

XIAOLANGDI PROJECT

Under

FIDIC CONTRACT FORM



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This lecture consists of three parts:

- Xiaolangdi Project: Introduction
- FIDIC Forms of Contract
- Contract Management in Xiaolangdi
 1. Tendering Procedure
 2. Variations in Xiaolangdi project;
 3. Claims and Counter Claims
 4. Dispute Resolution in Xiaolangdi project.



Background to FIDIC

- What is FIDIC ?

An international federation of consulting engineers, founded in 1913 with its headquarters located in Lausanne, Switzerland, whose objective is to promote the common interests of the member associations and disseminate information to its members for the development of consulting industry.

- What does FIDIC do?

Arrange seminars and conferences and prepare standard documents, in the furtherance of its goals.

FIDIC Conditions of Contract

- **Before 1996:**
 1. Conditions of Contract for Works of Civil Engineering Construction(4th Edition, 1987, 1992)
 2. Conditions of Contract for Electrical and Mechanical Works(3rd Edition, 1987)
 3. The Client/Consultant Model Services Agreement(1st, 1990)
 4. Conditions of Subcontract for Works of Civil Engineering Construction (1st Edition, 1994)
 5. Conditions of Contract for Design-Build and Turnkey(1st, 1995)

FIDIC Conditions of Contract

- The New FIDIC Forms of Contract 1999:
 1. Conditions of Contract for Construction (*Red Book*)
 2. Conditions of Contract for Plant and Design-Build (*Yellow Book*)
 3. Conditions of Contract for EPC/Turnkey Projects(*Silver Book*)
 4. Short Form of Contract (*Green Book*)
- **What are their respective functions?**

FIDIC Conditions of Contract

The New Red Book

- For Construction of major building or engineering projects in general
- Employer's Responsibility for Design
- Unit Price Contract/Remeasurement (monthly payment)
- Administration of Contract by Engineer
- Pro-contractor in terms of risk allocation

FIDIC Conditions of Contract

The New Red Book:: 17.3 Employer's Risks

- (a) war, hostilities, invasion, act of foreign enemies;
- (b) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, within the Country;
- (c) Riot, commotion or disorder within the Country by persons other than the Contractor's personnel and other employees of the Contractor and the Subcontractor;
- (d) Munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, within the Country, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radioactivity,
- (e) Pressure waves caused by aircraft or other aerial devices traveling at sonic or supersonic speeds,
- (f) Use or occupation by the Employer of any part of the Permanent Works, except as may be specified in the Contract;
- (g) Design of any part of the Works by the Employer's Personnel or by others for whom the Employer is responsible, and
- (h) Any operation of the forces of nature which is Unforeseeable or against which an experienced contractor could not have been expected to have taken adequate preventative precautions.

FIDIC Conditions of Contract

The New Yellow Book

- For provision of mechanical and electrical plant, and for design and execution of building or engineering projects
- Contractor's Responsibility for Design(design extent?)
- Lump-sum, with adjustments (stage/milestone or monthly payment)
- Administration of Contract by Engineer
- Pro-contractor in terms of risk allocation

FIDIC Conditions of Contract

The New Yellow Book: 17.3 Employer's Risks

- (a) war, hostilities, invasion, act of foreign enemies;
- (b) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, within the Country;
- (c) Riot, commotion or disorder within the Country by persons other than the Contractor's personnel and other employees of the Contractor and the Subcontractor;
- (d) Munitions of war, explosive materials, ionizing radiation or contamination by radioactivity, within the Country, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radioactivity,
- (e) Pressure waves caused by aircraft or other aerial devices traveling at sonic or supersonic speeds,
- (f) Use or occupation by the Employer of any part of the Permanent Works, except as may be specified in the Contract;
- (g) Design of any part of the Works by the Employer's Personnel or by others for whom the Employer is responsible, and
- (h) Any operation of the forces of nature which is Unforeseeable or against which an experienced contractor could not have been expected to have taken adequate preventative precautions.

FIDIC Conditions of Contract

The Silver Book

- For provision on a turnkey basis of a process or power plant, etc.
- Contractor's Total Responsibility for Design
- Normally fixed Lump-sum, with few adjustments (stage/milestone or monthly payment)
- Administration of Contract by Employer's Representative
- Pro-employer in terms of risk allocation

FIDIC Conditions of Contract

The Silver Book 17.3 Employer's Risks

- (a) war, hostilities, invasion, act of foreign enemies;
- (b) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, within the Country;
- (c) Riot, commotion or disorder within the Country by persons other than the Contractor's personnel and other employees of the Contractor and the Subcontractor;
- (d) Munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, within the Country, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radioactivity,
- (e) Pressure waves caused by aircraft or other aerial devices traveling at sonic or supersonic speeds.

