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EPC CONTRACTS FOR DOMESTIC AND INTERNATIONAL PROJECTS:

Contractor Risks and Lender Concerns

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Baker & McKenzie Global Network

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- Labor, Employment & Employee Benefits
- Insurance
- Intellectual Property
- International/Commercial
- Information Technology & Communications
- *Major Projects and Project Finance*
- Real Estate, Construction, Environment & Tourism
- Tax

International Infrastructure Projects

- *Complex transactions*
  - *–High profile*
  - *–Many parties*
  - *–Multi-jurisdictional*
  - *–Significant sums involved*
- *Multiple risks for all participants*

"Bankability"

- Key question for success or failure of a project:
  Can it be financed?
- Infrastructure projects may be
  - direct financed by sponsors, or
  - project financed by lenders
- For project financing, allocation of risk is a fundamental issue for financiers

EPC Contracts and Project Risks

- EPC contract
  - primary tool to allocate project risks between sponsors/owners and contractors
  - also, some direct protections for lenders

- Understanding this function better
  - help parties structure more "bankable" EPC contracts
  - also protect their own important interests

Agenda

- A brief survey of major project risks
- A closer look at construction related risks borne by contractors
- How EPC contracts allocate and help manage these risks
- Some lender concerns under EPC contracts

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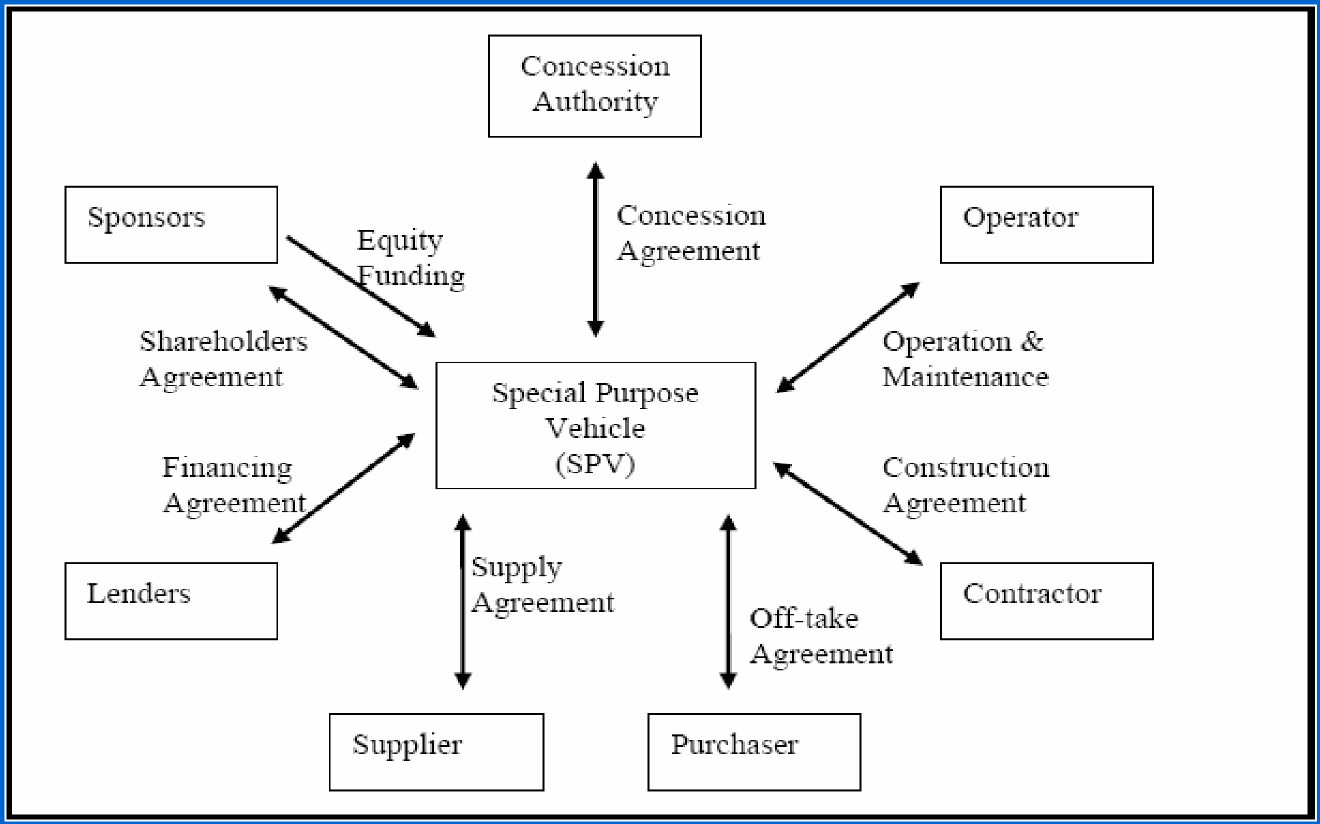
Typical Project Structure



