due (excluding the advance payment and deductions and repayments of retention), until such time as the advance payment has been repaid.

If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [Termination by Employer], Clause 16 [Suspension and Termination by Contractor] or Clause 19 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Employer.

14.3

Application for Interim Payments

The Contractor shall submit a Statement in six copies to the Employer after the end of the period of payment stated in the Contract (if not stated, after the end of each month), in a form approved by the Employer, showing in detail the amounts to which the Contractor considers himself to be entitled, together with supporting documents which shall include the relevant report on progress in accordance with Sub-Clause 4.21 [Progress Reports].

The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:

- (a) the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month (including Variations but excluding items described in sub-paragraphs (b) to (f) below);
- (b) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost];
- (c) any amount to be deducted for retention, calculated by applying the percentage of retention stated in the Particular Conditions to the total of the above amounts, until the amount so retained by the Employer reaches the limit of Retention Money (if any) stated in the Particular Conditions;
- (d) any amounts to be added and deducted for the advance payment and repayments in accordance with Sub-Clause 14.2 [Advance Payment];
- (e) any other additions or deductions which may have become due under the Contract or otherwise, including those under Clause 20 [Claims, Disputes and Arbitration]; and
- (f) the deduction of amounts included in previous Statements.

14.4

Schedule of Payments

If the Contract includes a Schedule of Payments specifying the instalments in which the Contract Price will be paid, then unless otherwise stated in this Schedule:

- (a) the instalments quoted in the Schedule of Payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payments], subject to Sub-Clause 14.5 [Plant and Materials intended for the Works]; and
- (b) if these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less than that on which the Schedule of Payments was based, then the Employer may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine revised instalments, which shall take account of the extent to which progress is less than that on which the instalments were previously based.

If the Contract does not include a Schedule of Payments, the Contractor shall submit non-binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

14.5

Plant and Materials intended for the Works

If the Contractor is entitled, under the Contract, to an interim payment for Plant and Materials which are not yet on the Site, the Contractor shall nevertheless not be entitled to such payment unless:

- (a) the relevant Plant and Materials are in the Country and have been marked as the Employer's property in accordance with the Employer's instructions; or
- (b) the Contractor has delivered, to the Employer, evidence of insurance and a bank guarantee in a form and issued by an entity approved by the Employer in amounts and currencies equal to such payment. This guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [Advance Payment] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration.

14.6

Interim Payments

No amount will be paid until the Employer has received and approved the Performance Security. Thereafter, the Employer shall within 28 days after receiving a Statement and supporting documents, give to the Contractor notice of any items in the Statement with which the Employer disagrees, with supporting particulars. Payments due shall not be withheld, except that:

- (a) if any thing supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
- (b) if the Contractor was or is failing to perform any work or obligation in accordance with, the Contract, and had been so notified by the Employer, the value of this work or obligation may be withheld until the work or obligation has been performed.

The Employer may, by any payment, make any correction or modification that should properly be made to any amount previously considered due. Payment shall not be deemed to indicate the Employer's acceptance, approval, consent or satisfaction.

14.7

Timing of Payments

Except as otherwise stated in Sub-Clause 2.5 [Employer's Claims], the Employer shall pay to the Contractor:

- (a) the first instalment of the advance payment within 42 days after the date on which the Contract came into full force and effect or within 21 days after the Employer receives the documents in accordance with Sub-Clause 4.2 [Performance Security] and Sub-Clause 14.2 [Advance Payment], whichever is later;
- (b) the amount which is due in respect of each Statement, other than the Final Statement, within 56 days after receiving the Statement and supporting documents; and
- (c) the final amount due, within 42 days after receiving the Final Statement and written discharge in accordance with Sub-Clause 14.11 [Application for Final Payment] and Sub-Clause 14.12 [Discharge].

Payment of the amount due in each currency shall be made into the bank account, nominated by the Contractor, in the payment country (for this currency) specified in the Contract.

14.8

Delayed Payment

If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [Timing of Payments], the Contractor shall be entitled to receive financing charges compounded monthly on the amount unpaid during the period of delay.

Unless otherwise stated in the Particular Conditions, these financing charges shall be calculated at the annual rate of three percentage points above the discount rate of the central bank in the country of the currency of payment, and shall be paid in such currency.

The Contractor shall be entitled to this payment without formal notice, and without prejudice to any other right or remedy.

14.9

Payment of Retention Money

When the Taking-Over Certificate has been issued for the Works, and the Works have passed all specified tests (including the Tests after Completion, if any), the first half of the Retention Money shall be paid to the Contractor. If a Taking-Over Certificate is

issued for a Section, the relevant percentage of the first half of the Retention Money shall be paid when the Section passes all tests.

Promptly after the latest of the expiry dates of the Defects Notification Periods, the outstanding balance of the Retention Money shall be paid to the Contractor. If a Taking-Over Certificate was issued for a Section, the relevant percentage of the second half of the Retention Money shall be paid promptly after the expiry date of the Defects Notification Period for the Section.

However, if any work remains to be executed under Clause 11 [Defects Liability] or Clause 12 [Tests after Completion], the Employer shall be entitled to withhold the estimated cost of this work until it has been executed.

The relevant percentage for each Section shall be the percentage value of the Section as stated in the Contract. If the percentage value of a Section is not stated in the Contract, no percentage of either half of the Retention Money shall be released under this Sub-Clause in respect of such Section.

14.10

Statement at Completion

Within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Employer six copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 14.3 [Application for Interim Payments], showing:

- (a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,
- (b) any further sums which the Contractor considers to be due, and
- (c) an estimate of any other amounts which the Contractor considers will become due to him under the Contract. Estimated amounts shall be shown separately in this Statement at completion.

The Employer shall then give notice to the Contractor in accordance with Sub-Clause 14.6 [Interim Payments] and make payment in accordance with Sub-Clause 14.7 [Timing of Payments].

14.11

Application for Final Payment

Within 56 days after receiving the Performance Certificate, the Contractor shall submit, to the Employer, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Employer:

- (a) the value of all work done in accordance with the Contract, and Discharge
- (b) any further sums which the Contractor considers to be due to him under the Contract or otherwise.

If the Employer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Employer may reasonably require and shall make such changes in the draft as may be agreed between them.

The Contractor shall then prepare and submit to the Employer the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".

However if, following discussions between the Parties and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Employer shall pay the agreed parts of the draft final statement in accordance with Sub-Clause 14.6 [Interim Payments] and Sub-Clause 14.7 [Timing of Payments]. Thereafter, if the dispute is finally resolved under Sub-Clause 20.4 [Obtaining Dispute Adjudication Board's Decision] or Sub-Clause 20.5 [Amicable Settlement], the Contractor shall then prepare and submit to the Employer a Final Statement.

14.12

Discharge

When submitting the Final Statement, the Contractor shall submit a written discharge which confirms that the total of the Final Statement represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the out-standing balance of this total, in which event the discharge shall be effective on such date.

14.13

Final Payment

In accordance with sub-paragraph (c) of Sub-Clause 14.7 [Timing of Payments], the Employer shall pay to the Contractor the amount which is finally due, less all amounts previously paid by the Employer and any deductions in accordance with Sub-Clause 2.5 [Employer's Claims].

14.14

Cessation of Employer's Liability

The Employer shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:

- (a) in the Final Statement and also
- (b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [Statement at Completion].

However, this Sub-Clause shall not limit the Employer's liability under his indemnification obligations, or the Employer's liability in any case of fraud, deliberate default or reckless misconduct by the Employer.

14.15

Currencies of Payment

The Contract Price shall be paid in the currency or currencies named in the Contract Agreement. Unless otherwise stated in the Particular Conditions, if more than one currency is so named, payments shall be made as follows:

- (a) if the Contract Price was expressed in Local Currency only:
 - (i) the proportions or amounts of the Local and Foreign Currencies, and the fixed rates of exchange to be used for calculating the payments, shall be as stated in the Contract Agreement, except as otherwise agreed by both Parties;
 - (ii) payments and deductions under Sub-Clause 13.5 [Provisional Sums] and Sub-Clause 13.7 [Adjustments for Changes in Legislation] shall be made in the applicable currencies and proportions; and
 - (iii) other payments and deductions under sub-paragraphs (a) to (d) of Sub-Clause 14.3 [Application for Interim Payments] shall be made in the currencies and proportions specified in sub-paragraph (a)(i) above;
- (b) payment of the damages specified in the Particular Conditions shall be made in the currencies and proportions specified in the Particular Conditions;
- (c) other payments to the Employer by the Contractor shall be made in the currency in which the sum was expended by the Employer, or in such currency as may be agreed by both Parties;

- (d) if any amount payable by the Contractor to the Employer in a particular currency exceeds the sum payable by the Employer to the Contractor in that currency, the Employer may recover the balance of this amount from the sums otherwise payable to the Contractor in other currencies; and
- (e) if no rates of exchange are stated in the Contract, they shall be those prevailing on the Base Date and determined by the central bank of the Country.

ANNEX 74

4 THE CONTRACTOR

4.1

Contractor's General Obligations

The Contractor shall design, execute and complete the Works in accordance with the Contract, and shall remedy any defects in the Works. When completed, the Works shall be fit for the purposes for which the Works are intended as defined in the Contract.

The Contractor shall provide the Plant and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature; required in and for this design, execution, completion and remedying of defects.

The Works shall include any work which is necessary to satisfy the Employer's Requirements, Contractor's Proposal and Schedules, or is implied by the Contract, and all works which (although not mentioned in the Contract) are necessary for stability or for the completion, or safe and proper operation, of the Works.

The Contractor shall be responsible for the adequacy, stability and safety of all Site operations, of all methods of construction and of all the Works.

The Contractor shall, whenever required by the Engineer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer.

ANNEX 75

3.4

Replacement of the Engineer

If the Employer intends to replace the Engineer, the Employer shall, not less than 42 days before the intended date of replacement, give notice to the Contractor of the name, address and relevant experience of the intended replacement Engineer. The Employer shall not replace the Engineer with a person against whom the Contractor raises reasonable objection by notice to the Employer, with supporting particulars.

ANNEX 76

13 VARIATIONS AND ADJUSTMENTS

13.1

Right to Vary

Variations may be initiated by the Engineer at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal. A Variation shall not comprise the omission of any work which is to be carried out by others.

The Contractor shall execute and be bound by_ each Variation, unless the Contractor promptly gives notice to the Engineer stating (with supporting particulars) that (i) the Contractor cannot readily obtain the Goods required for the Variation, (ii) it will reduce the safety or suitability of the Works, or (iii) it will have an adverse impact on the achievement of the Schedule of Guarantees. Upon receiving this notice, the Engineer shall cancel, confirm or vary the instruction.

13.2

Value Engineering

The Contractor may, at any time, submit to the Engineer a written proposal which (in the Contractor's opinion) will, if adopted, (i) accelerate completion, (ii) reduce the cost

to the Employer of executing, maintaining or operating the Works, (iii) Improve the efficiency or value to the Employer of the completed Works, or (iv) otherwise be of benefit to the Employer.

The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 Variation Procedure].

13.3

Variation Procedure

If the Engineer requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:

- (a) description of the proposed design and/or work to be performed and a programme for its execution,
- (b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [Programme] and to the Time for Completion, and
- (c) the Contractor's proposal for adjustment to the Contract Price.

The Engineer shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 Value Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst awaiting a response.

Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Engineer to the Contractor, who shall acknowledge receipt.

Upon instructing or approving a Variation, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine adjustments to the Contract Price and the Schedule of Payments. These adjustments shall include reasonable profit, and shall take account of the Contractor's submissions under Sub-Clause 13.2 [Valle Engineering] if applicable.

13.4

Payment in Applicable Currencies

If the Contract provides for payment of the Contract Price in more than one currency, then whenever an adjustment is agreed, approved or determined as stated above, the amount payable in each of the applicable currencies shall be specified. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.

13.5

Provisional Sums

Each Provisional Sum shall only be used, in whole or in part, in accordance with the Engineer's instructions, and the Contract Price shall be adjusted accordingly. The total

sum paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Engineer shall have instructed.

For each Provisional Sum, the Engineer may instruct:

- (a) work to be executed (Including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 Variation Procedure]; and/or
- (b) Plant, Materials or services to be purchased by the Contractor, for which there shall be included in the Contract Price:
 - (i) the actual amounts paid (or due to be paid) by the Contractor, and
 - (ii) a sum for overhead charges and profit, calculated as a percentage of these actual amounts by applying the relevant percentage rate (if any) stated in the appropriate Schedule. --if there is no such rate, the percentage rate stated in the Appendix to Tender shall be applied.

The Contractor shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

13.6

Daywork

For work of a minor or incidental nature, the Engineer may instruct that a Variation shall be executed on a daywork basis. The work shall then be valued in accordance with the daywork schedule included in the Contract, and the following procedure shall apply. If a daywork schedule is not included in the Contract, this Sub-Clause shall not apply.

Before ordering Goods for the work, the Contractor shall submit quotations to the Engineer. When applying for payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any Goods.

Except for any items for which the daywork schedule specifies that payment is not due, the Contractor shall deliver each day to the Engineer accurate statements in duplicate which shall include the following details of the resources used in executing the previous day's work:

- (a) the names, occupations and time of Contractor's Personnel,
- (b) the identification, type and time of Contractor's Equipment and Temporary Works, and
- (c) the quantities and types of Plant and Materials used.

One copy of each statement will, if correct, or when agreed, be signed by the Engineer and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Engineer, prior to their inclusion in the next Statement under Sub-Clause 14.3 [Application for Interim Payment Certificates].

13.7

Adjustments for Changes in Legislation

The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of

new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor h the performance of obligations under the Contract.

If the Contractor suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

13.8

Adjustments for Changes in Cost

In this Sub-Clause, "table of adjustment data" means the completed table of adjustment data included in the Appendix to Tender. If there is no such table of adjustment data, this Sub-Clause shall not apply.

If this Sub-Clause applies, the amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labour, Goods and other inputs to the Workb, by the

addition or deduction of the amounts determined by the formulae prescribed in this Sub-Clause. To the extent that full compensation for any rise or fall in Costs is not covered by the provisions of this or other Clauses, the Accepted Contract Amount shall be deemed to have included amounts to cover the contingency of other rises and falls in costs.

