

# CONTRACTING STRATEGIES

Risk Management on Large Utilities Projects

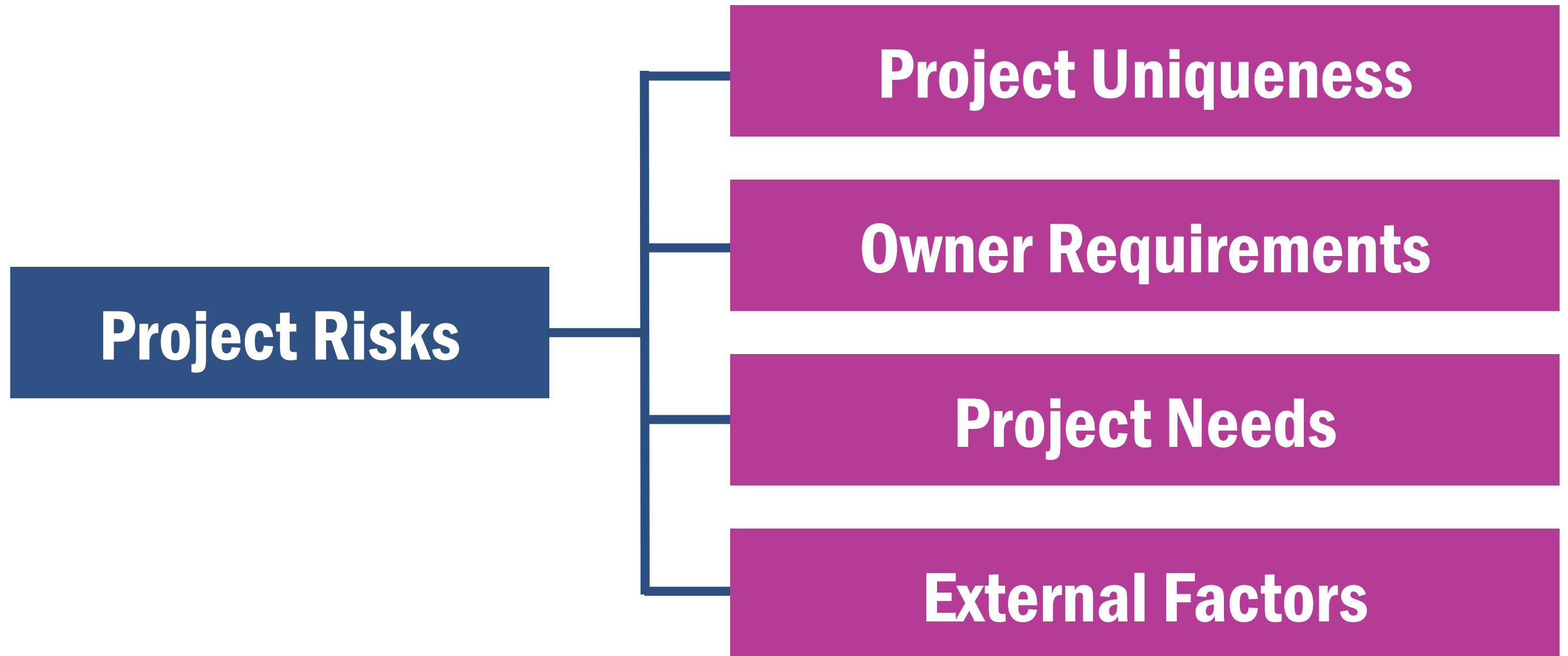
**JACOBS®**

No one likes contract negotiations (except attorneys), but it is a necessary evil.

**A good, equitable contract tends to lead to more successful project execution.**

**One-sided contracts lead, to at least one party being unhappy, leading to change order seeking behavior or constant posturing.**

# Owner Impacts



# Identify Risks

Hazard / Risk Scenario	Potential Consequences	Likelihood of Occurrence	Potential Sched Impact	Best Case	Most Likely	Worst Case
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**DISCUSS REAL RISKS**



