

FIDIC Latin America Users' Conference

Lima, Peru
12 & 13 September 2017

Sebastian Hök, PHD (University Göttingen)

FIDIC accredited trainer (fully accredited)
FIDIC assessed and listed Adjudicator
FIDIC Legal Advisor



International Federation of Consulting Engineers



Dr. Hök



- has been involved in a variety of EPC projects, for instance in Chile, Trinidad & Tobago
- has been appointed as the DAB on various projects worldwide, including Armenia, Mexico, Morocco,
- speaks French, English and German
- is a fully accredited FIDIC trainer
- is a FIDIC listed Adjudicator
- has served as mediator under FIDIC White Book Agreements
- is an experienced arbitrator
- is a court expert
- is a FIDIC legal adviser (ODB TG, Subcontract D&B) and the former Chair of the FIDIC Trainer Assessment Panel (2011-2016)
- is a lecturer at Berlin University of Applied Science / Leuphana University



AGENDA

- What projects / circumstances favour a Silver Book approach
- The Silver Book Risk Allocation
- Claims or No Claims using the Silver Book: Is it really a “Fixed Price” Contract?
- Employer's Pitfalls when using a Silver Book
- Contractor's perspective and case study



Silver Book 1999

the FIDIC turn-key form of contract



International Federation of Consulting Engineers

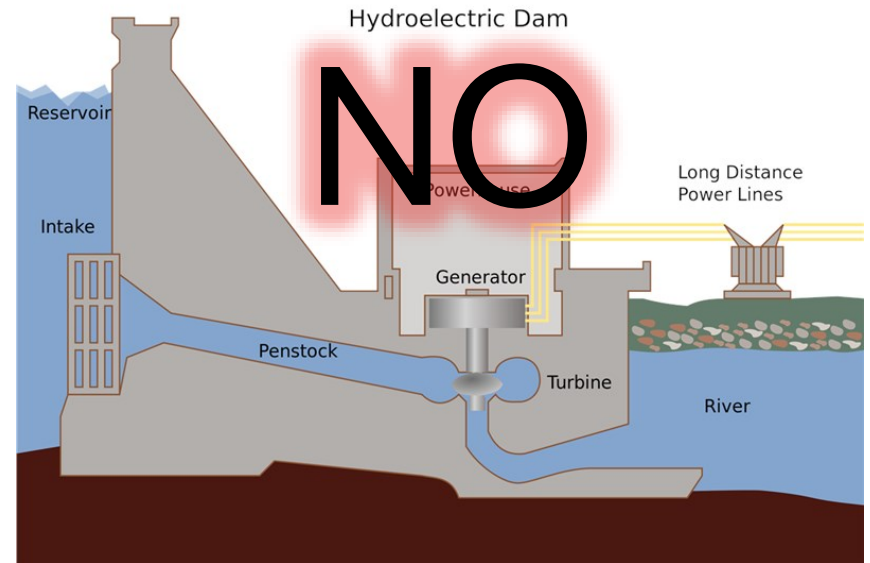
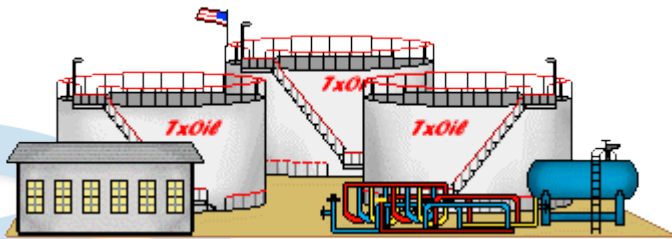
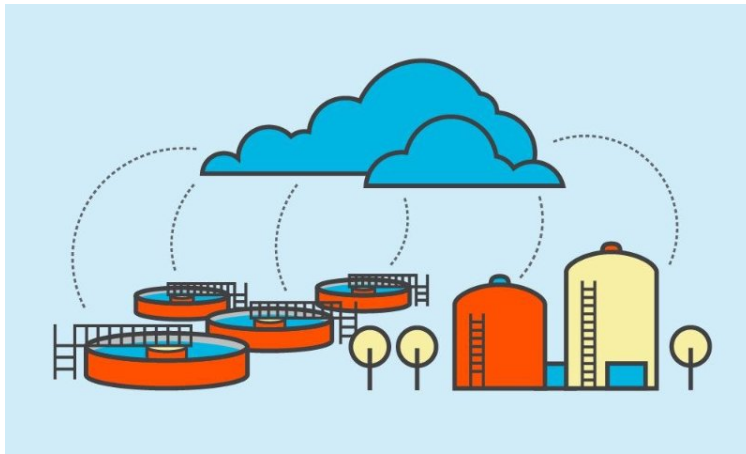
Lima, Peru
12 & 13 September 2017

