Contents

Æ

Ab	out the .	Author	XV
	eword nd Pou	lsen	xvii
Ack	knowled	lgements	xix
	roducto 1ibo Zh	ry Remarks ang	xxi
	roducto bert We	ry Remarks rth	xxiii
	roducto 1 Nikifo	ry Remarks rov	XXV
1	Inter	national Construction Projects	1
_	1.1	The unique nature of the construction industry	1
	1.2	Individuality of construction projects	1
	1.3	Roles and relationship	2
	1.4	Contract administration: The Engineer	4
	1.5	Further important aspects of construction projects	10
	1.6	Typical contractual relationships	11
	1.7	Motivation for international business	11
	1.8	Managerial analyses	13
	1.9	Hazards and risks	14
	1.10	Flazard identification	15
	1.11	Risk analysis	15
	1.12		16
	1.13	Typical hazards in the international construction business	17
	1.14	Risk allocation in contracts	18
		Vignette: Wrong forms of contract by James Bremen (UK)	18
	1.15	Form of business organization	19
	Refer	rences	22
	Furth	ner reading	23
2	Civil	Law and Common Law	24
	2.1	Specifics of the governing law	24
	2.2	Common law versus civil law: Differences and interconnections	24
		Vignette: The common law of Australia and the influence of	
		statutory law by Donald Charrett (Australia)	26
	2.3	Delay damages (liquidated damages) versus contractual penalty	28
	2.4	Substantial completion versus performance	29
	2.5	Binding nature of adjudication awards	31
	2.6	Limitation of liability	31

	2.7	Lapse of claim due to its late notification (time bars)	32
	2.8	Allocation of unforeseeable and uncontrollable risk to the	
		contractor	32
	2.9	Contract administration (The Engineer's neutrality and duty to	
		certify)	42
	2.10	Termination in convenience	43
		Vignette: Is an employer in breach of contract prevented from	
		terminating the contract for its convenience? by Cecilia Misu	
		(Germany)	44
	2.11	Time-related issues	45
		Quantification of claims	46
	2.13	Statutory defects liability	47
	2.14	Performance responsibility: reasonable skill and care versus	
		fitness for purpose	47
	2.15	Common law, civil law and Sharia interconnections	48
	Refer	ences	49
	Furth	er reading	49
	Webs	ences er reading ite mon Delivery Methods	50
3	Com	mon Delivery Methods	51
	3.1	Common delivery methods: Main features	51
	3.2	General contracting	53
	3.3	Design-build	54
	3.4	Construction management	58
	3.5	Multiple-prime contracts	60
	3.6	Partnering	60
	3.7	Alliancing	61
	3.8	Extended dervery methods (PPP, BOT, DBO)	62
	3.9	Further aspects of delivery methods	62
	Refer	ences	65
	Further recaing		65
4		fics of EPC and EPCM	66
4	4.1	EPC and EPCM	66
	4.1		66
	4.2 4.3	Engineer procure construct (EPC) Bespoke EPC contracts	69
		Turnkey EPC contracts	70
	4.4	•	70
		Vignette: Water treatment, wind farm and road construction	
		projects in Asian and African countries by Stéphane Giraud	71
	4 5	(France)	71
	4.5	Front end engineering design	72
		<i>Vignette: Key issues in the procurement of international</i>	72
	1.0	hydropower construction contracts by Alex Blomfield (UK)	73
	4.6	Engineer procure construction management (EPCM)	77
		Vignette: The use of the EPCM delivery method in the mining	=0
		industry by Mark Berry (UK) and Matthew Hardwick (UK)	79