**RISKS COST \$\$\$**

# Risk Register

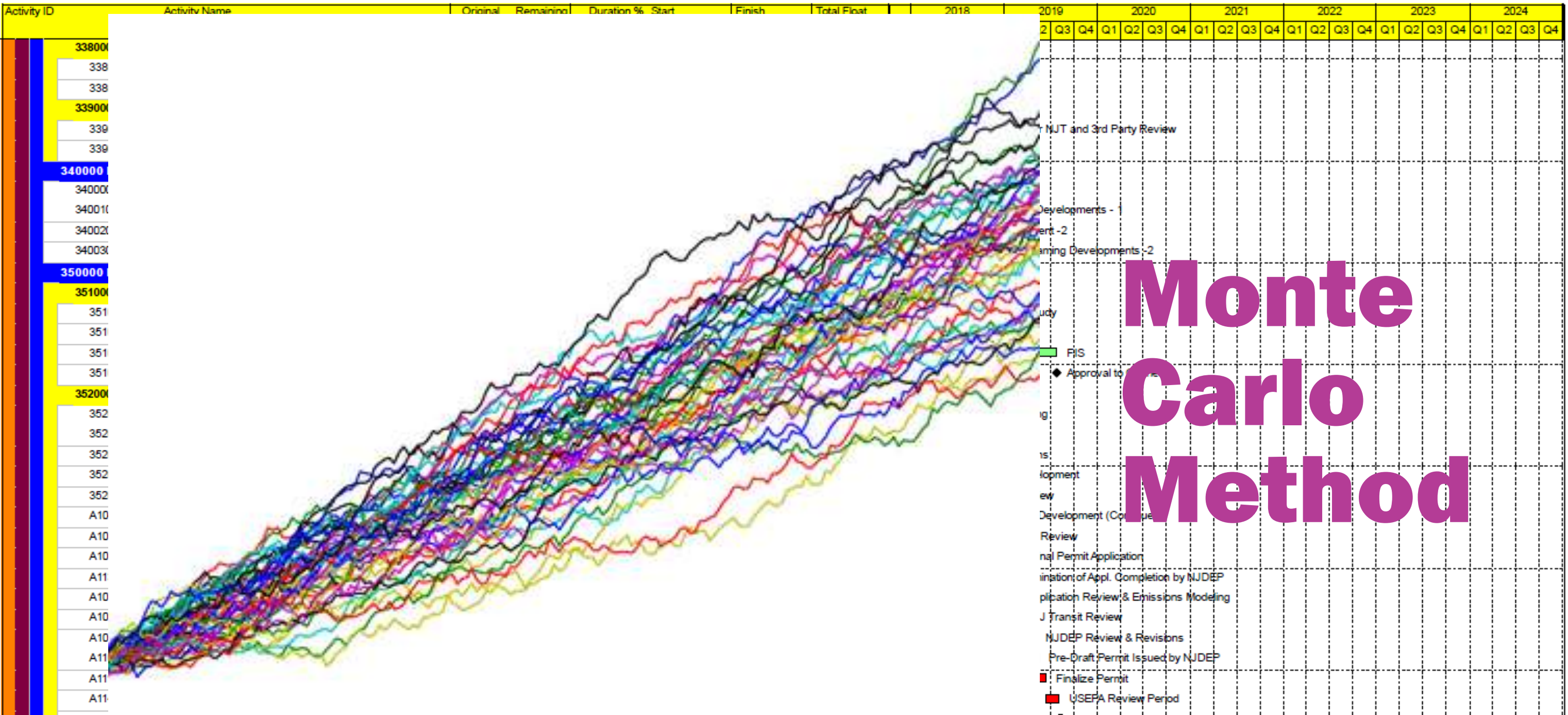
Hazard / Risk Scenario	Potential Consequences	Likelihood of Occurrence	Potential Sched Impact	Best Case	Most Likely	Worst Case
Delay in submitting Interconnection Application	Design completion not possible  20% design and resulting design and construction contracting advancement on hold	Very likely	Very High	3 mos	6 mos	18 mos
Delays in air permit application	All construction work on CPP held until a final air permit in hand	Possible	Moderate	1 mos	3 mos	6 mos

