

Dar Al Riyadh Insight #93

Potential Event Risks

Dar Al Riyadh Insights reflect the knowledge and experience of our Board, executives and staff in leading and providing PMC, design and construction management services. Dar Al Riyadh believes in the importance of broadly sharing knowledge with our clients and staff to improve project outcomes for the benefit of the Kingdom of Saudi Arabia.

Six elements involved in event contingency are examined in this series of Insights:

1. Various financial components of a project's price
2. Event contingency as distinguished from cost contingency
3. Preferred method of addressing event contingency from a provider's perspective
4. Potential event risks warranting consideration (event risk checklist)
5. Events typically excluded from event contingency
6. Modeling of event risk in large complex projects

This Insight addresses number 4.

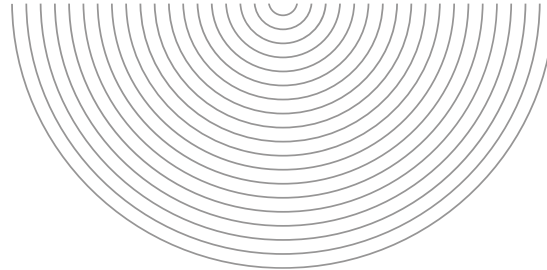
Potential Event Risks

Event risks may be segregated in many different ways. One effective starting framework used in considering international development and construction projects is the ESPRIT framework. The ESPRIT framework comprises:

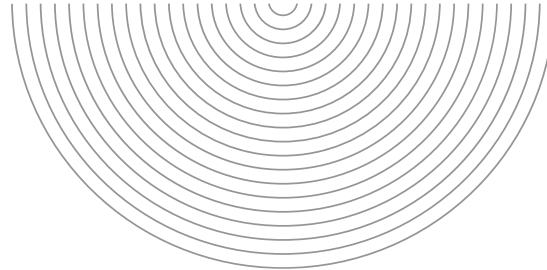
- Economic
- Social
- Political
- Religious
- Intellectual/Ideas
- Technological

Potential event risks are reflected in the following table, organized using the ESPRIT framework. Risks that may be retained in whole or in part are indicated and should be considered typical and unmitigated.

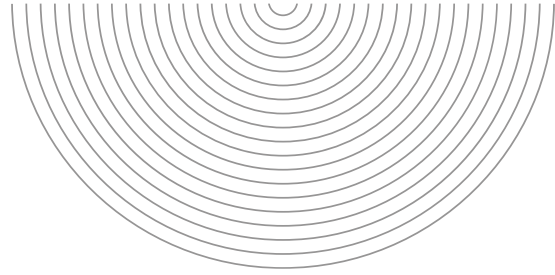




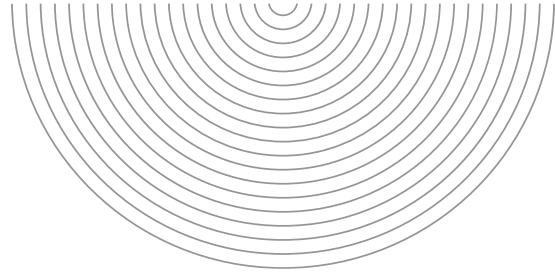
Potential Event Risks				
Category	Subcategory	Potential Event	Retained/ Assumed by Engineer/ Contractor	Retained/ Assumed by Owner/ Government
Economic	Market Development Slower Than Projected	Slower General Economic Growth		X
		Changed Priorities		X
		Longer Gestation Time		X
	Market Rates Lower Than Projected	Higher Price Sensitivity		X
		Increased Competition		X
		Free Government Alternate/Price Caps		X
	Reduced Market Share	Delayed Project Completion		X
		Increased Competition		X
	Synergistic Opportunities Fail to Emerge			X
	Finance – Cost of Money	Interest Rate Risk	X	X
		Inflation/Deflation Risks	X	X
		“Credit Risk”	X	X
	Finance – Cost of Currency	Absence of Long-Term Local Financing	X	X
		Foreign Exchange (F/X) Risk on Construction Financing	X	X
	Cost risk – Construction Phase			
	Scope	Poorly Defined or Incomplete	X	X
		Reference Standards	X	