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Project Risks - Overview

- General Categories
  - Construction Risks
  - Operating Risks
  - Financial and Economic Risks
  - Legal Risks
  - Political Risks
- All of these risks are interrelated
  - Each one will affect different projects differently
  - Tradeoffs are common

Principal Construction Risks

- Contractor: *Does the contractor /subcontractor have necessary expertise/funds?*
- Design/Engineering: *Can the project be constructed and completed as designed?*
- Technology: *Will all key components of project technology perform?*
- Force Majeure: *What natural hazards may disrupt construction?*
- Permit/License: *Will all required permits be obtained or renewed?*

Delays and Cost Overruns

- Primary effects of construction risk
  - Can have different effects and causes
- If unexcused, EPC contractor in breach
  - Damages/liability could be significant
  - Important to know which are important in a project when structuring EPC contract
- Two examples illustrate:
  - LNG storage facility (hypothetical)
  - petrochemical refinery project (actual)

Delays and Cost Overruns

- *Case Study: LNG Project (hypothetical)*
  - Delay in completion*:*
    - miss critical point in business cycle
    - unsatisfactory supply and/or offtake contracts
    - unable to operate economically in the long term
    - project cancellation?
  - Cost overrun:
    - might be possible to complete with additional investment
      → still catch business cycle?

Delays and Cost Overruns

- *Case Study: Petrochemical Refinery*
  - Project suspended for 5 years by Asian financial crisis
  - Sponsors far in debt to EPC contractor
  - Work restarted with financial support from EPC contractor, government and others
  - Amount of financing strictly limited by complex structure

Delays and Cost Overruns

- *Case Study: Petrochemical Refinery (cont'd.)*
  - Delay in Completion:
    - not fatal; still profitable for sponsors and useful to government to complete
    - EPC contractor potentially recovers investment and profit
  - Cost Overruns:
    - significant and continuing issue
    - hard ceiling on financing → pressure on contractors to absorb costs → limits ability to recover investment
    - project seeking additional funding

Contractor Risks in EPC Contracts

- Contractors must often accept a large amount of risk in an infrastructure project financing
  - Often the only creditworthy project party
- "Turnkey EPC" construction contract does this
  - Supports "bankability" of project
  - But expensive → contractors are paid for taking the large risks inherent in EPC contracts

Balance of Risks - Construction Contracts

← Relative Risk →

Owner/Sponsors — Contractor

[---***Construction Management***---]

[---***Management Contract***-----]

[--------***Design, Bid, Build***---]

[-----***Prime Contracting***---]

[--------***Design & Build***--]

[--------------***EPC***--------]

EPC Contract: Risk Allocation to Contractors

- Single point of responsibility for facility construction
- Fixed completion date
- Fixed completion price
- Limited technology risks
- Performance guarantees

EPC Contract: Risk Allocation to Contractors

- Liquidated damages for both delay and performance
- Security from the contractor and/or its parent
- High limits on liability of contractors
- Limited grounds for the contractor to claim extensions of time and additional costs

EPC Contract Risk Management:
Multiple Contractors

- Contractors often act in consortia
  - responsible for different parts of the works
  - no joint/several liability among members
- Members need to coordinate and integrate their separate works properly
- EPC contract must permit this while still preserving “single point of responsibility” concept

EPC Contract Risk Management: Multiple Contractors

- *Case Study: Petrochemical Refinery - Delay LD's*
  - Single EPC contract among owner, one offshore major contractor and consortium of 3 local civil works contractors;
    - Local contractors: jointly and severally liable for civil works but not for refinery
    - Offshore contractor: responsible for refinery works but not civil works
  - Each contractor's timely performance depended on timely performance by the other – who is responsible for delay?
  - The risks of late delivery were shared by the contractors
  - This created a strong incentive for the contractors to work together.