The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate Schedule and certified in Payment Certificates, shall be determined from formulae for each of the currencies in which the Contract Price is payable. No adjustment is to be applied to work valued on the basis of Cost or current prices. The formulae shall be of the following general type:

$$P_n = a + b \frac{L_n}{L_o} + c \frac{E_n}{E_o} + d \frac{M_n}{M_o} + \dots$$

where:

"P_n" is the adjustment multiplier to be applied to the estimated contract value in the relevant currency of the work carried out in period "n", this period being a month unless otherwise stated in the Appendix to Tender;

"a" is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;

"b", "c", "d", ... are coefficients representing the estimated proportion of each cost element related to the execution of the Works, as stated in the relevant table of

adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;

"Ln", "En", "Mn", ... are the current cost indices or reference prices for period "n", expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates); and

"Lo", "Eo", "Mo", ... are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.

The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, it shall be determined by the Engineer. For this purpose, reference shall be made to the values of the indices at stated dates (quoted in the fourth and fifth columns respectively of the table) for the purposes of clarification of the source; although these dates (and thus these values) may not correspond to the base cost indices.

In cases where the "currency of index" (stated in the table) is not the relevant currency of payment, each index shall be converted into the relevant currency of payment at the selling rate, established by the central bank of the Country, of this relevant currency on the above date for which the index is required to be applicable.

Until such time as each current cost index is available, the Engineer shall determine a provisional index for the issue of Interim Payment Certificates. When a current cost index is available, the adjustment shall be recalculated accordingly.

If the Contractor fails to complete the Works within the Time for Completion, adjustment of prices thereafter shall be made using either (i) each index or price applicable on the date 49 days prior to the expiry of the Time for Completion of the Works, or (i) the current index or price: whichever is more favourable to the Employer. The weightings (coefficients) for each of the factors of cost stated in the table(s) of adjustment data shall only be adjusted if they have-been rendered unreasonable, unbalanced or inapplicable, as a result of Variations.

ANNEX 77

4.5

Nominated Subcontractors

In this Sub-Clause, "nominated Subcontractor" means a Subcontractor whom the Engineer, under Clause 13 [Variations and Adjustments], instructs the Contractor to employ as a Subcontractor. The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Engineer as soon as practicable, with supporting particulars.

ANNEX 78

1.1.2.7 "Contractor's Personnel" means the Contractor's Representative and all personnel whom the Contractor utilises on Site, who may include the staff, labour and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.

ANNEX 79

1.1.2.6 "Employer's Personnel" means the Engineer, the assistants referred to in Sub-Clause 3.2 [Delegation by the Engineer] and all other staff, labour and other employees of the Engineer and of the Employer; and any other personnel notified to the Contractor, by the Employer or the Engineer, as Employer's Personnel.

ANNEX 80

1.1.2.5 "Contractor's Representative" means the person named by the Contractor in the Contract or appointed from time to time by the Contractor under Sub-Clause 4.3 [Contractor's Representative], who acts on behalf of the Contractor.

ANNEX 81

6 STAFF AND LABOUR

6.1

Engagement of Staff and Labour

Except as otherwise stated in the Employer's Requirements, the Contractor shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, housing, feeding and transport.

ANNEX 82

6.2

Rates of Wages and Conditions of Labour

The Contractor shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.

ANNEX 83

6.5

Working Hours

No work shall be carried out on the Site on locally recognised days of rest, or outside the normal working hours stated in the Appendix to Tender, unless:

- (a) otherwise stated in the Contract,
- (b) the Engineer gives consent, or
- (c) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer.

ANNEX 84

6.7

Health and Safety

The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.

The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.

The Contractor shall send, to the Engineer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Engineer may reasonably require.

ANNEX 85

6.10

Records of Contractor's Personnel and Equipment

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct-by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.

ANNEX 86

7 PLANT, MATERIALS AND WORKMANSHIP

7.1

Manner of Execution

The Contractor shall carry out the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works:

- (a) in the manner (if any) specified in the Contract,
- (b) in a proper workmanlike and careful manner, in accordance with recognised good practice, and
- (c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.

ANNEX 87

7.2

Samples

The Contractor shall submit the following samples of Materials, and relevant information, to the Engineer for review in accordance with the procedures for Contractor's Documents described in Sub-Clause 5.2 [Contractor's Documents]:

- (a) manufacturer's standard samples of Materials and samples specified in the Contract, all at the Contractor's cost, and
- (b) additional samples instructed by the Engineer as a Variation.

Each sample shall be labelled as to origin and intended use in the Works.

ANNEX 88

7.3

Inspection

The Employer's Personnel shall at all reasonable times:

- (a) have full access to all parts of the Site and to all places from which natural Materials are being obtained, and
- (b) during production, manufacture and construction (at the Site and elsewhere), be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of manufacture of Plant and production and manufacture of Materials.

The Contractor shall give the Employer's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.

The Contractor shall give notice to the Engineer whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Engineer shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Engineer does not require to do so. If the Contractor fails to give the notice, he shall, if and when required by the Engineer, uncover the work and thereafter reinstate and make good, all at the Contractor's cost.

ANNEX 89

7.4

Testing

This Sub-Clause shall apply to all tests specified in the Contract, other than the Tests after Completion (if any).

The Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. The Contractor shall agree, with the Engineer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.

The Engineer may, under Clause 13 [Variations and Adjustments], vary the location or details of specified tests, or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall be borne by the Contractor, notwithstanding other provisions of the Contract.

The Engineer shall give the Contractor not less than 24 hours' notice of the Engineer's intention to attend the tests. If the Engineer does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Engineer, and the tests shall then be deemed to have been made in the Engineer's presence.

If the Contractor suffers delay and/or incurs Cost from complying with these instructions or as a result of a delay for which the Employer is responsible, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

The Contractor shall promptly forward to the Engineer duly certified reports of the tests. When the specified tests have been passed, the Engineer shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Engineer has not attended the tests, he shall be deemed to have accepted the readings as accurate.

ANNEX 90

8.3

Programme

The Contractor shall submit a detailed time programme to the Engineer within 28 days after receiving the notice under Sub-Clause 8.1 [Commencement of Works]. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Each programme shall include:

- (a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of design, Contractor's Documents, procurement, manufacture, inspection, delivery to Site, construction, erection, testing, commissioning and trial operation,
- (b) the periods for reviews under Sub-Clause 5.2 [Contractor's Documents] and for any other submissions, approvals and consents specified in the Employer's Requirements,
- (c) the sequence and timing of inspections and tests specified in the Contract, and
- (d) a supporting report which includes:
 - (i) a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and

- (ii) details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage.

Unless the Engineer, within 21 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Employer's Personnel shall be entitled to rely upon the programme when planning their activities.

The Contractor shall promptly give notice to the Engineer of specific probable future events or circumstances which may adversely affect the work, increase the Contract Price or delay the execution of the Works. The Engineer may require the Contractor to submit an estimate of the anticipated effect of the future event or circumstances, and/or a proposal under Sub-Clause 13.3 [Variation Procedure].

If, at any time, the Engineer gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Engineer in accordance with this Sub-Clause

ANNEX 91

8.6

Rate of Progress

If, at any time:

- (a) actual progress is too slow to complete within the Time for Completion, and/or
- (b) progress has fallen (or will fall) behind the current programme under Sub-Clause 8.3 [Programme],

other than as a result of a cause listed in Sub-Clause 8.4 [Extension of Time for Completion], then the Engineer may instruct the Contractor to submit, under Sub-Clause 8.3 [Programme], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.

Unless the Engineer notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [Employer's Claims] pay these costs to the Employer, in addition to delay damages Of any) under Sub-Clause 8.7 below.

ANNEX 92

4.20

Employer's Equipment and Free-Issue Material

The Employer shall make the Employer's Equipment (if any) available for the use of the Contractor in the execution of the Works in accordance with the details, arrangements and prices stated in the Specification. Unless otherwise stated in the Specification:

- (a) the Employer shall be responsible for the Employer's Equipment, except that
- (b) the Contractor shall be responsible for each item of Employer's Equipment

whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.

The appropriate quantities and the amounts due (at such stated prices) for the use of Employer's Equipment shall be agreed or determined by the Engineer in accordance with Sub-Clause 2.5 [Employer's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Employer.

The Employer shall supply, free of charge, the "free-issue materials" (if any) in accordance with the details stated in the Specification. The Employer shall, at his risk and cost, provide these materials at the time and place specified in the Contract. The Contractor shall then visually inspect them, and shall promptly give notice to the

Engineer of any shortage, defect or default in these materials. Unless otherwise agreed by both Parties, the Employer shall immediately rectify the notified shortage, defect or default.

After this visual inspection, the free-issue materials shall come under the care, custody and control of the Contractor. The Contractor's obligations of inspection, care, custody and control shall not relieve the Employer of liability for any shortage, defect or default not apparent from a visual inspection.

ANNEX 93

3.3

Instructions of the Engineer

The Engineer may issue to the Contractor (at any time) instructions and additional or modified Drawings which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Engineer, or from an assistant to whom the appropriate authority has been delegated under this Clause. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

The Contractor shall comply with the instructions given by the Engineer or delegated assistant, on any matter related to the Contract. Whenever practicable, their instructions shall be given in writing. If the Engineer or a delegated assistant:

- (a) gives an oral instruction,
- (b) receives a written confirmation of the instruction, from (or on behalf of) the Contractor, within two working days after giving the instruction, and
- (c) does not reply by issuing a written rejection and/or instruction within two working days after receiving the confirmation,

then the confirmation shall constitute the written instruction of the Engineer or delegated assistant (as the case may be).

ANNEX 94

13 VARIATIONS AND ADJUSTMENTS

13.1

Right to Vary

Variations may be initiated by the Engineer at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal.

The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Engineer stating (with supporting particulars) that the Contractor cannot readily obtain the Goods required for the Variation. Upon receiving this notice, the Engineer shall cancel, confirm or vary the instruction.

Each Variation may include:

- (a) changes to the quantities of any item of work included in the Contract (however, such changes do not necessarily constitute a Variation),
- (b) changes to the quality and other characteristics of any item of work,
- (c) changes to the levels, positions and/or dimensions of any part of the Works,
- (d) omission of any work unless it is to be carried out by others,

- (e) any additional work, Plant, Materials or services necessary for the Permanent Works, including any associated Tests on Completion, boreholes and other testing and exploratory work, or
- (f) changes to the sequence or timing of the execution of the Works.

The Contractor shall not make any alteration and/or modification of the Permanent Works, unless and until the Engineer instructs or approves a Variation.

13.2

Value Engineering

The Contractor may, at any time, submit to the Engineer a written proposal which (in the Contractor's opinion) will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Employer of executing, maintaining or operating the Works, (iii) improve the efficiency or value to the Employer of the completed Works, or (iv) otherwise be of benefit to the Employer.

The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [Variation Procedure].

If a proposal, which is approved by the Engineer, includes a change in the design of part of the Permanent Works, then unless otherwise agreed by both Parties:

- (a) the Contractor shall design this part,

- (b) sub-paragraphs (a) to (d) of Sub-Clause 4.1 [Contractor's General Obligations] shall apply, and
- (c) if this change results in a reduction in the contract value of this part, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine a fee, which shall be included in the Contract Price. This fee shall be half (50%) of the difference between the following amounts:
 - (i) such reduction in contract value, resulting from the change, excluding adjustments under Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost], and
 - (ii) the reduction (if any) in the value to the Employer of the varied works, taking account of any reductions in quality, anticipated life or operational efficiencies.

However, if amount (i) is less than amount (ii), there shall not be a fee.

13.3

Variation Procedure

If the Engineer requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:

- (a) a description of the proposed work to be performed and a programme for its execution,

- (b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [Programme] and to the Time for Completion, and
- (c) the Contractor's proposal for evaluation of the Variation.

The Engineer shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst awaiting a response.

Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Engineer to the Contractor, who shall acknowledge receipt.

Each Variation shall be evaluated in accordance with Clause 12 [Measurement and Evaluation], unless the Engineer instructs or approves otherwise in accordance with this Clause.

13.4

Payment in Applicable Currencies

If the Contract provides for payment of the Contract Price in more than one currency, then whenever an adjustment is agreed, approved or determined as stated above, the amount payable in each of the applicable currencies shall be specified. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.

13.5

Provisional Sums

Each Provisional Sum shall only be used, in whole or in part, in accordance with the Engineer's instructions, and the Contract Price shall be adjusted accordingly. The total sum paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Engineer shall have instructed. For each Provisional Sum, the Engineer may instruct:

- (a) work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [Variation Procedure]; and/or
- (b) Plant, Materials or services to be purchased by the Contractor, from a nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]) or otherwise; and for which there shall be included in the Contract Price:
 - (i) the actual amounts paid (or due to be paid) by the Contractor, and
 - (ii) a sum for overhead charges and profit, calculated as a percentage of these actual amounts by applying the relevant percentage rate (if any) stated in the appropriate Schedule. If there is no such rate, the percentage rate stated in the Appendix to Tender shall be applied.

The Contractor shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

13.6

Daywork

For work of a minor or incidental nature, the Engineer may instruct that a Variation shall be executed on a daywork basis. The work shall then be valued in accordance with the Daywork Schedule included in the Contract, and the following procedure shall apply. If a Daywork Schedule is not included in the Contract, this Sub-Clause shall not apply.

Before ordering Goods for the work, the Contractor shall submit quotations to the Engineer. When applying for payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any Goods.

Except for any items for which the Daywork Schedule specifies that payment is not due, the Contractor shall deliver each day to the Engineer accurate statements in duplicate which shall include the following details of the resources used in executing the previous day's work:

- (a) the names, occupations and time of Contractor's Personnel,
- (b) the identification, type and time of Contractor's Equipment and Temporary Works, and
- (c) the quantities and types of Plant and Materials used.

One copy of each statement will, if correct, or when agreed, be signed by the Engineer and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Engineer, prior to their inclusion in the next Statement under Sub-Clause 14.3 [Application for Interim Payment Certificates].

