

A Review of the Cost and Time Consequences of the Standard Forms of Contract in the Pacific Region

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Abstract

Standard forms of construction contracts make provisions for the risk sharing between the Client and the Contractor for time and cost in the construction of building or engineering works. Quantity Surveyors' concern is usually on cost matters arising from the basis of the contract price, the changes to the contract price, the payment of the contract price and the agreement of the final price. These concerns invariably involve the time factor which may in turn trigger off time and cost consequences. This paper attempts to review how different forms of construction contracts in the Pacific Region address these issues and to highlight particular areas that reflect the local flavour and cultural aspects in contract practice, procedural differences, the contract intent and the role of quantity surveyor in the respective forms.

Keywords

contract standard forms cost time culture

Introduction

With the global economy and the internet, people have greater opportunities to travel or surf abroad to interact with other people to do business. As a Chinese proverb says, "Understand yourself, understand your counterparts, you win 100 times out of 100 conflicts", we should know the customs and practice of the construction industries in other countries and localities. The standard forms of construction contracts used in different localities are a good place to start with because the standard forms should cover all contractually significant matters in a construction contract with provisions scrutinized by practitioners and legal experts to reduce any ambiguities and inconsistencies to the minimum, and they are usually a consensus and compromised document amongst the stakeholders and reflect a fair balance of risks and procedures appropriate to the local customs and practice.

Purpose of the Standard Forms

The standard forms set out clearly the rights and obligations of both parties and allow frequent users to get familiar with the contract provisions to enable consistency in their application. By adopting a standard form which everybody understands and uses, people can run the project in a 'you-know-what-to-do way'.

Standard forms of construction contracts are used in different countries and localities. Uff and Capper (1989) state that there is no generally accepted definition of a construction contract. A construction contract can be viewed as a commercial venture in which both parties anticipate some level of profit (Uff and Capper, 1989), but business embraces both profit and non-profit value motivators (Allison/Stewart & Donleavy, 1995).

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As a surveyor, we see it carry mixed functions, including economic, management and legal. Besides encompassing legal principles addressing the rights and obligations of the parties under the contract, the contract forms also attempt to fulfill project management functions (Martin Barnes, 1989) in respect of time, cost and quality. The terms of the contract delineate procedures reflecting the legal principles and the local customs and practice. The contract procedures therefore perform dual functions of legal rules and management tools.

A major school of thought on contracting is about the allocation of risks (Chapman, Ward & Curtis/Uff & Capper, 1989) with the understanding that the contract parties are mutually clear about what is required of them such that time, cost, and quality are foreseeable. The risk sharing regime in the standard forms is a reflection of the local culture, bargaining power of the stakeholders, customs and practice. Therefore, a study of the standard forms would enable us to understand each other better. This study is confined to the payment, cost and time aspects of the standard forms.

Standard Forms Studied

Seven localities, i.e. Australia, Canada, Hong Kong, Malaysia, New Zealand, Singapore and Sri Lanka have been selected. One standard form from each locality has been chosen. Different localities may have more than one commonly used standard forms and the standard forms may be subject to specific amendments for use on specific projects. Commentary in this paper can only be based on the unamended standard forms listed here:

Table 1 - Standard Forms Studied	
1	Australian Standard AS4000-1997 - General Conditions of Contract (Incorporating Amendment Nos. 1, 2 & 3)
2	Standard Construction Document - Stipulated Price Contract, 1994, Re-print 1998, published by the Canadian Construction Documents Committee
3	Standard Form of Building Contract, Private Edition - With Quantities, 2005 Edition, published by The Hong Kong Institute of Architects, The Hong Kong Institute of Construction Managers, The Hong Kong Institute of Surveyors, Hong Kong SAR, China
4	CIDB Standard Form of Contract for Building Works, 2000 Edition, published by the Construction Industry Development Board Malaysia
5	New Zealand Standard NZS 3915:2005 Conditions of Contract for Building and Civil Engineering Construction (where no person is appointed to act as Engineer to the contract)
6	Articles and Conditions of Building Contract for lump sum contract, Seventh Edition, April 2005, published by the Singapore Institute of Architects
7	Standard Bidding Document - Procurement of Works - Major Contracts, First Edition, September 2003, published by the Institute for Construction Training and Development, Sri Lanka (Note: for use on construction contracts of a complex nature and over Rs.150 m.)

Contract Types

The standard forms, provided with alternative or optional clauses, can be used for a variety of contract types:

Table 2 – Contract Types	AU	CA	HK	MY	NZ	SG	LK
Lump sum contract with Schedule of Rates		⊙		⊙	⊙	⊙	
Lump sum contract with Bills of Quantities			⊙	⊙	⊙		
Measure and value contract with Schedule of Rates or Schedule of Prices or Bills of Quantities	⊙				⊙		⊙
Cost reimbursement contract					⊙		
Road or term maintenance contracts					⊙		
Local authority contracts					⊙		

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Diversified Terminology

The terms used in the standard forms are quite different for conceptually the same thing. The diversity of the terminology may be a reflection of the customs and practice of different localities. The standard forms call the Client by different names like Owner / Employer / Principal. Only the Hong Kong and the Singapore forms specifically state the roles of the Quantity Surveyor.