EPC Contract Risk Management:
Multiple Contractors

- *Case Study: IPP Project – "Split EPC contracts"*
  - Two separate EPC contracts for one power project
    - Onshore – civil works, labor, etc.
    - Offshore – equipment supply and engineering
  - Driven by local tax issues
    - Commercially, offshore contractor responsible for completion
    - Legally, almost no ability to cross reference other EPC contract w/o losing tax benefits; "contamination"
  - Required detailed consideration of split responsibilities for management, completion certificates, testing and commissioning, warranty, insurance, etc.

EPC Contract Risk Management:
Materials Supply

- EPC contract should specify responsibility for providing critical materials and supplies
  - Many large projects in a small region can squeeze supplies
  - Shortages and/or price increases can significantly affect project economics for responsible party
- Cost and time of construction are both affected by materials risk, regardless of the skill of the contractor
- *Case Study*: *Petrochemical Refinery*
  - Responsibility for absorbing post-closing steel price increases was a significant issue

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EPC Contract Risk Management: Force Majeure

- Can significantly increase the cost and/or delay construction of a project
  - Contractor expected to operate in all but most extreme conditions
- EPC contract → Recognize special situations
  - For example, suspend operations if a hurricane approaches within a specified distance
- EPC contract → Permit termination for extended force majeure
- Obtain casualty insurance

EPC Contract Risk Management: Technology/Process Risk

- Delays in performance testing → can prevent timely completion of construction.
  - Unforeseen problems can arise in scaling up models to production size
  - Even proven technologies can cause delays if very complex.
- EPC contract → permit pass-through of technology/process risk to supplier/vendor

EPC Contract Risk Management: Title Risk

- Clear title to the project site is desirable, but not always possible to obtain
- Thus, concession, financing and construction contracts in such situations must account for the lack of clear title
  - indemnities
  - third-party consent requirements

EPC Contract Risk Management: Handover Risk

- Provide for good / frequent communication between the contractor and the operator during construction and handover
- Involve operator in review / comment on contractor's punch list
- Define transition responsibilities clearly

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EPC Contract Risk Management: Currency/Payment Risk

- Payment in currency of obligations
- Payment milestones in advance of costs incurred
- Change orders require evidence of owner's ability to pay
- Offshore payment security and accounts

EPC Contract Risk Management : Coordination Issues

- All project contracts should fit together seamlessly
- Special issues to consider:
  - Are indemnity rights and obligations parallel?
  - Are insurance requirements consistent?
  - Are deadlines and grounds for extensions for related events similar in different documents?
- Inputs/Supply and Outputs/Offtake Agreements
  - adequate supply of fuel for testing and commissioning
  - force majeure provisions match those in the EPC