13.7

Adjustments for Changes in Legislation

The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract.

If the Contractor suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

13.8

Adjustments for Changes in Cost

In this Sub-Clause, "table of adjustment data" means the completed table of adjustment data included in the Appendix to Tender. If there is no such table of adjustment data, this Sub-Clause shall not apply.

If this Sub-Clause applies, the amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labour, Goods and other inputs to the Works, by the addition or deduction of the amounts determined by the formulae prescribed in this Sub-Clause. To the extent that full compensation for any rise or fall in Costs is not covered by the provisions of this or other Clauses, the Accepted Contract Amount shall be deemed to have included amounts to cover the contingency of other rises and falls in costs.

The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate Schedule and certified in Payment Certificates, shall be determined from formulae for each of the currencies in which the Contract Price is payable. No adjustment is to be applied to work valued on the basis of Cost or current prices. The formulae shall be of the following general type:

$$P_n = a + b \frac{L_n}{L_o} + c \frac{E_n}{E_o} + d \frac{M_n}{M_o} + \dots$$

where:

"P_n" is the adjustment multiplier to be applied to the estimated contract value in the relevant currency of the work carried out in period "n", this period being a month unless otherwise stated in the Appendix to Tender;

"a" is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;

"b", "c", "d", ... are coefficients representing the estimated proportion of each cost element related to the execution of the Works, as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such, as labour, equipment and materials;

"L_n", "E_n", "M_n", ... are the current cost indices or reference prices for period "n", expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates); and

"L₀", "E₀", "M₀", ... are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.

The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, it shall be determined by the Engineer. For this purpose, reference shall be made to the values of the indices at stated dates (quoted in the fourth and fifth columns respectively of the table) for the purposes of clarification of the source; although these dates (and thus these values) may not correspond to the base cost indices.

In cases where the "currency of index" (stated in the table) is not the relevant currency of payment, each index shall be converted into the relevant currency of payment at the selling rate, established by the central bank of the Country, of this relevant currency on the above date for which the index is required to be applicable.

Until such time as each current cost index is available, the Engineer shall determine a provisional index for the issue of Interim Payment Certificates. When a current cost index is available, the adjustment shall be recalculated accordingly.

If the, Contractor fails to complete the Works within the Time for Completion, adjustment of prices thereafter shall be made using either (i) each index or price applicable on the date 49 days prior to the expiry of the Time for Completion of the Works, or (ii) the current index or price: whichever is more favourable to the Employer. The weightings (coefficients) for each of the factors of cost stated in the table(s) of adjustment data shall only be adjusted if they have been rendered unreasonable, unbalanced or inapplicable, as a result of Variations.

ANNEX 95

4 The Contractor

4.1

Contractor's General Obligations

The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Engineer's instructions, and shall remedy any defects in the Works.

The Contractor shall provide the Plant and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects.

The Contractor shall be responsible for the adequacy, stability and safety of all Site operations and of all methods of construction. Except to the extent specified in the Contract, the Contractor (i) shall be responsible for all Contractor's Documents, Temporary Works, and such design of each item of Plant and Materials as is required for the item to be in accordance with the Contract, and (ii) shall not otherwise be responsible for the design or specification of the Permanent Works.

The Contractor shall, whenever required by the Engineer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution

of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer.

If the Contract specifies that the Contractor shall design any part of the Permanent Works, then unless otherwise stated in the Particular Conditions:

- (a) the Contractor shall submit to the Engineer the Contractor's Documents for this part in accordance with the procedures specified in the Contract,
- (b) these Contractor's Documents shall be in accordance with the Specification and Drawings, shall be written in the language for communications defined in Sub-Clause 1.4 [Law and Language], and shall include additional information required by the Engineer to add to the Drawings for co-ordination of each Party's designs;
- (c) the Contractor shall be responsible for this part and it shall, when the Works are completed, be fit for such purposes for which the part is intended as are specified in the Contract; and
- (d) prior to the commencement of the Tests on Completion, the Contractor shall submit to the Engineer the "as-built" documents and operation and maintenance manuals in accordance with the Specification and in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works. Such part shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections] until these documents and manuals have been submitted to the Engineer.

ANNEX 96

1.1.2.7 "Contractor's Personnel" means the Contractor's Representative and all personnel whom the Contractor utilises on Site, who may include the staff, labour and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.

ANNEX 96

1.1.2.5 "Contractor's Representative" means the person named by the Contractor in the Contract or appointed from time to time by the Contractor under Sub-Clause 4.3 [Contractor's Representative], who acts on behalf of the Contractor. .

ANNEX 98

6 STAFF AND LABOUR

6.1

Engagement of Staff and Labour

Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, housing, feeding and transport.

ANNEX 98

6.2

Rates of Wages and Conditions of Labour

The Contractor shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.

ANNEX 100

6.2

Rates of Wages and Conditions of Labour

The Contractor shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.

ANNEX 101

6.5

Working Hours

No work shall be carried out on the Site on locally recognised days of rest, or outside the normal working hours stated in the Appendix to Tender, unless:

- (a) otherwise stated in the Contract,
- (b) the Engineer gives consent, or
- (c) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer.

ANNEX 102

6.7

Health and Safety

The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.

The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.

The Contractor shall send, to the Engineer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Engineer may reasonably require.

ANNEX 103

6.10

Records of Contractor's Personnel and Equipment

The Contractor shall submit, to the Engineer, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Engineer, until the Contractor has completed 611 work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

ANNEX 104

7 PLANT, MATERIALS AND WORKMANSHIP

7.1

Manner of Execution

The Contractor shall carry out the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works:

- (a) in the manner (if any) specified in the Contract,
- (b) in a proper workmanlike and careful manner, in accordance with recognised good practice, and
- (c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.

ANNEX 105

7.2

Samples

The Contractor shall submit the following samples of Materials, and relevant information, to the Engineer for consent prior to using the Materials in or for the Works:

- (a) manufacturer's standard samples of Materials and samples specified in the Contract, all at the Contractor's cost, and
- (b) additional samples instructed by the Engineer as a Variation.

Each sample shall be labelled as to origin and intended use in the Works.

ANNEX 106

7.3

Inspection

The Employer's Personnel shall at all reasonable times:

- (a) have full access to all parts of the Site and to all places from which natural Materials are being obtained, and
- (b) during production, manufacture and construction (at the Site and elsewhere), be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of manufacture of Plant and production and manufacture of Materials.

The Contractor shall give the Employer's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.

The Contractor shall give notice to the Engineer whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Engineer shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Engineer does not require to do so. If the Contractor fails to give the notice, he shall, if and when required by the Engineer, uncover the work and thereafter reinstate and make good, all at the Contractor's cost.

ANNEX 107

7.4

Testing

This Sub-Clause shall apply to all tests specified in the Contract, other than the Tests after Completion (if any).

The Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. The Contractor shall agree, with the Engineer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.

The Engineer may, under Clause 13 [Variations and Adjustments], vary the location or details of specified tests, or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost• of carrying out this Variation shall be borne by the Contractor, notwithstanding other provisions of the Contract.

The Engineer shall give the Contractor not less than 24 hours' notice of the Engineer's intention to attend the tests. If the Engineer does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Engineer, and the tests shall then be deemed to have been made in the Engineer's presence.

If the Contractor suffers delay and/or incurs Cost from complying with these instructions or as a result of a delay for which the Employer is responsible, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost plus reasonable profit, which shall be included in the Contract Price.

After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

The Contractor shall promptly forward to the Engineer duly certified reports of the tests. When the specified tests have been passed, the Engineer shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Engineer has not attended the tests, he shall be deemed to have accepted the readings as accurate.

ANNEX 108

8.3

Programme

The Contractor shall submit a detailed time programme to the Engineer within 28 days after receiving the notice under Sub-Clause 8.1 [Commencement of Works]. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Each programme shall include:

- (a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of design (if any), Contractor's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing,
- (b) each of these stages for work by each nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]),
- (c) the sequence and timing of inspections and tests specified in the Contract, and
- (d) a supporting report which includes:
 - (i) a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and
 - (ii) details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage.

Unless the Engineer, within 21 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Employer's Personnel shall be entitled to rely upon the programme when planning their activities.

The Contractor shall promptly give notice to the Engineer of specific probable future events or circumstances which may adversely affect the work, increase the Contract Price or delay the execution of the Works. The Engineer may require the Contractor to submit an estimate of the anticipated effect of the future event or circumstances, and/or a proposal under Sub-Clause 13.3 [Variation Procedure].

If, at any time, the Engineer gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Engineer in accordance with this Sub-Clause.

ANNEX 109

8.6

Rate of Progress

If, at any time:

- (a) actual progress is too slow to complete within the Time for Completion, and/or
- (b) progress has fallen (or will fall) behind the current programme under Sub-Clause 8.3 [Programme],

other than as a result of a cause listed in Sub-Clause 8.4 [Extension of Time for Completion], then the Engineer may instruct the Contractor to submit, under Sub-Clause 8.3 [Programme], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.

Unless the Engineer notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Employer to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [Employer's Claims] pay these costs to the Employer, in addition to delay damages (if any) under Sub-Clause 8.7 below.

ANNEX 110

CORE CLAUSES

General

Actions 10

10.1

The Employer, the Contractor, the Project Manager and the Supervisor shall act as stated in this contract and in a spirit of mutual trust and co-operation.

Identified and defined terms 11

11.1

In these conditions of contract, terms identified in the Contract Data are in italics and defined terms have capital initials.

11.2

(1) The Accepted Programme is the programme identified in the Contract Data or is the latest programme accepted by the Project Manager. The latest programme accepted by the Project Manager supersedes previous Accepted Programmes.

(2) Completion is when the Contractor has

- done all the work which the Works Information states he is to do by the Completion Date and

- corrected notified Defects which would have prevented the Employer from using the works and Others from doing their work.

If the work which the Contractor is to do by the Completion Date is not stated in the Works Information, Completion is when the Contractor has done all the work necessary for the Employer to use the works and for Others to do their work.

(3) The Completion Date is the completion date unless later changed in accordance with this contract.

(4) The Contract Date is the date when this contract came into existence.

(5) A Defect is

- a part of the works which is not in accordance with the Works Information or
- a part of the works designed by the Contractor which is not in accordance with the applicable law or the Contractor's design which the Project Manager has accepted.

(6) The Defects Certificate is either a list of Defects that the Supervisor has notified before the defects date which the Contractor has not corrected or, if there are no such Defects, a statement that there are none.

(7) Equipment is items provided by the Contractor and used by him to Provide the Works and which the Works Information does not require him to include in the works.

(8) The Fee is the sum of the amounts calculated by applying the subcontracted fee percentage to the Defined Cost of subcontracted work and the direct fee percentage to the Defined Cost of other work.

ANNEX 111

CONTRACT DATA

Part one — Data provided by the Employer

Completion of the data in full, according to the Options chosen, is essential to create a complete contract.

Statements given in all contracts

1 General

- The conditions of contract are the core clauses and the clauses for main Option , dispute resolution Option and secondary Options of the NEC3 Engineering and Construction Contract (June 2005).
- The works are
.....
- The Employer is
Name
Address
- The Project Manager is
Name
Address
- The Supervisor is

Name

Address

- The Adjudicator is

Name

Address

- The Works Information is in

.....

.....

The Site Information is in

.....

.....

The boundaries of the site are

The language of this contract is

The law of the contract is the law of

- The period for reply is weeks
- The Adjudicator nominating body is
- The tribunal is

.....

The following matters will be included in the Risk Register

.....

.....

Time

- The starting date is
- The access dates are

Part of the Site	Date
1	
.....
2	
.....
3	
.....

The Contractor submits revised programmes at intervals no longer than
weeks.

4 Testing and Defects

- The defects date is weeks after Completion of the whole of the works
- The defect correction period is weeks except that
 - The defect correction period for is weeks
 - The defect correction period for is weeks

5 Payment

- The currency of this contract is the.....
- The assessment interval is weeks (not more than five)
- The interest rate is % per annum (not less than 2) above the rate
 of the..... bank.

6 Compensation events

- The place where weather is to be recorded is
.....
- The weather measurements to be recorded for each calendar month are
 - the cumulative rainfall (mm)
 - the number of days with rainfall more than 5 mm
 - the number of days with minimum air temperature less than 0 degrees Celsius
 - the number of days with snow lying at hours GMT
 - and these measurements:.....
.....
.....
- The weather measurements are supplied by
- The weather data are the records of past weather measurements for each calendar month which were recorded at
and which are available from
.....

Where no recorded data are available

- Assumed values for the ten year return weather data for each weather measurement for each calendar month are.....
.....
.....

8 Risks and insurance

- The minimum limit of indemnity for insurance in respect of loss of or damage to property (except the works, Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the Contractor) caused by activity in connection with this contract for any one event is
.....

- The minimum limit of indemnity for insurance in respect of death of or bodily injury to employees of the Contractor arising out of and in the course of their employment in connection with this contract for any one event is
.....

Optional Statements

If the tribunal is arbitration

- The arbitration procedure is
- The place where arbitration is to be held is
- The person or organisation who will choose an arbitrator
 - if the Parties cannot agree a choice or
 - if the arbitration procedure does not state who selects an arbitrator is
.....

If the Employer has decided the completion date for the whole of the works

- The completion date for the whole of the works is

If the Employer is not willing to take over the works before the Completion Date

- The Employer is not willing to take over the works before the Completion Date.

If no programme is identified in part two of the Contract Data

- The Contractor is to submit a first programme for acceptance within weeks of the Contract Date.

If the Employer has identified work which is to meet a stated condition by key date

- The key dates and conditions to be met are

Condition to be met	Key date
1	
.....
2	
.....
3	
.....

If the period in which payments are made is not three weeks and Y(UK)2 h not used

- The period within which payments are made is

If Y(UK)2 is used and the final date for payment is not 14 days after the date when payment is due

- The period for payment is

If there are additional compensation events

- These are additional compensation events
-
-
-

If there are additional Employer's risks

- These are additional Employer's risks
-
-
-

If the Employer is to provide Plant and Materials

- The insurance against loss of or damage to the works, Plant and Material: is to include cover for Plant and Materials provided by the Employer for an amount of.....