Table 3 – Diversified Terminology							
Here	Australia	Canada	Hong Kong	Malaysia	New Zealand	Singapore	Sri Lanka
Client	Principal	Owner	Employer	Employer	Principal	Employer	Employer
Contractor	Contractor	Contractor	Contractor	Contractor	Contractor	Contractor	Contractor
Tender	Tender	Bid	Tender	Tender	Tender	Tender	Bid
Contract Administrator	Superintendent	Consultant	Architect	Superintending Officer		Architect	Engineer
Contract Administrator's Representative	Superintendent's Representative		Architect's representative	Superintending Officer's Representative			Assistant
Quantity Surveyor			Quantity Surveyor			Quantity Surveyor	
Other Contractors		Other contractor and Owner's own forces	Specialist Contractor	other person or contractor	Separate Contractor	Artists, tradesmen and other contractors	
Contract Sum	Contract Sum	Contract Price	Contract Sum	Contract Sum	Contract Price	Contract Sum	Initial Contract Price
Bills of Quantities	Bill of Quantities		Contract Bills	Bills of Quantities		Bill of Quantities	Bills of Quantities
Schedule of Rates	Schedule of Rates	Schedule of Values		Schedule of Works and Schedule of Rates	Schedule of Prices	Schedule of Rates	
Equipment for incorporation	Plant	Machinery and equipment	plant, equipment	Equipment		plant, equipment	Plant
Construction plant	Construction Plant	construction machinery and equipment	plant, equipment	Construction plant	Plant	plant, equipment	Contractor's equipment
Day	for Calendar day		for Calendar day	for Calendar day	for Working day		for Calendar day
Contract Period		Contract Time	Time for Completion	Time for Completion	Contract period		Time for Completion
Commencement Date			Commencement Date	Date of Commencement		Commencement Date	Commencement Date
Date for Completion	Date for Practical Completion		Completion Date		Due Date for Completion	Date of Completion	

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Table 3 – Diversified Terminology							
Here	Australia	Canada	Hong Kong	Malaysia	New Zealand	Singapore	Sri Lanka
Completion Certificate	Certificate of Practical Completion	Substantial Performance Certificate	Substantial Completion Certificate	Certificate of Practical Completion	Certificate of Practical Completion	Completion Certificate	Taking-Over Certificate
Certificate of Non-Completion				Certificate of Non-Completion		Delay Certificate	
Payment Claims	Progress Claims	application for payment	Statement	Statement of Work Done	Payment Claim	Payment Claim	Statement
Payment Certificate	Progress Certificate		Interim Certificate	Interim Certificate	Payment Schedule	Interim certificate	Interim Payment Certificate
Defects Liability Period	Defects Liability Period	Warranty Period	Defects Liability Period	Defects Liability Period	Period of Defects Liability	Maintenance Period	Defects Notification Period
Defects Rectification Certificate			Defects Rectification Certificate	Certificate of Making Good Defects	Defects Liability Certificate	Maintenance Certificate	Performance Certificate
Instruction	Direction	Change Directive	Instruction	Instruction	Instruction	Direction / Instruction	Instruction
Variations	Variation	Change	Variation	Variation	Variation	Variation	Variation
Final Claim	Final Payment Claim	Application for Final Payment		Final Claim Statement	Final Payment Claim	final claim	Final Statement
Final Account			final account	Final Account	Final Payment Schedule		
Final Certificate	Final Certificate	Final certificate for payment	Final Certificate	Final Certificate		Final Certificate	Final Payment Certificate

Independent Consultants to Act Reasonably

The Australian, Hong Kong and Malaysian forms specifically require the independent consultants to act reasonably:

Table 4 – Independent Consultant's Attributes	AU	CA	HK	MY	NZ	SG	LK
Superintendent to act reasonably and in good faith	⊙						
Contract parties, Architect and Quantity Surveyor to act reasonably and expeditiously			⊙				
Superintending Officer to act reasonably and timeously				⊙			

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Retention and Performance Securities

Retention (“holdback” in the Canadian form) is generally held back from progress payments at a rate not more than 10% of the Contract Sum up to a limit equal to 5% of the Contract Sum. The New Zealand form stipulates progressively reduced percentages. Performance bonds from the Contractor are generally suggested as a default to be 5% of the Contract Sum. The Australian form is very flexible to leave the type of bond from the contract parties to be stated in the Annexure to the Conditions. The Singapore form does not require a performance bond from the Contractor. Only the Malaysian and New Zealand forms provide for bonds from the Client. The Canadian form entitles the Contractor to require evidence of the Client’s financial capability to pay.

Table 5 – Retention and Performance Securities	AU	CA	HK	MY	NZ	SG	LK
<i>Retention / Holdback</i>							
Holdback permissible subject to legislation and statutory regulations and to be released in full upon Substantial Performance of the Work		⊙					
Percentage retention up to a limit, to be reduced to half upon Completion of the Works, and balance to be released upon certified completion of making good defects (Final Certificate in the case of Australia)	⊙		⊙	⊙	⊙	⊙	⊙
10% subject to max of 5% of Contract Sum			⊙	⊙			⊙
10% of first NZ\$200,000 + 5% of next NZ\$800,000 + 1.7% of remainder, up to a maximum of NZ\$200,000					⊙		
10% on work, 20% on unfixed materials, limit not stated						⊙	
Retention bond in lieu of retention permissible					⊙		
<i>Other securities from Contractor</i>							
Form of security very flexible for parties to state in the Annexure	⊙						
Performance bond / surety bond		⊙	5%		⊙		5%
Performance security deposit, if required under an optional clause				5%			
<i>Securities from Client</i>							
Form of security very flexible for parties to state in the Annexure, to be reduced to half upon Practical Completion, and balance to be released 14 days after Final Certificate	⊙						
Contractor entitled to require evidence of Client's financial capability to pay		⊙					
Payment bond, if required under an optional clause				5%			
Principal's bond					⊙		

Payment Scheme

All standard forms provide for periodic progress payments and require the Contractor to apply for payments (called “payment statements” or “payment claims”). Valuation and certification of the payments are to be done by the Independent Consultants named in the Contract. The New Zealand form, which does not have an Independent Consultant, requires the Principal to respond with a “Payment Schedule”.