FIDIC Conditions of Contract

The Green Book

- For Building or Engineering Works of Small Capital Value or containing mostly simple or repetitive work
- Contractor's or Employer's Responsibility for Design
- Lump-sum, with adjustments (monthly payment)
- Administration of Contract by Employer's Representative
- Pro-contractor in terms of risk allocation

(15 clauses in total)

FIDIC Conditions of Contract

The Green Book: 6.1 Employer's Liabilities

- (a) war, hostilities, invasion, act of foreign enemies;
- (b) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, within the Country;
- (c) Riot, commotion or disorder within the Country by persons other than the Contractor's personnel and other employees affecting the Site and Works;
- (d) ionizing radiation or contamination....,
- (e) Pressure waves caused by aircraft or other aerial devices traveling at sonic or supersonic speeds,
- (f) Use or occupation by the Employer of any part of the Permanent Works, except as may be specified in the Contract;
- (g) Design of any part of the Works by the Employer's Personnel or by others for whom the Employer is responsible, and
- (h) Any operation of the forces of nature which is Unforeseeable or against which an experienced contractor could not have been expected to have taken adequate preventative precautions.

FIDIC Conditions of Contract

The Green Book: 6.1 Employer's Liabilities (cont)

- (i) Force majeure
- (j) A suspension unless it is attributable to the Contractor's failure;
- (k) Any failure of the Employer
- (l) Physical obstructions or conditions other than climatic conditions, which obstructions or conditions were not reasonably foreseeable by an experienced contractor and which the Contractor immediately notified to the Employer,
- (m) Any delay or disruption caused by any variation;
- (n) Any change to the law of the Contract after the date of the Contractor's offer, as stated in the Agreement
- (o) Losses arising out of the Employer's right to have the permanent work executed on, over, under, in or through any land, and to occupy this land for the permanent work, and
- (p) Damage which is an unavoidable result of the contractor's obligations to execute the Works and to remedy any defects.

Why FIDIC contract forms are so popular in Mainland China:

1. China's fast growing construction industry needs model forms of contract.
2. FIDIC contract forms are included by the World Bank in its Sample Bidding Documents which are used for all the projects financed by IBRD all over the world.
3. China's academia has translated all the key FIDIC FORMS into Chinese for use by construction professionals.
4. As a primer for studying contract management in China

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-  Contract Management in Xiaolangdi
 1. Project Organization
 2. Tendering Procedure
 3. Variations in Xiaolangdi project;
 4. Claims and Counter Claims
 5. Dispute Resolution in Xiaolangdi project.

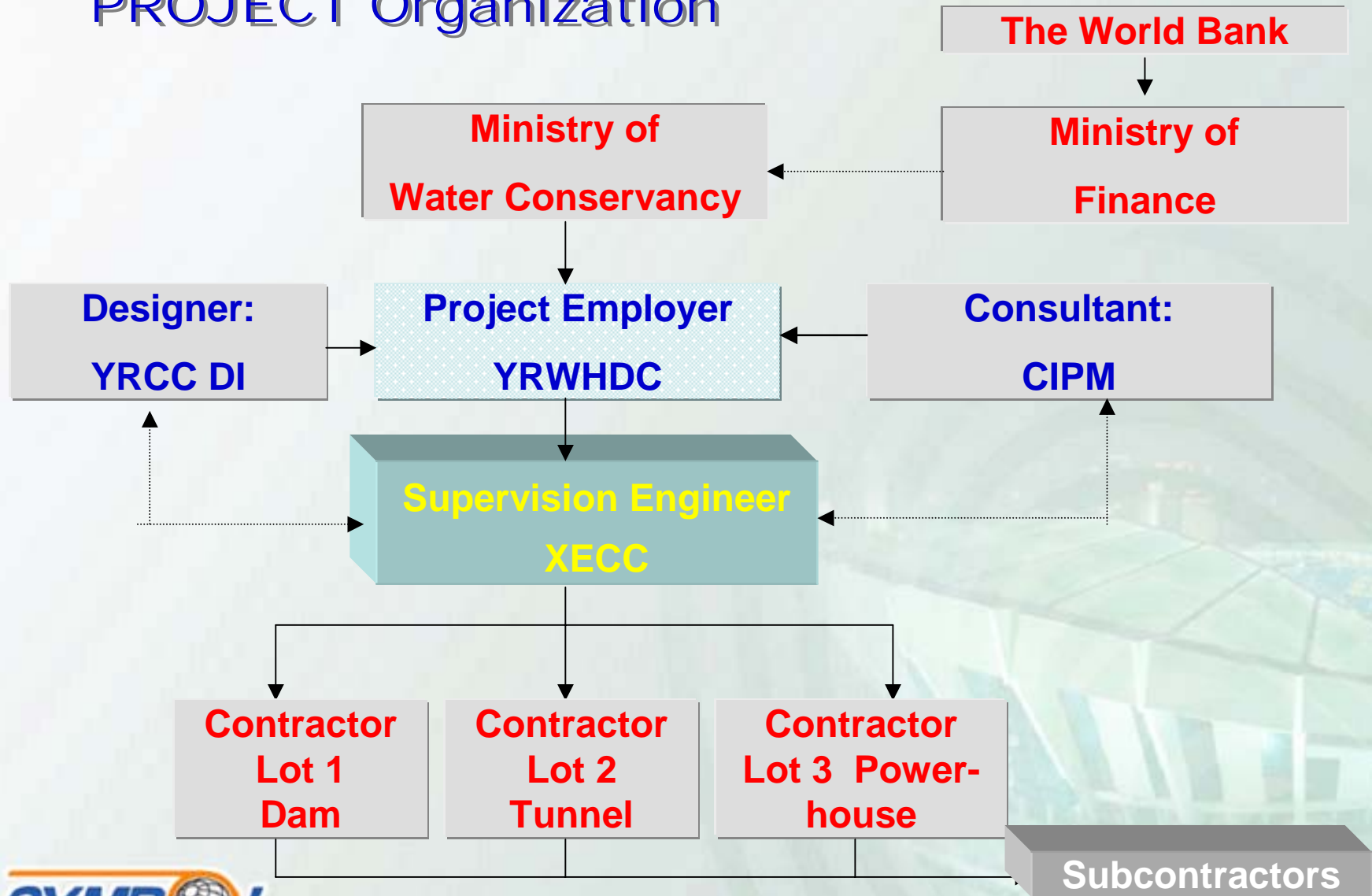
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Contract Management in Xiaolangdi