# Risk Mitigation

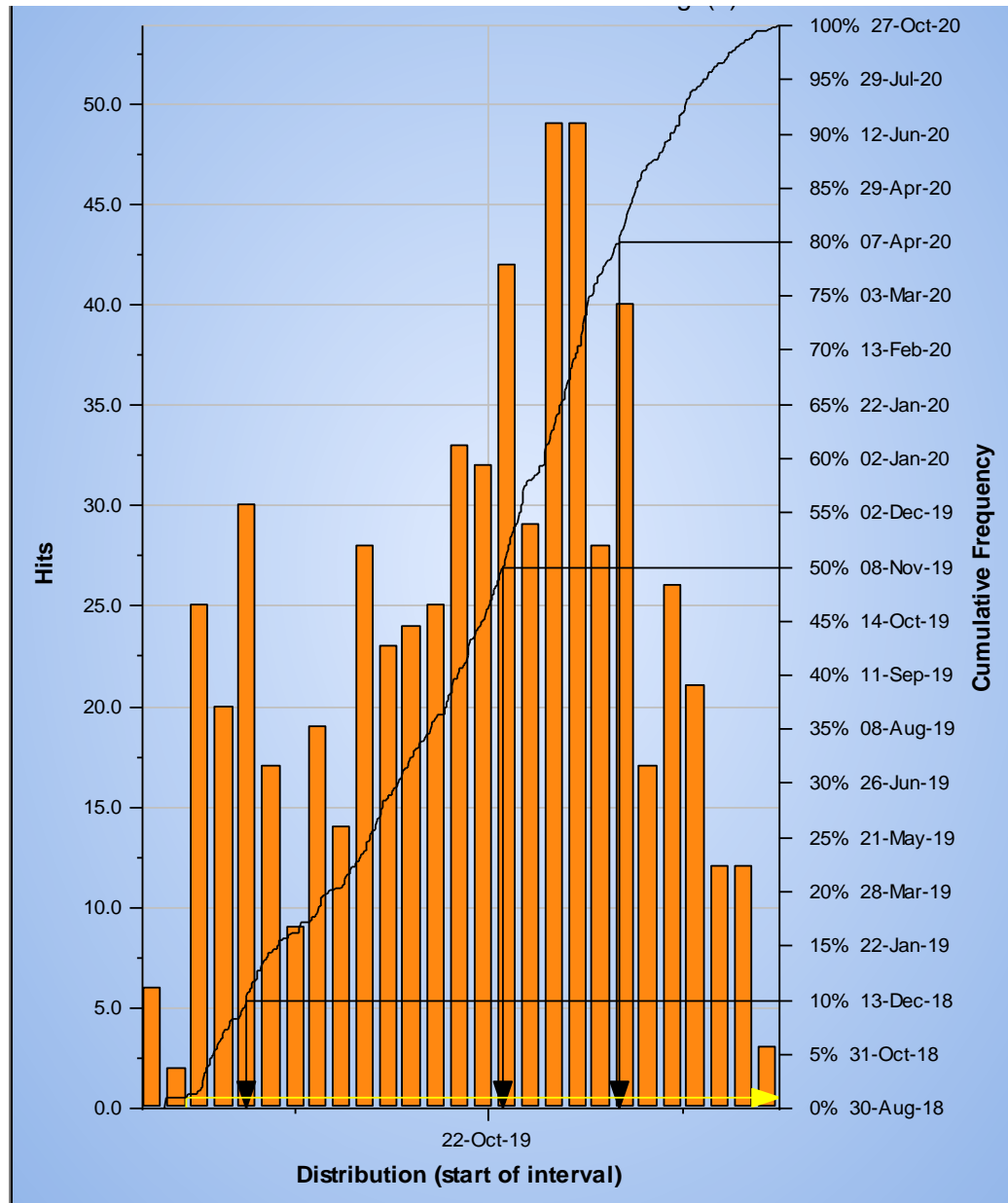




# Understanding Risks Methodology



# Quantifying Risks Monte Carlo Simulation



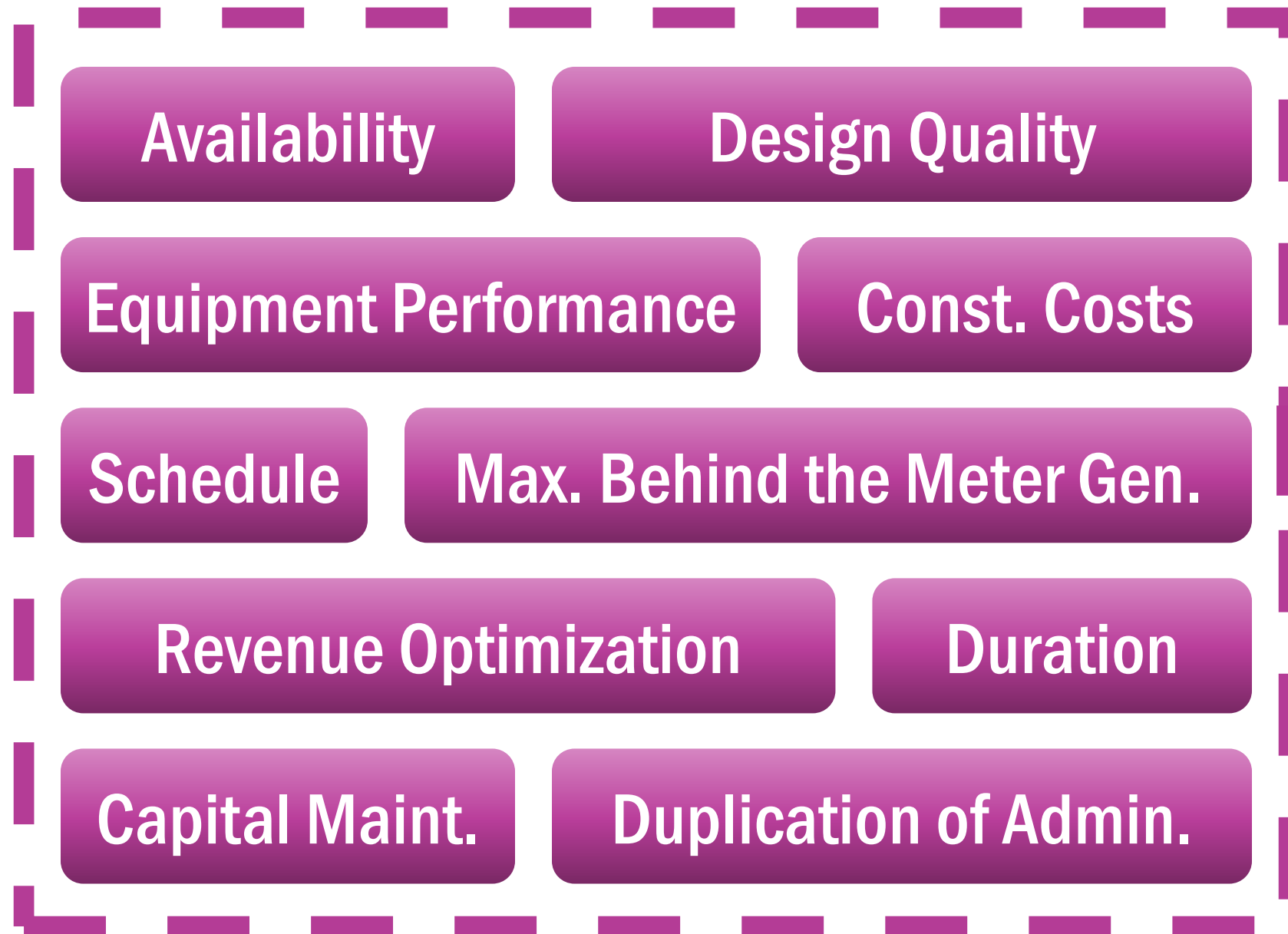
10,000 schedule  
simulations

Cumulative probability  
curve

