

# ENGINEERING & CONSTRUCTION RISK INSTITUTE

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## Purpose:

The purpose of this document is to provide a standard definition, within the ECRI, of the six project phases, and to identify those phases as they apply to each of the ECRI Best Practices.

## Introduction:

The six project phases are defined as follows:

- Phase 1: ITB, Proposal Preparation and Bid Submission.
  - Phase 2: Contract Negotiation and Award.
  - Phase 3: Project EPC Implementation through to Mechanical Completion.
  - Phase 4: Pre-Commissioning, Commissioning, Start-Up, Performance Demonstration and Beneficial Operation.
  - Phase 5: Project Close Out and Warranty Period Administration.
  - Phase 6: Change Management through the Project Cycle under phases 1 to 5.
- Note that all steps in EPC Implementation from Studies, Basic Engineering, Detailed Engineering, Procurement, Construction Management and Construction are included in Phase 3.

## Application:

The table below lists the current ECRI Best Practices and their application to the various Project Phases as defined above.

This table will be updated following the issue of each new Best Practice.

ECRI Doc. No.	Title	Phase1	Phase2	Phase3	Phase4	Phase5	Phase6
<b>General</b>							
ECRI-RI-001	Index of Practices and Procedures	n/a	n/a	n/a	n/a	n/a	n/a
ECRI-RI-002	The 6 Project Phases	yes	yes	yes	yes	yes	yes
ECRI-RI-003	Engineering & Construction Risk Institute Vision	yes	yes	yes	yes	yes	yes
ECRI-RI-004	Individual Sponsors Risk Management Vision	yes	yes	yes	yes	yes	yes
ECRI-RI-005	Most important Risk Categories	n/a	yes	yes	yes	yes	yes

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<b>Enterprise and portfolio</b>							
ECRI-EP-001	Enterprise and Portfolio Risks Applicable to an Engineering & construction Contractor	n/a	n/a	n/a	n/a	n/a	n/a
ECRI-EP-002	Bribery & Corruption	n/a	n/a	n/a	n/a	n/a	n/a
ECRI-EP-003	Enterprise Risk Posed by Mergers, Acquisitions and Disposals of E&C Companies	n/a	n/a	n/a	n/a	n/a	n/a
ECRI-EP-004	Is Risk Management Working- What measures can be used	yes	yes	yes	yes	yes	yes
ECRI-EP-005	Cyber Security	n/a	n/a	n/a	n/a	n/a	n/a
ECRI-EP-006	Conflict Minerals	yes	yes	yes	yes	yes	yes
ECRI-EP-007	Reputation Risk	n/a	n/a	n/a	n/a	n/a	n/a
ECRI-EP-008	Recruitment & Retention of Key Project Personnel	n/a	n/a	n/a	n/a	n/a	n/a
ECRI-EP-009	Social Media Risk	n/a	n/a	n/a	n/a	n/a	n/a
ECRI-EP-010	Risk Management Organisation, Roles & Responsibilities	yes	yes	yes	yes	yes	yes
ECRI-EP-011	Portfolio Risk Analysis & Management	n/a	n/a	n/a	n/a	n/a	n/a
<b>Contract Terms and Conditions</b>							
ECRI-TC-001	Contract Critical Issues	yes	yes				
ECRI-TC-002	Contract Terms & Conditions. Project Execution-Commercial	yes	yes				
ECRI-TC-003	Contract Issues for Different Commercial Structures and Different Scopes of Services	yes	yes				
ECRI-TC-004	Survey of Standard Form of Contracts for the E&C industry	yes	yes				
ECRI-TC-005	Important Contract Issues	yes	yes				
ECRI-TC-006	Inventory of Standard Form of Contracts for the E&C Industry	yes	yes				
ECRI-TC-007	Dispute Resolution			yes	yes	yes	yes
<b>Risk Identification /Quantification</b>							
ECRI-RQ-001	Glossary of Risk Quantification Terms	yes					
ECRI-RQ-002	Criteria for Calculation of Risk Event Contingency	yes					
ECRI-RQ-003	Review of Project Risk Profile	yes	yes	yes	yes	yes	yes

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ECRI-RQ-004	Risk Breakdown Structure	yes	yes	yes	yes	yes	yes
ECRI-RQ-005	ECRI Glossary of Terms	n/a	n/a	n/a	n/a	n/a	n/a
ECRI-RQ-006	Risk Management Maturity	n/a	n/a	n/a	n/a	n/a	n/a
ECRI-RQ-007	Definitions & Checklists for Establishing Components of Project Risk	n/a	n/a	n/a	n/a	n/a	n/a
ECRI-RQ –008	Decision Analysis	yes	yes	yes	yes	yes	yes
<b>Project Development</b>							
ECRI-PD-001	Project Development Best Practices	yes					
ECRI-PD-002	Inventory of Additional Risks for Development/Financed Projects	yes					
ECRI-PD-003	Project Development -Early Decision Screens	yes					
ECRI-PD-004	Integrated Risk and Value Management	yes	yes	yes	yes	yes	yes
<b>Risk Financing</b>							
ECRI-RF-001	Risk Financing Critical Issues-Insurance	yes	yes	yes	yes	yes	
ECRI-RF-002	Risk Financing Critical Issues-Bonding	yes	yes	yes	yes	yes	
ECRI-RF-003	Contractor-Owner Division of Risk and Insurance	yes	yes	yes	yes	yes	
ECRI-RF-004	Joint Venture partner Division of Risk Financing	yes	yes	yes	yes	yes	
<b>Risk Management</b>							
ECRI-RM-001	Criteria for a Risk Management Process. App 1,2&3	yes	yes	yes	yes	yes	yes
ECRI-RM-002	Criteria for Risk Management Process: Questionnaire	n/a	n/a	n/a	n/a	n/a	n/a
ECRI-RM-003	Risk Management Planning	yes	yes	yes	yes	yes	
ECRI-RM-004	Tasks Associated with a Risk Management Process	yes	yes	yes	yes	yes	yes
ECRI-RM-005	Risk Register Preparation and Recommendations. Attachments 1&2	yes	yes	yes	yes	yes	yes
ECRI-RM-006	Contingency Drawdown			yes	yes	yes	yes
ECRI-RM-007	Novation-Assignment of Purchase Orders/Subcontracts	yes	yes	yes	yes	yes	yes
ECRI-RM-008	Improving Project Team Risk Awareness			yes	yes	yes	yes