1. Project Organization
2. Construction stages:
3. Tendering Procedure
4. Variations in Xiaolangdi project;
5. Claims and Counter Claims
6. Dispute Resolution in Xiaolangdi project.

PROJECT Organization



XIAOLANGDI HYDRO PROJECT



1. Project Organization
2. Construction stages:
3. Tendering Procedure
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XIAOLANGDI HYDRO PROJECT

- Stage 1 Preparation Work

Sept. 1991 ~ Sept. 1994

- Access Roads
- Water Supply
- Power Supply
- Railway Auxiliary Facilities
- Site Buildings

- Stage 2 Main Structures

Sept. 1994 ~ Dec. 2002

XIAOLANGDI HYDRO PROJECT

1. Project Organization
2. Construction stages:
3. Tendering Procedure
4. Contract Documents;
5. Claims and Dispute Resolution



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Tendering Procedure for main structures

Invitation to prequality

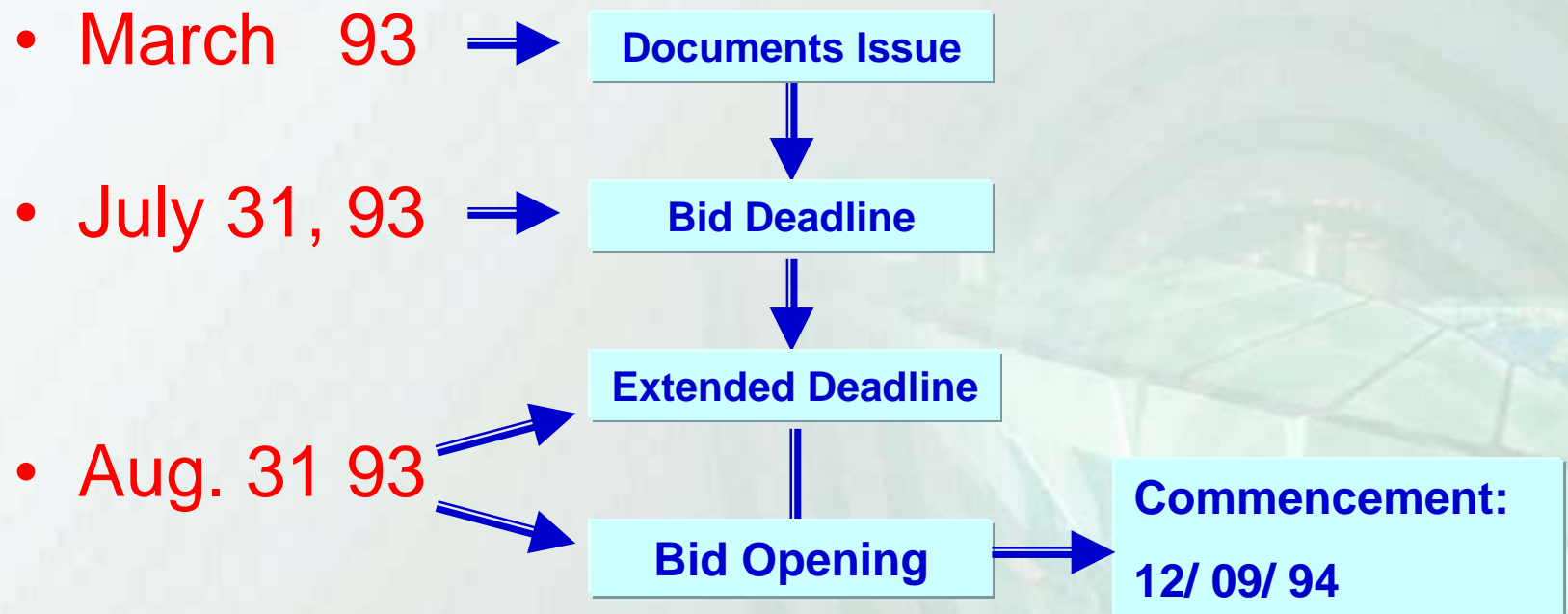
- **Feb 1992:** in
BUSINESS DEVELOPMENT
- **July, 1992:**
China Daily & People's Daily

