

# **Risk Management in FIDIC Contract**



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- Certified Training of Trainers (**TOT**) At Institute of Public Administration (ipa) in Contract & Project Management Fields.
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# Section 1

## Introduction to FIDIC Contracts



International Federation of  
Consulting Engineers (FIDIC)

# Introduction to FIDIC

Founded in 1913.

Encompassing most of the private practice consulting engineers.

Promotes and implements the consulting engineering industry's strategic goals.

Members endorse FIDIC's statutes and policy statements and comply with FIDIC's Code of Ethics.

Develops and promotes business practice: Business Integrity Management; Project Sustainability Management; Quality Management; Risk Management.

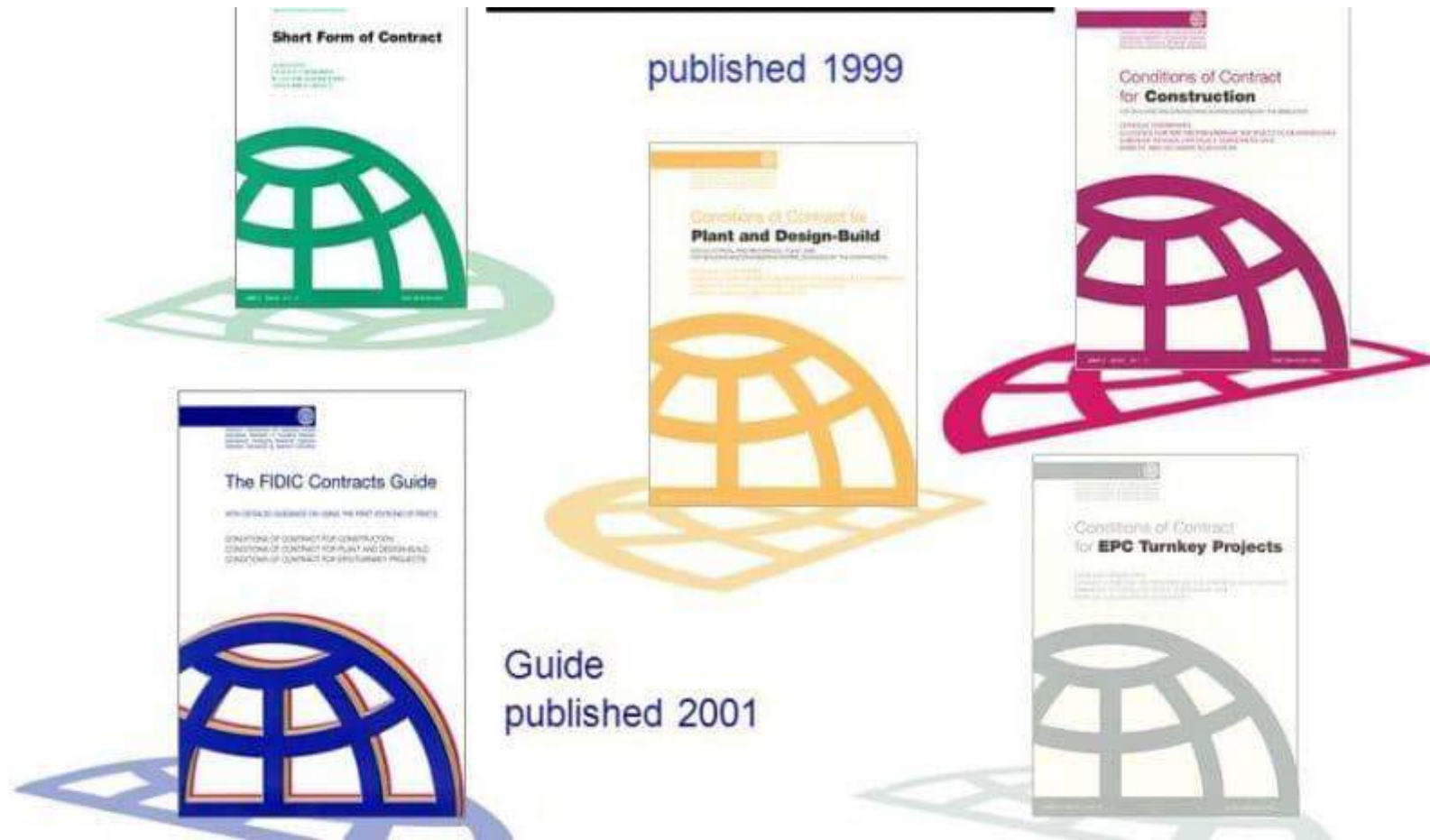
\* FIDIC follows the slogan

**“Quality , Integrity and Sustainability”**

\* and issued the so-called **behavioral rules** that must be followed & maintained in the engineering consulting work