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ECRI-RM-009	Risk Management & Project Control Tools	yes	yes	yes	yes	yes	yes
ECRI-RM-010	Integrated Risk Analysis & Quality Management	n/a	n/a	yes	yes	yes	yes
ECRI-RM-011	Implementation Challenges of Project Size	yes	yes	yes	yes	yes	yes
ECRI-RM-012	Projects in New Geographical Areas	yes	yes	yes	yes	yes	yes
<b>Change Management</b>							
ECRI-CM-001	Criteria for a Project Change Management Process						yes
ECRI-CM-002	Inventory of Risks Associated with Change		yes	yes	yes	yes	yes
ECRI-CM-003	Change Definition Table						yes
ECRI-CM-004	Managing Secondary Impacts of Project Changes			yes	yes	yes	yes
ECRI-CM-005	Presentation version of ECRI-CM-004			yes	yes	yes	yes
ECRI-CM-006	Claims-Essential Issues			yes	yes	yes	yes
<b>Joint Ventures</b>							
ECRI-JV-001	Joint Venture Introduction and Definitions of Execution Terms	yes	yes	yes	yes	yes	
ECRI-JV-002	Joint Venture Benefit and Gap Analysis	yes	yes	yes	yes	yes	
ECRI-JV-003	Joint Venture Formation Issues	yes					
ECRI-JV-004	Memorandum of Understanding Issues	yes					
ECRI-JV-005	Integrated joint Venture Agreement-(Project Specific Agreement) Issues	yes	yes	yes	yes	yes	yes
ECRI-JV-006	Joint Venture Project Execution			yes	yes	yes	yes
<b>Risk Based Audit</b>							
ECRI-RA-001	Outline for Audit of a Company's Risk Management Process	n/a	n/a	n/a	n/a	n/a	n/a
ECRI-RA-002	Project Risk Status Dashboard		yes	yes	yes	yes	yes
<b>Project Execution</b>							
ECRI-PE 001	A Structured Approach to Post Mortems, Project Close Out, and Lessons Learned	yes	yes	yes	yes	yes	yes

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ECRI-PE-002	Multi-Office Execution	yes	yes	yes	yes	yes	yes
ECRI-PE-003	Gate Reviews			yes			
ECRI-PE-004	Pre-commissioning thru to Beneficial Operation				yes		
ECRI-PE-005	Project Interfaces	yes	yes	yes	yes	yes	yes
ECRI-PE-006	Capture of Lessons learned	yes	yes	yes	yes	yes	yes
ECRI-PE-007	Supply Chain Management			yes	yes	yes	yes
ECRI-PE-008	Modular Construction-Onshore Projects	yes	yes	yes	yes	yes	yes
ECRI-PE-009	Subcontract Management	yes	yes	yes	yes	yes	yes
ECRI-PE 010	Key Performance Indicators for Forecasting and Optimising Project Outcomes	yes	yes	yes	yes	yes	yes
ECRI-PE-011	Client Expectations /Client Surveys	yes	yes	yes	yes	yes	yes
ECRI-PE-012	Management of Handover/Turnover Document Deliverables	n/a	n/a	yes	yes	yes	yes
ECRI-PE-013	Team Building	n/a	n/a	yes	yes	yes	yes
ECRI-PE-014	Front End Planning	yes	n/a	n/a	n/a	n/a	n/a
ECRI-PE-015	Modular Construction Offshore Projects	yes	yes	yes	yes	yes	yes
ECRI-PE-016	Field Material Management	n/a	n/a	yes	yes	yes	yes
ECRI-PE-017	Managing Subcontractors HSE Performance	yes	yes	yes	yes	yes	yes
ECRI-PE-018	Multi-Project Execution on Brownfield Sites	yes	yes	yes	yes	yes	yes
ECRI-PE-019	Enhancing Subcontractor Performance	yes	yes	yes	yes	yes	yes
ECRI-PE-020	Enhancing Project Team Performance	yes	yes	yes	yes	yes	yes
ECRI-PE-021	Managing Multi-Cultural Workforces on Major E&C Projects	yes	yes	yes	yes	yes	yes
ECRI-PE-022	Worker Welfare on Major E&C Projects	yes	yes	yes	yes	yes	yes
<b>Technology</b>							
ECRI-TE-001	Technology Risks	yes	yes	yes	yes	yes	yes