- Project Experience;
- Key Personnel
- Construction Equipment
- Financial Status

10 Joint Ventures were prequalified, all comprising one Chinese member

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Tendering Procedure



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Tendering Procedure

The three successful bidders:

- YRC for Lot 1 (dam structures) **IMPREGILO**
- CGIC for Lot 2 (Tunnel System) **ZUIBLIN**
- XLDJV for Lot 3 (Power-house) **DUMEZ**

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- People from 51 countries and regions were involved in this international project (“Miniature of UN”)



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1. Project Organization
2. Construction stages:
3. Tendering Procedure
4. Contract Documents;
5. XECC Organizational Structure
6. Claims and Dispute Resolution



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Contract Documents:

1. Contract Agreement;
2. Letter of Acceptance
3. Tender and Appendices
4. Conditions of Contract (Part II: Particular application)
5. Conditions of Contract (Part I: General, from **FIDIC** 4th edition)
6. Special Conditions and Addenda
7. Specifications
8. Drawings
9. Priced BOQ
10. Schedules

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Claim Entitlements from Contract Documents :

- Variations/Changes
- Change of Legislation
- Unforeseen Site Conditions
- Delay in handing over site or issuing Drawings, etc
by Engineer

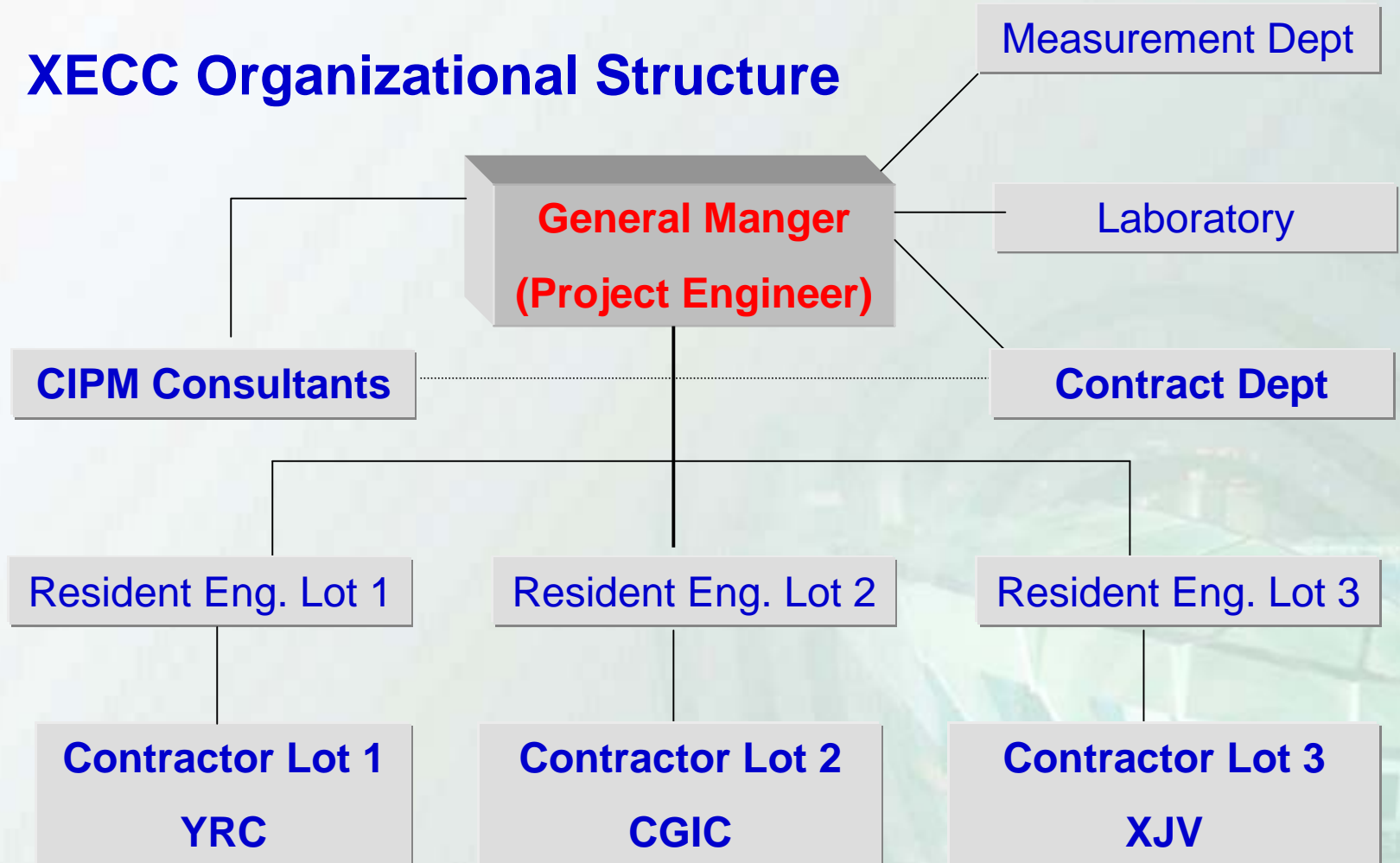
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1. Project Organization
2. Construction stages:
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6. Variations, Claims and Dispute Resolution