	Contents	vii
	4.7 EPC versus EPCM	85
	Reference	86
	Further reading	87
5	Unification and Standardization in International Construction	88
	5.1 Unification of contracts	88
	5.2 Unification per law, principles and sample documents	88
	5.3 Lenders and their influence on unification	90
	5.4 Standard form of contract in a governing law context	92
	5.5 Purpose of sample documents in construction projects	93
	5.6 Standard sample forms as a source of law	94
	5.7 Lex causae	95
	5.8 Interpretation	96
	5.9 Trade usage and business custom	97
	Vignette: A common law of construction contracts – or vive la	
	différence? by Donald Charrett (Australia)	98
	5.10 <i>Lex constructionis</i> principles	100
	5.11 The use of <i>lex constructionis</i>	102
	Vignette: Future-proofing construction contracts by	
	Shy Jackson (UK)	102
	References	105
	Further reading	105
	Websites	105
6	Shy Jackson (UK) References Further reading Websites Price	106
	6.1 Contract price	106
	6.2 Bid pricing methods	107
	6.3 Methods of contract price determination	109
	6.4 Re-measurement	109
	6.5 The lump sum	112
	6.6 Cost plus	112
	67 Guaranteed maximum price	113
	6.8 Target price	113
	6.9 Payment	114
	<i>Vignette: Taxation in international construction contracts by Alex</i>	
	Blomfield (UK)	115
	6.10 Contract price under FIDIC forms	117
	6.11 Cost overruns	119
	6.12 Abnormally low tender (ALT)	120
	6.13 Claims as part of contract price	120
	6.14 Public procurement law limitations	121
		122
	Vignette: A concept of variation in a construction contract under	100
	Polish public procurement by Michał Skorupski (Poland)	123
	References	126
	Further reading	126
	Websites	127

viii (Contents
--------	----------

7	Time		128
/	7.1	Time in construction	128
	7.2	Delay	120
	7.3	The United Kingdom Society of Construction Law Delay and	120
	7.5	Disruption Protocol	130
	7.4	Time programme	130
	7.5	Ownership of floats	133
	7.5	Vignette: Time extension and float ownership under the FIDIC	100
		Red and Yellow Books (1999 editions) (BAMCO FDTEA final	
		argument) by Frank Thomas (France)	133
	7.6	Time at large and Extension of Time (EOT)	146
	7.7	Concurrent delay	148
		Vignette: Delay clauses in different jurisdictions by Jacob C.	110
		Jørgensen (Denmark)	149
	7.8	Disruption	150
	7.9	Time for completion under FIDIC forms	151
	7.10	Time programme under FIDIC forms	152
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<i>Vignette: A lack of realism in negotiations by James Bremen (UK)</i>	154
	7.11	Delay and suspension under FIDIC forms	154
	7.12	Contract termination under FIDIC torms	158
	Refer	C-V	160
			160
0			1.01
8	Varia		161
	8.1 8.2	Variation clauses Variations under FIDIC forms	161 163
	8.2 8.3	Claims related to variations	165 164
	8.4	Acceleration	164 166
	0.4	<i>Vignette: The US approach to constructive acceleration by Robert</i>	100
		A. Rusin and Sarah Biser (the USA)	170
	8.5	Proving the acceleration claim	170
	8.6	Substantial change	173
	0.0	Vignette: Modification of contracts during their execution under	1/4
		EU law by Odysseas P. Michaelides (Cyprus)	176
	Refer		180
		er reading	180
	Webs		180
9	Clain		181
	9.1	Claims	181
		<i>Vignette: Claims caused by deficiencies in tender documents by</i>	
		James Bremen (UK)	184
	9.2	Contractor's claims under FIDIC forms	185
	9.3	Employer's claims under FIDIC forms	186
		<i>Vignette: Claims in the St Petersburg flood protection barrier</i>	
	o .	construction by Aleksei Kuzmin (Russia)	186
	9.4	Lapse of claim	189
	9.5	Cause of the claim	191

 \oplus

		Contents	ix
	9.6	Limits of the lapse of claim	191
		Vignette: Construction claims in the UK by Garry Kitt (UK)	193
		<i>Vignette: Condition precedent and time-barred claims under</i>	100
		Polish Law by Michał Skorupski (Poland)	196
		<i>Vignette: Australian position on time bars by Andrew P. Downie</i>	107
	Dofor	(Australia) rences	197 204
		her reading	204
10		n Management	205
	10.1	Claim management	205
	10.2		206
	10.3		208
	10.4		
		provisions of the contract	209
		Vignette: Considerations related to site overhead claims by Gary	
		Kitt (UK)	210
	10.5	Claims resulting from governing law	220
	10.6	Global claims	220
		Vignette: All global claims are not negatively 'global'! by Frank	
		Thomas (France)	223
	10.7	Contractor's claim management under FIDIC forms	224
	10.8	Employer's claim management under FIDIC forms	227
	10.9	Intercultural aspects	228
		Vignette: Cultural considerations in Southeast Asia by Salvador P.	
		Castro, Jr. (The Philippines)	228
		Vignette: 'Claim' as perceived in the Polish civil law environment	
		by Micnał Skorupski (Poland)	230
	10.10	Claim management implementation	231
		Wignette: Claims in a tunnel construction in the Republic of Serbia	
	V.	by Radim Wrana (the Czech Republic)	232
	Refer	rences	234
	Furth	ner reading	234
11	Cons	struction Dispute Boards	235
	11.1	Construction disputes	235
		Vignette: Construction dispute in sheet metal galvanizing line	
		project by Patrick Kain (South Africa)	235
	11.2	Dispute boards	237
		Vignette: Project dispute avoidance by Christopher J. Mather	
		(the USA)	238
		Vignette: The use of dispute boards in the Middle East and North	
		Africa by Andy Hewitt (United Arab Emirates)	245
	11.3	Contractual adjudication: The use of DAB in FIDIC forms	246
	11.4	Enforcement of dispute board decisions	249
	11.5	Statutory adjudication	254
		Vignette: Statutory adjudication by Nigel Grout (UK)	254