If the Employer is to provide any of the insurances stated in the Insurance Table

- The Employer provides these insurances from the Insurance Table
 1. Insurance against
Cover/indemnity is
The deductibles are
 2. Insurance against
Cover/indemnity is
The deductibles are
 3. Insurance against
Cover/indemnity is
The deductibles are

If additional insurances are to be provided

- The Employer provides these additional insurances
 1. Insurance against
Cover/indemnity is
The deductibles are
 2. Insurance against
Cover/indemnity is
The deductibles are
 3. Insurance against
Cover/indemnity is
The deductibles are

- The Contractor provides these additional insurances

1. Insurance against

Cover/indemnity is

2. Insurance against

Cover/indemnity is

3. Insurance against

Cover/indemnity is

If Option B or D is used

- The method of measurement is
amended as follows
.....
.....

If Option C or D is used

- The Contractor's share percentages and the share ranges are

Share range	Contractor's share percentage
less than %
from % to %
from % to %

greater than %

If Option C, D, E or F is used

- The Contractor prepares forecasts of Defined Cost for the works at interval no longer than..... weeks
- The exchange rates are those published inon (date)

If Option X1 is used

- The proportions used to calculate the Price Adjustment Factor are
 - 0. linked to the index for
 - 0.
 - 0.
 - 0.
 - 0.
 - 0.
 - 0. non-adjustable

.....
1.00

- The base date for indices is
- The indices are those prepared by

If Option X3 is used

- The Employer will pay for the items or activities listed below in the currencies stated

items and activities	other currency	total maximum payment in the currency
.....
.....
.....
.....

- The exchange rates are those published inon
..... (date)

If Option X5 is used

- The completion date for each section of the works is

section	description	completion date
1
2
3
4

If Options X5 and X6 are used together

- The bonus for each section of the works is

section	description	amount per day
1
2
3
4
Remainder of the works		

If Options X5 and X7 are used together

- Delay damages for each section of the works are amount per day

section	description	amount per day
1
2
3
4
Remainder of the works		

If Option X6 is used (but not if Option X5 is also used)

- The bonus for the whole of the works is per day.

If Option X7 is used (but not if Option X5 is also used)

- Delay damages for Completion of the whole of the works are..... per day.

If Option X12 is used

- The Client is

Name

Address

.....

- The Client's objective is

.....

.....

.....

.....

.....

- The Partnering Information is in

.....

.....

.....

.....

.....

If Option X13 is used

- The amount of the performance bond is

If Option X14 is used

- The amount of the advanced payment is
- The Contractor repays the instalments in assessments starting not less than weeks after the Contract Date.
- The instalments are
.....
(either an amount or a percentage of the payment otherwise due)
- An advanced payment bond is/is not required.

If Option X16 is used

- The retention free amount is
- The retention percentage is

If Option X17 is used

- The amounts for low performance damages are performance level

Amount	Performance level
.....	for
.....	for

..... for

..... for

If Option X18 is used

- The Contractor's liability to the Employer for indirect or consequential loss is limited to
- For any one event, the Contractor's liability to the Employer for loss of or damage to the Employer's property is limited to
- The Contractor's liability for Defects due to his design which are not listed on the Defects Certificate is limited to
- The Contractor's total liability to the Employer for all matters arising under or in connection with this contract, other than excluded matters is limited to.....
.....
- The end of liability date is years after the Completion of the whole of the works.

If Option X20 is used (but not if Option X12 is also used)

- The incentive schedule for Key Performance Indicators is in
- A report of performance against each Key Performance Indicator is provided at intervals of months.

If Option Y(UK)3 is used

- term person or organisation

.....
.....
.....
.....

If Option Z is used

- The additional conditions of contract are
.....

ANNEX 112

(11) The Parties are the Employer and the Contractor.

ANNEX 113

PART TWO - DATA PROVIDED BY THE CONTRACTOR

Completion of the data in full, according to the Options chosen, is essential to create a complete contract.

Statements given in all contracts

- The Contractor is
Name
Address
.....
- The direct fee percentage is %
- The subcontracted fee percentage is %
- The working areas are the Site and.....
- The key people are
(1) Name
Job.....
Responsibilities.....
.....
Qualifications
Experience.....
.....
(2) Name

Job.....

Responsibilities.....

.....

Qualifications

Experience.....

.....

- The following matters will be included in the Risk Register

.....

.....

.....

.....

Optional statements

If the Contractor is to provide Works Information for his design

- The Works Information for the Contractor's design is in

.....

.....

.....

.....

.....

If a programme is to be identified in the Contract Data

- The programme identified in the Contract Data is

If the Contractor is to decide the completion date for the whole of the works

- The completion date for the whole of the works is

If Option A or C is used

- The activity schedule is

If Option B or D is used

- The bill of quantities is

If Option A, B, C or D is used

- The tendered total of the Prices is

If Option F is used

- Work which the Contractor will do himself is

activity	price (lump sum or unit rate)
.....
.....

.....

.....

If Option A or B is used

Data for the Shorter Schedule of Cost Components

- The percentage for people overheads is %
- The published list of Equipment is the last edition of the list published by..
.....
- The percentage for adjustment for Equipment in the published list is.....
..... % (state plus or minus).

- The rates for other Equipment are

Equipment	size or capacity	rate
.....
.....
.....
.....

- The hourly rates for Defined Cost of design outside the Working Areas are
activity

category of employee	hourly rate
.....
.....
.....
.....

- The percentage for design overheads is..... %
- The categories of design employees whose travelling expenses to and from the Working Areas are included in Defined Cost are

.....

.....

.....

.....

If Option C, D or E is used

Data for schedule of cost components

- The listed items of Equipment purchased for work on this contract, with a on cost charge, are

Equipment	time-related charge	per time period
.....	per
.....	per
.....	per
.....	per

- The rates for special Equipment are

Equipment	size or capacity	rate
.....

.....
.....
.....

- The percentage for Working Areas overheads is
- The hourly rates for Defined Cost of manufacture and fabrication outside the Working Areas are

category of employee	hourly rate
.....
.....
.....
.....

- The percentage for manufacture and fabrication overheads is..... %

If Option C, D or E is used

Data for both schedules of cost components

The hourly rates for Defined Cost of design outside the Working Areas are

category of employee	hourly rate
.....
.....
.....
.....

- The percentage for design overheads is..... %

- The categories of design employees whose travelling expenses to and from the Working Areas are included as a cost of design of the works and Equipment done outside of the Working Areas are.....

Data for the Shorter Schedule of Cost Components

If Option C, D or E is used

- The percentage for people overheads is %
- .The published list of Equipment is the last edition of the list published by
.....
- The percentage for adjustment for Equipment in the published list is.....
..... % (state plus or minus).
- The rates for other Equipment are

Equipment	size or capacity	rate
.....
.....
.....
.....

ANNEX 114

CORE CLAUSES

General

Actions 10

10.1

The Employer, the Contractor, the Project Manager and the Supervisor shall act as stated in this contract and in a spirit of mutual trust and co-operation.

ANNEX 115

The Project Manager and the Supervisor 14

14.1 The Project Manager's or the Supervisor's acceptance of a communication from the Contractor or of his work does not change the Contractor's responsibility to Provide the Works or his liability for his design.

14.2 The Project Manager and the Supervisor, after notifying the Contractor, may delegate any of their actions and may cancel any delegation. A reference to an action of the Project Manager or the Supervisor in this contract includes an action by his delegate.

14.3 The Project Manager may give an instruction to the Contractor which changes the Works Information or a Key Date.

14.4 The Employer may replace the Project Manager or the Supervisor after he has notified the Contractor of the name of the replacement.

ANNEX 116

Early warning 16

16.1 The Contractor and the Project Manager give an early warning by notifying the other as soon as either becomes aware of any matter which could

- increase the total of the Prices,
- delay Completion,
- delay meeting a Key Date or
- impair the performance of the works in use.

The Contractor may give an early warning by notifying the Project Manager of any other matter which could increase his total cost. The Project Manager enters early warning matters in the Risk Register. Early warning of a matter for which a compensation event has previously been notified is not required.

16.2 Either the Project Manager or the Contractor may instruct the other to attend a risk reduction meeting. Each may instruct other people to attend if the other agrees.

16.3 At a risk reduction meeting, those who attend co-operate in

- making and considering proposals for how the effect of the registered risks can be avoided or reduced,

- seeking solutions that will bring advantage to all those who will be affected,
- deciding on the actions which will be taken and who, in accordance with this contract, will take them and
- deciding which risks have now been avoided or have passed and can be removed from the Risk Register.

16.4 The Project Manager revises the Risk Register to record the decisions made at each risk reduction meeting and issues the revised Risk Register to the Contractor. If a decision needs a change to the Works Information, the Project Manager instructs the change at the same time as he issues the revised Risk Register.

ANNEX 117

Ambiguities and inconsistencies 17

17.1 The Project Manager or the Contractor notifies the other as soon as either becomes aware of an ambiguity or inconsistency in or between the documents which are part of this contract. The Project Manager gives an instruction resolving the ambiguity or inconsistency.

ANNEX 118

TIME

Starting, Completion and Key Dates 30

30.1 The Contractor does not start work on the Site until the first access date and does the work so that Completion is on or before the Completion Date.

30.2 The Project Manager decides the date of Completion. The Project Manager certifies Completion within one week of Completion.

30.3 The Contractor does the work so that the Condition stated for each Key Date is met by the Key Date.

ANNEX 119

Revising the programme 32

32.1 The Contractor shows on each revised programme

- the actual progress achieved on each operation and its effect upon the timing of the remaining work,
- the effects of implemented compensation events and of notified early warning matters,
- how the Contractor plans to deal with any delays and to correct notified Defects and
- any other changes which the Contractor proposes to make to the Accepted Programme.

32.2 The Contractor submits a revised programme to the Project Manager for acceptance

- within the period for reply after the Project Manager has instructed him to,
- when the Contractor chooses to and, in any case,
- at no longer interval than the interval stated in the Contract Data from the starting date until Completion of the whole of the works.

ANNEX 120

Instructions to stop or not to start work 34

34.1 The Project Manager may instruct the Contractor to stop or not to start any work and may later instruct him that he may re-start or start it.

ANNEX 121

PAYMENT

Assessing the amount due 50

50.1 The Project Manager assesses the amount due at each assessment date. The first assessment date is decided by the Project Manager to suit the procedures of the Parties and is not later than the assessment interval after the starting date. Later assessment dates occur

- at the end of each assessment interval until four weeks after the Supervisor issues the Defects Certificate and
- at Completion of the whole of the works.

50.2 The amount due is

- the Price for Work Done to Date,
- plus other amounts to be paid to the Contractor,
- less amounts to be paid by or retained from the Contractor.

Any tax which the law requires the Employer to pay to the Contractor is included in the amount due.

50.3 If no programme is identified in the Contract Data, one quarter of the Price for Work Done to Date is retained in assessments of the amount due until the Contractor has submitted a first programme to the Project Manager for acceptance showing the information which this contract requires.

50.4 In assessing the amount due, the Project Manager considers any application for payment the Contractor has submitted on or before the assessment date. The Project Manager gives the Contractor details of how the amount due has been assessed.

50.5 The Project Manager corrects any wrongly assessed amount due in a later payment certificate.

ANNEX 122

Payment 51

51.1 The Project Manager certifies a payment within one week of each assessment date. The first payment is the amount due. Other payments are the change in the amount due since the last payment certificate. A payment is made by the Contractor to the Employer if the change reduces the amount due. Other payments are made by the Employer to the Contractor. Payments are in the currency of this contract unless otherwise stated in this contract.

51.2 Each certified payment is made within three weeks of the assessment date or, if a different period is stated in the Contract Data, within the period stated. If a certified payment is late, or if a payment is late because the Project Manager does not issue a certificate which he should issue, interest is paid on the late payment. Interest is assessed from the date by which the late payment should have been made until the date when the late payment is made, and is included in the first assessment after the late payment is made.

51.3 If an amount due is corrected in a later certificate either

- by the Project Manager in relation to a mistake or a compensation event or
- following a decision of the Adjudicator or the tribunal,

interest on the correcting amount is paid. Interest is assessed from the date when the incorrect amount was certified until the date when the correcting amount is certified and is included in the assessment which includes the correcting amount.

51.4 Interest is calculated on a daily basis at the interest rate and is compounded annually.

ANNEX 123

Testing and inspection before delivery 41

41.1 The Contractor does not bring to the Working Areas those Plant and Materials which the Works Information states are to be tested or inspected before delivery until the Supervisor has notified the Contractor that they have passed the test or inspection.

ANNEX 124

Searching for and notifying Defects 42

42.1 Until the defects date, the Supervisor may instruct the Contractor to search for a Defect. He gives his reason for the search with his instruction. Searching may include

- uncovering, dismantling, re-covering and re-erecting work,
- providing facilities, materials and samples for tests and inspections done by the Supervisor and
- doing tests and inspections which the Works Information does not require.

42.2 Until the defects date, the Supervisor notifies the Contractor of each Defect as soon as he finds it and the Contractor notifies the Supervisor of each Defect as soon as he finds it.

ANNEX 125

Identified and defined terms 11

11.1 In these conditions of contract, terms identified in the Contract Data are in italics and defined terms have capital initials.

11.2

(1) The Accepted Programme is the programme identified in the Contract Data or is the latest programme accepted by the Project Manager. The latest programme accepted by the Project Manager supersedes previous Accepted Programmes.

(2) Completion is when the Contractor has

- done all the work which the Works Information states he is to do by the Completion Date and
- corrected notified Defects which would have prevented the Employer from using the works and Others from doing their work.

If the work which the Contractor is to do by the Completion Date is not stated in the Works Information, Completion is when the Contractor has done all the work necessary for the Employer to use the works and for Others to do their work.

(3) The Completion Date is the completion date unless later changed in accordance with this contract.

(4) The Contract Date is the date when this contract came into existence.

(5) A Defect is

- a part of the works which is not in accordance with the Works Information or
- a part of the works designed by the Contractor which is not in accordance with the applicable law or the Contractor's design which the Project Manager has accepted.