**“Code Of Ethics”**

# FIDIC's New Suite of Contracts



# The FIDIC Rainbow

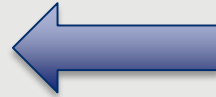




# “Red Book” “Conditions Of Contract For Construction”



First Edition 1999



Second Edition 2017



# “Yalow Book”

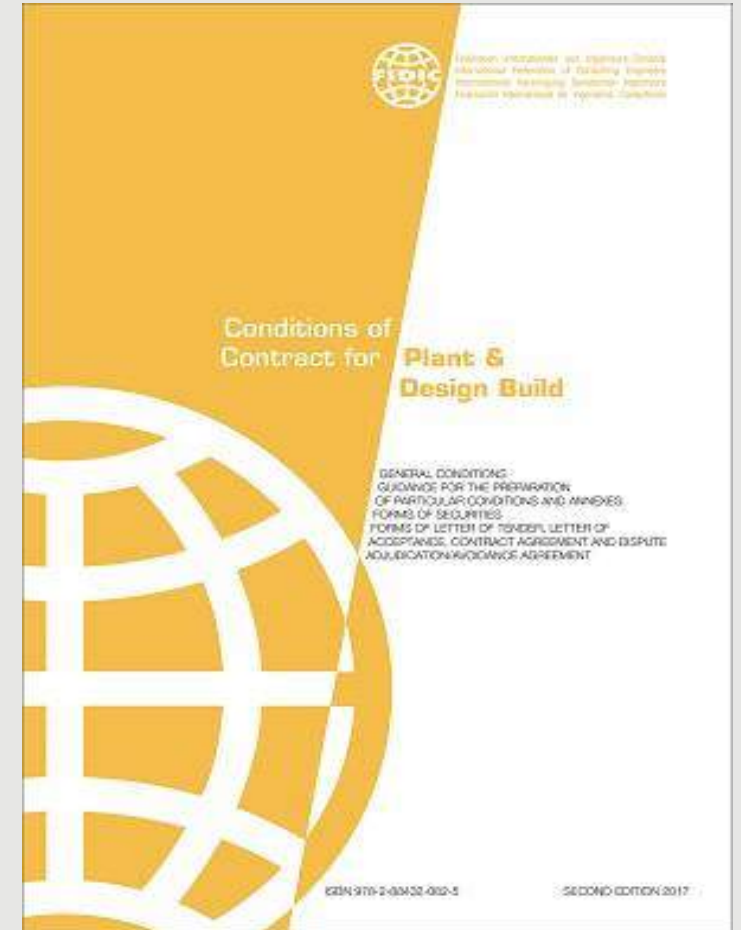
## “Conditions Of Contract For Plant And Design-Build”