Some Basics

- Basic assumptions
 - Single responsibility contract
 - Negotiated Design interface
 - No international competitive bidding
 - One-sided risk allocation
 - Not suitable for projects where there is major unforeseeable risk
 - Turnkey
 - Package deal contract
 - US = Turnkey
 - UK = EPC
 - Single Responsibility
 - → no coordination responsibility by Employer
- Lump sum price



What Projects



Examples:

- (1) Was held to be a turnkey contract a contract for (Alstom Ltd v. Yokogawa Australia Pty Ltd & ANOR (No 7) [2012] SASC 49)
 - ... the design, construction and commissioning of the whole of the Refurbished Facility, including:
 - (a) the provision of the Services and Materials and Equipment and the furnishing of Construction Aids as required of Contractor in order to design, construct, procure, erect, start up, commission, test and place in operation a complete Refurbished Facility as defined in the Schedules, and as otherwise required to meet the Performance Guarantees;
 - (b) all items of supply and services required or that can be reasonably inferred from this Contract even though not expressly stated, to deliver to Owner a completed and fully operational Refurbished Facility in accordance with this Contract;
 - (c) all other things which must be done by Contractor under this Contract to achieve Final Completion; and
 - (d) the Warranty Obligations;
 - each in accordance with the terms of this Contract.
- (2) Was held to be a turnkey contract a contract for (Cour de Cassation (France), Chambre mixte, 17 mai 2013, 11-22.768)
 - cabling, supply of material and website, update of content, implementation of software



Other Examples:

- (3) Mining Chemical Industry Holding Corporation Ltd (MICCO) has awarded a Consortium consisting of ThyssenKrupp Uhde, Toyo-Thai Corporation Public Company Ltd., Toyo-Vietnam Corporation Ltd. and Lilama 69-1 Joint Stock Company, a contract for the construction of a low density ammonium nitrate (LDAN) plant in the Thai Binh province in Vietnam on lump sum turnkey basis
- (4) Mong Duong Thermal Power Plant Project. Contract for Engineering, Procurement, Construction (EPC) Package (Turnkey): Design, Manufacture, Supply, Delivery, Construction, Erection, Commissioning and Testing of Equipment, Structures and Facilities for 2 x 500MW Mong Duong Thermal Power Plant No.1.



Other Examples:

- (5) Doosan Heavy Industries & Construction President & CEO, Geewon Park, has signed an Engineering, Procurement and Construction (EPC) contract with AES-VCM Mong Duong Power Company Limited (AES-VCM) for the Mong Duong II Thermal Power Plant in Vietnam
- (6) Doosan Heavy Industries & Construction and AES-VCM signed a lump sum turnkey EPC contract for approximately US\$1.3 billion for a 2x620 MW thermal power plant
- (7) Turnkey/EPC Contract Administration For Chemical & Fertilizer Project

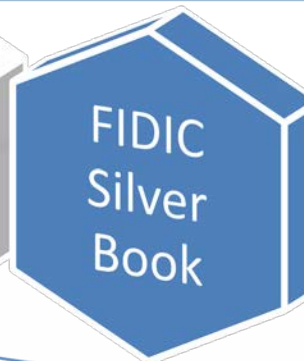


Risk Allocation



D & B

- with EPC Option
- means



Unbalanced

E

- Engineer(ing)