All except the Australian form permit payment for unfixed materials and goods on site without need for security. Payment for materials and goods off-site is generally not allowed, except that the Hong Kong and Malaysian forms permit such possibility subject to detailed rules.

On the other hand, the Australian and Hong Kong forms contain some provisions (to different extent) to ensure payment to workers and sub-contractors before certifying the next payment. Payment under the Singapore form is subject to Building and Construction Industry Security of Payment Act and Regulations.

Only the Malaysian form permits the Contractor to suspend work due to continued late payment, after serving 14 days notice 14 days after the payment due date.

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Table 6 – Payment	AU	CA	HK	MY	NZ	SG	LK
<i>Generally</i>							
Payment certification by the independent Contract Administrator	⊙	⊙	⊙	⊙		⊙	⊙
Client to assess the Contractor's payment claim and issue a proposed Progress Payment Schedule to the Contractor for agreement					⊙		
<i>Advance payment</i>							
Providing for advance payment, secured by an advance payment guarantee, and progressively recovered in proportion to progress payments.							⊙
Providing for stage payments						⊙	⊙
<i>Payment for unfixed materials and goods on site</i>							
Permitted without security required		⊙	⊙	⊙	⊙	⊙	⊙
Permitted only if additional security provided, and already paid for, properly stored and protected, and labelled the property of the Client	⊙						
<i>Payment for materials and goods off-site</i>							
At the Architect's discretion unless expressly provided in the Contract			⊙				
Permitted subject to fulfillment of very detailed conditions				⊙			
<i>Other significant aspects</i>							
Detailed provisions given on the method of valuation of payment			⊙			⊙	
Permitting correction of previous payment certificates	⊙			⊙	⊙	⊙	
Declaring interim payments not evidence of work being in compliance with the Contract		⊙		⊙			
Specifying the minimum amount before interim payment				⊙			⊙
Payment certificate can certify re-payment from the Contractor to the Client	⊙					⊙	
Contractor entitled to suspend work due to continued late payment, after serving 14 days notice 14 days after the payment due date				⊙			
<i>Proof of payments to workers and sub-contractors</i>							
Requiring proof of payments to workers and sub-contractors, permitting withholding the unproven portion before certifying payments, and permitting paying direct to them before final payment to the Contractor	⊙						
Requiring proof of payment to Nominated Sub-Contractors and Suppliers, and permitting paying direct to them			⊙				
Subject to the Building and Construction Industry Security of Payment Act and Regulations						⊙	

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Honouring Payments

The standard forms have different time frames for honouring payments and these time frames may be related to the dates of payment application, payment certification or tax invoices (Table 7). The time frame for honouring payment is obviously the Contractor's greatest concern for cash flow, and it varies from 5 days after certificate (Canada) to 35 days after tax invoice (Singapore) as shown in Table 7. Different interest rates on late payments are also stipulated as follows:

Table 7 – Periods for Honouring Payments and Interests on Late Payments						
Australia	Canada	Hong Kong	Malaysia	New Zealand	Singapore	Sri Lanka
28 days after progress claim or 14 days after certificate, whichever earlier	5 days after certificate	14 days after certificate	21 days after certificate	5 days after payment schedule	35 days after tax invoice if the Contractor is a taxable person or 21 days after payment claim is served	14 days after Interim Certificates, 56 days after Final Payment Certificate
18% per annum	A certain % above bank rate of the Bank of Canada for short term advances	1% below judgment debt rate of the High Court	A simple interest rate	1-1/4 x average Monthly interest rate for overdraft facilities, and compounded monthly	Interest on under-certification or underpayment to be awarded by an arbitrator or the Courts	1% over the lending rate of the Central Bank to Commercial Banks, and compounded monthly

Documentary Basis for Tendering

The "Priced Documents" showing a build-up of the Contract Sum are:

Table 8 – Priced Documents						
Australia	Canada	Hong Kong	Malaysia	New Zealand	Singapore	Sri Lanka
Approximate Schedule of Rates	Schedule of Values		Schedule of Rates	Schedule of Prices	Schedule of Rates	
Approximate Bill of Quantities		Accurate Bills of Quantities	Accurate Bill of Quantities		Bill of Quantities not forming part of the Contract and serving as a Schedule of Rates only	Provisional Bill of Quantities

Either Schedule of Rates / Values / Prices or Bills of Quantities are used.

Where Schedule of Rates / Values / Prices is used, it is generally prepared by the Contractor based on the Specification and Drawings provided to them for tendering. Any inaccuracy in the Schedule reflecting the Specification and Drawings is at the Contractor's risks and does not affect the Contract Sum. The Specification and Drawings take precedence over the Schedule.

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Where Bills of Quantities are used, they are provided to the Contractor for tendering. Any inaccuracy in the Bills reflecting the Specification and Drawings or true intent in accordance with the specified Method of Measurement is at the Client's risks and is to be corrected with adjustment to the Contract Sum.

However, the Australian form declares that the quantities in the Bill of Quantities (and the Schedule of Rates as well) are estimates only. Any inaccuracy in their reflecting the true intent is to be corrected with adjustment to the Contract Sum except when the error in an item is less than A\$400. This virtually means that the Bill (or Schedule) is provisional subject to remeasurement.

The Bill of Quantities under the Sri Lanka form is also subject to remeasurement.

Only the Bills of Quantities under the Hong Kong and Malaysian forms are supposed to be accurate and not subject to remeasurement. They form part of the Contract. They take precedence over the Specification and Drawings when interpreting the coverage of the Contract Sum. The burden on the Quantity Surveyor to make them accurate is much higher.

Computation of the Final Contract Sum and extended Contract Period

The Original Contract Sum (whether it be the lump sum in a lump sum contract or the provisional total in a measure and value contract) and the Original Contract Period can be subject to various kinds of adjustments permitted under the Contract. The types of monetary and time adjustments stipulated in the standard forms can be categorised as in Table 9.