First Edition 1999



Second Edition 2017



# “Silver Book”

## “Conditions of Contract for EPC/Turnkey Projects”



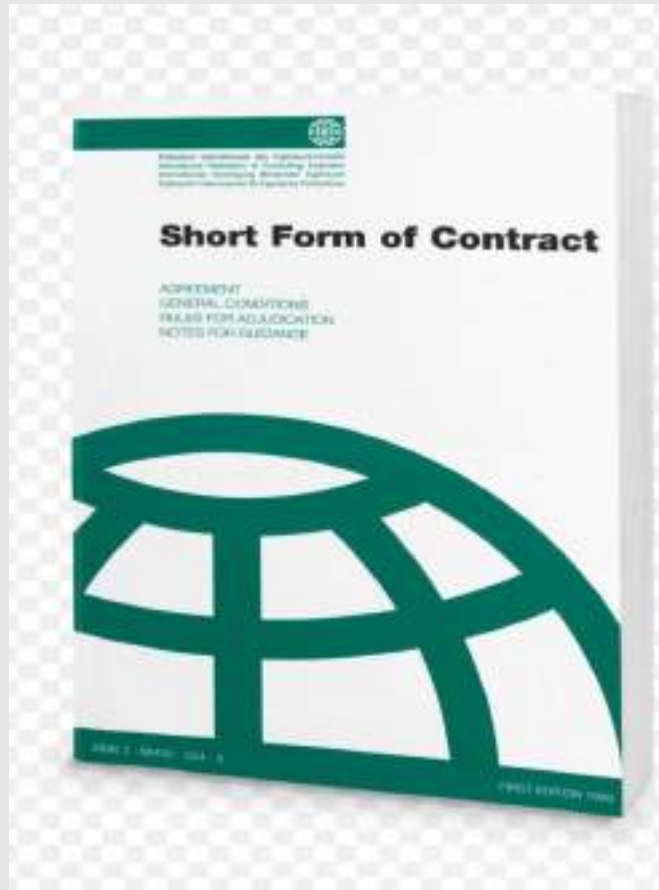
First Edition 1999



Second Edition 2017



# “Green Book” Short Form of Contract

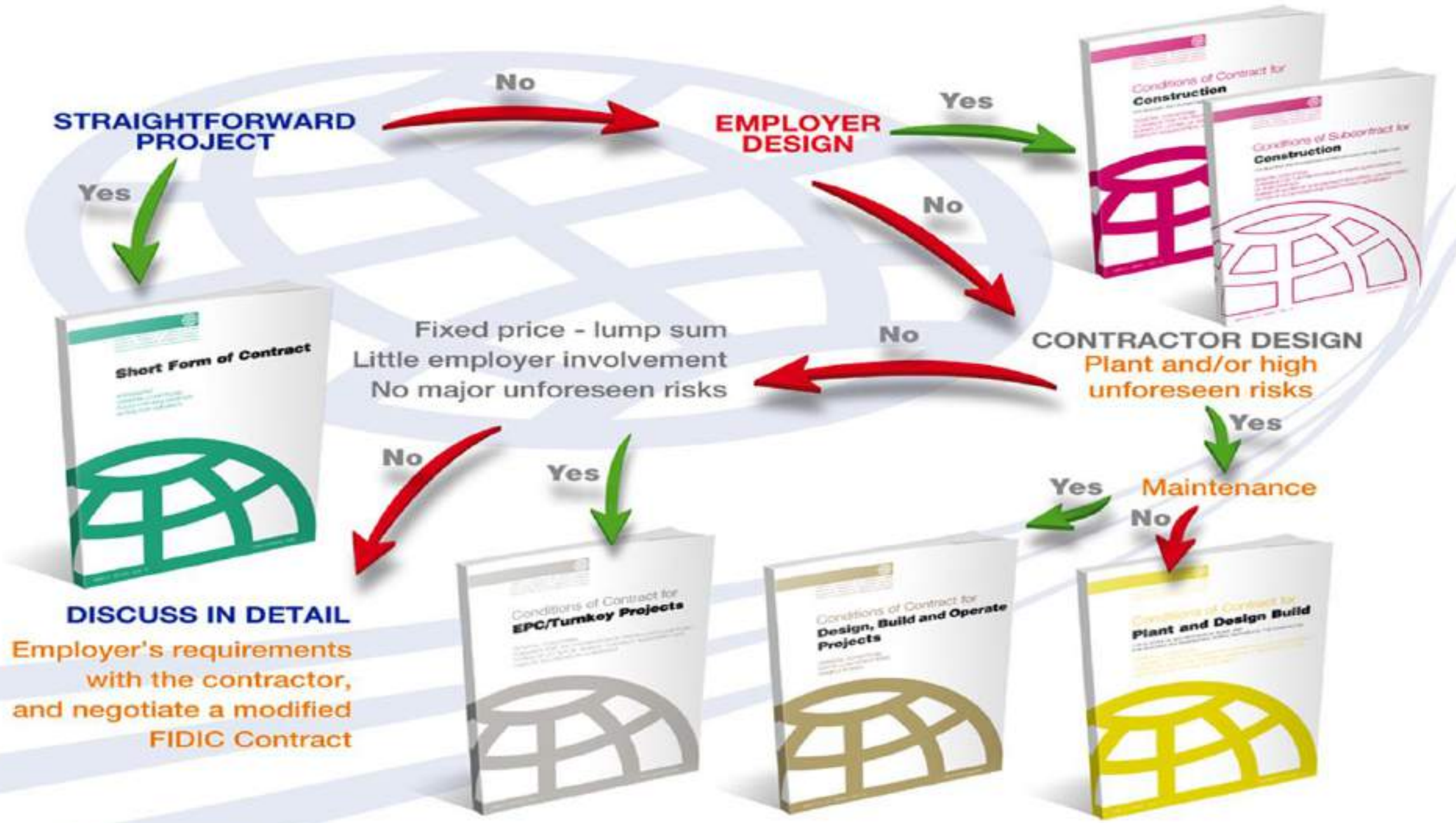


First Edition 1999



Second Edition 2021





**STRAIGHTFORWARD PROJECT**

**EMPLOYER DESIGN**

**CONTRACTOR DESIGN**  
Plant and/or high unforeseen risks



**DISCUSS IN DETAIL**  
Employer's requirements with the contractor, and negotiate a modified FIDIC Contract