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XECC Organizational Structure



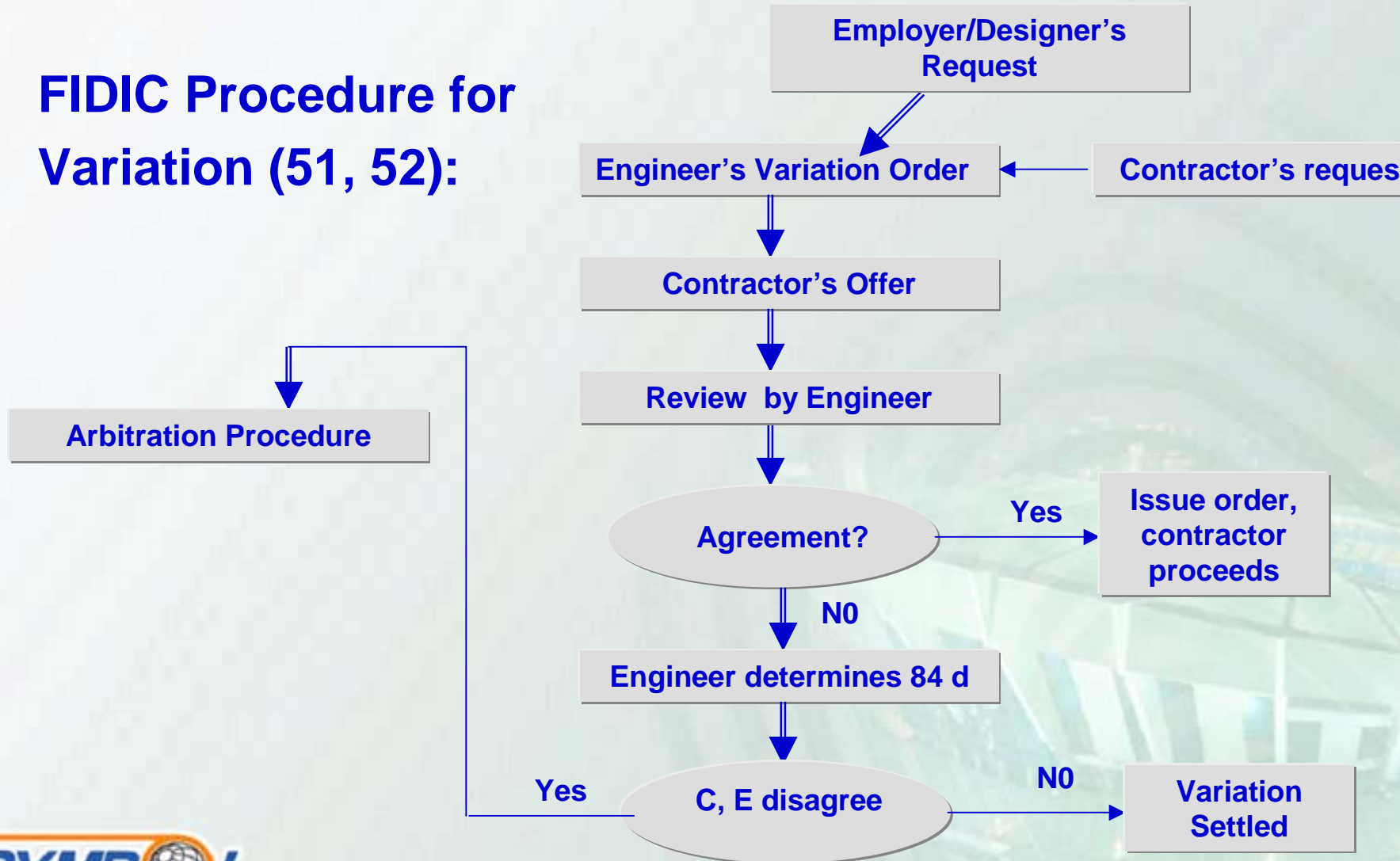
XIAOLANGDI HYDRO PROJECT