Table 9 – Computation of the Final Contract Sum and extended Contract Period	
Original Contract Sum + Original Contract Period	
Adjust for the effects of instructed variations and regular changes	
Adjust provisional items for their actual authorized expenditure	
Adjust for the effects of non-contentious items within the contemplation of both parties	
Adjust for the effects of events within the control of the Client	
Adjust for the effects of events outside the control of the Client	
Deduct for recovery by the Client as a Debt	

Valuation for Quantity and Quality

Valuation of variations and remeasured provisional quantities is generally based on the Contract Rates as contained in the Priced Documents, pro-rata as necessary, so far as appropriate, otherwise, fair rates or daywork rates are to be used. The Australian form does not provide for valuation by daywork which was provided for in its previous 1992 version. Generally, rates for pricing addition or omission variations have their profit and overheads attached, but the Australian and Canadian forms have special stipulation regarding profit and overheads when omitting work:

Table 10 – Profit and Overheads when Reducing Work	AU	CA	HK	MY	NZ	SG	LK
Overheads not deducted (the previous 1992 version permits deduction of overheads)	⊙						
Profit and overheads not decreased		⊙					

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Apart from the cost effect of the adjustment of the quantities, the standard forms permit adjustments of the Contract Rates (\$) for inaccuracies in the original quantities in the following cases:

Table 11 – Adjustment of Rates for Provisional Quantities	AU	CA	HK	MY	NZ	SG	LK
A new rate to be applied to the difference between the original quantity in the Schedule of Rates and the final actual quantity beyond the stipulated limits of accuracy	\$						
A new rate to be applied when any error in the Bills of Quantities render the Contract Rate no longer fair			\$				
If the final quantity of an item in a measure and value contract differs from the original quantity to such an extent as to make the scheduled price for that or any other item unreasonable then the change in quantity shall be treated as if it was a Variation					\$		
Where an item of work has clearly been omitted by error from the Schedule of Prices for a measure and value contract, as where other items of a similar kind have been included, the work omitted shall be treated as if it was a Variation					\$		
Contract Rate, in a measure and value contract, to be varied if its final quantity is more than the original quantity by 25% and the cost effect is more than 1% of the Initial Contract Price							\$

Extension of Time and Compensation for Delay and Disruptions

All except the Canadian form present the extension of time events in a dedicated list. The Canadian form provides for the extension of time in the clauses describing the delaying events.

Table 12 – Extension of Time provisions	AU	CA	HK	MY	NZ	SG	LK
One “Qualifying Cause” subject only to exceptions stated in the Annexure	⊙						
Provisions dispersed over the Conditions, without a dedicated list		⊙					
A list of 22 items of “Listed Events”			⊙				
A list of 17 items of events				⊙			
A list of 6 items of events, plus quite a number of events which are to be treated as if it was a Variation					⊙		
A list of 17 items of events						⊙	
A list of 5 items of events, plus quite a number of extension of time clauses elsewhere							⊙

The single “Qualifying Cause” under the Australian form reads: “Any act, default or omission of the Superintendent, the Principal or its consultants, agents or other contractors (not being employed by the Contractor) other than a breach or omission by the Contractor, industrial conditions or inclement weather occurring after the Date for Practical Completion, and those stated in the Annexure to the Conditions.” This is very encompassing as compared to “negligent act” or “act of prevention” as used by others.

For monetary compensation for the delay and disruption costs, only the Hong Kong and Malaysian forms give a dedicated list of compensable events. The other forms provide for the monetary compensation in the clauses describing the delaying events. The delaying event may have work-related cost as well as delay-related costs. The Hong Kong and Malaysian forms using a dedicated list intend to value the delay-related cost only as distinct from the work-related cost. Without a dedicated list, the work-related costs and delay-related costs are not necessarily distinguished in the clauses describing the delaying event. Presumably, both cost effects should be included without distinction.

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Table 13 – Delay-Cost Compensation Provisions	AU	CA	HK	MY	NZ	SG	LK
Also one “Compensable Cause” which is the same as the “Qualifying Cause”, plus those stated in the Annexure	⊙						
Provisions dispersed over the Conditions, without a dedicated list		⊙			⊙	⊙	⊙
A list of 12 items of “Qualifying Events”			⊙				
A list of 10 items of events				⊙			
Valued as loss and/or expense, not expressly exclusive of profit			⊙	⊙			
Valued at Costs, with profit allowed in individual cases					⊙		⊙
Valued as a variation						⊙	

Provisos

It is usual to state as a general rule or in the specific relevant clause that the extra cost or time compensation to the Contractor is subject to:

- (a) The extra is not one that the Contractor is required to bear under other provisions in the Contract;
- (b) The extra was not incurred due to the Contractor’s breach of contract or other default;
- (c) The extra is not one that the Contractor should reasonably have foreseen at the time of tendering.

It is assumed that these provisos are applicable to all entitlement clauses and therefore are not repeated below when referring to the specific entitlement clauses. It should also be noted that different standard forms use different combination of different words to express the same core meaning. These subtle differences may result in different interpretation upon detailed analysis. However, due to the limitation of the length of this paper, these clauses may be simplified to reflect the core meanings here with loss of the subtle differences.