Fixed price - lump sum  
Little employer involvement  
No major unforeseen risks

Yes

No

Yes

No

No

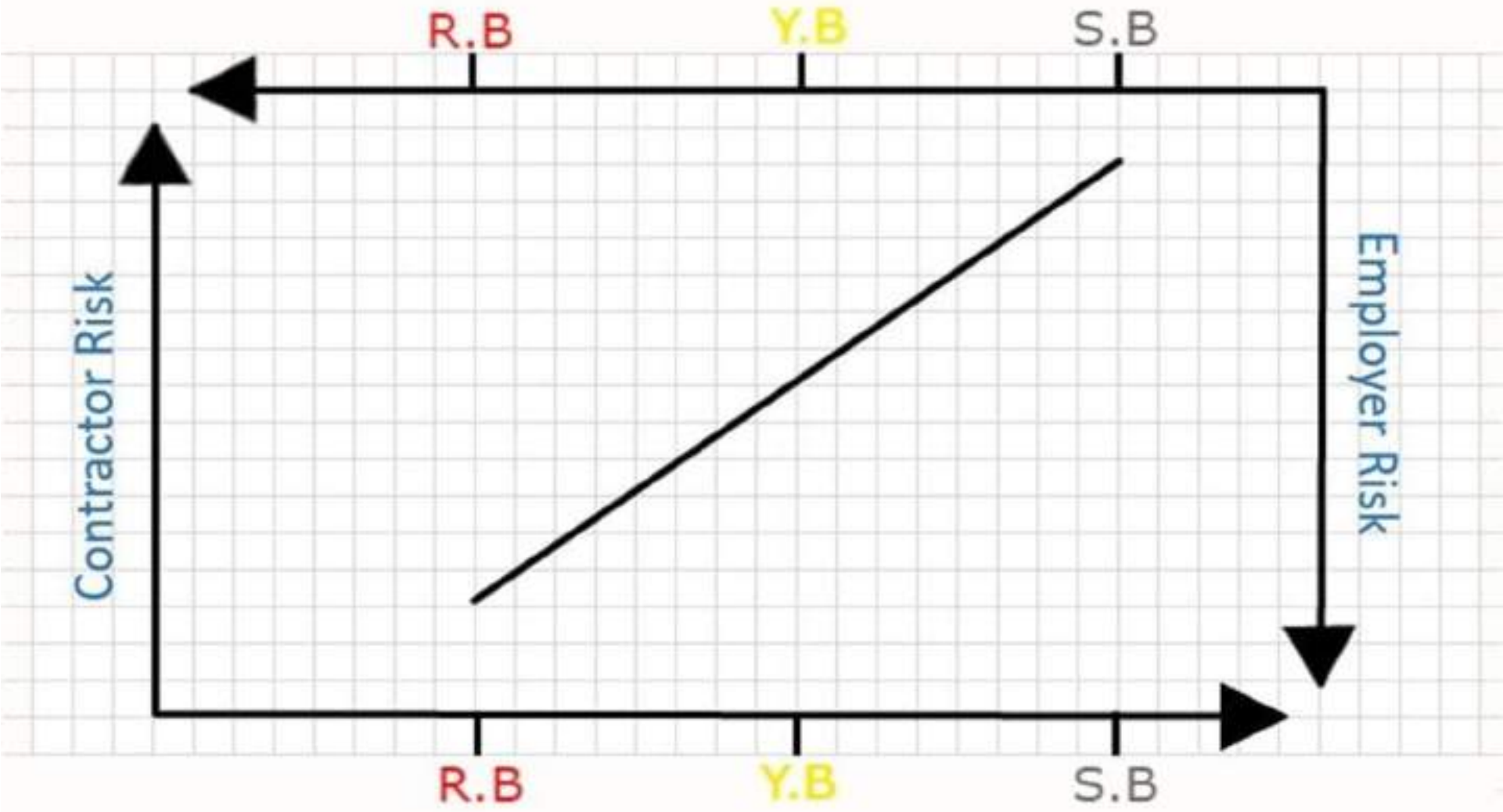
No

Yes

Yes

No

Maintenance





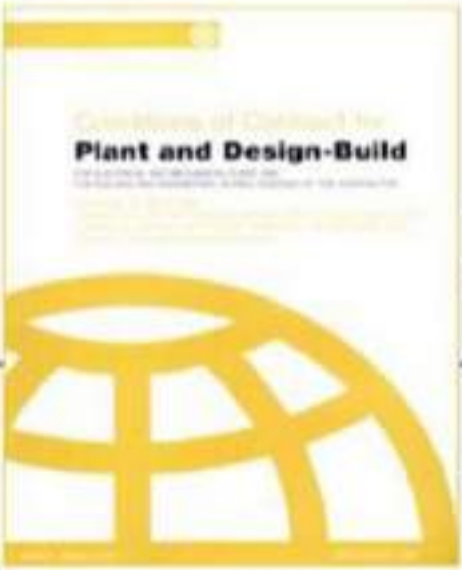
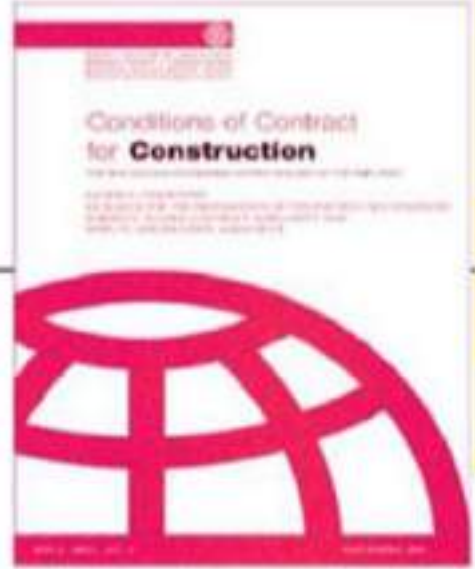
Risk analysis

Contractor's Risk

Employer's Risk

Contract Price

Employer's involvement in the design phase



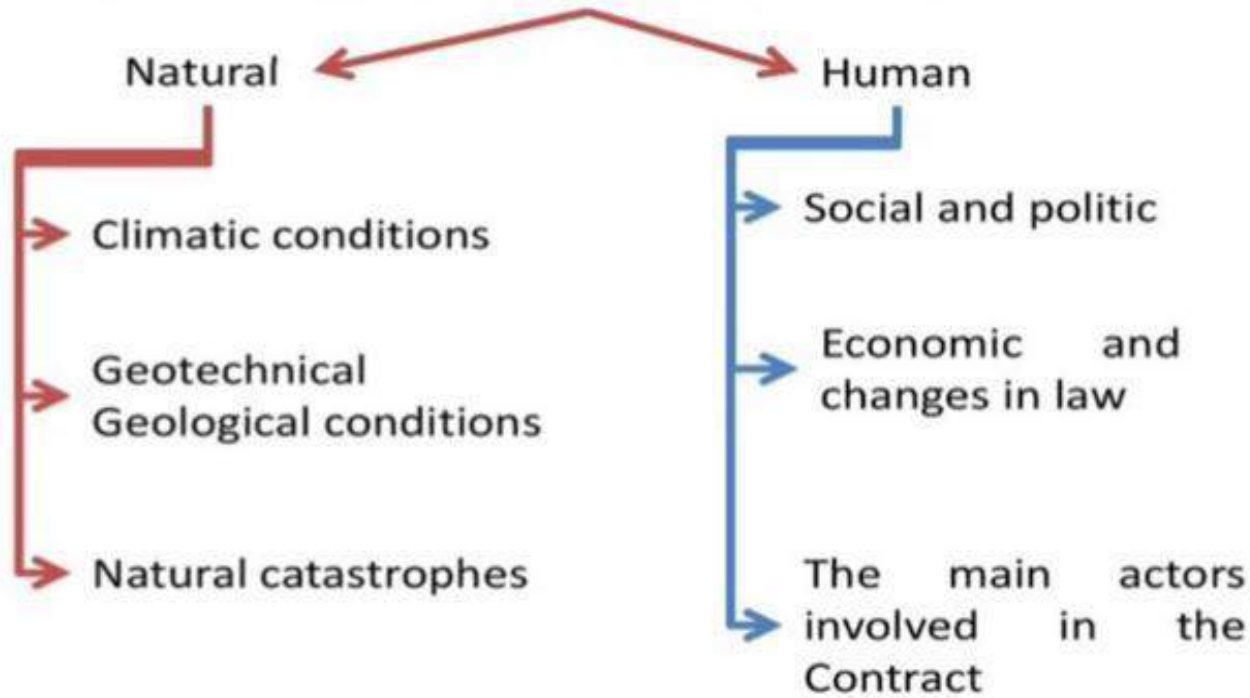
# Section 2

## Project Risks Types



# INHERENT PROJECT RISKS

Classification of risks based on the main 2 factors:



# INHERENT PROJECT RISKS

- Classification of risk based on the **main 2 factors**:

## ❖ **Natural**

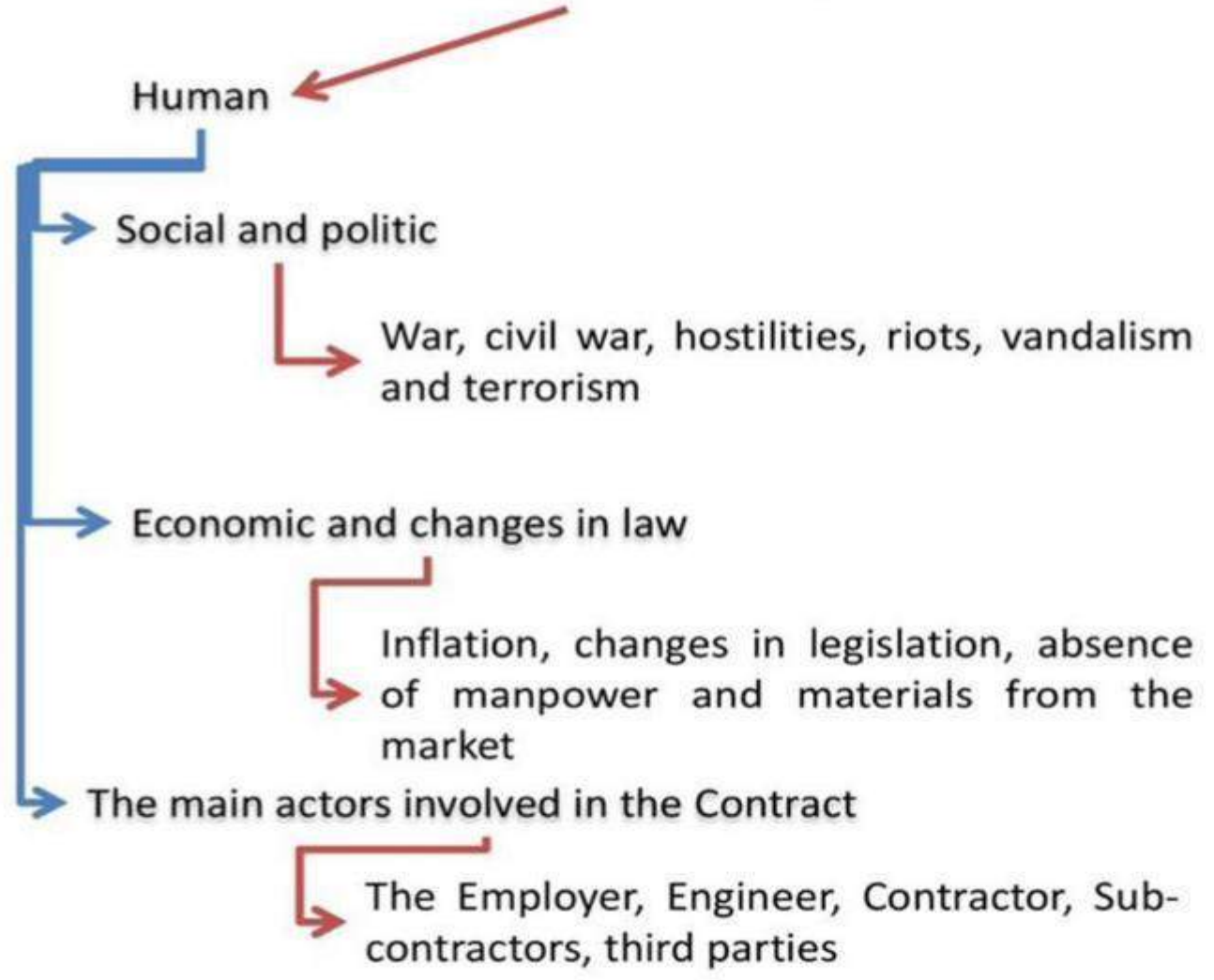
- Climatic conditions
- Geotechnical/ Geological conditions
- Natural catastrophes

## ❖ **Human**

- Social and politic
- Economic and changes in law
- The main actors involved in the Contract

# INHERENT PROJECT RISKS

Classification of risks based on the main 2 factors:



# INHERENT PROJECT RISKS

- Project implementation and human risk:

- ❖ **Human**

- Social and politic
  - War, civil war, hostilities, riots, vandalism and terrorism.
- Economic and changes in legislation
  - Inflation, changes in legislation, absence of manpower and materials from the market.
- The main actors involved in the Contract
  - The Employer, Engineer, Contractor, Sub-contractors, third parties.

# Section 3

## Risks in FIDIC Contract

# 1. Risks in the 1999 Editions

Risks allocation in the 1999 editions has moved slightly in the Contractor's favour.

- Definition of force majeure has broadened.
- Contractor recovers time and money for force majeure.
- Increased power of the Contractor in relation to the Employer's ability to pay and actual payment. Financing charges and suspension for non-payment and suspension for late interim payment certificates increase the pressure on Employers to have financing or, where that is not possible, to relieve the Contractor from the obligation to work on regardless.

# 1. Risks Allocation

One can list the key issues concerning risk that should be checked by the Parties:

- Employer's risks
- Contractor's risks
- Shared risks

# 1. Risks- works contract and service agreement discrepancies

The main participants in a FIDIC contract are:

Employer Service agreement between Employer and Engineer (FIDIC White Book)

Engineer Engineer to administer works contract on behalf of Employer.

Contractor

DAB Agreement between Employer / Contractor and 1 or 3 Members of DAB.