(6) The Defects Certificate is either a list of Defects that the Supervisor has notified before the defects date which the Contractor has not corrected or, if there are no such Defects, a statement that there are none.

(7) Equipment is items provided by the Contractor and used by him to Provide the Works and which the Works Information does not require him to include in the works.

(8) The Fee is the sum of the amounts calculated by applying the subcontracted fee percentage to the Defined Cost of subcontracted work and the direct fee percentage to the Defined Cost of other work.

- (9) A Key Date is the date by which work is to meet the Condition stated. The Key Date is the key date stated in the Contract Data and the Condition is the condition stated in the Contract Data unless later changed in accordance with this contract.
- (10) Others are people or organisations who are not the Employer, the Project Manager, the Supervisor, the Adjudicator, the Contractor or any employee, Subcontractor or supplier of the Contractor.
- (11) The Parties are the Employer and the Contractor.
- (12) Plant and Materials are items intended to be included in the works.
- (13) To Provide the Works means to do the work necessary to complete the works in accordance with this contract and all incidental work, services and actions which this contract requires.
- (14) The Risk Register is a register of the risks which are listed in the Contract Data and the risks which the Project Manager or the Contractor has notified as an early warning matter. It includes a description of the risk and a description of the actions which are to be taken to avoid or reduce the risk.
- (15) The Site is the area within the boundaries of the site and the volumes above and below it which are affected by work included in this contract.

(16) Site Information is information which

- describes the Site and its surroundings and
- is in the documents which the Contract Data states it is in.

(17) A Subcontractor is a person or organisation who has a contract with the Contractor to

- construct or install part of the works,
- provide a service necessary to Provide the Works or
- supply Plant and Materials which the person or organisation has wholly or partly designed specifically for the works.

(18) The Working Areas are those parts of the working areas which are

- necessary for Providing the Works and
- used only for work in this contract

unless later changed in accordance with this contract.

(19) Works Information is information which either

- specifies and describes the works or
- states any constraints on how the Contractor Provides the Works

and is either

- in the documents which the Contract Data states it is in or
- in an instruction given in accordance with this contract.

ANNEX 126

OPTION CLAUSES

OPTION A: PRICED CONTRACT WITH ACTIVITY SCHEDULE

Identified and defined terms 11

11.2

(20) The Activity Schedule is the activity schedule unless later changed in accordance with this contract.

(22) Defined Cost is the cost of the components in the Shorter Schedule of Cost Components whether work is subcontracted or not excluding the cost of preparing quotations for compensation events.

(27) The Price for Work Done to Date is the total of the Prices for

- each group of completed activities and
- each completed activity which is not in a group.

A completed activity is one which is without Defects which would either delay or be covered by immediately following work.

(30) The Prices are the lump sum prices for each of the activities on the Activity Schedule unless later changed in accordance with this contract.

The programme 31

31.4 The Contractor provides information which shows how each activity on the Activity Schedule relates to the operations on each programme which he submits for acceptance.

Acceleration 36

36.3 When the Project Manager accepts a quotation for an acceleration, he changes the Prices, the Completion Date and the Key Dates accordingly and accepts the revised programme.

The Activity Schedule 54

54.1 Information in the Activity Schedule is not Works Information or Site Information.

54.2 If the Contractor changes a planned method of working at his discretion so that the activities on the Activity Schedule do not relate to the operations on the Accepted Programme, he submits a revision of the Activity Schedule to the Project Manager for acceptance.

54.3 A reason for not accepting a revision of the Activity Schedule is that

it does not comply with the Accepted Programme,
any changed Prices are not reasonably distributed between the activities or
the total of the Prices is changed.

Assessing compensation events 63

63.10 If the effect of a compensation event is to reduce the total Defined Cost and the event is

- a change to the Works Information or
- a correction of an assumption stated by the Project Manager for assessing an earlier compensation event,

the Prices are reduced.

63.12 Assessments for changed Prices for compensation events are in the form of changes to the Activity Schedule.

63.14 If the Project Manager and the Contractor agree, rates and lump sums may be used to assess a compensation event instead of Defined Cost.

Implementing compensation events 65

65.4 The changes to the Prices, the Completion Date and the Key Dates are included in the notification implementing a compensation event.

Payment on termination 93

93.3 The amount due on termination is assessed without taking of grouping activities into account.

ANNEX 127

OPTION B: PRICED CONTRACT WITH BILL OF QUANTITIES

Identified and defined terms 11

11.2

(21) The Bill of Quantities is the bill of quantities as changed in accordance with this contract to accommodate implemented compensation events and for accepted quotations for acceleration.

(22) Defined Cost is the cost of the components in the Shorter Schedule of Cost Components whether work is subcontracted or not excluding the cost of preparing quotations for compensation events.

(28) The Price for Work Done to Date is the total of

- the quantity of the work which the Contractor has completed for each item in the Bill of Quantities multiplied by the rate and
- a proportion of each lump sum which is the proportion of the work covered by the item which the Contractor has completed.

Completed work is work without Defects which would either delay or be covered by immediately following work.

(31) The Prices are the lump sums and the amounts obtained by multiplying the rates by the quantities for the items in the Bill of Quantities.

Acceleration 36

36.3 When the Project Manager accepts a quotation for an acceleration, he changes the Prices, the Completion Date and the Key Dates accordingly and accepts the revised programme.

The Bill of Quantities 55

55.1 Information in the Bill of Quantities is not Works Information or Site Information.

Compensation events 60

- 60.4 A difference between the final total quantity of work done and the quantity stated for an item in the Bill of Quantities is a compensation event if
- the difference does not result from a change to the Works Information,
- the difference causes the Defined Cost per unit of quantity to change and
- the rate in the Bill of Quantities for the item multiplied by the final total quantity of work done is more than 0.5% of the total of the Prices at the Contract Date.

If the Defined Cost per unit of quantity is reduced, the affected rate is reduced.

60.5 A difference between the final total quantity of work done and the quantity for an item stated in the Bill of Quantities which delays Completion or the meeting of the Condition stated for a Key Date is a compensation event.

60.6 The Project Manager corrects mistakes in the Bill of Quantities which are departures from the rules for item descriptions and for division of the work into items in the method of measurement or are due to ambiguities or inconsistencies. Each such correction is a compensation event which may lead to reduced Prices.

60.7 In assessing a compensation event which results from a correction of an inconsistency between the Bill of Quantities and another document, the Contractor is assumed to have taken the Bill of Quantities as correct.

Assessing compensation events 63

63.10 If the effect of a compensation event is to reduce the total Defined Cost and the event is

- a change to the Works Information or
- a correction of an assumption stated by the Project Manager for assessing an earlier compensation event,

the Prices are reduced.

63.13 Assessments for changed Prices for compensation events are in the form of changes to the Bill of Quantities.

- For the whole or a part of a compensation event for work not yet done and for which there is an item in the Bill of Quantities, the changes are
 - a changed rate,
 - a changed quantity or
 - a changed lump sum.
- For the whole or a part of a compensation event for work not yet done and for which there is no item in the Bill of Quantities, the change is a new priced item which, unless the Project Manager and the Contractor agree otherwise, is compiled in accordance with the method of measurement.
- For the whole or a part of a compensation event for work already done, the change is a new lump sum item.

If the Project Manager and the Contractor agree, rates and lump sums may be used to assess a compensation event instead of Defined Cost.

Implementing compensation events 65

65.4 The changes to the Prices, the Completion Date and the Key Dates are included in the notification implementing a compensation event.

ANNEX 128

GENERAL CONDITIONS

1.1.1.10 "Bill of Quantities" and "Daywork Schedule" mean the documents so named
(if any) which are comprised in the Schedules.

ANNEX 129

OPTION C: TARGET CONTRACT WITH ACTIVITY SCHEDULE

Identified and defined terms 11

11.2

(20) The Activity Schedule is the activity schedule unless later changed in accordance with this contract.

(23) Defined Cost is

- the amount of payments due to Subcontractors for work which is subcontracted without taking account of amounts deducted for retention,
- payment to the Employer as a result of the Subcontractor failing to meet a Key Date,
- the correction of Defects after Completion,
- payments to Others and
- the supply of equipment, supplies and services included in the charge for overhead cost within the Working Areas in this contract

and

- the cost of components in the Schedule of Cost Components for other work less Disallowed Cost.

(25) Disallowed Cost is cost which the Project Manager decides

- is not justified by the Contractor's accounts and records,
- should not have been paid to a Subcontractor or supplier in accordance with his contract,
- was incurred only because the Contractor did not
- follow an acceptance or procurement procedure stated in the Works Information or
- give an early warning which this contract required him to give

and the cost of

- correcting Defects after Completion,
- correcting Defects caused by the Contractor not complying with a constraint on how he is to Provide the Works stated in the Works Information,
- Plant and Materials not used to Provide the Works (after allowing for reasonable wastage) unless resulting from a change to the Works Information,
- resources not used to Provide the Works (after allowing for reasonable availability and utilisation) or not taken away from the Working Areas when the Project Manager requested and
- preparation for and conduct of an adjudication or proceedings of the tribunal.

(29) The Price for Work Done to Date is the total Defined Cost which the Project Manager forecasts will have been paid by the Contractor before the next assessment date plus the Fee.

(30) The Prices are the lump sum prices for each of the activities on the Activity Schedule unless later changed in accordance with this contract.

Providing the Works 20

20.3 The Contractor advises the Project Manager on the practical implications of the design of the works and on subcontracting arrangements.

20.4 The Contractor prepares forecasts of the total Defined Cost for the whole of the works in consultation with the Project Manager and submits them to the Project Manager. Forecasts are prepared at the intervals stated in the Contract Data from the starting date until Completion of the whole of the works. An explanation of the changes made since the previous forecast is submitted with each forecast.

Subcontracting 26

26.4 The Contractor submits the proposed contract data for each subcontract for acceptance to the Project Manager if

- an NEC contract is proposed and

- the Project Manager instructs the Contractor to make the submission.

A reason for not accepting the proposed contract data is that its use will not allow the Contractor to Provide the Works.

The programme 31

31.4 The Contractor provides information which shows how each activity on the Activity Schedule relates to the operations on each programme which he submits for acceptance.

Acceleration 36

36.3 When the Project Manager accepts a quotation for an acceleration, he changes the Prices, the Completion Date and the Key Dates accordingly and accepts the revised programme.

Tests and inspections 40

40.7 When the Project Manager assesses the cost incurred by the Employer in repeating a test or inspection after a Defect is found, the Project Manager does not include the Contractor's cost of carrying out the repeat test inspection.

Assessing the amount due 50

50.6 Payments of Defined Cost made by the Contractor in a currency other than the currency of this contract are included in the amount due as payments to be made to him in the same currency. Such payments are converted to the currency of this contract in order to calculate the Fee and any Contractor share using the exchange rates.

Defined Cost 52

52.2 The Contractor keeps these records

- accounts of payments of Defined Cost,
- proof that the payments have been made,
- communications about and assessments of compensation events for Subcontractors and
- other records as stated in the Works Information.

52.3 The Contractor allows the Project Manager to inspect at any time within working hours the accounts and records which he is required to keep.

The Contractor's share 53

53.1 The Project Manager assesses the Contractor's share of the difference between the total of the Prices and the Price for Work Done to Date. The difference is divided into increments falling within each of the share ranges. The limits of a share range are the Price for Work Done to Date divided by the total of the Prices,

expressed as a percentage. The Contractor's share equals the sum of the products of the increment within each share range and the corresponding Contractor's share percentage.

53.2 If the Price for Work Done to Date is less than the total of the Prices, the Contractor is paid his share of the saving. If the Price for Work Done to Date is greater than the total of the Prices, the Contractor pays his share of the excess.

53.3 The Project Manager makes a preliminary assessment of the Contractor's share at Completion of the whole of the works using his forecasts of the final Price for Work Done to Date and the final total of the Prices. This share is included in the amount due following Completion of the whole of the works.

53.4 The Project Manager makes a final assessment of the Contractor's share using the final Price for Work Done to Date and the final total of the Prices. This share is included in the final amount due.

The Activity Schedule 54

54.1 Information in the Activity Schedule is not Works Information or Site Information.

54.2 If the Contractor changes a planned method of working at his discretion so that the activities on the Activity Schedule do not relate to the operations on the Accepted Programme, he submits a revision of the Activity Schedule to the Project Manager for acceptance.

54.3 A reason for not accepting a revision of the Activity Schedule is that

- it does not comply with the Accepted Programme,
- any changed Prices are not reasonably distributed between the activities or
- the total of the Prices is changed.

Assessing compensation events 63

63.11 If the effect of a compensation event is to reduce the total Defined Cost and the event is

- a change to the Works Information, other than a change to the Works Information provided by the Employer which the Contractor proposed and the Project Manager has accepted or
- a correction of an assumption stated by the Project Manager for assessing an earlier compensation event,

the Prices are reduced.

63.12 Assessments for changed Prices for compensation events are in the form of changes to the Activity Schedule.

63.15 If the Project Manager and the Contractor agree, the Contractor assesses a compensation event using the Shorter Schedule of Cost Components. The

Project Manager may make his own assessments using the Shorter Schedule of Cost Components.

Implementing compensation events 65

65.4 The changes to the Prices, the Completion Date and the Key Dates are included in the notification implementing a compensation event.

Payment on termination 93

93.4 If there is a termination, the Project Manager assesses the Contractor's share after he has certified termination. His assessment uses, as the Price for Work Done to Date, the total of the Defined Cost which the Contractor has paid and which he is committed to pay for work done before termination. The assessment uses as the total of the Prices

- the lump sum price for each activity which has been completed and
- a proportion of the lump sum price for each incomplete activity which is the proportion of the work in the activity which has been completed.

93.6 The Project Manager's assessment of the Contractor's share is added to the amount due to the Contractor on termination if there has been a saving or deducted if there has been an excess.

OPTION D: TARGET CONTRACT WITH BILL OF QUANTITIES

Identified and defined terms 11

11.2

(21) The Bill of Quantities is the bill of quantities as changed in accordance with this contract to accommodate implemented compensation events and for accepted quotations for acceleration.