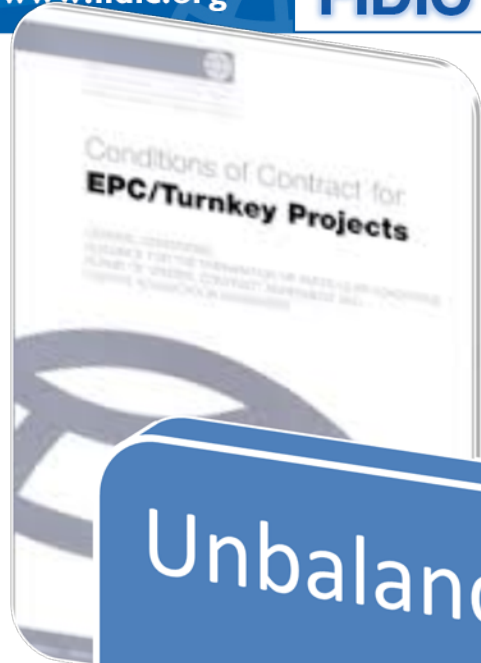
P

- Procure

C

- Construct



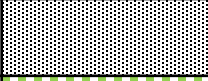




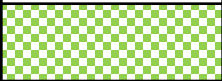
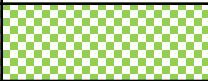

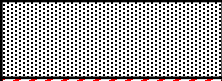
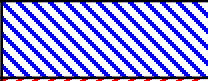
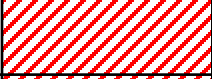
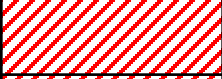
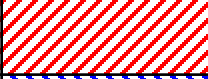
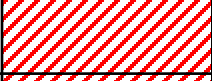
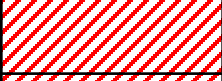
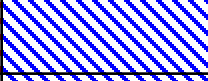
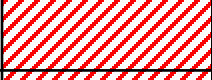





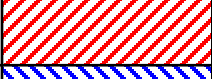
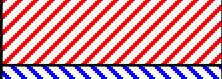
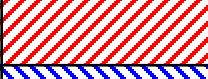
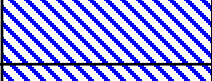
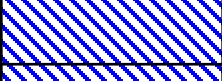
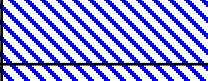







Unbalanced Risk Allocation =

- Errors in the ER
- Subsoil Conditions
- Weather conditions
- Less claims



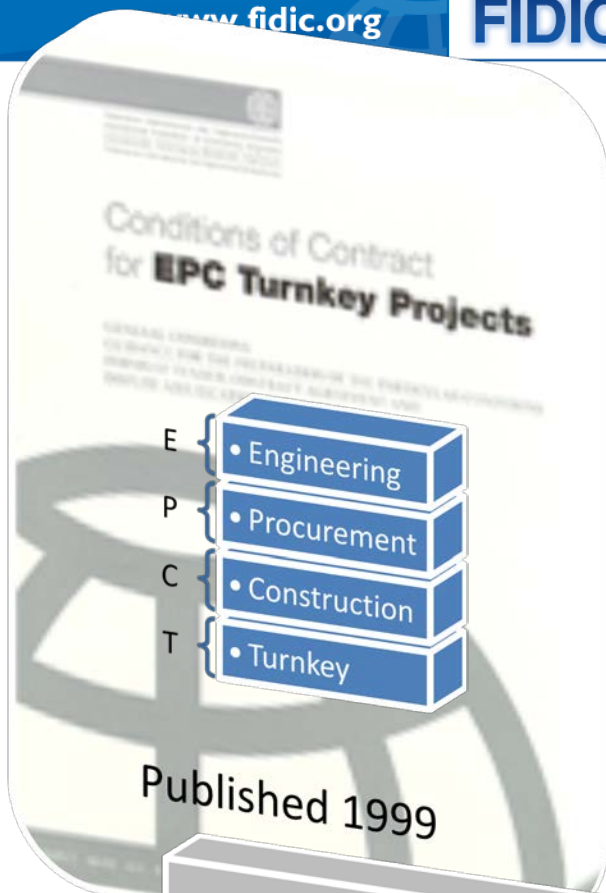
	Employer 's Risk			
	Contractor 's Risk			
	Shared risks			
	Not addressed			
Clause	Risk	CONS [Red]	P&DB [Yellow]	EPCT [Silver]
1.9	Delayed drawings or instructions			
1.9	Errors in the Employer 's Requirements			
2.1	Right of access to the Site			
4.7	Setting out			
4.12	Commercial Unforeseeable phys. conditions			
4.24	Fossils			
7.4	Testing delays by Employer			
7.5	Rejection of defective materials			
7.6	Remedial work			