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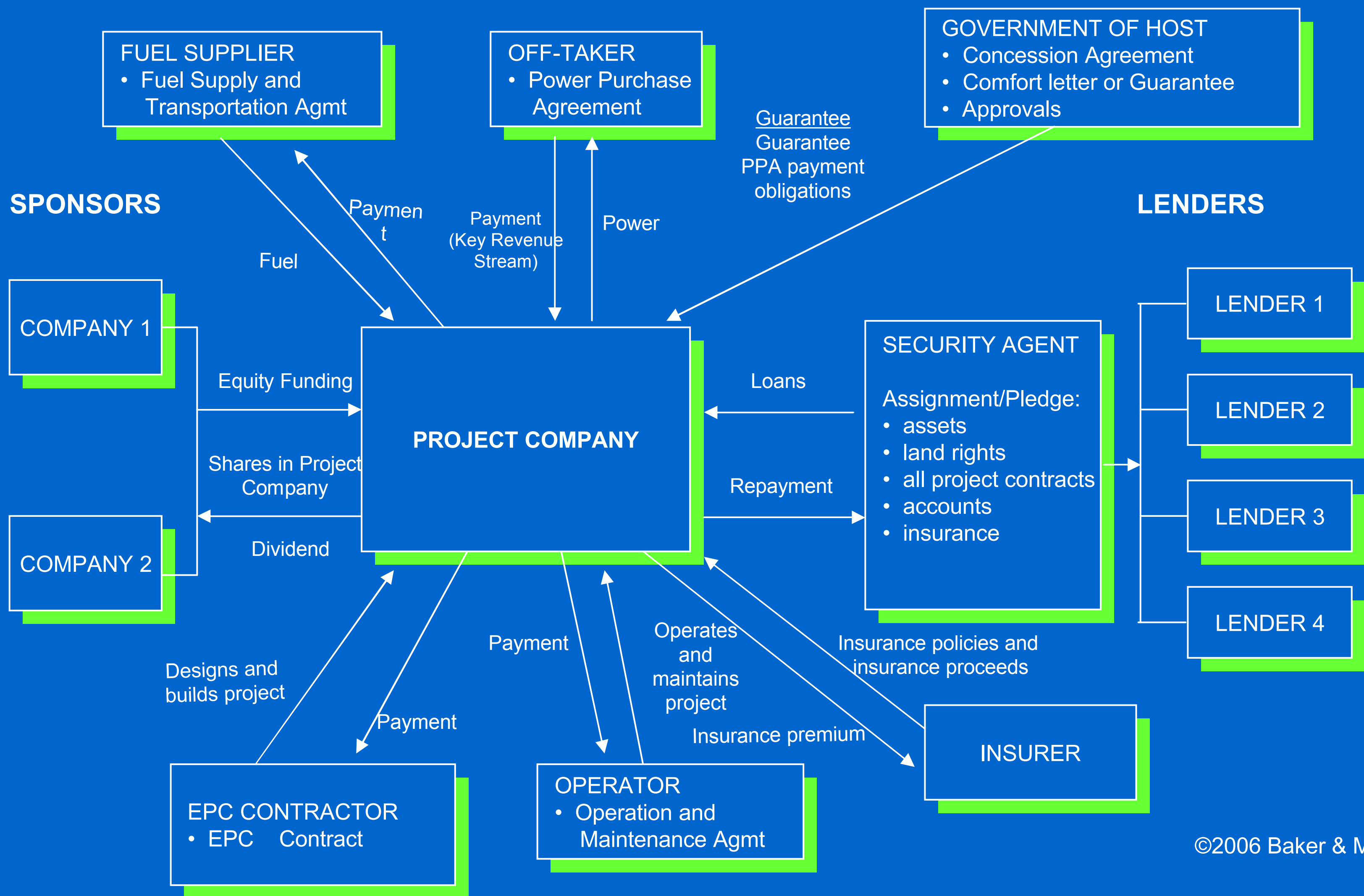
Typical Project Contracts



Typical Project Contracts

- *Basic Sponsor Agreements*
- *Licenses, Permits, Franchises*
- *Construction contracts*
- *Financing contracts*
- *O&M agreement*
- *Input/supply agreements*
- *Output/offtake agreement*

EPC Contract Risk Management : Completion Issues

- Clearly define what "completion" is at each stage of the project
  - constructed?
  - performance tested?
  - commissioned?
  - handover completed?
- Series of interim completion dates to monitor progress
- Allow sufficient "float" in schedule to avoid frequent requests for extensions

EPC Contract Risk Management : Liquidated Damages

- Imposed on Contractor for
  - construction delay
  - facility performance shortfall
- Understand process specifications of vendors and offtakers
- Obtain warranty pass-throughs and hold-harmless clauses for technology/process and major equipment supply

EPC Contract Risk Management : Owner Obligations

- Typically Owner must provide access to:
  - fuels, utilities, ports, roads, site title and other infrastructure and supplies
  - facility itself, for testing and commissioning
- May also be provided by another contractor
- EPC contract should specify
  - how, when and by whom these will be provided
  - remedies for nondelivery

EPC Contract Risk Management : Dispute Resolution

- Disputes inevitably arise - need to provide a smooth / fair / quick process to resolve issues
- Process should be "user friendly"
  - consistent with dispute resolution provisions of other project documents
  - provide for consolidation of similar disputes
- Arbitration
  - international institution/rules: e.g. ICC, UNCITRAL
  - regional institution/rules: e.g. SIAC, HKIAC

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EPC Contracts: Some Lender Concerns