# 1. Risks- works contract and service agreement discrepancies

## Engineer must:

- Review the works contract in regard to the Engineer's responsibilities and obligations to identify any contradictions with his service agreement.
- Recommend to the Employer that contradictions be removed (by amendment of the service agreement or by incorporation of limitations of the Engineer's authority).
- Inform the Employer in writing with recommendations as to how the contradictions could be resolved.

## 2. Risks- which contract to use: Risk sharing

### A promoter of a project should carefully analyses:

- Allocation of the essential functions found in a construction project and in particular the design function.
- Allocation of the risk inherent in the project.
- Allocation of the management role.
- Method and timing of remuneration for the contractor.

*Applicable Law* allocates the risks envisaged in the contract to the contracting parties.

Contract either affirms the allocation or re-allocates risks from one to the other contracting party or spreads them to third parties.

## 2. Risks- which contract to use: Risk sharing

If a risk is not allocated to one of the contracting parties either by the applicable law or by the terms of the contract then courts will ask the following questions:

- Which party can best foresee the risk?
- Which party can best control the risk?
- Which party can best bear the risk?
- Which party most benefits or suffers if the risk eventuates?

It is foolish to allocate a risk a party who cannot bear the risk unless that party is able to shift the risk to others who can. This shift or spread is usually done through insurance

## 2. Risks- which contract to use: Risk sharing

### For construction projects, bear in mind:

- Meaning and significance of “risk”.
- Not all undesirable events can be perceived and identified.
- In certain circumstances desirable as well as undesirable consequences may occur

## 2. Risks- which contract to use: Risk sharing

### Project risks are divided into:

- *Mainly insurable risks*: risks of loss, damage or injury occurring during the contract, including: consequences of accidents due to defective design, defective material and defective workmanship; acts of God; fire; human error; failure to take adequate precautions.
- *Mainly not insurable risks*: risks leading to financial and/or time loss with their impact on the project, including: late possession of the site; delay in receipt of necessary information; changes in design; variations in the original contract.

## 2. Risks- which contract to use: Risk sharing

1999 Edition risks are not properly divided and identified:

- Clause 17 risk should be “Employer’s Risk of Loss or Damage” and not all the project risks (i.e., they are limited to those risks which lead to some form of accidental loss or damage to physical property of personal injury, which in turn may lead to financial or time loss).
- It is inferred that all other risks are Employer’s risks, but this is not the case.

## 2. Risks- which contract to use: Risk sharing

Recognizing the risk discrepancy, the promoter when allocating the functions and risks to various parties consider management and the method of valuing the work done and how the work is paid. He should consider whether or not he is prepared to share these risks with the other parties and if so the extent of such sharing.

In broad terms, three categories to be considered:

- Cost-reimbursable contracts
- Re-measurement contracts based on unit rates & prices
- Lump sum contracts

## 2. Risks- which contract to use: project type

- A.** Relatively small value, short construction time or involving simple or repetitive work: Short Form
- B.** Larger or more complex projects
  - B1.** Employer (or the Engineer) to do most of the design- Construction Contract
  - B2.** Contractor to do most of the design- Plant & DB
  - B3.** PFI project or BOT or similar type where a Concessionaire takes total responsibility for the financing, construction and operation- DBO
- C.** Where the Employer wishes to implement the project on a fixed- price turnkey basis- EPCT.



**STRAIGHTFORWARD PROJECT**

Yes



**DISCUSS IN DETAIL**

Employer's requirements with the contractor, and negotiate a modified FIDIC Contract