(23) Defined Cost is

- the amount of payments due to Subcontractors for work which is subcontracted without taking account of amounts deducted for
- retention,
- payment to the Employer as a result of the Subcontractor failing to meet a Key Date,
- the correction of Defects after Completion,
- payments to Others and
- the supply of equipment, supplies and services included in the charge for overhead cost within the Working Areas in this contract

and

- the cost of components in the Schedule of Cost Components for other work

less Disallowed Cost.

(25) Disallowed Cost is cost which the Project Manager decides

- is not justified by the Contractor's accounts and records,
- should not have been paid to a Subcontractor or supplier in accordance with his contract,
- was incurred only because the Contractor did not
 - follow an acceptance or procurement procedure stated in the Works Information or
 - give an early warning which this contract required him to give

and the cost of

- correcting Defects after Completion,
 - correcting Defects caused by the Contractor not complying with a constraint on how he is to Provide the Works stated in the Works Information,
 - Plant and Materials not used to Provide the Works (after allowing for reasonable wastage) unless resulting from a change to the Works Information,
 - resources not used to Provide the Works (after allowing for reasonable availability and utilisation) or not taken away from the Working Area when the Project Manager requested and
- preparation for and conduct of an adjudication or proceedings of the tribunal.

(29) The Price for Work Done to Date is the total Defined Cost which the Project Manager forecasts will have been paid by the Contractor before the next assessment date plus the Fee.

(31) The Prices are the lump sums and the amounts obtained by multiplying the rates by the quantities for the items in the Bill of Quantities.

(33) The Total of the Prices is the total of

- the quantity of the work which the Contractor has completed for each item in the Bill of Quantities multiplied by the rate and
- a proportion of each lump sum which is the proportion of the work covered by the item which the Contractor has completed.

Completed work is work without Defects which would either delay or be covered by immediately following work.

ANNEX 130

OPTION D: TARGET CONTRACT WITH BILL OF QUANTITIES

Identified and defined terms 11

11.2

(21) The Bill of Quantities is the bill of quantities as changed in accordance with this contract to accommodate implemented compensation events and for accepted quotations for acceleration.

(23) Defined Cost is

- the amount of payments due to Subcontractors for work which is subcontracted without taking account of amounts deducted for
 - retention,
 - payment to the Employer as a result of the Subcontractor failing to meet a Key Date,
 - the correction of Defects after Completion,
 - payments to Others and
 - the supply of equipment, supplies and services included in the charge for overhead cost within the Working Areas in this contract

and

- the cost of components in the Schedule of Cost Components for other work less Disallowed Cost.

(25) Disallowed Cost is cost which the Project Manager decides

- is not justified by the Contractor's accounts and records,
- should not have been paid to a Subcontractor or supplier in accordance with his contract,
- was incurred only because the Contractor did not
- follow an acceptance or procurement procedure stated in the Works Information or
- give an early warning which this contract required him to give

and the cost of

- correcting Defects after Completion,
- correcting Defects caused by the Contractor not complying with a constraint on how he is to Provide the Works stated in the Works Information,
- Plant and Materials not used to Provide the Works (after allowing for reasonable wastage) unless resulting from a change to the Works Information,
- resources not used to Provide the Works (after allowing for reasonable availability and utilisation) or not taken away from the Working Areas when the Project Manager requested and

- preparation for and conduct of an adjudication or proceedings of the tribunal.

(29) The Price for Work Done to Date is the total Defined Cost which the Project Manager forecasts will have been paid by the Contractor before the next assessment date plus the Fee.

(31) The Prices are the lump sums and the amounts obtained by multiplying the rates by the quantities for the items in the Bill of Quantities.

(33) The Total of the Prices is the total of

- the quantity of the work which the Contractor has completed for each item in the Bill of Quantities multiplied by the rate and
- a proportion of each lump sum which is the proportion of the work covered by the item which the Contractor has completed.

Completed work is work without Defects which would either delay or be covered by immediately following work.

Providing the Works 20

20.3 The Contractor advises the Project Manager on the practical implications of the design of the works and on subcontracting arrangements.

20.4 The Contractor prepares forecasts of the total Defined Cost for the whole of the works in consultation with the Project Manager and submits them to the Project Manager. Forecasts are prepared at the intervals stated in the Contract Data from the starting date until Completion of the whole of the works. An explanation of the changes made since the previous forecast is submitted with each forecast.

Subcontracting 26

26.4 The Contractor submits the proposed contract data for each subcontract for acceptance to the Project Manager if

- an NEC contract is proposed and
- the Project Manager instructs the Contractor to make the submission.

A reason for not accepting the proposed contract data is that its use will not allow the Contractor to Provide the Works.

Acceleration 36

36.3 When the Project Manager accepts a quotation for an acceleration, he changes the Prices, the Completion Date and the Key Dates accordingly and accepts the revised programme.

Tests and inspections 40

40.7 When the Project Manager assesses the cost incurred by the Employer in repeating a test or inspection after a Defect is found, the Project Manager does not include the Contractor's cost of carrying out the repeat test or inspection.

Assessing the amount due 50

50.6 Payments of Defined Cost made by the Contractor in a currency other than the currency of this contract are included in the amount due as payments to be made to him in the same currency. Such payments are converted to the currency of this contract in order to calculate the Fee and any Contractor's share using the exchange rates.

Defined Cost 52

52.2 The Contractor keeps these records

- accounts of payments of Defined Cost,
- proof that the payments have been made,
- communications about and assessments of compensation events for Subcontractors and
- other records as stated in the Works Information.

52.3 The Contractor allows the Project Manager to inspect at any time within working hours the accounts and records which he is required to keep.

The Contractor's share 53

53.5 The Project Manager assesses the Contractor's share of the difference between the Total of the Prices and the Price for Work Done to Date. The difference is divided into increments falling within each of the share ranges. The limits of a share range are the Price for Work Done to Date divided by the Total of the Prices, expressed as a percentage. The Contractor's share equals the sum of the products of the increment within each share range and the corresponding Contractor's share percentage.

53.6 If the Price for Work Done to Date is less than the Total of the Prices, the Contractor is paid his share of the saving. If the Price for Work Done to Date is greater than the Total of the Prices, the Contractor pays his share of the excess.

53.7 The Project Manager makes a preliminary assessment of the Contractor's share at Completion of the whole of the works using his forecasts of the final Price for Work Done to Date and the final Total of the Prices. This share is included in the amount due following Completion of the whole of the works

53.8 The Project Manager makes a final assessment of the Contractor's share using the final Price for Work Done to Date and the final Total of the Prices. This share is included in the final amount due.

The Bill of Quantities 55

55.1 Information in the Bill of Quantities is not Works Information or Site Information.

Compensation events 60

60.4 A difference between the final total quantity of work done and the quantity stated for an item in the Bill of Quantities is a compensation event if

- the difference does not result from a change to the Works Information
- the difference causes the Defined Cost per unit of quantity to change and
- the rate in the Bill of Quantities for the item multiplied by the final total quantity of work done is more than 0.5% of the total of the Prices at the Contract Date.

If the Defined Cost per unit of quantity is reduced, the affected rate reduced.

60.5 A difference between the final total quantity of work done and the quantity for an item stated in the Bill of Quantities which delays Completion or the meeting of the Condition stated for a Key Date is a compensation event.

60.6 The Project Manager corrects mistakes in the Bill of Quantities which are departures from the rules for item descriptions and for division of the work into items in the method of measurement or are due to ambiguities or inconsistencies. Each such correction is a compensation event which may lead to reduced Prices.

60.7 In assessing a compensation event which results from a correction of an inconsistency between the Bill of Quantities and another document, the Contractor is assumed to have taken the Bill of Quantities as correct.

Assessing compensation events 63

63.11 If the effect of a compensation event is to reduce the total Defined Cost and the event is

- a change to the Works Information, other than a change to the Works Information provided by the Employer which the Contractor proposed and the Project Manager has accepted or
- a correction of an assumption stated by the Project Manager for assessing an earlier compensation event,

the Prices are reduced.

63.13 Assessments for changed Prices for compensation events are in the form of changes to the Bill of Quantities.

- For the whole or a part of a compensation event for work not yet done and for which there is an item in the Bill of Quantities, the changes are
 - a changed rate,
 - a changed quantity or
 - a changed lump sum.
- For the whole or a part of a compensation event for work not yet done and for which there is no item in the Bill of Quantities, the change is a new priced

item which, unless the Project Manager and the Contractor agree otherwise, is compiled in accordance with the method of measurement.

- For the whole or a part of a compensation event for work already done, the change is a new lump sum item.

If the Project Manager and the Contractor agree, rates and lump sums may be used to assess a compensation event instead of Defined Cost.

63.15 If the Project Manager and the Contractor agree, the Contractor assesses a compensation event using the Shorter Schedule of Cost Components. The Project Manager may make his own assessments using the Shorter Schedule of Cost Components.

Implementing compensation events 65

65.4 The changes to the Prices, the Completion Date and the Key Dates are included in the notification implementing a compensation event.

Payment on termination 93

93.5 If there is a termination, the Project Manager assesses the Contractor's share after he has certified termination. His assessment uses, as the Price for Work Done to Date, the total of the Defined Cost which the Contractor has paid and which he is committed to pay for work done before termination.

93.6 The Project Manager's assessment of the Contractor's share is added to the amounts due to the Contractor on termination if there has been a saving or deducted if there has been an excess.

ANNEX 131

OPTION E: COST REIMBURSABLE CONTRACT

Identified and defined terms 11

11.2 (23) Defined Cost is

- the amount of payments due to Subcontractors for work which is subcontracted without taking account of amounts deducted for
- retention,
- payment to the Employer as a result of the Subcontractor failing to meet a Key Date,
- the correction of Defects after Completion,
- payments to Others and
- the supply of equipment, supplies and services included in the charge for overhead cost within the Working Areas in this contract

and

- the cost of components in the Schedule of Cost Components for other work

less Disallowed Cost.

(25) Disallowed Cost is cost which the Project Manager decides

- is not justified by the Contractor's accounts and records,
- should not have been paid to a Subcontractor or supplier in accordance with his contract,
- was incurred only because the Contractor did not
- follow an acceptance or procurement procedure stated in the Works Information or
- give an early warning which this contract required him to give

and the cost of

- correcting Defects after Completion,
- correcting Defects caused by the Contractor not complying with a constraint on how he is to Provide the Works stated in the Works Information
- Plant and Materials not used to Provide the Works (after allowing reasonable wastage) unless resulting from a change to the Works Information,
- resources not used to Provide the Works (after allowing for reasonable availability and utilisation) or not taken away from the Working Areas when the Project Manager requested and
- preparation for and conduct of an adjudication or proceedings of the tribunal.

(29) The Price for Work Done to Date is the total Defined Cost which the Project Manager forecasts will have been paid by the Contractor before the next assessment date plus the Fee.

(32) The Prices are the Defined Cost plus the Fee.

Providing the Works 20

20.3 The Contractor advises the Project Manager on the practical implications of the design of the works and on subcontracting arrangements.

20.4 The Contractor prepares forecasts of the total Defined Cost for the whole the works in consultation with the Project Manager and submits them to the Project Manager. Forecasts are prepared at the intervals stated in the Contract Data from the starting date until Completion of the whole of the works. An explanation of the changes made since the previous forecast is submitted with each forecast.

Subcontracting 26

26.4 The Contractor submits the proposed contract data for each subcontract for acceptance to the Project Manager if

- an NEC contract is proposed and
- the Project Manager instructs the Contractor to make the submission.

A reason for not accepting the proposed contract data is that its use will not allow the Contractor to Provide the Works.

Acceleration 36

36.4 When the Project Manager accepts a quotation for an acceleration, he changes the Completion Date, the Key Dates and the forecast of the total Defined Cost of the whole of the works accordingly and accepts the revised programme.

Tests and inspections 40

40.7 When the Project Manager assesses the cost incurred by the Employer in repeating a test or inspection after a Defect is found, the Project Manager does not include the Contractor's cost of carrying out the repeat test or inspection.

Assessing the amount due 50

50.7 Payments of Defined Cost made by the Contractor in a currency other than the currency of this contract are included in the amount due as payments to be made to him in the same currency. Such payments are converted to the currency of this contract in order to calculate the Fee using the exchange rates.

Defined Cost 52

52.2 The Contractor keeps these records

- accounts of payments of Defined Cost,
- proof that the payments have been made,

- communications about and assessments of compensation events for Subcontractors and
- other records as stated in the Works Information.

52.3 The Contractor allows the Project Manager to inspect at any time within working hours the accounts and records which he is required to keep.

Assessing compensation events 63

63.15 If the Project Manager and the Contractor agree, the Contractor assesses a compensation event using the Shorter Schedule of Cost Components. The Project Manager may make his own assessments using the Shorter Schedule of Cost Components.

Implementing compensation events 65

65.3 The changes to the forecast amount of the Prices, the Completion Date and the Key Dates are included in the notification implementing a compensation event.

ANNEX 132

OPTION F: MANAGEMENT CONTRACT

Identified and defined terms 11

11.2 (24) Defined Cost is

- the amount of payments due to Subcontractors for work which is subcontracted without taking account of amounts deducted for
- retention,
- payment to the Employer as a result of the Subcontractor failing to meet a Key Date,
- the correction of Defects after Completion,
- payments to Others,
- the supply of equipment, supplies and services included in the charge for overhead cost within the Working Areas in this contract

and

- the prices for work done by the Contractor himself

less Disallowed Cost.

(26) Disallowed Cost is cost which the Project Manager decides

- is not justified by the accounts and records provided by the Contractor,
- should not have been paid to a Subcontractor or supplier in accordance with his contract,
- was incurred only because the Contractor did not
- follow an acceptance or procurement procedure stated in the Works Information or
- give an early warning which this contract required him to give or
- is a payment to a Subcontractor for
- work which the Contract Data states that the Contractor will do himself or
- the Contractor's management.

(29) The Price for Work Done to Date is the total Defined Cost which the Project Manager forecasts will have been paid by the Contractor before the next assessment date plus the Fee.

(32) The Prices are the Defined Cost plus the Fee.