 \oplus

 \oplus

Æ

x Contents

 \oplus

		Vignette: Settling construction disputes in Hungary by Tamás Balázs (Hungary) Vignette: Statutory adjudication in Australia by Donald Charrett	256
	Refer	and Andrew Downie (Australia)	258 264
		er reading	264 265
		C C	
12	FIDI	-	266
	12.1	FIDIC expansion	266
	12.2	FIDIC	266
	12.3	FIDIC's influence on the construction industry FIDIC membership	267 267
		Networking activities	267
	12.5	Vignette: The use of FIDIC forms in Southeast Asia by Salvador P.	200
		<i>Castro, Jr. (The Philippines)</i>	270
		Vignette: The use of FIDIC forms in Russia by Dmitry	270
		Nekrestyanov (Russia)	271
		Vignette: The use of FIDIC forms in Brazil by kafael Marinangelo	2/1
		(Brazil)	272
	12.6	FIDIC forms of contract	272
	12.0	The structure of the contract under FIDIC forms	274
	12.8	Conditions of Contract for Concuration (CONS) – 1999 Red	-, -
		Book	277
		Vignette: Misapplications of FIDIC contracts in the United Arab	
		Emirates by Kamal Adnon Malas (United Arab Emirates)	278
	12.9	Conditions of Contract for Plant and Design-Build (P&DB) -	
		1999 Yellow Book	283
	12.10	Conditions of Contract for EPC/Turnkey Projects (EPC) – 1999	
		Silver Book	284
	12.11	Short Form of Contract – Green Book	285
	12.12	Construction Subcontract	285
	12.13	Conditions of Contract for Design, Build and Operate (DBO) –	
		Gold Book	286
	12.14	Other FIDIC standard forms	289
		Vignette: Use of FIDIC contracts by the mining industry in Africa	
		by Coenraad Snyman (South Africa)	289
	12.15	Risk allocation under FIDIC forms	291
		Vignette: China's Standard form of construction contract in	
		comparison with FIDIC forms by Shuibo Zhang (China)	294
		Vignette: Explanation of FIDIC EPC risk allocation by FIDIC	299
	12.16	Design responsibility under FIDIC forms	301
	Refere		303
	Furth	er reading	303
13	Other	r Standard Forms of Construction Contracts: NEC, ICC,	
	ENN	A, IChemE, Orgalime, AIA, VOB	305
	13.1	Common standard forms of construction contracts	305
	13.2	The NEC (New Engineering Contract)	305