Clause	Risk	CONS [Red]	P&DB [Yellow]	EPCT [Silver]
8.4(a)	Extension of Time for Completion – Variation			
8.4(b)	Extension of Time for Completion – any delay giving entitlement to an EOT			
8.4(c)	Exceptionally adverse climatic conditions			
8.4(d)	Unforeseeable shortages and the availability of personnel or Goods caused by epidemic or government actions			
8.4(e)	Delay, impediment or prevention caused by the Employer its personnel or other contractors			
8.5	Delay caused by Authorities			
8.6	Commercial risk of Rate of progress			
8.9	Consequences of Suspension (unless there is a reason)			
9.4	Failure to pass Tests on Completion			
11.1/11.2	Remediation of defects			
11.4	Failure to remedy Defects			
12.1/14.1	Increased quantities during construction			

Clause	Risk	CONS [Red]	P&DB [Yellow]	EPCT [Silver]
12.4	Omission of work through a Variation	Red diagonal lines	Red diagonal lines	Red diagonal lines
12.4	Failure to pass tests after Completion	White	Blue diagonal lines	Blue diagonal lines
13.3	Variation procedure (price adjustment)	Red diagonal lines	Red diagonal lines	Red diagonal lines
13.7	Changes in legislation	Grey dotted	Grey dotted	Grey dotted
13.8	Changes in cost	Red diagonal lines	Red diagonal lines	Blue diagonal lines
14.8	Delayed payment	Red diagonal lines	Red diagonal lines	Red diagonal lines
15.4	Payment after Termination	Blue diagonal lines	Blue diagonal lines	Blue diagonal lines
17.1	Indemnities	Grey dotted	Grey dotted	Grey dotted
17.2	Care of the Works prior to the Taking Over Certificate	Blue diagonal lines	Blue diagonal lines	Blue diagonal lines
17.4	Consequences of Employer 's Risks	Red diagonal lines	Red diagonal lines	Red diagonal lines
19.4	Consequences of Force Majeure	Grey dotted	Grey dotted	Grey dotted





- E • Engineering
- P • Procurement
- C • Construction
- T • Turnkey

Published 1999

Less Claims

- 1.9
- 4.12
- 8.4 (in terms of weather and shortcomings)
- 10.2
- 17.4/17.3 (f) – (h) deleted

Less Claims

Means that the Contractor shall make allowance for additional contingencies

Means that Contractor's time risk increases

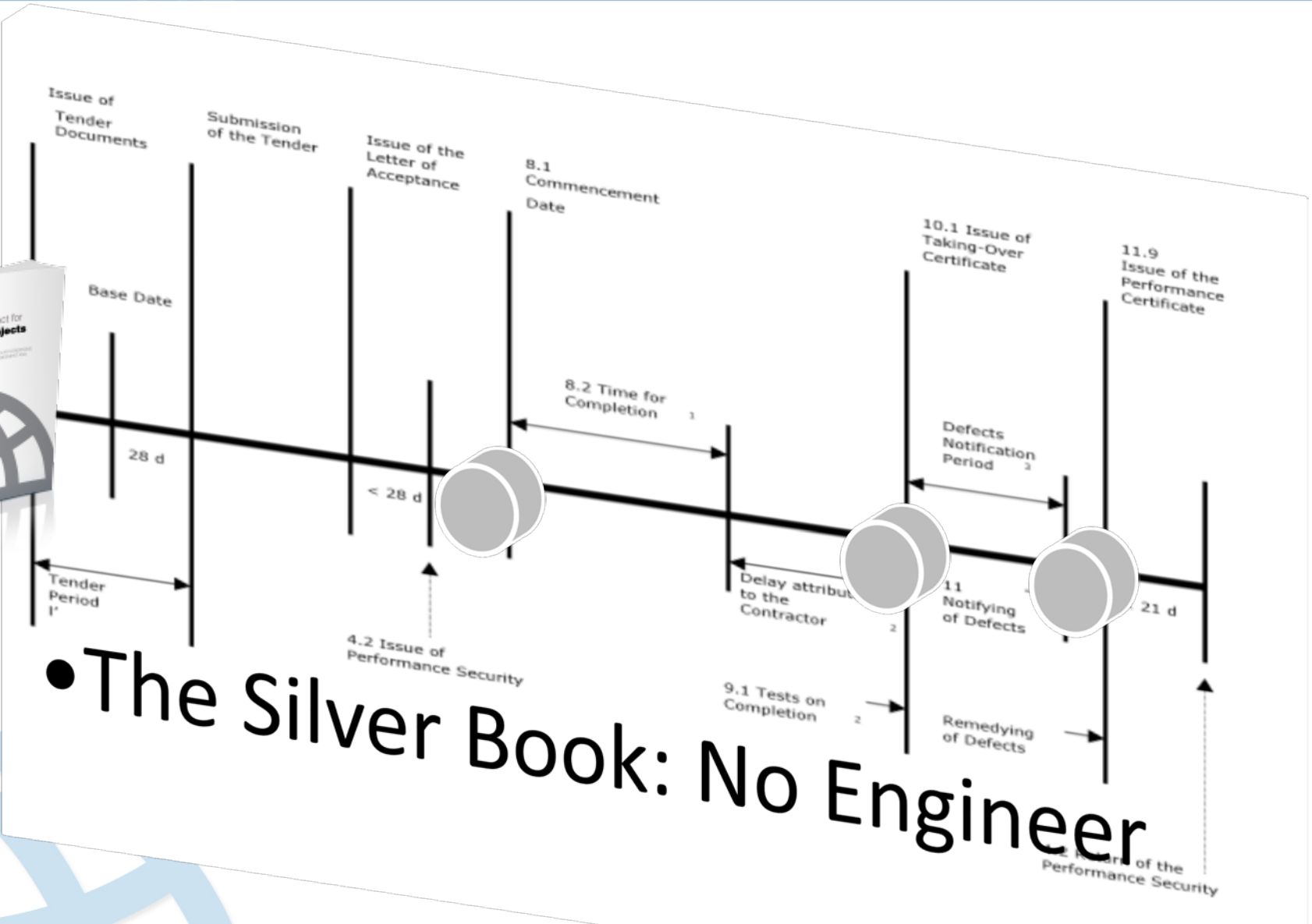
Means that the Contract Price has **almost** the nature of a **fixed price**