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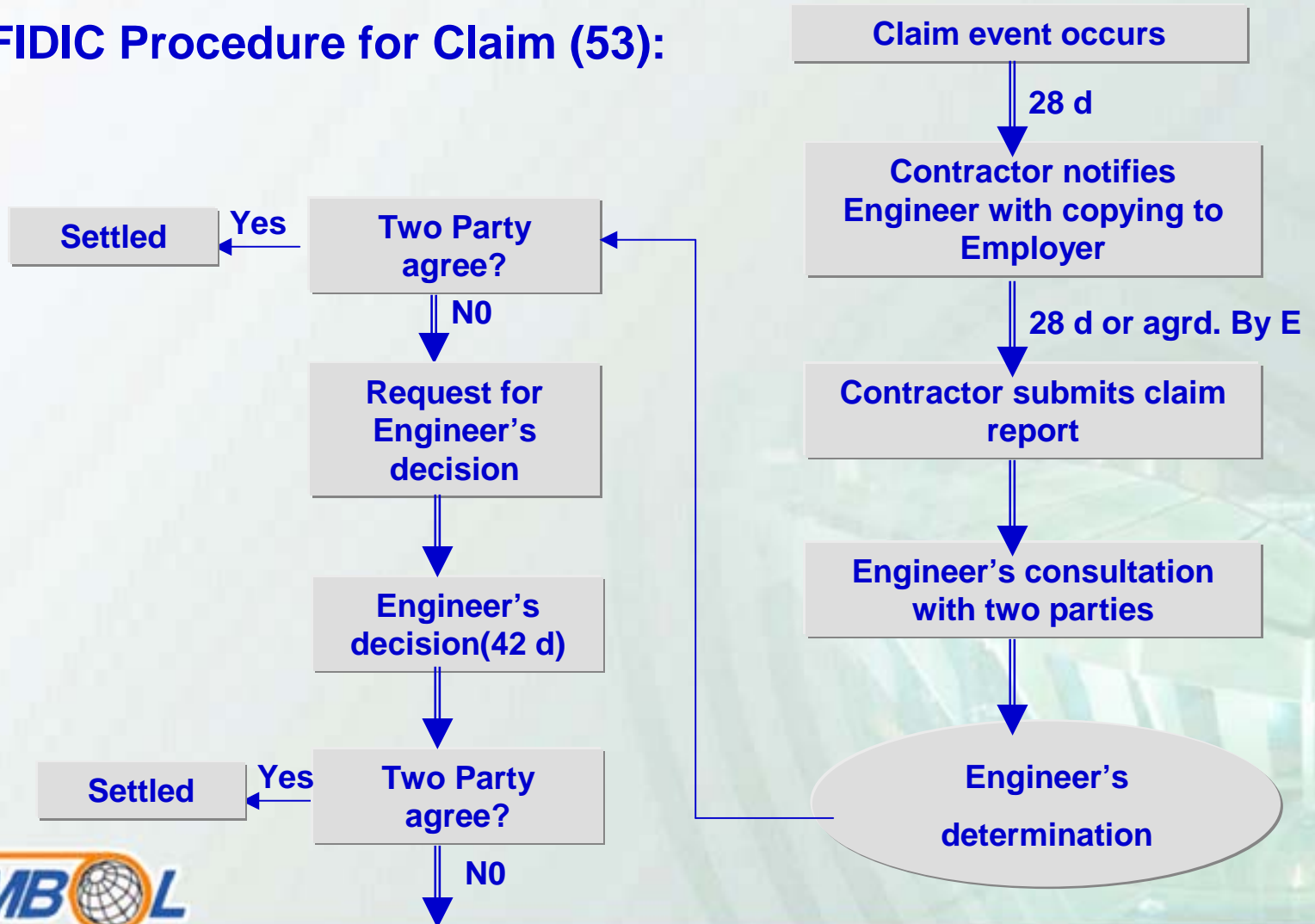
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FIDIC Procedure for Variation (51, 52):



