

Member Communication Experience

Any views and opinions expressed in this article may or may not refect the

e Insights

NAC Executiv

include risks not trasferred; white space risks between projects/contracts; systemic risks including those associated with coupling and correlation; and event risks.

From the perspective of a single project provider (engineer/contractor), price (the amount the owner is to paysubject to fulfillment of an agreed to scope and within defined terms and conditions) may be considered as including the following elements:

xCost

o Including allowances for scope development and productivity

xEscalation

xCost contingency

o Considering costanges for various cost elements and subject to a consolidated Monte Carlo Analysis

xForeign exchange allowances international projectsor cost of hedges xEvent contingency

o Mitigated exposure from event risks assumed by the contract and subject to a considated Monte Carlo Analysis

fAssumed risk distribution requires special attention on large complex projects

xRevenue reserves

o Associated with warranties and yet unearned incentives

This Executive Insight focuses on event contingency.

2. Event Contingency vs. Cost Contingency

There is a tendency in many programs/projects for either the owner or engineer/contractor to use a singular contingency amount (say percent) applied to the most likely cost. This does not reflect the inherent differences between cost ontingency and event contingency. Combining cost and risk event contingency in a singular contingency in a singular contingency for the project.

Cost contingency is not covered further in this Executive Instigate a few key point are worth noting:

xMost likely costs tend to be optimistic

xEstimate quality is improved by considering lowest likely cost, most likely cost,

v Z]PZ • š o]l oÇ }• š v ‰ Œ}À]]vP oo šZŒ ^šZ} μ PZš } μ š_Monte Carloanalysis

xHighprobability risk events (say greater than percent) should be treated as actual costs and included in the cost contingency analysis instead of an event contingency analysis hey should be maintaine thowever, by the risk manager and actively tracked and analysis

xCommon underlying assumptions (cost of steel for example) should be tested for sensitivity on overall contingency levels. These correlating assumptions should be actively tracked throughout the project

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:

- xEconomic
- xSocial
- xPolitical
- xReligious
- xIntellectual/Ideas
- xTechnological

Potential event risks are reflected in Table 1, organized using the ESPRIT framework. Risks that may be retained in whole or in part are indicated and should be considered typical and unmitigated.

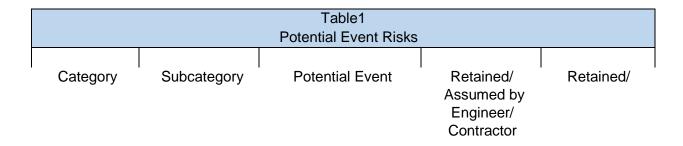


Table1 Potential Event Risks					
Category	Subcategory	Potential Event	Retained/ Assumed by Engineer/ Contractor	Retained/ Assumed by Owner/ Government	
	Quality	Poorworkmanship by manufacturers and suppliers	Х		
		Inadequate QA/QC	X		
		Poorly Defined Performance/ Acceptance Standard of Process	X		
		Incomplete Documentation	X		
-	_	Environmental	X		
	Cost Riskt Operations Phase				

Table1 Potential Event Risks					
Category	Subcategory	Potential Event	Retained/ Assumed by Engineer/ Contractor	Retained/ Assumed by Owner/ Government	

	Table1 Potential Event Risks				
Category	Subcategory	Potential Event	Retained/ Assumed by Engineer/ Contractor	Retained/ Assumed by Owner/ Government	
	Changes in Law	General Project Specific	X	X	
	Approvals	Development Project (right of way; environmental; construction)	X	X	
		Import/export Operating Repatriation of Profits	X X X	X X	
	Adverse Government Action/ Inaction	repairation of Fronts	X	X	
	Regime Change Provision of Utilities/ Other Services		X	X	
	Increases in Taxes	General	X	Х	
	Political Force Majeure	Project Specific Civil strife; terrorism; conventional war; WMD (weapons of mass destruction)	X	X	
	Termination	KÁVŒ[• }v •• Contract	X	X	
	Payment Failure by Government	Contract	X	X	
	Property Rights				

Table1 Potential Event Risks						

Category

Table1				
	l I	Potential Event Risks		I
0.1	0.1.	D (() I = (Datain ad/	Datain ad/
Category	Subcategory	Potential Event	Retained/ Assumed by Engineer/ Contractor	Retained/ Assumed by Owner/ Government
	Globalization vs Unilateralism			X
	Access to Knowledge		X	X
	-			
Technology	New Technology	Scale	Χ	Х
		Capacity Building	Χ	
		Intellectual Property	Χ	X
		Time to Deployment		X
		Learning Curve(Failure rates; system environment)	X	
		Social Acceptability	Χ	Х
		Export/ Import Controls (Controls/ Licenses)	X	Х
		Tax & Duty Environmen	Χ	Х
	New Applications	Learning Curve	X	Х
		Environmental Factor Effects	X	Х
		Transferability of Lessons earned	Х	
		Social & Economic Framework	Х	Х
		Supply Chain Extension	Χ	Х
	Scale	Scalability	Х	
		Replicability	Χ	
		External Resource Requirements	X	X
		Unknown Unknowns Growth	X	Х
	Capacity Building	Institutional	Χ	X
		Management	Χ	X
		Specialized Expertise	Χ	X
		Craft/Technician	X	X
		Maintenance		X

Table1 Potential Event Risks					
Category	Subcategory	Potential Event	Retained/ Assumed by Engineer/ Contractor	Retained/ Assumed by Owner/ Government	
	Intellectual Property	Supply Chain Supporting Infrastructure Patent; Trademark; Copyright; Usage; Royalty & License; Counterfeiting	X X	X X	

5. Events Typically Excludedom Event Contingency

OE \S] v o u v \S \bullet] (\mathring{A} v \mathring{S} OE] \bullet I OE \S \mathring{C} \S \mathring{C}] o o \mathring{C} \S v \bullet] OE \S μ \S \bullet] \S (\S Z and are excluded from event rightut only to the extent they are clearly indicated as remaining with the owner in the contract. Examples include:

xClient caused delays such as delayed authorization to proceed (outside any contractually indicated window); delayed client approvals to initiate various elements of work due to no **65 title** contractor; delayed receipt of client furnishmentarials or equipment or client required **out**-sequence work xClient requested project acceleration or slowdown

Χ

About the Author

Bob Prieto was elected to the National Academy of Construction in **20d** is a senior executive who is effective in shaping and executing business strategy and a recognized leader within the infrastructure,