No

**EMPLOYER DESIGN**

Yes



No

Fixed price - lump sum  
Little employer involvement  
No major unforeseen risks

No

**CONTRACTOR DESIGN**  
Plant and/or high unforeseen risks

Yes

**Maintenance**

Yes

No

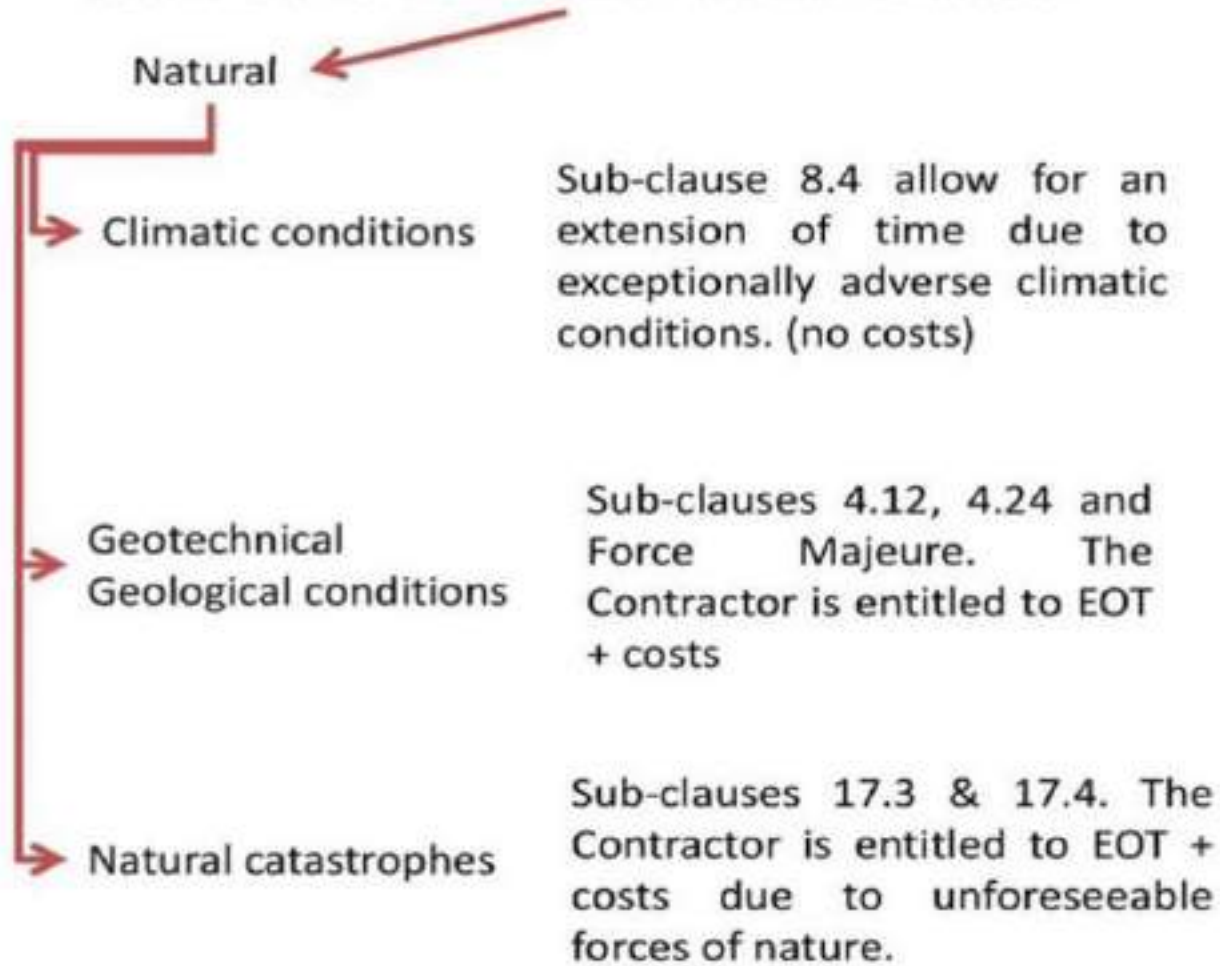
Yes



## INHERENT PROJECT RISKS

Classification of risks based on the main 2 factors:

Natural



# INHERENT PROJECT RISKS

FIDIC allocates the risk in an equitable way between the parties

For the risk related to the *force of nature*:

- Sub-clause 8.4 allow for an extension of time due to exceptionally adverse climatic conditions. (no cost)
- Sub-clauses 17.3 & 17.4 The Contractor is entitled to EOT + costs due to unforeseeable forces of nature.
- Sub-clauses 4.12, 4.24 and Force Majeure. The Contractor is entitled to EOT + costs.

## INHERENT PROJECT RISKS

Classification of risks based on the main 2 factors:

Human ←

→ Social and politic

The provisions of the Sub-clause 17.3 and Clause 19 shows that the majority of the risks from this category is undertaken by the Employer. The Contractor is entitled to EOT + costs.

→ However, some of the social risks like robbery and acts of vandalism are Contractor's risk 17.2.

→ Economic and changes in law

→ The main actors involved in the Contract



# INHERENT PROJECT RISKS

FIDIC allocates the risk in an equitable way between the parties

For the risk related to the ***Social and Political changes***:

- The provisions of the Sub-clause 17.3 and Clause 19 shows that the majority of the risks from this category is undertaken by the Employer. The Contractor is entitled to EOT + costs.
- However, some of the social risks like robbery and acts of vandalism are Contractor's risk 17.2.

### INHERENT PROJECT RISKS

Classification of risks based on the main 2 factors:

Human ←

→ Social and politic

→ Economic and changes in law

→ The provisions of the Sub-clause 13.8 share the economical risk between the parties. The fixed element "a" shows the proportion which is not subject of inflation

→ Sub-clauses 4.1+6.1 – the Contractor undertakes the risk of lack of manpower, materials and equipments

→ Sub-clause 13.7 – Changes in legislation – the Contractor is entitled to EOT + cost

→ The main actors involved in the Contract



# INHERENT PROJECT RISKS

FIDIC allocates the risk in an equitable way between the parties

For the risk related to ***Economical and Legislative Changes***:

- The provisions of the Sub-clause 13.8 share the economical risk between the parties. The fixed element “a” shows the proportion which is not subject of inflation.
- sub-clauses 4.1+6.1 – the Contractor undertakes the risk of lack of manpower, materials and equipments.
- Sub-clause 13.7 – Changes in legislation – the contractor is entitled to EOT + COST.

## INHERENT PROJECT RISKS

Classification of risks based on the main 2 factors:

Human ←

- Social and politic
- Economic and changes in law
- The main actors involved in the Contract

- The Employer's risk (Engineer included) is related to the Possession of Site and Payment to the Contractor. EOT + cost + profit
- The Contractor's risk – described in 4.1, materials, execution, site safety, rejection and remedial works
- Third party interference - 4.22, 6.1, 8.5 - EOT





# INHERENT PROJECT RISKS

FIDIC allocates the risk in an equitable way between the parties

For the risk related to the ***actors involved into the project***:

- The Employer's risk ( Engineer included) is related to the Possession of Site and Payment to the Contractor. EOT + cost + profit.
- The Contractor's risk – described in 4.1, materials, execution, site safety, rejection and remedial works.
- Third party interference – 4.22, 6.1, 8.5 – EOT.

FIDIC allocates the risk in an equitable way between the Parties



It is very important that the parties involved in a project know the Contract (the General Conditions of Contract, the Particular Conditions, etc.).