Providing the Works 20

20.2 The Contractor manages the Contractor's design, the provision of Site services and the construction and installation of the works. The Contractor subcontracts the Contractor's design, the provision of Site services and the construction and installation of the works except work which the Contra Data states that he will do himself.

20.3 The Contractor advises the Project Manager on the practical implications of the design of the works and on subcontracting arrangements.

20.4 The Contractor prepares forecasts of the total Defined Cost for the whole of the works in consultation with the Project Manager and submits them to the Project Manager. Forecasts are prepared at the intervals stated in the Contract Data from the starting date until Completion of the whole of the works. An explanation of the changes made since the previous forecast is submitted with each forecast.

20.5 If work which the Contractor is to do himself is affected by a compensation event, the Project Manager and the Contractor agree the change to the price for the work and any change to the Completion Date and Key Dates. If they cannot agree, the Project Manager decides the change.

Subcontracting 26

26.4 The Contractor submits the proposed contract data for each subcontract for acceptance to the Project Manager if

- an NEC contract is proposed and
- the Project Manager instructs the Contractor to make the submission.

A reason for not accepting the proposed contract data is that its use will not allow the Contractor to Provide the Works.

Acceleration 36

36.4 When the Project Manager accepts a quotation for an acceleration, he changes the Completion Date, the Key Dates and the forecast of the total Defined Cost of the whole of the works accordingly and accepts the revised programme.

Assessing the amount due 50

50.7 Payments of Defined Cost made by the Contractor in a currency other than the currency of this contract are included in the amount due as payments to be made to him in the same currency. Such payments are converted to the currency of this contract in order to calculate the Fee using the exchange rates.

Defined Cost 52

52.2 The Contractor keeps these records

- accounts of payments of Defined Cost,
- proof that the payments have been made,
- communications about and assessments of compensation events for Subcontractors and
- other records as stated in the Works Information.

52.3 The Contractor allows the Project Manager to inspect at any time within working hours the accounts and records which he is required to keep.

Implementing compensation events 65

65.3 The changes to the forecast amount of the Prices, the Completion Date and the Key Dates are included in the notification implementing a compensation event.

ANNEX 133

Design of Equipment 23

23.1 The Contractor submits particulars of the design of an item of Equipment to the Project Manager for acceptance if the Project Manager instructs him to. A reason for not accepting is that the design of the item will not allow the Contractor to Provide the Works in accordance with

- the Works Information,
- the Contractor's design which the Project Manager has accepted or
- the applicable law.

ANNEX 134

COMPENSATION EVENTS

Compensation events 60

60.1 The following are compensation events.

- (1) The Project Manager gives an instruction changing the Works Information except
 - a change made in order to accept a Defect or
 - a change to the Works Information provided by the Contractor for his design which is made either at his request or to comply with other Works Information provided by the Employer.
- (2) The Employer does not allow access to and use of a part of the Site by the later of its access date and the date shown on the Accepted Programme.
- (3) The Employer does not provide something which he is to provide by the date for providing it shown on the Accepted Programme.
- (4) The Project Manager gives an instruction to stop or not to start any work or to change a Key Date.

(5) The Employer or Others

- do not work within the times shown on the Accepted Programme,
- do not work within the conditions stated in the Works Information or
- carry out work on the Site that is not stated in the Works Information.

(6) The Project Manager or the Supervisor does not reply to a communication from the Contractor within the period required by this contract.

(7) The Project Manager gives an instruction for dealing with an object of value or of historical or other interest found within the Site.

(8) The Project Manager or the Supervisor changes a decision which he has previously communicated to the Contractor.

(9) The Project Manager withholds an acceptance (other than acceptance of a quotation for acceleration or for not correcting a Defect) for a reason not stated in this contract.

(10) The Supervisor instructs the Contractor to search for a Defect and no Defect is found unless the search is needed only because the Contractor gave insufficient notice of doing work obstructing a required test or inspection.

(11) A test or inspection done by the Supervisor causes unnecessary delay.

(12) The Contractor encounters physical conditions which

- are within the Site,
- are not weather conditions and
- an experienced contractor would have judged at the Contract Date to have such a small chance of occurring that it would have been unreasonable for him to have allowed for them.

Only the difference between the physical conditions encountered and those for which it would have been reasonable to have allowed is taken into account in assessing a compensation event.

(13) A weather measurement is recorded

- within a calendar month,
- before the Completion Date for the whole of the works and
- at the place stated in the Contract Data

the value of which, by comparison with the weather data, is shown to occur on average less frequently than once in ten years.

Only the difference between the weather measurement and the weather which the weather data show to occur on average less frequently than once in ten years is taken into account in assessing a compensation event.

(14) An event which is an Employer's risk stated in this contract.

(15) The Project Manager certifies take over of a part of the works before both Completion and the Completion Date.

(16) The Employer does not provide materials, facilities and samples for tests and inspections as stated in the Works Information.

(17) The Project Manager notifies a correction to an assumption which he has stated about a compensation event.

(18) A breach of contract by the Employer which is not one of the other compensation events in this contract.

(19) An event which

- stops the Contractor completing the works or
- stops the Contractor completing the works by the date shown on the Accepted Programme,

and which

- neither Party could prevent,

- an experienced contractor would have judged at the Contract Date have such a small chance of occurring that it would have been unreasonable for him to have allowed for it and
- is not one of the other compensation events stated in this contract.

60.2 In judging the physical conditions for the purpose of assessing a compensation event, the Contractor is assumed to have taken into account

- the Site Information,
- publicly available information referred to in the Site Information,
- information obtainable from a visual inspection of the Site and
- other information which an experienced contractor could reasonably expected to have or to obtain.

60.3 If there is an ambiguity or inconsistency within the Site Information (including the information referred to in it), the Contractor is assumed to have taken into account the physical conditions more favourable to doing the work.

ANNEX 135

The Contractor's main responsibilities

Providing the Works 20

20.1 The Contractor Provides the Works in accordance with the Works Information.

ANNEX 136

Other responsibilities 27

27.1 The Contractor obtains approval of his design from Others where necessary.

27.2 The Contractor provides access to work being done and to Plant and Materials being stored for this contract for

- the Project Manager,
- the Supervisor and
- Others notified to him by the Project Manager.

27.3 The Contractor obeys an instruction which is in accordance with this contract and is given to him by the Project Manager or the Supervisor.

27.4 The Contractor acts in accordance with the health and safety requirements stated in the Works Information.

ANNEX 137

TESTING AND DEFECTS

Tests and inspections 40

40.1 The subclauses in this clause only apply to tests and inspections required by the Works Information or the applicable law.

40.2 The Contractor and the Employer provide materials, facilities and samples for tests and inspections as stated in the Works Information.

40.3 The Contractor and the Supervisor each notifies the other of each of his tests and inspections before it starts and afterwards notifies the other of its results. The Contractor notifies the Supervisor in time for a test or inspection to be arranged and done before doing work which would obstruct the test or inspection. The Supervisor may watch any test done by the Contractor.

40.4 If a test or inspection shows that any work has a Defect, the Contractor corrects the Defect and the test or inspection is repeated.

40.5 The Supervisor does his tests and inspections without causing unnecessary delay to the work or to a payment which is conditional upon a test or inspection being successful. A payment which is conditional upon a Supervisor's test or inspection

being successful becomes due at the later of the defects date and the end of the last defect correction period if

- the Supervisor has not done the test or inspection and
- the delay to the test or inspection is not the Contractor's fault.

40.6 The Project Manager assesses the cost incurred by the Employer in repeating a test or inspection after a Defect is found. The Contractor pays the amount assessed.

ANNEX 138

The programme 31

31.1 If a programme is not identified in the Contract Data, the Contractor submits a first programme to the Project Manager for acceptance within the period stated in the Contract Data.

31.2 The Contractor shows on each programme which he submits for acceptance

- the starting date, access dates, Key Dates and Completion Date,
- planned Completion,
- the order and timing of the operations which the Contractor plans to do in order to Provide the Works,
- the order and timing of the work of the Employer and Others as last agreed with them by the Contractor or, if not so agreed, as stated in the Works Information,
- the dates when the Contractor plans to meet each Condition stated for the Key Dates and to complete other work needed to allow the Employer and Others to do their work,
- provisions for
 - float,
 - time risk allowances,
 - health and safety requirements and
 - the procedures set out in this contract,

- the dates when, in order to Provide the Works in accordance with his programme, the Contractor will need
 - access to a part of the Site if later than its access date,
 - acceptances,
 - Plant and Materials and other things to be provided by the Employer and
 - information from Others,
- for each operation, a statement of how the Contractor plans to do the work identifying the principal Equipment and other resources which he plans to use and
- other information which the Works Information requires the Contractor to show on a programme submitted for acceptance.

31.3 Within two weeks of the Contractor submitting a programme to him for acceptance, the Project Manager either accepts the programme or notifies the Contractor of his reasons for not accepting it. A reason for not accepting a programme is that

- the Contractor's plans which it shows are not practicable,
- it does not show the information which this contract requires,
- it does not represent the Contractor's plans realistically or
- it does not comply with the Works Information.

ANNEX 139

INTERPRETATION

1.0 DEFINITIONS and INTERPRETATION

1.1 Definitions

A word or phrase in bold type in this agreement shall have the meaning assigned to it in these definitions.

A word or phrase not in bold type shall be interpreted in the context of its usage.

AGENT: An entity appointed by the **employer** to deal with specific aspects of the **works**

AGREEMENT: This JBC08, Principal Building Agreement and the completed ACC® PBA **contract data**

BILLS OF QUANTITIES: The document drawn up in accordance with the measuring system [CD]

BUDGETARY ALLOWANCE: An amount included in the **contract sum** for work intended for execution by the **contractor** the extent of which is identified but not detailed.

CALENDAR DAYS: Twenty four (24) hour days commencing at midnight (00:00) which include Saturdays, Sundays, proclaimed public holidays and recorded annual builders' holiday periods [CD]

CERTIFICATE of FINAL COMPLETION: A certificate issued by the **principal agent** to the **contractor** with a copy to the **employer** stating the date on which final completion of the **works**, or of a **section** thereof, was achieved

CERTIFICATE of PRACTICAL COMPLETION: A certificate issued by the **principal agent** to the **contractor** with a copy to the **employer** stating the date on which **practical completion** of the **works**, or of a **section** thereof, was achieved

CONSTRUCTION EQUIPMENT: Equipment and/or plant provided by or belonging to the **contractor** and/or the **subcontractor** used during the construction **period**

CONSTRUCTION INFORMATION: All information issued by the **principal agent** and/or **agents** including the **contract documents**, specifications, drawings, schedules, **notices** and **contract instructions** required for the execution of the **works**

CONSTRUCTION PERIOD: The period commencing on the intended date (CD) of possession of the **site** by the contractor and ending on the date of **practical completion**, excluding annual industry holiday periods

CONTRACT DATA: The document listing the contract variables

[CD]: The notation used where project specific information is recorded in the **contract data**

CONTRACT DOCUMENTS: This **agreement**, the **contract drawings**, the **priced document** and other identified documents [CD]

CONTRACT DRAWINGS: The drawings listed on which the accepted tender or the negotiated amount was based [CD]

CONTRACT INSTRUCTION: A written instruction issued by or under the authority of the **principal agent** to the **contractor**, which may include drawings and other **construction information**

CONTRACT SUM: The accepted tender amount, inclusive of **tax**, that is not subject to adjustment [CD]

CONTRACT VALUE: A monetary value initially equal to the **contract sum** that is subject to adjustment in terms of this **agreement**

CONTRACTOR: The **party** [CD] contracting with the **employer** for the execution of the **works**

DEFECT: Any aspect of materials and workmanship forming part of the **works** that does not conform to the **contract documents**

DIRECT CONTRACTOR: An entity appointed under separate agreement by the **employer** to do work on **site** prior to **practical completion** [CD]

EMPLOYER: The **party** [CD) contracting with the **contractor** for the execution of the **works**

FINAL ACCOUNT: The document prepared by the **principal agent** that reflects the final **contract value** of the **works** at **final completion** or termination

FINAL COMPLETION: The stage of completion of the **works** as certified by the **principal agent** as being free of **defects**

FINAL PAYMENT CERTIFICATE: The certificate issued by the **principal agent** after the issue of the **certificate of final completion** after the **final account** has been agreed, or deemed to have been agreed

FORCE MAJEURE: An exceptional event or circumstance that:

- (a) could not have been reasonably foreseen
- (b) is beyond the control of the **parties**, and
- (c) could not reasonably have been avoided or overcome

Such an event may include but is not limited to:

- Acts of war (declared or not), invasion, and hostile acts of foreign enemies

- Insurrection, rebellion, revolution, military or usurped power, war (whether declared or not), terrorism
- Civil commotion, disorder, riots, strike, lockout by persons other than the contractor's employees or his **subcontractors**
- Sonic shock waves caused by aircraft or other aerial devices, and ionising or radioactive contamination
- Explosive materials, except where attributable to the **contractor's** use of such technology Natural catastrophes including earthquakes, floods, hurricanes, or volcanic activity

FREE ISSUE: Materials and goods provided at no cost to the **contractor** by the **employer** for inclusion in the **works** whether stored on or off the **site** or in transit [CD]

GUARANTEE for ADVANCE PAYMENT: A **security** in terms of the JBCC® Guarantee for Advance Payment form obtained by the contractor from an institution approved by the **employer** [CD]

GUARANTEE for CONSTRUCTION: A **security** in terms of the JBCC® Guarantee for Construction form obtained by the contractor from an institution approved by the **employer** [CD]

GUARANTEE for PAYMENT: A **security** in terms of the JBCC® Guarantee for Payment form obtained by the employer from an institution approved by the **contractor** [CD]

INTEREST: The bank rate applicable from time to time to registered banks borrowing money from the Central or Reserve Bank of the country [CD]. The ruling bank rate on the first **calendar day** of each month shall be used in calculating the interest due for such month

JBCC®: The Joint Building Contracts Committee® NPC

LATENT DEFECT: A **defect** that a reasonable inspection of the **works** by the **principal agent** and/or **agents** would not have revealed

LAW: The law of the country [CD]