Variations and Changes

All the standard forms have definitions for “variations” (or “Changes” in the Canadian form). Most of them relates to the physical form of the Works. Some of them relates to method of working, postponement and advancement. The scope can be summarized as follows:

Table 14 - Variations and Changes	AU	CA	HK	MY	NZ	SG	LK
<i>Physical form</i>							
Increase, decrease, add or omit work	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Change type, standard, character, quality or nature of materials or work	⊙	⊙	⊙	⊙	⊙	⊙	⊙
Change levels, lines, positions, elevations, layout or dimensions	⊙			⊙	⊙	⊙	⊙
Demolish or remove materials or work not defective and no longer required	⊙		⊙	⊙		⊙	
Change Employer’s Requirements for Contractor’s Design				⊙			
<i>Method of working</i>							
Impose or change obligation or restriction regarding access, working space, working hours, sequence of work			⊙				
Impose change in the Contractor’s Temporary Work and/or method of working and/or Construction Plant				⊙			
Impose a change to the sequence of work					⊙		
Impose change in the Contractor’s temporary Works or methods of working						⊙	
Impose a change to the sequence or timing of work							⊙
<i>Postponement and advancement</i>							
Postpone any part of the Works				⊙		⊙	
Advance the completion date of any part of the Works				⊙			
Note: Variation not permitted after Practical Completion / Taking-Over except in relation to defects	⊙						⊙

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Adjustment of Provisional Items

“Provisional items” in this context means Prime Cost Sums, Provisional Sums and provisional quantities. While “Prime Cost Sum” is meant for work by Nominated Sub-Contractors, and “Contingency Sum” or “Contingency Allowance” is meant for unforeseen extras in some standard forms, “Provisional Sum” and “Cash Allowances” are meant to include Prime Cost Sums, Contingency Sums or Contingency Allowance in other standard forms:

Table 15 - Provisional Sums	AU	CA	HK	MY	NZ	SG	LK
Provisional Sum	⊙		⊙	⊙	⊙	⊙	⊙
Cash Allowance		⊙					
Contingency Sum	⊙				⊙	⊙	
Contingency Allowance		⊙					
Prime Cost Sum			⊙	⊙	⊙	⊙	

None of the standard forms mention “prime cost rate”. All except the Australian and Canadian forms have Nominated Sub-Contractors and Suppliers, and related Profit and Attendance Charges or Expense or Overheads charged by the Contractor:

Table 16 - Nominated Sub-Contractors and Suppliers, Profit and Attendance	AU	CA	HK	MY	NZ	SG	LK
Nominated Sub-Contractors and Suppliers			⊙	⊙	⊙	⊙	⊙
Profit and attendance			⊙	⊙		⊙	
Expense and profit					⊙		
Overhead charges and profit							⊙

The previous 1992 version of the Australian form did have Nominated Sub-Contractors. The Singapore form also has Designated Sub-Contractors and Suppliers, whose significant difference from Nominated Sub-Contractors and Suppliers are that their identities are known at the time of tendering, otherwise the cost accounting principle is the same. Work covered by Provisional Sums and carried out by the Contractor himself is valued in the same manner as valuing variations. Allowance for profit and overheads is permitted. The adjustments to the Contract Sum are:

Table 17 – Adjustment of Contract Sum for Provisional Items
Omit Provisional Sums, Cash Allowances, Prime Cost Sum, Contingency Sum or Contingency Allowance
Add expenditure of Prime Cost Sums or Provisional Sums in work carried out by Nominated Sub-Contractors or Nominated Suppliers
Adjust Profit and Attendance on Nominated Sub-Contractors and Suppliers
Add Expenditure of Provisional Sums or Cash Allowances in work carried out by the Contractor himself
Omit Provisional or Remeasurable Quantities
Add final value of remeasured Provisional or Remeasurable Quantities

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Time Effects of Variations and Provisional Items

The standard forms provide for extension of time (T) if the scope of work actually carried out for Provisional Items increases sufficiently, with monetary compensation (\$) in some cases:

Table 18 – Time Implication of Variations and Provisional Items	AU	CA	HK	MY	NZ	SG	LK
Variation causing delay			T \$	T \$	T \$	T	T
An increase in work under Prime Cost Sums, or Provisional Sums, Quantities or Items of sufficient magnitude to cause delay	T						
Work under Prime Cost or Provisional Sums constitutes a variation in kind or extent from the work described under the original Prime Cost or Provisional Sums						T	
Contract Period deemed not to take into account the work under Contingency Sum						T	
Substantial change in the quantity of an item of work included in the Contract							T

Non-contentious Adjustments within the Contemplation of Both Parties

The Contract Sums under the Canadian and New Zealand forms are exclusive of Value Added Tax or Goods and Services Tax which are to be added to the Final Contract Sum. The cost fluctuation clause is the default choice under the New Zealand form and is optional under the Hong Kong and Singapore forms. The Contract Sum may be increased or decreased. The Australian and New Zealand forms provide for bonus for early completion. The Hong Kong form provides for payment for delay recovery measures. This indicates that in addition to compensation, incentive is also used in the contract to stimulate on-time completion.

Table 19 – Adjustments within Contemplation	AU	CA	HK	MY	NZ	SG	LK
<i>Value Added Tax</i>							
Payment for Value Added Tax (Canada) or Goods and Services Tax (New Zealand)		\$			\$		
<i>Cost Fluctuations</i>							
Fluctuation Clause applies as default					⊙		
Fluctuation Clause optional			⊙			⊙	
Increases or decreases in the costs of labour and materials			\$		\$		
Increases or decreases in the Cost to the Contractor of performing the contract due to the making of any statute, regulation or bylaw, or the imposition by Government or by a local authority of any royalty, fee or toll after the date of closing of tenders					\$		
Increases or decreases due to any rise or fall during the currency of the Contract in the quoted prices of steel bar reinforcement and cement						\$	
<i>Bonus and Incentives</i>							
Bonus for early completion	\$				\$		
Payment for delay recovery measures			\$				
Payment for cost of preparing delay recovery proposal eventually not adopted			\$				

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Adjustments for Events within the Control of the Client

The standard forms provide for extension of time (T) and monetary compensation (\$) for the following events which are caused by the Client and people for whom he is responsible and which result in extra time or costs to the Contractor. In the following tables, no distinction has been made between work-related cost and delay-related cost. "\$" followed by "T" means that additional work has been incurred with extension of time required which may have delay-related cost compensation as well. "T" followed by "\$" means that the event is a delaying event with extension of time and delay-related cost compensation. All the events here may arguably fall within the encompassing definition of "Qualifying Cause" under the Australian form though they have not been marked with a "T" here. "his people" means people for whom he is responsible.