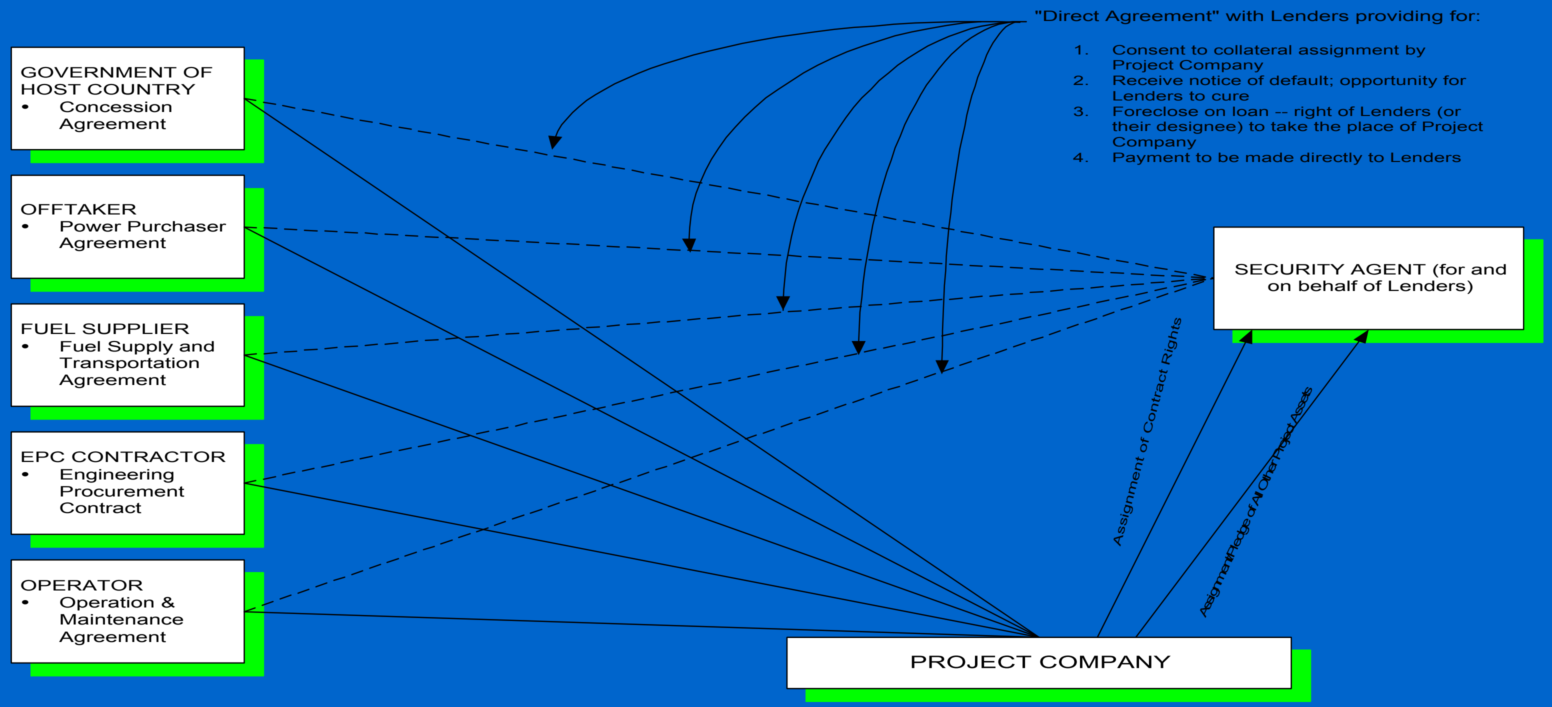
- Repayment Risk
  - Little or no recourse to the sponsors, only to the project assets
  - Lenders focus on risk allocation, project cashflows, size of initial equity investment, creditworthiness of contractors and offtakers
  - EPC and other project contract terms also important → permit effective exercise of remedies

EPC Contracts: Some Lender Concerns

- Privity of contract and direct agreements
  - Lenders have few direct contracts with major project parties, such as contractors, suppliers and offtakers.
  - Direct agreements with such other project participants spell out their rights.
- Termination clauses, compensation and step-in rights
  - Provide contractual terms of rights and remedies

EPC Contracts: Some Lender Concerns

Lender's Collateral Assignment of Contract Rights



EPC Contracts: Some Lender Concerns

- *Bank vs. Bond Debt*
  - Bank debt formerly predominated
  - Capital markets are now more familiar with project finance
  - Nevertheless, complex financing documentation still required for bond debt
    - difference is more in terms than structure

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Summary

- *Large international infrastructure projects are complex and high in risk, so are often project financed*
- *Contractors accept a large amount of project risk under an EPC contract*
- *Lenders will require certain contractual rights directly against EPC contractors*
- *Careful risk analysis and attention to lender concerns can help contractors manage their EPC contract risks and preserve project "bankability"*

Thank you.

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