LIST for COMPLETION: A list issued by the **principal agent** where **practical completion** has been certified listing **defects** and/or outstanding work to be completed

LIST for FINAL COMPLETION: An updated **list for completion** issued by the **principal agent** after the inspection of the **works** for **final completion**, where **final completion** has not been achieved, listing defects and/or outstanding work to be completed to achieve **final completion**

LIST for PRACTICAL COMPLETION: A comprehensive and conclusive list issued by the **principal agent** after the inspection of the **works** for **practical completion**, where practical completion has not been achieved, listing the **defects** and/or outstanding work to be completed to achieve **practical completion**

MATERIALS AND GOODS: Unfixed materials, goods and/or items fabricated for inclusion in the **works** whether stored on or off the **site** or in transit

MORA INTEREST: The rate of interest applicable from time to time prescribed in the relevant Act

NOTICE: A communication issued by either **party**, the **principal agent** and/or **agents** to the other **party** or any **agent** to, inter alia, record an event, request for outstanding information and/or where **suspension** and/or resumption of the works, or termination of this **agreement** is contemplated

N/S SUBCONTRACT AGREEMENT: The JBCC® Nominated/Selected Subcontract Agreement (NSSA) and the completed JBCC® NSSA **contract data**, between the **contractor** and the **subcontractor** used in conjunction with the JBCC® Principal Building Agreement

PARTY: The **employer** or the **contractor** and "**parties**" shall refer to both of them

PAYMENT CERTIFICATE: A certificate issued at regular agreed intervals [CD] by the **principal agent** to the **parties** certifying the amount due and payable in terms of the JBCC® Payment Certificate format

PENALTY: The stipulated amount per **calendar day** [CD] payable by the **contractor** to the **employer** where the date or the revised date for **practical completion**, whichever is the later, has not been met

PRACTICAL COMPLETION: The stage of completion as certified by the **principal agent** where the **works** or a **section** thereof has been completed free of patent **defects** other than minor defects identified in the **list for completion** and can be used for the intended purpose [CD]

PRELIMINARIES: The priced items listed in the preliminaries document with any additions, alterations or modifications thereof incorporated in the **contract documents**

PRICED DOCUMENT: **Bills of quantities**, schedule of rates or other documents appropriate to this **agreement** [CD]

PRIME COST AMOUNT: An amount included in the **contract sum** for the delivered cost of **materials and goods** obtained from a supplier as instructed by the **principal agent**

PRINCIPAL AGENT: The entity [CD] appointed by the **employer** with full authority and obligation to act in terms of this **agreement**

PROGRAMME: A diagrammatic representation of the planned execution of units of work or activities indicating the dates for commencement and completion prepared and maintained by the **contractor**

PROVISIONAL SUM: An amount included in the **contract sum** for the supply and installation of work by a **subcontractor**

RECOVERY STATEMENT: The statement prepared and issued in conjunction with each **payment certificate** by the **principal agent** in terms of the JBCC® Recovery Statement format

SECTION: An identified portion of the **works** for which **practical completion** is required by a date earlier than that required for the **works** as a whole [CD]

SECURITY: A monetary guarantee provided by the **employer** to the **contractor**, or the **contractor** to the employer in terms of this **agreement** [CD] from which either **party** may recover expense and loss in the event of default

SITE: The land or place where the **works** is to be executed [CD]

STATUS REPORT: A report compiled by the **principal agent** and/or **agents** in the event of termination of the **agreement**, or where the **works** has been suspended due to a **force majeure** event, or in the event of termination of the n/s **subcontract agreement** by the **contractor**, to record the state of completion or otherwise of the

works or the n/s subcontract works, as the case may be. Such **status report** may include marked up drawings and photographs

SUBCONTRACTOR: A nominated or a selected subcontractor appointed in terms of the n/s **subcontract agreement** by the **contractor** in accordance with a contract instruction for the supply and installation of work for which a **provisional sum** has been included in the **contract sum** [CD]

SUSPENSION: The temporary cessation of the **works** by the **contractor**

TAX: Value-added tax or any other tax, duty or levy applicable by **law**

WORKING DAYS: **Calendar days** which exclude Saturdays, Sundays, proclaimed public holidays and recorded annual builders' holiday periods [CD]

WORKS: The extent of work to be executed by the **contractor** described in the **contract documents** and **contract instructions**, which includes **free issue**, and **materials and goods**. Work or installations to be executed by **direct contractors** and others responsible to the **employer** are excluded [CD]

ANNEX 140

INTERPRETATION

1.0 DEFINITIONS and INTERPRETATION

Definitions

A word or phrase in bold type in this agreement shall have the meaning assigned to it in these definitions

A word or phrase not in bold type shall be interpreted in the context of its usage

AGENT: An entity appointed by the **employer** to deal with specific aspects of **the works**

AGREEMENT: This JBCC® Minor Works Agreement and the completed JBCC® MVVA **contract data**

BILLS OF QUANTITIES: The document drawn up in accordance with the measuring system [CD]

CALENDAR DAYS: Twenty four (24) hour days commencing at midnight (00:00) which include Saturdays, Sundays, proclaim. public holidays and recorded annual builders' holiday periods [CD]

CERTIFICATE of FINAL COMPLETION: A certificate issued by the **principal agent** to the **contractor** with a copy to the **employer** stating the date on which final completion of the works was achieved

CERTIFICATE of PRACTICAL COMPLETION: A certificate issued by the **principal agent** to the **contractor** with a copy to the **employer** stating the date on which **practical completion** of the **works** was achieved

CONSTRUCTION EQUIPMENT: Equipment and/or plant provided by or belonging to the **contractor** used during the **construction period**.

CONSTRUCTION INFORMATION: All information issued by the **principal agent** and/or **agents** including the **contract documents**, specifications, drawings, schedules, **notices** and **contract instructions** required for the execution of the **works**.

CONSTRUCTION PERIOD: The period commencing on the date [CD] of possession of the **site** and ending on the date of **practical completion**, excluding annual industry holiday periods

CONTRACT DATA: The document listing the contract variables

[CD]: The notation used where additional information is recorded in the **contract data**

CONTRACT DOCUMENTS: This **agreement**, the **contract drawings**, the **priced document** and other identified documents [CD]

CONTRACT DRAWINGS: The drawings listed on which the accepted tender or the negotiated amount was based [CD]

CONTRACT INSTRUCTION: A written instruction issued by or under the authority of the **principal agent** to the **contractor**, which may include drawings and other **construction information**

CONTRACT MINUTES: A comprehensive set of minutes prepared by the **principal agent** in which all pertinent contractual information that arises at meetings is progressively recorded

CONTRACT SUM: The accepted tender amount, inclusive of **tax** that is not subject to adjustment [CD]

CONTRACT VALUE: A monetary value initially equal to the **contract sum** that is subject to adjustment in terms of this **agreement**

CONTRACTOR: The **party** [CD] contracting with the employer for the execution of the works

DEFECT: Any aspect of materials and workmanship forming part of the **works** that does not conform to the **contract documents**

DIRECT CONTRACTOR: An entity appointed under separate agreement by the **employer** to do work on **site** prior to **practical completion** [CD]

EMPLOYER: The **party** [CD) contracting with the contractor for the execution of the **works**

EMPLOYER'S ALLOWANCE: An amount included in the **contract sum** for work intended for execution by the **contractor** or others, including the contractor's mark-up, the extent of which is identified but not detailed

FINAL ACCOUNT: The document prepared by the **principal agent** that reflects the final contract value of the **works** at **final completion** or termination

FINAL COMPLETION: The stage of completion of the **works** as certified by the **principal agent** as being free of **defects**

FINAL PAYMENT CERTIFICATE: The certificate issued by the **principal agent** after the issue of the **certificate of final completion** after the **final account** has been agreed, or deemed to have been agreed

FORCE MAJEURE: An exceptional event or circumstance that:

- (a) could not have been reasonably foreseen
- (b) is beyond the control of the **parties**, and

(c) could not reasonably have been avoided or overcome

Such an event may include but is not limited to:

- Acts of war (declared or not), invasion, and hostile acts of foreign enemies
- Insurrection, rebellion, revolution, military or usurped power, war (whether declared or not), terrorism
- Civil commotion, disorder, riots, strike, lockout by persons other than the **contractor's** employees or his subcontractors
- Sonic shock waves caused by aircraft or other aerial devices, and ionising or radioactive contamination
- Explosive materials, except where attributable to the **contractor's** use of such technology
- Natural catastrophes including earthquakes, floods, hurricanes, or volcanic activity

FREE ISSUE: Materials and goods provided at no cost to the **contractor** by the **employer** for inclusion in the works whether stored on or off the **site** or in transit [CD]

GUARANTEE for DEPOSIT: A **security** in terms of the JBCC® Guarantee for Deposit form obtained by the **contractor** from an institution approved by the **employer** [CD]

GUARANTEE for CONSTRUCTION: A **security** in terms of the JBCC® Guarantee for Construction form obtained by the contractor from an institution approved by the **employer** [CD]

GUARANTEE for PAYMENT: A **security** in terms of the JBCC® Guarantee for Payment form obtained by the **employer** from an institution approved by the **contractor** [CD]

INTEREST: The bank rate applicable from time to time to registered banks borrowing money from the Central or Reserve Bank of the country [CD]. The ruling bank rate on the first **calendar day** of each month shall be used in calculating the interest due for such month

JBCC®: The Joint Building Contracts Committee® NPC

LATENT DEFECT: A defect that a reasonable inspection of the works by the principal agent would not have revealed

LAW: The law of the country [CD]

LIST for COMPLETION: A list issued by the **principal agent** where **practical completion** has been certified, listing **defects** and/or outstanding work to be completed

LIST for FINAL COMPLETION: An updated list for completion issued by the **principal agent** after the inspection of the **works** for **final completion**, where **final completion** has not been achieved, listing **defects** and/or outstanding work to be completed to achieve **final completion**

LIST for PRACTICAL COMPLETION: A comprehensive and conclusive list issued by the **principal agent** after the inspection of the **works** for **practical completion**, where **practical completion** has not been achieved, listing the **defects** and/or outstanding work to be completed to achieve **practical completion**

MATERIALS AND GOODS: Unfixed materials, goods and/or items prefabricated for inclusion in the **works** whether stored on or off the **site** or in transit

MORA INTEREST: The rate of interest applicable from time to time prescribed in the relevant Act

NOTICE: A communication issued by either **party**, the **principal agent** and/or **agents** to the other **party** or any agent, to, inter alia, record an event, request for outstanding information and/or where **suspension** and/or resumption of the **works**, or termination of this **agreement** is contemplated

PARTY: The **employer** and/or the **contractor** and "**parties**" shall refer to both of them

PAYMENT CERTIFICATE: A certificate issued at regular agreed intervals [CD] by the **principal agent** to the **parties** certifying the amount due and payable in terms of the JBCC® Payment Certificate format

PENALTY: The stipulated amount per **calendar day** [CD] payable by the **contractor** to the **employer** where the date or the revised date for **practical completion**, whichever is the later, has not been met

PRACTICAL COMPLETION: The stage of completion as certified by the **principal agent** where the **works** has been completed free of patent **defects** other than minor **defects** identified in the **list for completion** and can be used for the intended purpose [CD]

PRELIMINARIES: Items listed in the **priced document** with any additions, alterations or modifications thereof incorporated in the **contract documents**

PRICED DOCUMENT: **Bills of quantities**, schedule of rates or other pricing methods [CD]

PRIME COST AMOUNT: An amount included in the **contract sum** for the delivered cost of **materials and goods** obtained from a supplier as instructed by the **principal agent**

PRINCIPAL AGENT: The entity appointed by the **employer** with full authority and obligation to act in terms of this **agreement** [CD]

PROGRAMME: A diagrammatic representation of the planned execution of units of work or activities indicating the dates for commencement and completion prepared and maintained by the **contractor**

RETENTION: The **security** selected by the **contractor** as a payment reduction from the value certified in a **payment certificate**

SECURITY: A monetary guarantee provided by the **employer** to the **contractor**, or the **contractor** to the **employer** in terms of this **agreement** [CD] from which either **party** may recover expense and loss in the event of default

SITE: The land, or place, where the **works** is to be executed [CD]

SUSPENSION: The temporary cessation of the **works** by the contractor

STATUS REPORT: A report compiled by the **principal agent** and/or **agents** in the event of termination of the **agreement**, or due to a **force majeure** event, to record the state of completion or otherwise of the **works**, as the case may be. Such **status report** may include marked up drawings and photographs

TAX: Value-added tax or any other tax, duty or levy applicable by **law**

WORKING DAYS: **Calendar days** which exclude Saturdays, Sundays, proclaimed public holidays and recorded annual builders' holiday periods [CD]

WORKS: The extent of work to be executed by the **contractor** described in the **contract documents** and **contract instructions**, which includes **free issue**, and

materials and goods. Work or installations to be executed by **direct contractors** and others responsible to the **employer** are excluded [CD]

1.2 Interpretation

1.2.1 The words 'accept, allow, appoint, approve, authorise, certify, decide, demand, designate, grant, instruct, issue, list, **notice**, notify, object, record, reduce, refuse, request, state and their derivatives require such acts to be in writing

1.2.2 The masculine gender includes the feminine and neuter genders and vice versa, the singular includes the plural vice versa, and a person includes juristic or artificial persons

1.2.3 The headings of clauses are for reference purposes only and shall not be used in interpretation

1.2.4 Reference to a clause number written as [54.3.2] means that specific clause; clause [54,3.2-4] means the sub-clauses 2 to 4 inclusively; clause [54.3.2 & 4] means the sub-clauses 2 and 4 only

1.2.5 The word 'deemed' shall be conclusive that something is fact, regardless of the objective truth

2.0 LAW, REGULATIONS AND NOTICES

2.1 The **parties** shall comply with the **law**, regulations, bylaws, **notices** and charges by authorities applicable to the **works** [20.3,1] [CD]

2.2 Documents and legislation referred to in this **agreement** shall mean the current edition thereof with all amendments thereto at the date of submission of the **contractor's** offer unless otherwise stated [CD]

2.3 All communication or notices between the **parties** shall be in the language of this **agreement** and in a form that can be read, copied and recorded [CD]