Table 20 – Events within the Control of the Client	AU	CA	HK	MY	NZ	SG	LK
<i>Errors in information to Contractor</i>							
Executing work to comply with instructions to resolve ambiguity, discrepancies, divergence or error	\$	\$	\$ T	\$ T	\$ T	\$ T	
Delay caused by late information or instructions necessary for the carrying of the Works, obliged to be provided to the Contractor, and requested for by the Contractor			T \$	T \$		T \$	T \$
Rectification of errors in setting out due to errors in data, survey marks, information, reference points, lines, levels and dimensions provided by the Contract Administrator	\$			\$ T	\$	\$ T	\$ T
<i>Possession and commencement</i>							
Failure of the Client in obtaining any planning, zoning or other similar permission required for the Works to proceed and making any capital contribution and security deposit to any such public authority or public service company for the permanent connection to their systems				T \$			
Failure of the Client to give possession of the whole or a part of the Site			T \$	T \$		T \$	T \$
The Client subsequently depriving the Contractor of the whole or a part of the Site			T \$				
Instructed postponement of the Date for Possession of the Site or part of the Site				T \$			
Instructed postponement of the Commencement Date of the whole or a part of the Works			T \$				
<i>Suspension</i>							
Instructed postponement or suspension of the whole or a part of the Works			T \$	T \$	\$	T \$	T \$
Suspension or reduction of the rate of progress of the Works due to non-payment by the Client				T \$			
Suspension due to the Contract Administrator's failure to issue any certificate at the date required by the Contract, or failure to make a statement in writing the basis of his certificate within the period stipulated						T \$	
Suspension in accordance with the Security of Payment Act						T \$	
Note: Suspended part of the Works may be deemed deleted at the discretion of the Contractor if the Client does not grant permission to continue within one Month (New Zealand) or 28 days (Sri Lanka) of receipt of the request made more than three Months (New Zealand) or 84 days (Sri Lanka) after the suspension as instructed by the Contract Administrator					⊙		⊙
<i>Early occupancy</i>							
Early occupancy or use by the Client of any portion of the Works, which is not provided for in the Contract					\$	\$	\$
Use or occupation of any part of the work under the Contract by the Client and his people (an excepted risk)	\$				T		T \$
<i>Testing and Inspection</i>							

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Table 20 – Events within the Control of the Client	AU	CA	HK	MY	NZ	SG	LK
Extra testing and inspection done as instructed over the Contract requirements unless (a) the item was covered up without due notice for inspection or (b) they are required due to a Contractor's default or (d) the results find defects	\$		\$ T	\$ T	\$	\$ T	\$ T
Re-test due to previous failure to be at the Contractor's expense			⊙	⊙		⊙	
Searching as directed for defects unless the defect is one which the Contractor is liable to rectify					\$		\$
Testing or inspection delayed due to the Client or his people's fault					T \$		T \$
Co-ordination with Other Contractors							
Variation required as a result of the co-ordination and connection of the work of other contractors or Client's own forces with the Works		\$					
Cutting or remedial work by the Contractor necessitated by ill-timed work by the Client or his people		\$					
Affording access, permission, and facilities for other contractors to carry out activity which is not otherwise provided for in the Contract			\$		T \$		\$
Delay caused by acts or omissions of other persons or contractors employed by the Client in executing work not forming part of the Contract			T \$	T \$		T	
Co-ordination with Sub-Contractors and Suppliers							
Delay caused by a sub-contractor or supplier nominated by the Contract Administrator despite the Contractor's valid objection due to the same grounds for objection			T \$				
A change is required by the Owner of a proposed Subcontractor or Supplier whose bids have been received by the Contractor which the Contractor would be prepared to accept for the performance of a portion of the Work		\$ T					
Delay caused by the nomination of a replacement Nominated Sub-Contractor or Supplier including any prolongation of the period of the relevant sub-contract or the time for the supply and delivery of materials and goods			T				
Delay caused by a delay on the part of a Nominated Sub-Contractor or Supplier in respect of an event for which the Nominated Sub-Contractor or Supplier is entitled to an extension of time under the sub-contract or supply contract			T				
Delays on the part of Nominated Sub-Contractors or for the same reasons as set out in other extension of time sub-clauses				T			
A Nominated Subcontractor fails without reasonable grounds to enter into a subcontract with the Contractor within 10 Working Days of a written request to do so, or repudiates its subcontract or makes default such that the Contractor is entitled to treat the subcontract as at an end					\$ T		
Loss or Damage to the Works							
Loss or damage to the Works caused by any negligent act or omission of the Client and his people (an excepted risk)	\$						
Damage to the Works or the Client's property and property adjacent to the Place of the Works as a result of errors in the Contract Documents or acts or omissions by the Client or his people		\$ T					
Loss or damage to the Works caused by a cause due to any neglect or default of the Client or his people (an excepted risk)			T				
Loss or damage to the Works caused by any act or omission of the Client and his people (an excepted risk)					T		
Damage caused by any act or neglect of the Client or his people						T	
Damage caused by the Contract Administrator's instruction to impose change in the Contractor's temporary works or methods of working						T	
Reinstatement of survey marks disturbed by the Client or his people	\$						
Default in Client Insuring							