Unbalanced



Overview





• The Silver Book: No Engineer



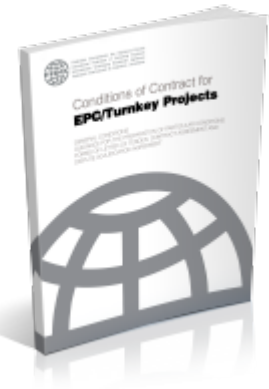
Under the SILVER BOOK 1999:

Conditions of Contract for EPC/Turnkey Projects - 1st Ed. 1999

- the Contractor is responsible for all the **Engineering, Procurement and Construction (EPC)** to provide a fully-equipped facility fit for purpose & ready for operation by the Employer (at the 'turn of the key') when completed
- the emphasis is on a [quasi] **fixed final price and time** as an alternative to the traditional forms
- detailed **design provided by Contractor** after contract award and the Contractor assumes the risk of any errors in the previously negotiated Employer's Requirements
- the Contractor is usually paid on the basis of a **schedule of payments**
 - usually, a number of lump sums corresponding to completion of **milestones** (pre-defined important stages of the work)
- there is **no Engineer**. There **should** be an **Employer's Representative**. There are no payment certificates, but determinations in accor. with S-C 3.5.
- **Dispute Adjudication Board (DAB)** decides disputes - 'ad-hoc', appointed when dispute arises



The SILVER BOOK 1999:



Under the usual arrangements for a project under the Silver Book:

- the Employer provides the finance for the project and appoints a consulting engineer to prepare **the Employer's Requirements (= performance specifications & definition of purpose)**
- the Employer wishes a **high degree of certainty** that the **agreed Contract Price and Time for Completion** will not be exceeded (**= less claims**)
- the Employer wishes the Project to be organised on a **strictly two party** approach, i.e., without an Engineer (or, in the case of a building project, without an architect being involved)
- the Employer does **not** wish to be involved in the day-to-day progress of the work, provided the end result meets the performance criteria he has specified in the **Employer's Requirements**;
- the Employer is **willing to pay more** for the construction of his project in return for the Contractor bearing the extra risks associated with enhanced certainty of final price and time.
- the Contractor usually enters into services or **subcontract agreements**, as appropriate, to carry out parts of the works.

=> Contractor's responsibility to design, execute and complete the Works so they are **fit for purpose** (the purpose defined in the Employer's Requirements).