 \oplus

4

Contents xi

Æ

13.3	FIDIC forms versus NEC3	310
13.4	ICC forms of contract	313
13.5	ENAA forms of contract	314
13.6	IChemE forms of contract	314
13.7	Orgalime forms of contract	315
13.8	AIA forms of contract: US standard	316
13.9	VOB: German standard	318
13.10	Invalid clauses in German case law	324
	Vignette: The standard forms of construction contract in Australia	
	by John Sharkey (Australia)	325
Refere	ences	328
Furth	er reading	328
Websi	tes	329
Risk a	and Insurance	330
14.1	Insurance in construction	330
14.2	Commercial risk, risk of damage and exceptional risk	331
	Vignette: Weather risk in offshore wind construction contracts by	
	Alex Blomfield (UK)	334
14.3	Risk management in the standard forms of contract	337
14.4	Hazards and risks in construction projects	339
14.5	Insurance requirements in standard forms of contract	342
	Vignette: Insurance in hydroenergy projects by Alex Blomfield	
	(UK)	345
14.6	Practical aspects of insurance in construction projects	346
	Vignette: Incompatibility of the construction contract with the	
		348
14.7	International insurance law and insurance standards in the	
	construction industry	349
	- /	352
· · · · · ·	•	352
Websi	te	353
Risk i	n Underground Construction	354
15.1	Underground construction hazards and risks	354
15.2	Code of practice for risk management of tunnel works	355
15.3	Alternatives of unforeseeable physical conditions risk allocation	356
15.4	Unforeseeability	357
15.5	'Unforeseeability' according to FIDIC forms	358
15.6	Site data	359
	Vignette: Water-related construction projects by Robert Werth	
	(Germany)	361
15.7	Sufficiency of the accepted contract amount	364
15.8	Unforeseeable physical conditions	364
15.9	Unforeseeable operation of the forces of nature	366
	Vignette: Clairvoyance: A contractor's duty? by Gustavo Paredes	
	and Katherine Waidhofer (Peru)	366
	 13.5 13.6 13.7 13.8 13.9 13.10 Reference Further Websin Risk at 14.1 14.2 14.3 14.4 14.5 14.6 14.7 Reference Reference Risk at 15.5 15.6 15.7 15.8 	 13.4 ICC forms of contract 13.5 ENAA forms of contract 13.6 IChemE forms of contract 13.7 Orgalime forms of contract 13.8 AIA forms of contract: US standard 13.9 VOB: German standard 13.10 Invalid clauses in German case law Vignette: The standard forms of construction contract in Australia by John Sharkey (Australia) References Further reading Websites Risk and Insurance 14.1 Insurance in construction 14.2 Commercial risk, risk of damage and exceptional risk Vignette: Weather risk in offshore wind construction contracts by Alex Blomfield (UK) 14.3 Risk management in the stan ard forms of contract 14.4 Hazards and risks in construction projects 14.5 Insurance requirements in standard forms of contract Vignette: Insurance in kydroenergy projects by Alex Blomfield (UK) 14.6 Practical aspects of insurance in construction contract with the insurance contract by Karel Fabich (the Czech Republic) 14.7 International insurance law and insurance standards in the construction industry References Purcher reading Website References Purcher reading Website Diderground Construction 15.1 Underground construction hazards and risks 15.2 Code of practice for risk management of tunnel works 15.3 Alternatives of unforeseeable physical conditions risk allocation 15.4 Unforeseeability' according to FIDIC forms 15.5 'Unforeseeabile physical conditions 15.4 Unforeseeabile physical conditions 15.5 Unforeseeabile physical conditions 15.4 Unforeseeabile physi

 \oplus

 \oplus

xii Contents

 \oplus

	15 10	Force majeure	369	
		Release from performance under law	370	
	Refere	-	370	
			370	
	Websi	er reading	370 371	
	webs	lle	3/1	
16	Secur	ities	372	
	16.1	Securities in construction	372	
	16.2	Bank guarantees	373	
	16.3	Functions and parameters of bank guarantees	373	
	16.4	Specifics of Retention Guarantee	375	
		<i>Vignette: Performance security and termination payment security</i>		
		in hydroenergy projects by Alex Blomfield (UK)	377	
	16.5	Governing law	378	
		Vignette: Common law specifics related to securities by Rupert		
		Choat and Aidan Steensma (UK)	379	
	16.6	ICC rules related to securities Suretyship Stand-by letter of credit Securities under FIDIC forms	381	
	16.7	Suretyship	381	
	16.8	Stand-by letter of credit	382	
	16.9	Securities under FIDIC forms	383	
	Furth	er reading	384	
17		Engineering Works: Infrastructure Construction	207	
	Proje		386	
	17.1	Investments in developing countries	386	
	17.2	The approach to the risk allocation in the United States	387	
	17.3	The approach to the risk allocation in the United Kingdom	389	
		Vignette: Construction of airports by Patrick Kain (South Africa)	390	
	17.4	The approach to the risk allocation in Central and Eastern		
		Europe	392	
		Vignetic: The Romanian experience by Claudia Teodorescu		
		(Remania)	395	
	17.5	The Polish experience	399	
		<i>Vignette: FIDIC forms and contractual relationships in Poland by</i>		
		Aleksandra Marzec (Poland)	399	
		Vignette: Market environment prior to and after 2008 by Michał		
		Skorupski (Poland)	402	
		Vignette: Claims considerations by Aleksandra Marzec (Poland)	408	
		Vignette: Contractor defence measures by Michał Skorupski		
		(Poland)	412	
	17.6	The Czech experience	415	
		Vignette: Local limits for development: An interview with Shy		
		Jackson (UK) by Lukas Klee (the Czech Republic)	416 421	
	References			
		er reading	421	
	Websi	ites	422	