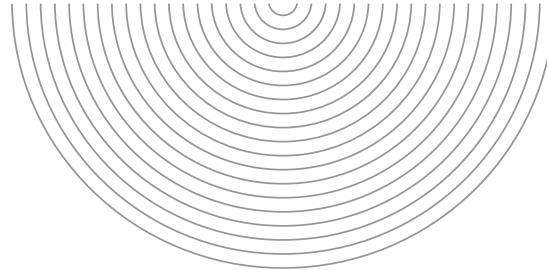
Potential Event Risks				
Category	Subcategory	Potential Event	Retained/ Assumed by Engineer/ Contractor	Retained/ Assumed by Owner/ Government
		Interfaces Not Well Defined	X	X
		Responsibilities Not Defined	X	
		Limitations due to changed conditions not well defined	X	
	Schedule	Labor Volatility/Work Stoppages	X	
		Changed Work Rules	X	
		Labor Productivity	X	
		Timeliness of Inputs/Approvals/ Permits	X	
		Linkage to Timely Payments	X	
		Weather and Environmental	X	
		Government Action	X	
		Stakeholder/ NGO (non-governmental organization) Action	X	X
	Budget	Labor Cost Growth	X	
		Materials/Supplies Cost Growth (availability; supply chain costs)	X	
		Inefficiency (management; labor skills; means & methods)	X	
		Additional Taxes and Fees	X	
		Increased Financing Costs	X	



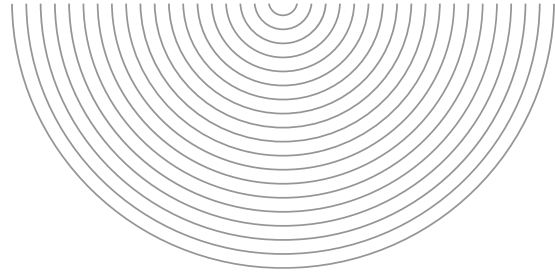
Potential Event Risks				
Category	Subcategory	Potential Event	Retained/ Assumed by Engineer/ Contractor	Retained/ Assumed by Owner/ Government
	Terms & Conditions	Expropriation (Land; equipment & materials)	X	X
		Changes in Law (corporate; tax; staffing/ visa/ employment)	X	X
		Force Majeure	X	
		Conflict between local/ regional/ national laws	X	X
		Defaults (government; owner; contractor; subcontractor; local partner; bonding company; banks; insurance company)	X	X
		Payments (mobilization; retention; progress)	X	
		Bonds (availability; default)	X	
		Dispute Resolution (jurisdiction; form; obligations during dispute)	X	
	Quality	Poor workmanship by manufacturers and suppliers	X	
		Inadequate QA/QC	X	
		Poorly Defined Performance/ Acceptance Standard or Process	X	
		Incomplete Documentation	X	
		Environmental	X	



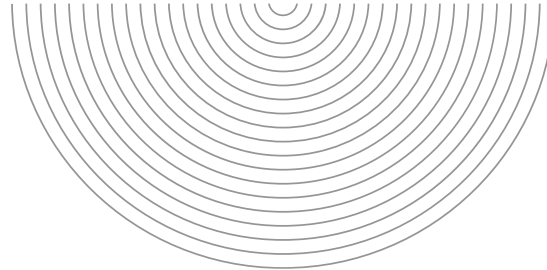
Potential Event Risks				
Category	Subcategory	Potential Event	Retained/ Assumed by Engineer/ Contractor	Retained/ Assumed by Owner/ Government
	Cost Risk – Operations Phase			
	Service Scope	Battery Limits of Project/Scope	X	
	Performance Standards	Reliability; Availability; Maintainability	X	
	Operating Cost	Labor Costs (Wages; benefits; mandates; pension; termination)		X
		Energy (availability; cost)		X
		Consumables (availability; cost)		X
		Maintenance Costs (excessive wear; skilled labor; new technology)		X
		Insurance (availability; cost; security related costs)		X
		Uninsured Risks (environmental; political or labor strife)		X
		Tax		X
		Performance Bonds (increased cost; reduced availability)		X
	Changes in External Environment	Defaults	X	X
		Change of Government		X
		War		X
		Natural Disaster	X	X
		Boycott or Embargo	X	X