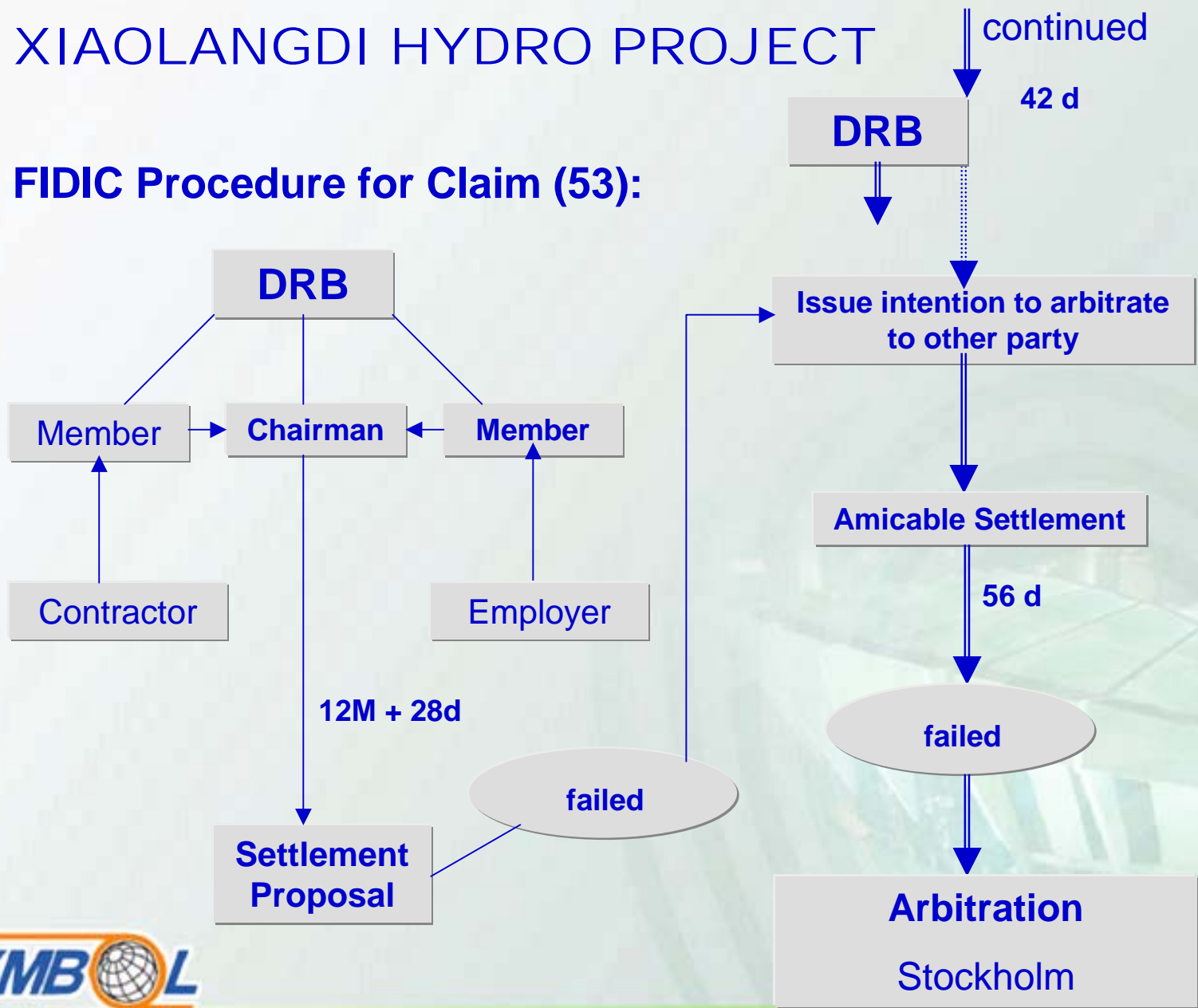
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FIDIC Procedure for Claim (53):



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FIDIC Procedure for Claim (53):



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Claims filed by Contractors(Sept.94~Feb 97)

Total Claim events: 59

- 14 from Lot 1 (YRC-Impregilo)
- 26 from Lot 2 (CGIC - Zuiblin)
- 19 from Lot 3 (XLDJV-Dumez)

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All the claim events are classified into 3 categories:

1. Changes of legislations: Labour Law(01/0195); tax law(01/01/94): **Clause 70.2**
2. Disturbances from Employer's failure to provide working conditions, facilities, etc. **Clause 42**
3. Design changes; geological conditions; failure to provide facilities **Clauses 51, 12, 42,**

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Labour Law:

1. Weekdays from 6 days to 5 days.
2. Overtime pay: from 100%, 150%, 200% to 150%, 200%, 300%.

Contractor's Request:

EOT and Additional payment (Total amount (Feb, 1997): 20 million RMB)

Engineer's Response:

Additional payment basically honored. EOT dishonored.