International Federation of Consulting Engineers

Lima, Peru
12 & 13 September 2017

20

Conceptual Characteristics:



Two Stage – Two Envelopes Bidding (exceptionally) or Free Negotiation (basic assumption)

- Alternative Design is required – make use of innovative powers
- Full Scrutiny of Employer's Requirements prior Contract is a key to success and

Differences due to special Silver Book concept:

- *No Contractor's Proposal*
- *Full responsibility for errors in the Employer's Requirements*
- *Exceptions in Sub-Clause 5.1 (a) to (d)*



20 clauses in total – similar to YELLOW BOOK 1999, main exceptions:

Clause 1: General Provisions*

1.1 Definitions: no “Letter of Tender” or “Letter of Acceptance”; No “**Appendix to Tender**”; “**Employer’s Representative**” instead of “**Engineer**”; “Employer’s Requirements” (“ERs”) instead of “Specification”; “Performance Guarantees” and “Schedule of Payments” instead of “Bill of Quantities” and “Daywork Schedule”; new: “Tests after Completion”; no “Accepted Contract Amount”, no “Interim Payment Certificate” & “Final Payment Certificate”, “Schedules” or “Drawings”, “Unforeseeable”.

1.9 Confidentiality: details of Contract confidential by both Parties, except as necessary and under Laws. Employer’s prior agreement to any disclosure.

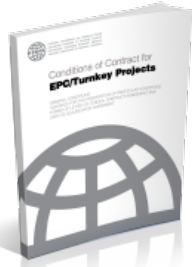
1.6 Contract Agreement: Contract comes into effect on date stated in Contract Agreement.

1.12 Confidential Details: Contractor not required to disclose to Employer any details in Tender that described confidential, all others as reasonably required to verify compliance.

Clause 3: The Employer’s Administration*

3.1 Employer’s Representative: **may** be appointed by Employer by notice to Contractor. Has full authority of Employer, unless notified otherwise – except termination under 15. Replacement on >14days notice.

3.4 Instructions: Employer/Employer’s Representative can give instructions as necessary for Contractor to perform his obligations.





Clause 3: The Employer's Administration (contd)*

3.5 Determinations: whenever required to make a determination under the Contract **the Employer** must consult with Contractor to try to reach agreement. If no agreement then make a **fair** determination - under the Contract + all relevant circumstances. Notice + particulars to Contractor. Contractor can give **notice of dissatisfaction** <14days, then dispute can be referred to DAB.

Clause 4: The Contractor*

- 4.1 Contractor's General Obligations: *similar to Yellow Book 1999 – however no Contractor's Proposal.*
- 4.2 Performance Security: to be provided by Contractor <28days after Contract Agreement.
- 4.5 Nominated Subcontractors: *similar to Yellow Book 1999.*
- 4.6 Co-operation: *similar to Yellow Book 1999.*
- 4.10 Site Data: Contractor to verify/interpret all data, Employer has **no** responsibility for accuracy/sufficiency/completeness, except under 5.1.
- 4.12 Unforeseeable Difficulties: Contractor deemed to have information on all risks/contingencies/circumstances and accepts "*total responsibility*" for having foreseen all difficulties/costs, no adjustment to Contract Price for any unforeseen difficulties/costs.



Clause 5: Design* - **similar to Yellow Book 1999, main differences:**

5.1 General Design Obligations: Contractor deemed to have scrutinised ERs prior to Base Date. Contractor responsible for accuracy of ERs. Employer has no responsibility and not deemed to have given any representation of accuracy/completeness. Any ERs/data/information provided by Employer has no effect on Contractor's responsibility to execute/complete Works. Except:- info/data stated in Contract as Employer's responsibility; definition of intended purposes of Works; testing/performance criteria; ERs/data/information that cannot be verified by Contractor.



Clause 8: Commencement, Delays and Suspension - **similar to Yellow Book – but less EOT claims**

Clause 9: Tests on Completion - **similar to Yellow Book**

Clause 10: Employer's Taking Over* - **main differences with Yellow Book 1999:**


10.2 No Taking Over of Parts of Works: unless in Contract or both Parties' agreement, no taking-over/use by Employer of parts of Works.

Clause 11: Defects Liability* - **main differences with Yellow Book 1999:**

11.9 Performance Certificate: to be issued by Employer <28days after expiry of latest DNP. If Employer fails to issue <28days, certificate deemed to have been issued 28 days after it should have been issued **and** 11.11, 14.14(a) will not apply.