Level of confidence



# Risks



## Allocation

**Group in  
best  
position to  
manage the  
risk**

**Ultimately, the  
Owner owns  
(or pays for) all risks.**

# FINANCIAL RISK

Reimb  
Cost

Cost  
Plus

Target  
Price

GMP

Escalation  
Clause

Unit  
Price

Negotiated  
Fixed  
Price

Fixed  
Lump  
Sum Bid

# Contracting Types

**Design-Bid-Build-Operate/Maintain**  
(D/B/B/OM)



**Design/Build - Operate/Maintain**  
(DB/OM)



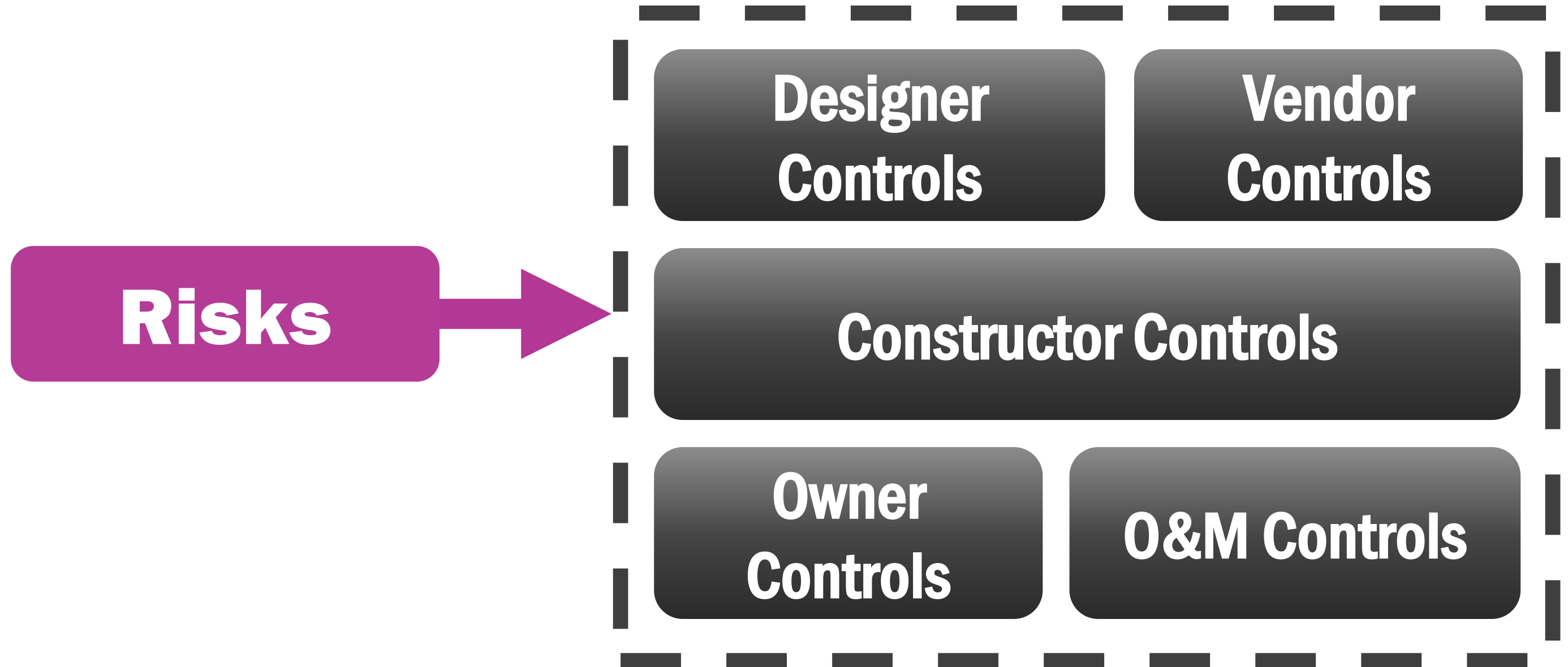
**Design/Build/Operate/Maintain**  
(DBOM)