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Table 20 – Events within the Control of the Client	AU	CA	HK	MY	NZ	SG	LK
The Contractor maintaining insurances which the Employer is obliged but fails to maintain	\$		\$				
<i>Default in Client's Supply</i>							
Failure of the Client to supply or supply on time materials, goods, plant or equipment that he agreed to provide for the Works			T \$				
Late supply of any Materials, services or work required to be provided by the Client						T \$	
<i>Defaults of Client and his People</i>							
Variation carried out due to negligence or omission or default on the part of the Contract Administrator						\$	
Faults in the design of work under the Contract, other than design provided by the Contractor (an excepted risk)	\$		T		T		T \$
An compliance with an Architect's direction or instruction which is subsequently shown to have been given in circumstances where there was either no power to do so under the terms of the Contract, or no justification in fact for the exercise of a power						T \$	
Any act, default or omission of the Superintendent, the Principal or its consultants, agents or other contractors (not being employed by the Contractor) other than a breach or omission by the Contractor, industrial conditions or inclement weather occurring after the Date for Practical Completion, and those stated in the Annexure to the Conditions	T \$						
An action or omission of the Client or his people contrary to the provisions of the Contract Documents		T \$					
An act of prevention, a breach of contract or other default by the Client or his people			T \$				
Any act of prevention or breach of contract by the Client, or any matter in respect of which under the terms of the Contract the Client gives the Contractor an indemnity						T	
Any delay, impediment or prevention caused by or attributable to the Client or his people on the Site							T
The Contractor rightfully exercising his right to terminate the Contract	\$	\$	\$	\$	\$	\$	\$

Adjustments for Events outside the Control of the Client

The major events outside the control of both the Client and the Contractor are Statutory Requirements, unforeseen physical conditions and weather conditions.

The Original Contract Sum is generally inclusive of taxes, duties, statutory fees and charges with some scope for adjustments.

The New Zealand form treats the wider effects of new or changed Statutory Requirements upon the Contractor's cost under the Cost Fluctuations provisions.

Under the Hong Kong and Malaysian forms, the Contractor is to be reimbursed the amounts paid for royalties, license fee or other sum legally demandable for the use of intellectual property except for those designed or selected by the Contractor.

Risks of unforeseen physical conditions are put upon the Contractor under the Hong Kong, Malaysian and Singapore forms but the other forms let the Client take up the risks. The Australian form describes physical conditions as "latent conditions". The Australian, New Zealand and Sri Lanka forms accept artificial conditions as physical conditions but exclude weather conditions. The Canadian form is not that specific. This reflects the different practices in handling risks and uncertainties and the preferences for predictability of actions.

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On the next list are events outside the control of the Client or the Contractor, herein called “the neutral events”. Whether neutral events should all be put as the Contractor’s risks would really depend on the individual choice but may be a reflection of local customs and practice. It is said that delays caused by neutral events should lead to extension of time only with no monetary compensation, but this may not always be the case as shown below:

Table 21 – Neutral Events	AU	CA	HK	MY	NZ	SG	LK
<i>Statutory fees and charges</i>							
Payment of royalties, license fees and the like except for those designed or selected by the Contractor			\$	\$			
Changes in the level of existing or introduction of new taxes, customs duties and other statutory fees	\$	\$			\$		
Changes in any fees, charges or other expenditure incurred by the Contractor as a result of any statutory obligations which may be specifically identified elsewhere in the Contract						\$	
Payment of statutory fees or charges unless they: (a) are fees or charges that the Contractor is liable to pay under the Statutory Requirements, and the liability was known prior to the date for submission of tenders and has not been increased; (b) are priced, or are required to be allowed for, in the Contract Bills; (c) are provided for by a Provisional Sum; or (d) arise out of a default, delay or failure by the Contractor or a sub-contractor to comply with the Statutory Requirements or the Contract			\$				
<i>Working to Statutory Requirements</i>							
Executing variation in order to comply with Statutory Requirements which differ from the Contract requirements	\$	\$		\$	\$	\$	\$
Delay caused by compliance with Statutory Requirements for which the Employer is responsible or which results in a variation				T			
Delay caused by compliance with statutory requirements in any part of the Works designed, specified or chosen by or on behalf of the Architect or Employer and not by the Contractor or any subcontractor						T	
Delay caused by 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 affects the Contractor in the performance of obligations under the Contract							T \$
<i>Delay by statutory undertaker or Government department</i>							
Delay caused by a statutory undertaker or utility company carrying out their statutory obligations			T	T			
Delay caused by unreasonable delay by a Government department in giving an approval or a consent which causes delay to the Works			T				
<i>Emergency Work and Other Work without Prior Authority</i>							
Variation carried out in emergency for safety			\$			\$	
<i>Unforeseen Physical Conditions</i>							
Encountering adverse physical (natural or man made but excluding weather conditions) beyond reasonable anticipation after due inspection	\$ T				\$		\$ T
Encountering adverse physical conditions beyond reasonable anticipation after due inspection		\$ T					
Taking safety measures against toxic or hazardous substances or materials which should have been disposed of, stored or otherwise rendered harmless by the Owner		\$ T					
Physically locating the position of a utility or altering or protecting or offsetting or reinstating if the utility is not indicated or is not substantially in the position indicated in the Contract Documents					\$		
<i>Industrial Actions</i>							