Clause 12: Tests after Completion* - **similar to Yellow Book 1999, main differences:**



12.1 Procedure for Tests after Completion: by Employer after ToC; <14days after >21days notice by Employer; in presence of Employer's & Contractor's Personnel. Employer to provide all electricity/equipment/fuel/materials & make plant/Employer's Personnel available; Contractor to provide all other resources necessary. Contractor to compile/evaluate test results – detailed report to Employer.

Clause 13: Variations and Adjustments* - **similar to Yellow Book, main differences:**

13.8 Adjustment for Changes in Cost: to be calculated as per Particular Conditions - *no formula in General Conditions.*

Clause 14: Contract Price and Payment* - **similar to Yellow Book main differences:**

14.1 Contract Price: lump sum + adjustments under Contract. *No provisions that refer to quantities, no IPCs, etc. – but Employer may object invoice*

14.2 Advance Payment: no advance payment if all details not in Particular Conditions.

14.7 Timing of Payments: final payment due <42days after Employer receives Contractor's Final Statement + written discharge.



Clause 17: Risk and Responsibility* - *similar to Yellow Book 1999, main differences:*

17.3 Employer's Risks: *not included: use/occupation by Employer of Permanent Works; design by the Employer/Employer's Personnel; Unforeseeable forces of nature.*

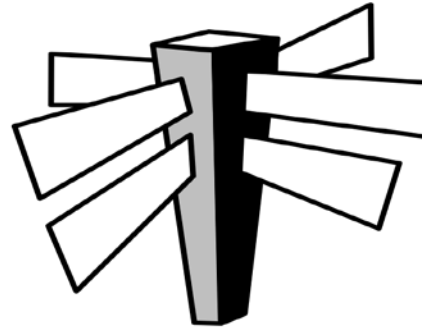
17.6 Limitation of Liability: = Contract Price, if no sum stated in Particular Conditions.

Clause 20: Claims, Disputes and Arbitration - *similar to Yellow Book*
- ad-hoc DAB **but** NOD in respect of determinations of the Employer's Representative





Yellow Book or Silver Book:

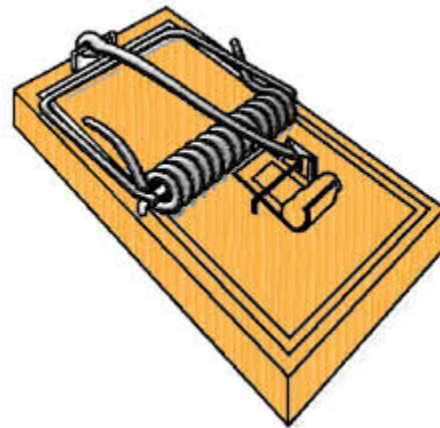


The Yellow Book is more suitable when:

- information and/or time are not sufficient during the tendering process to scrutinize the Employer's Requirements and Site conditions
- extensive underground work is involved
- the site is not available for inspection during the tendering process
- the Employer expects and wishes to be involved in day-to-day supervision of the Contractor's design and works on site
- the Employer requires an independent consulting engineer to be involved in determining payments to the Contractor
- detailed negotiations before contract award are not desirable
- any part of the works will be fully designed by the Employer
- the Employer does not wish to pay a premium for shifting most risks to the Contractor
- the Employer is ready to bear more responsibility and to exercise more control than required under the Silver Book



Employer's Pitfalls



Employer's Pitfalls

- Negotiated contract, not suitable for public procurement
- Underestimated value of clear definition of purpose
- Variations become extremely expensive
- FEED is necessary
- → No competition: alternate design must be allowed and assessable
- → All inclusive character must be insured by reference to purpose
- → Due to mark up for risk and profit
- → Skills required to indentify the big milestones and pillars



Conclusions

- FIDIC is going to have a new suite of contracts, 2017, including the update of the FIDIC Silver Book
- Despite all the prophecies of doom the FIDIC Silver Book has become an appreciated and reliable basis for EPC contracts
- FIDIC strongly believes in this product and promotes it as an alternative to normal procurement



Conclusions

- FIDIC is going to have a new suite of contracts, 2017, including the update of the FIDIC Silver Book
- **I kindly thank you for your attention**