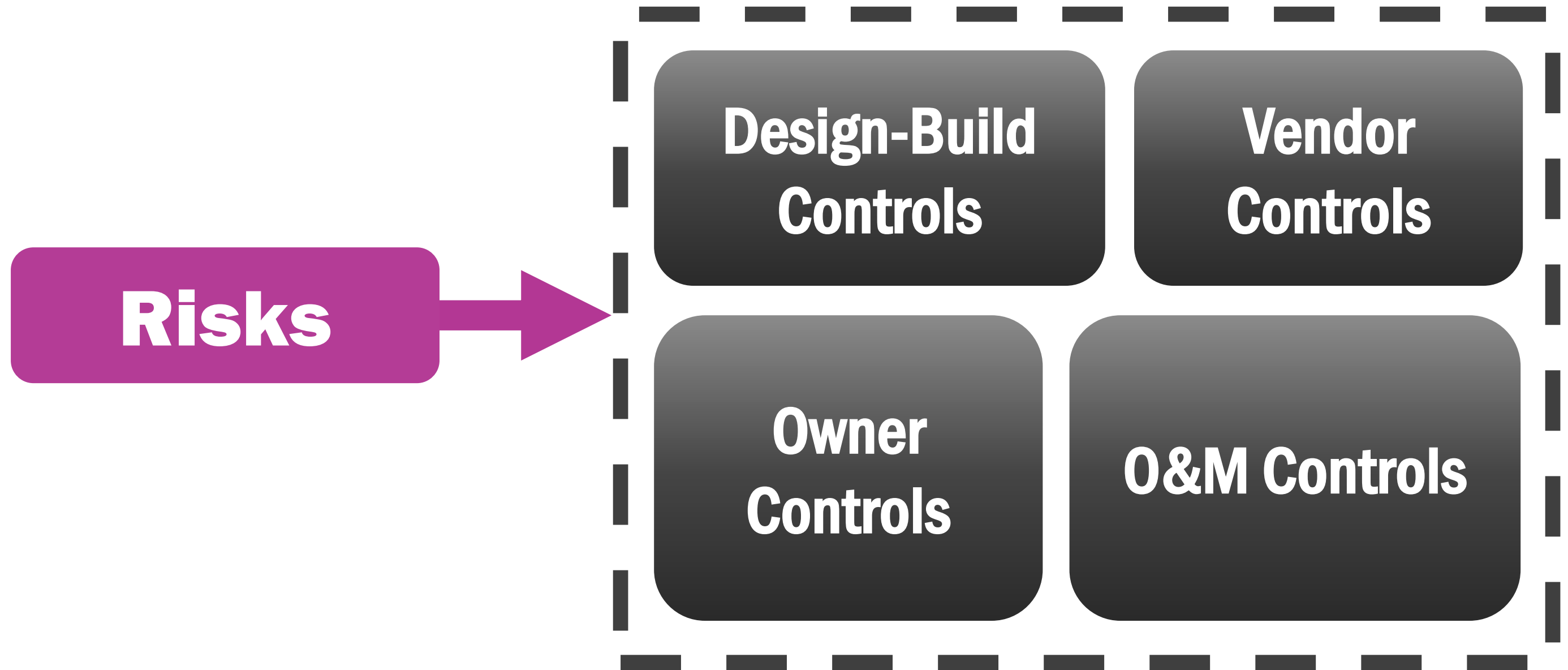
**PMCM - Operate/Maintain**  
(PMCM/OM)