	Conter	nts xiii
10 B		100
	ilding Construction: Health Care Facilities	423
	.1 Health care facility construction project	423
	.2 Pre-design planning phase	423
	.3 Design phase	424
	4 Basic structure of a hospital	425
	.5 Efficiency and cost effectiveness	425
	.6 Flexibility and expandability	426
18	······································	426
18	8	426
	.9 Controlled circulation and accessibility	427
	.10 Aesthetics	427
	.11 Health and safety	428
	.12 Use of information technology	428
	.13 Relevant regulations and standards	428
18	.14 Health care facility construction project: Suitable delivery	
	method	429
Fı	rther reading	431
Appen	lix A: Interactive Exercises	433
A		433
A		434
A		436
A		v
	(lack of cooperation) inadequate on-site coordination and	
	improper, unclear and delayed instructions)	437
Appen	lix B: Sample Letters	441
В.	Contractor's sample letters: Notice of probable future event	442
В.	2 Contractor's sample letters: Notice of contractor's claims	443
В.	3 Contractor's sample letters: Contractor's claim	
	submission (quantification)	445
Е		
	arrangements	446
В.	5 Contractor's sample letters: Written confirmation of oral	
	instruction	447
B.	6 Contractor's sample letters: Notice of dissatisfaction with a	
	determination of the engineer	448
В.	6	to
	suspend work	449
B.	*	
21	the Sub-Clause 16.1	450
B.		100
<i>D</i> .	certificate	451
В	10 Employer's sample letters: Notice of employer's claim	452
B.		152
<i>D</i> .	financial arrangements	453
	· · · · · · · · · · · · · · · · · · ·	100

B.12	Engineer's sample letters: Engineer's determination	454
B.13		456
B.14		457
B.15	0 I 0	
	person employed on the site	458
B.16	Engineer's sample letters: Engineer's instruction – lack of	
	mobilisation	459
A mm an dim	C. Distignary of Construction Torms, Chinasa Crash English	
	C: Dictionary of Construction Terms: Chinese, Czech, English, ch, German, Hungarian, Polish, Portuguese, Russian, Spanish	461
C.1	Dictionary – General part	462
C.1 C.2	Dictionary – Contractor's claims	402 470
C.2 C.3	Dictionary – Contractors claims	470
0.5	Dictional y – Employer's clams	4/4
	D: Claim Management System under FIDIC Forms	478
D.1	Claim Management Team Responsibilities	478
D.2	Claim Management Processes	481
D.3	Table of Contractor's claims under FIDIC CONS	482
D.4	Table of Employer's claims under FIDIC CONS	482
Appendix	E: FIDIC Forms Risk Allocation Charts	484
E.1	Chart No.1: Basic risk allocation alternatives in connection with	
	unforeseeable physical conditions	484
E.2	Chart No. 2: Basic comparison of risk allocation (claims options)	
	in FIDIC CONS/1999 Red Book, P&DB/1999 Yellow Book and	
	EPC/1999 Silver Book	484
	F: Engineer's Determination Within the Ambit of the 1999	
	on of the FIDIC Contract Forms: A Case Study of Contractor's	407
	ns in Respect of Sand and Gravel Borrow Areas	487
,	nalil T. Hasan	
F.1	Proface	490
F.2	Introduction	490
F.3	Contractual provisions for a claim	491
F.4	Compliance with the contractual provisions	492
F.5	Consultations with the employer and the contractor	493
F.6	Contractor's original intent	507
F.7	Stage 2 – Contractor's tender submission	512
F.8	Conclusion in respect of contractor's original intent	512
F.9	Post contract award period	513
F.10	Contractor's reasons for refusal to exploit the river bed borrow	
	areas	516
F.11	Equipment required for exploitation of river bed borrow areas	518
F.12	Engineer's analysis of the foregoing circumstances and facts	520
F.13		523
	Additional costs and delays	525
F.14	Unjust enrichment of the contractor all at the expense of the	
	Unjust enrichment of the contractor all at the expense of the employer	525
F.14 F.15	Unjust enrichment of the contractor all at the expense of the	

 \oplus