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Tax law: types of taxes deleted, unified or added

Contractors' Requests

Lot 2 (Zuiblin): 113 million

Lot 3 (Duez): 20 million

Engineer's Response:

Dishonored

(Instead, 1 million should be deducted from the contract price)

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Disturbances from Employer's failure to provide working conditions, facilities, etc.

Lot 1 Contractor's Request:

Additional payment: 212.7 thousand

EOT: 44 days

Engineer's Response:

Negotiation for settlement

Contractor's finally decision:

Withdrew claim

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Geological conditions (Lot 2 Tunneling)

Claim events:

April, 95 ~ a number of collapses in the course of tunneling.

Contractor's action:

Claim notice; waiting for instruction

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Geological conditions (Lot 2 Tunneling)

Alleged reasons:

- Unforeseen underground geological conditions
- Employer's failure to provide all information

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Engineer's Response:

- Refuting Contractor's alleged two reasons;
- Instructing Contractor to strengthen shoring and support while tunneling
- Suggestion to hire more experienced subcontractors for tunneling.

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Contractor's Response:

- Stop work due to safety reasons (3 months)
- Provided detailed grounds for claims, including a comparison between “Geological Foreseeability Model” and “Conditions actually encountered”

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Current Situation:

- Mutual dissatisfaction between both parties;
- Tunneling is a critical activity;
- By now, it has been delayed for 11 months;
- Failure to finish tunneling work would cause delay the river closure and a series of possible claims from other contractor; potential losses would amount to billions of RMB.
- News came that “Three Gorges Project-a sister project” would close the river in time, which means failure in Xiaolangdi would be a disgrace to the Official in charge of this project.

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Interim Solution from negotiation between High-rank officials

- “Disputes pending; Accelerate for recovery”
- Contractor takes Engineer’s suggestion(instruction?) to hire a subcontractor(Nominated?)
- Vice-minister’s personal promise: “We will not let you suffer loss from this project”.

(What makes them reach such an interim agreement?)

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Lot 2 Contractor's final Claim:

- **Additional payment: *In billion* (total)**

Engineer's Determination:

- **Honoring about 1/7 of the Claim amount**

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Contactor's Response:

- Dissatisfaction with the determination;
- Request for Engineer's Decision.

Engineer's Response:

- A slight increase based on the new evidence from Contractor

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Contractor's response:

- Refer this dispute to DRB

Engineer's response:

- Agreed

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In DRB Hearings:

Contractor's statement:

- In the 3400m long tunneling, emerged 1600m long fault zones, much longer than what had been expected in the bidding (260m).
- Incomplete data
- Much more resources were invested to accelerate for recovery of time.
- Personal promise.

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In DRB Hearings:

Employer's statement:

- Contractor is responsible for interpreting data provided by employer;
- Contractor's giving up the chance to inspect the job site carefully before bidding, resulting in its incorrect estimate of the geological conditions;
- Contractor's behaviours (pre-bid and during construction) shows that it is not an experienced contractor.
- Employer provided all information it had before bidding.
- The claim amount is incorrect.
- Employer has compensated reasonably according to "promise".

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DRB's First Stance:

Middle Road:

- Contractor's total cost method is not fully justified.
- Employer should take more account of the vast resources invested by contractor for acceleration.

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DRB's Final Decision:

? (May, 2001)

Accepted by both parties

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Comments from both parties

(unconfirmed):

“We would not have suffered loss if they ...” (?)

“Those contractors who attempt to “take chances” with us will never get chances from us again.”

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Words during the disputing period

- “How can they suspend the work for three months out of their own will!”
- “We now have chances to earn more money”.
- “Xiaolangdi project has the most complex geological conditions in his opinion, according to a senior Chinese engineer”.
- ”They hide some data from you!”
- The Chinese don’t know how to manage international contract!
- “We have spent 5 million in preparing the claim report!”

Implications from the case:

- **Trust and reputation:**
 - How much is it worth? (Probably Lot 1 knows!)
- **Partnering:**
 - The Emperor's new clothes? (Probably a cultural problem)
- **Dispute Resolution:**
 - Who are the real winners? (Probably DRB members, lawyers and arbitrators)

Welcome to Xiaolangdi

Thanks for listening !

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