Once the Contractual conditions are understood, each party knows his responsibilities and duties



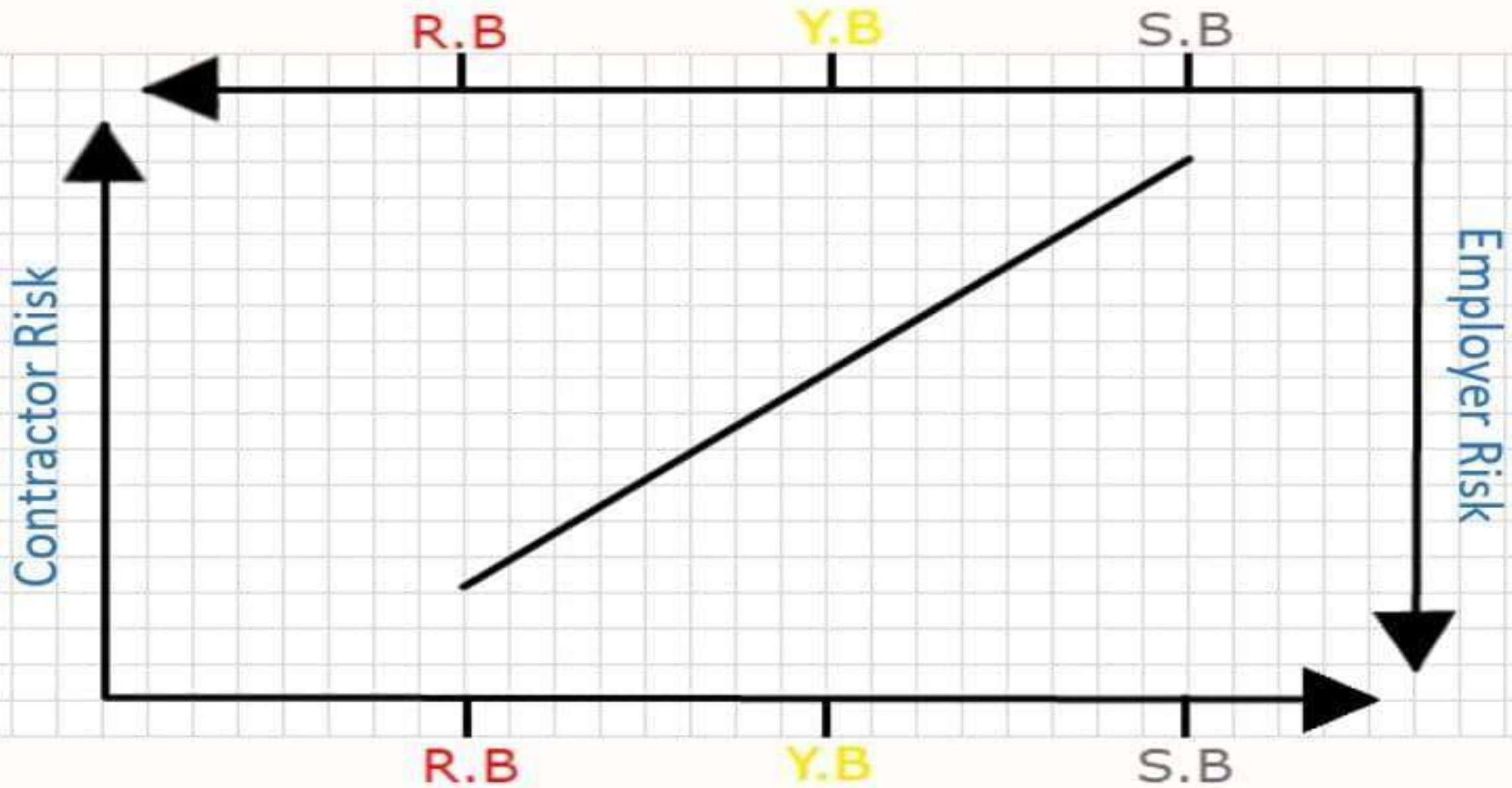
Knowing their responsibilities and duties, it is important for the parties to comply with them



# ALLOCATION OF RISKS UNDER FIDIC CONTRACTS

FIDIC allocates the risk in an equitable way between the parties

- It is very important that the parties involved in a project know the Contract ( the general Conditions of contract, the Particular Conditions, etc.).
- Once the contractual conditions are understood, each party know his responsibilities and duties.
- Knowing their responsibilities and duties, it is important for parties to comply with them.



# Risk Allocation FIDIC 1999 SUITE

	Sub-Clause	Book(s)	EOT	Cost	Profit
<b>1.9 Delayed Drawings or Instructions</b>		R	✓	✓	✓
<b>1.9 Errors in the Employers Requirements</b>		Y	✓	✓	✓
<b>2.1 Right to Access to the Site</b>		R, Y, S	✓	✓	✓
<b>4.7 Setting Out</b>		R, Y	✓	✓	✓
<b>4.12 Unforeseeable Physical Conditions</b>		R, Y	✓	✓	
<b>4.24 Fossils</b>		R, Y, S	✓	✓	
<b>7.4 Testing</b>		R, Y, S	✓	✓	✓
<b>8.5 Delays Caused by Authorities</b>		R, Y, S	✓		

# Risk Allocation FIDIC 1999 SUITE

	Sub-Clause	Book(s)	EOT	Cost	Profit
<b>8.9</b>	<b>Consequences of Suspension</b>	R, Y, S	✓	✓	✓
<b>10.3</b>	<b>Interference with Tests on Completion</b>	Y, R, S	✓	✓	✓
<b>13.7</b>	<b>Adjustments for Changes in Legislation</b>	R, Y, S	✓	✓	✓ (specific cases)
<b>17.4</b>	<b>Consequences of Employers Risks</b>	R, Y, S	✓	✓	
<b>19.4</b>	<b>Consequences of Force Majeure</b>	R, Y, S	✓	✓	

**Thanks for Attention**

**Any Question?**