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Table 21 – Neutral Events	AU	CA	HK	MY	NZ	SG	LK
Industrial actions affecting the Works – monetary compensation only if the delay results from actions by the Owner		T \$					
Industrial action in Malaysia affecting the Works				T \$			
Industrial actions affecting the Works					T		
Industrial action whether domestic or foreign affecting the Works						T	
<i>Shortage of Labour and Materials</i>							
Unforeseeable shortage of labour, goods or materials resulting from domestic or foreign government actions, embargoes or regulations						T	
Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions							T
<i>Delay caused by Adverse Weather Conditions</i>							
Exceptionally inclement weather / adverse weather conditions			T	T	T	T	T
<i>Loss or Damage to the Works caused by</i>							
Fire – monetary compensation only if the delay results from actions by the Owner		T \$					
Fire, lightning, explosion, storm, tropical cyclone, flood, bursting or overflowing of water tanks, apparatus or pipes, earthquake, aircraft and other aerial devices or articles dropped from them			T				
Fire, storm, lightning, high winds, earthquake or aircraft or aerial objects						T	
Any one or more of the risks covered by the insurance policies in respect of the Works				T			
Unusual delay by common carriers or unavoidable casualties – monetary compensation only if the delay results from actions by the Owner		T \$					
Loss or damage to the Contract Works or Materials					T		
Flood, volcanic or seismic events					T		
Riot, civil commotion, war, hostilities and similar military matters (an excepted risk)	\$		T	T \$	T		T
Ionising radiations or contamination by radioactivity and similar matters (an excepted risk)	\$		T	T \$	T		T
Pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds (an excepted risk)			T	T \$	T		T
Any such operation of the forces of nature as an experienced contractor could not foresee or reasonably make provision for (an excepted risk)					T		T
Any risk specifically excepted elsewhere in the Contract	\$						
<i>War Damage</i>							
Protection, removal and disposal of debris or damaged work caused by war damage, reinstatement and making good of war damage						\$ T	
<i>Discovery of Antiquity</i>							
Taking protective measures upon discovery of objects of antiquity	\$		\$ T	\$ T	\$	\$	\$ T
<i>Other Delaying Events</i>							
Events caused beyond the Contractor's control – monetary compensation only if the delay results from actions by the Owner		T \$					
Force majeure			T	T		T	
<i>Catch All Clauses</i>							
Extension of time for delay caused by a special circumstance considered by the Contract Administrator as sufficient grounds to fairly entitle the Contractor to an extension of time			T				
Any circumstances not reasonably foreseeable by an experienced contractor at the time of tendering and not due to the fault of the Contractor					T		

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Recovery by the Client as a Debt

The standard forms provide for the recovery of additional loss and expense incurred by the Client on default of the Contractor from the Contractor as moneys due or as a debt (i.e. not necessarily as deductions from the Contract Price) in the following events:

Table 22 – Recovery by the Client as a Debt	AU	CA	HK	MA	NZ	SG	LK
Engagement of Others							
Engagement by the Client of other persons to carry out instructions not performed by the Contractor			\$	\$		\$	\$
Engagement by the Client of other persons to carry out cleaning and tidying up	\$						
Engagement by the Client of others to perform obligations to (a) take measures necessary to protect people and property; (b) avoid unnecessary interference with the passage of people and vehicles; (c) prevent nuisance and unreasonable noise and disturbance; and (d) rectify damage to property and pay any compensation which the law requires the Contractor to pay, on default of the Contractor to do so	\$						
Emergency							
Urgent or emergency action by the Client for safety work which the Contractor is liable but fails to do	\$			\$	\$		\$
Insurances							
The Client maintaining insurances which the Contractor is obliged but fails to maintain	\$	\$	\$	\$	\$	\$	\$
Payment to Workers and Sub-Contractors							
The Client paying the amount of court order to pay worker or subcontractor which the Contractor fails to pay	\$						
Defects							
Extra costs incurred by the Client and his people to attend to additional testing and inspection due to the Contractor's fault or failure				\$	\$		\$
Accepting errors and defects instead of rectifying with cost reduction	\$	\$	\$	\$	\$	\$	
Loss in value to the Client to be considered for cost reduction				⊙		⊙	
Saving in cost to the Contractor to be considered for cost reduction				⊙		⊙	
Whichever is the greater of the last two						⊙	
Difference in value of work considered for cost reduction			⊙		⊙		
Instructing variation instead of making good						\$	
The Client having carried out remedial work which the Contractor is liable to carry out	\$			\$	\$		\$
The Client incurring cost of making available permanent utilities to the Contractor for the purpose of Test on Completion				\$			
The Client accepting the Contractor's failure in repeated Test on Completion - Cost reduction to cover the reduced value to the Employer							\$
Contractor's Other Defaults							
The Contractor removing any Equipment, materials or goods for which payment has been made by the Client from the place of manufacture, assembly or storage to another destination other than the Site or the Contractor failing to deliver any Equipment, materials or goods for which payment has been made by the Client to the Site as and when directed by the Contract Administrator without reasonable cause or have an intent to deceive or defraud the Client				\$			
The Client becoming entitled to recover liquidated damages	\$		\$	\$	\$	\$	\$
The Client becoming entitled to recover such loss, expense, costs or damages at law, in the event that the Client for whatever reason shall not be entitled at Law to recover Liquidated Damages				\$			
Note: The Canadian form has no stipulation for damages for delay		⊙					
Completing by the Client of work taken out of the hands of the Contractor	\$						

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Table 22 – Recovery by the Client as a Debt	AU	CA	HK	MA	NZ	SG	LK
The Client rightfully exercising his right to terminate the Contract	\$	\$	\$	\$	\$	\$	\$

Conclusion

This study paper shows above that the terminology, the risk sharing regime and the payment practice can be very different between different localities. Some of the standard forms are short and simple and some are lengthy with clauses containing qualifying words like “subject to”, “provided that”, “as stated in clause”, “for the avoidance of doubt”, etc. Care has been exercised to interpret the over-simplified provisions for a complete meaning and the complicated provisions for condensed meaning to present the findings above. Due to the bulk of the documents involved in this study, we may have findings or views different from those of the frequent users, but if the readers are intrigued to search for and understand the correct interpretation, we consider that the purpose of this paper “to understand each other” has been served.

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