# Contracting Risks (D/B/B/OM)

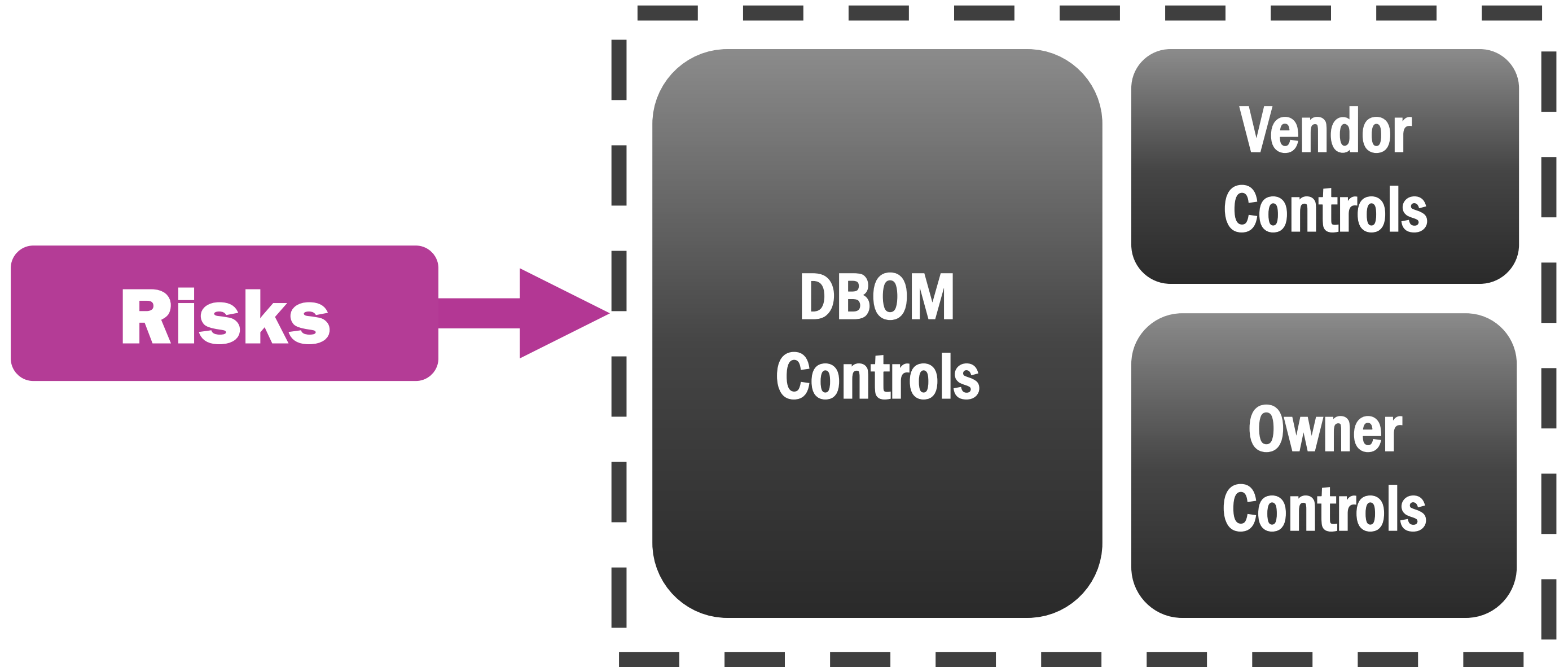


# Contracting Risks (DB/OM)

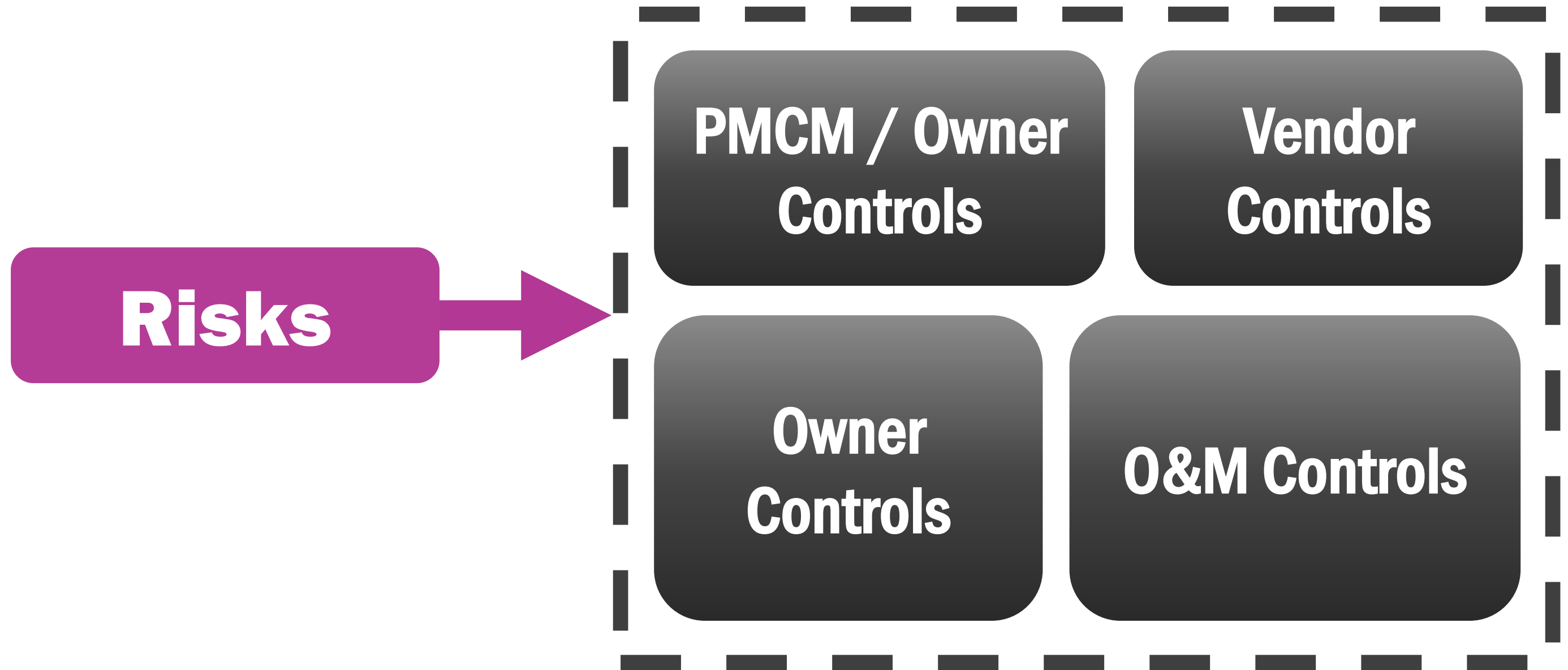




# Contracting Risks (DBOM)



# Contracting Risks (PMCM / OM)



# Risk Allocation Equitably

	Owner	Contractor	Designer
Contract Value	\$1B	\$100M	8% of \$100M = \$8M
Business Case	20% ROI = \$200M	10% Profit = \$10M	10% Profit = \$800k

Align risk allocation with the business case for each entity.

# Risk Allocation Insurance



\$\$\$



**Real Project  
Value**

# Other Insurance Risks

Operating  
insurance

O&M insurance  
for GAP with  
umbrella for  
self insurance