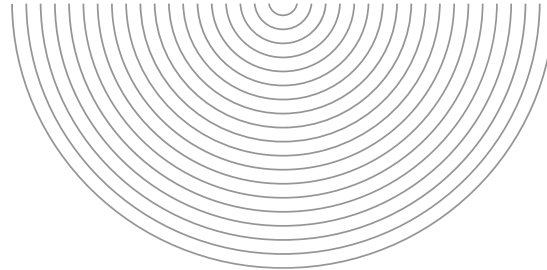
Potential Event Risks				
Category	Subcategory	Potential Event	Retained/ Assumed by Engineer/ Contractor	Retained/ Assumed by Owner/ Government
		Currency Devaluation	X	X
		Inadequate Financial System Capacity	X	X
		Corruption	X	X
		Expropriation	X	X
		New Technology	X	X
		Force Majeure	X	X
		Inadequate System Core Capacity	X	X
Social	Culture	Cross Cultural Issues	X	X
	Ethics	Bribery	X	X
		Corruption	X	X
		Use of Agents	X	X
		Whistleblower	X	X
		Political contributions	X	X
	Extreme Health or Safety Event	Extended Safety Shutdown	X	X
Political	Change of Government		X	X
	Sequestration		X	X
	Exclusivity		X	X
	Changes in Fiscal Policy		X	X
	Changes in Law	General	X	X
		Project Specific		X
	Approvals	Development		X
		Project (right of way; environmental; construction)	X	
		Import/export	X	
		Operating	X	X



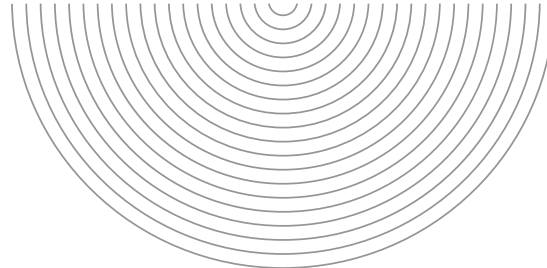
Potential Event Risks				
Category	Subcategory	Potential Event	Retained/ Assumed by Engineer/ Contractor	Retained/ Assumed by Owner/ Government
		Repatriation of Profits	X	X
	Adverse Government Action/ Inaction		X	X
	Regime Change			X
	Provision of Utilities/ Other Services		X	X
	Increases in Taxes	General	X	X
		Project Specific	X	X
	Political Force Majeure	Civil strife; terrorism; conventional war; WMD (weapons of mass destruction)		X
	Termination	Owner's Concession	X	X
		Contract	X	
	Payment Failure by Government			X
	Property Rights	Clear title/ lease	X	X
		Easements	X	X
		Intellectual property rights (IPR)	X	X
	Ownership of Assets		X	X
	Structure of Project Securities			X
	Availability of Securities Market			X
	Insolvency by Government or		X	X



Potential Event Risks				
Category	Subcategory	Potential Event	Retained/ Assumed by Engineer/ Contractor	Retained/ Assumed by Owner/ Government
	Concession Company			
	Changed Conditions on Foreign Ownership or Operation		X	X
	Enforceability of Legal Rights		X	X
Religious	Tensions/ Increased Intolerance		X	X
Intellectual /Ideas	Corporate Social Responsibility	People Related (Modern day slavery; child labor; indigenous peoples; social outreach)	X	X
		Environmental Related (Climate Change (Net Zero Carbon; Embodied Carbon); Zero Discharge)	X	X
	Corporate Governance		X	X
	Evolving Political Form			X
	Homeland Defense			X
	International and Local Pressure Groups		X	X
	Globalization vs Unilateralism			X



Potential Event Risks				
Category	Subcategory	Potential Event	Retained/ Assumed by Engineer/ Contractor	Retained/ Assumed by Owner/ Government
	Access to Knowledge		X	X
Technology	New Technology	Scale	X	X
		Capacity Building	X	
		Intellectual Property	X	X
		Time to Deployment		X
		Learning Curve (Failure rates; system environment)	X	
		Social Acceptability	X	X
		Export/ Import Controls (Controls/ Licenses)	X	X
		Tax & Duty Environment	X	X
	New Applications	Learning Curve	X	X
		Environmental Factor Effects	X	X
		Transferability of Lessons Learned	X	
		Social & Economic Framework	X	X
		Supply Chain Extension	X	X
	Scale	Scalability	X	
		Replicability	X	
		External Resource Requirements	X	X
		Unknown Unknowns Growth	X	X
	Capacity Building	Institutional	X	X
		Management	X	X
		Specialized Expertise	X	X
		Craft/Technician	X	X



Potential Event Risks				
Category	Subcategory	Potential Event	Retained/ Assumed by Engineer/ Contractor	Retained/ Assumed by Owner/ Government
		Maintenance		X
		Supply Chain	X	X
		Supporting Infrastructure	X	X
	Intellectual Property	Patent; Trademark; Copyright; Usage; Royalty & License; Counterfeiting	X	X