# Contract Terms That Could Save You Money

## Balanced Indemnity



~~Gross negligence provisions~~

Knock for knock indemnity

[Click here for a resource on indemnity clauses](#)



# Contract Terms That Could Save You Money

## Mutual Waiver of Consequential Damages

# Contract Terms That Could Save You Money

## Limitations of Liability

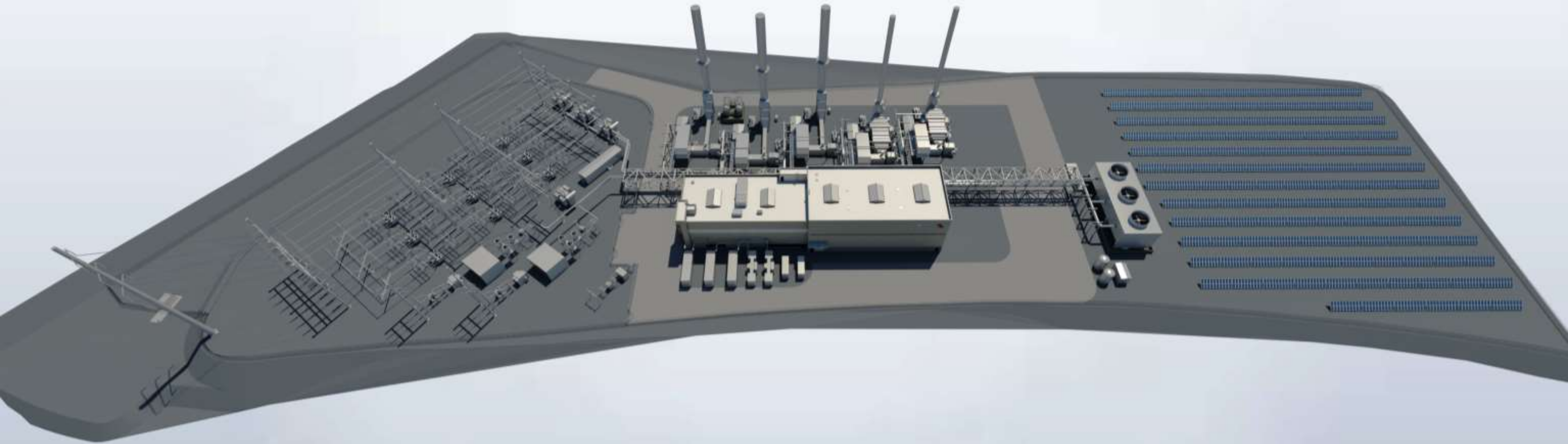


unlimited liability  $\neq$  risk = price  $\neq$  high contingencies

# Contract Terms That Could Save You Money

**Liquidated damages in lieu of actual damages**

**Invest cost of  
“insurance” into  
real project value**



# QUESTIONS?

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