Support Preparation for IPA component III
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RISK MANAGEMENT IN MUNICIPAL INFRASTRUCTURE PROJECTS

TERRY HOURIHAN

Senior International Wastewater Expert,
PPF4

LOUIS BERGER
Development Consultants

RISK MANAGEMENT

- RISK is the threat that an event or action will have an adverse impact on the ability of the project to achieve its aims/objectives.

- RISK MANAGEMENT is a structured approach to identifying, assessing and controlling risks that emerge during the course of a project. Its purpose is to support better decision-making through understanding the risks inherent in a project and their likely impact; *(Dept of Finance, Ireland, National Public Procurement Policy Unit)*

RISK MANAGEMENT - OBJECTIVES

- Budget - Most Cost Effective Solution
- Quality
- Schedule
- Health and Safety Issues
- Environmental Factors
- Public Relations

RISK MANAGEMENT – GOLDEN RULES

- Include as part of the Project
- Identify Risks early in the Project
- Analyse & Prioritise
- Clarify Ownership
- Plan and Implement Responses
- Track Risks
- Communicate
- Document – Risk Register

CATEGORIES OF RISK

- Technical
- Quality
- Performance
- Organisation
- Project Management
- External

RISK MANAGEMENT PROCESSES

- Risk Management Planning
- Risk Identification
- Qualitative Risk Analysis
- Quantitative Risk Analysis
- Risk Response Planning
- Risk Monitoring and Control

EMPLOYER RISK MINIMISATION

- Pre-Tender Stage: Detailed Planning
  - **Competent Employer & Engineer Organisations**
    - Agreement on Employer's Requirements
    - Knowledge of State Legislation & Statutes
    - Knowledge of Local Legislation & Statutes
    - Knowledge of FIDIC Conditions of Contract
  - **Adequate Risk Assessment and Analysis**
  - **Competent Conceptual Design & Documentation**
    - Ability to Translate ER's to Realistic Drawings and Documents
    - Realistic, Adequate Site Investigation
    - Inclusion of Local Conditions and Constraints Applicable
    - Competent Archaeological, Hydrological and Environmental Reports
    - Programme Constraints on Contractor
    - Permits required by Contractor

RISK APPORTIONMENT - FIDIC

Sub-Clause	Risk Description	Construction P&DB Both	Contractor Entitlement
1.9	Delayed Drawings and Instructions (Cons) / Errors in Employer's Requirements (P&DB)	Employer	EoT, Cost, Profit
2.1	Right of Access to Site	Employer	EoT, Cost, Profit
4.7	Setting out of Original Points	Employer	EoT, Cost, Profit
4.12	Unforeseeable Physical Conditions	Employer	EoT, Cost
4.24	Fossils	Employer	EoT, Cost
7.4	Testing: Delays by Employer	Employer	EoT, Cost, Profit
7.5	Rejection of Plant & Materials	Contractor	
7.6	Remedial Work	Contractor	
8.4	Extension of Time for Completion (5 causes)	Employer	EoT
8.5	Delays Caused by the Authorities	Employer	EoT
8.6	Rate of Progress: Delay Consequence	Contractor	
8.9	Consequence of Suspension	Employer	EoT, Cost
9.4	Failure to Pass Tests on Completion	Contractor	

Sub-Clause	Risk Description	Construction P&DB Both	Contractor Entitlement
10.2	Taking Over of Part of the Works	Employer	Cost, Profit
10.3	Interference with Tests on Completion	Employer	EoT, Cost, Profit
11.4	Failure to Remedy Defects	Contractor	
11.8	Contractor to Search (for defects)	Employer	(possible Cost, Profit)
12.2	Delayed Tests (P&DB)	Employer	***Cost, Profit***
12.3	Evaluation (Construction)	Employer	***New Rates***
12.4	Omissions of BOQ Work through Variations (Cons) / Failure to Pass Tests after Completion – Delay by Employer (P&DB)	Employer	***Cost*** ***Cost, Profit***
13.2	Value Engineering (Construction)	Employer	50% of Savings
13.3	Variations Procedure	Employer	Adjustment of Contract Price
13.7	Adjustments for Changes in Legislation	Employer	EoT, Cost
13.8	Adjustment for Changes in Cost	Either	Adjustment of Contract Price

Sub-Clause	Risk Description	Construction P&DB Both	Contractor Entitlement
14.8	Delayed Payment	Employer	Financing Charges
15.4	Payment after Termination	Contractor	
16.1	Contractor's Entitlement to Suspend Work	Employer	EoT, Cost, Profit
16.4	Payment on Termination	Employer	Cost, Profit
17.1	Indemnities	Both	Cost
17.2	Contractor's Care of the Works	Contractor	
17.3	Employer's Risks	Employer	
17.4	Consequences of Employer's Risks	Employer	EoT, Cost, Profit
18.1	Insurances (if Employer fails to effect insurance)	Employer	Cost
19.4,6,7	Consequences of Force Majeure	Employer	Cost
20.1	Contractor's Claims	Employer	EoT, Cost

PROJECT 1 – WWTP + COLLECTORS (IRELAND)

- Delay in Land Acquisition + Changes in Scope
  - Defined Finish Date by Court Order
  - Accelerated Programme
    - Original: 15 months
    - Actual: 7 months
  - Working through Winter instead of Summer
  - Tender Amount: €8.2M
  - Contractor's Final A/C Claim: €40.8M
  - Final Agreed Cost: €23.5M (incl. €5.0M Variations)

PROJECT 2 (BULGARIA)

- Collectors (Red Book)
  - Delayed Start
  - Further Contractor Delays
  - Sub-standard Contract Documentation
  - Poor Programming
  - Tender Amount: €8.7M
  - Claims: €3M +
  - EoT Claim: 24 months (on 24 month construction)
    - Local economy suffered for an additional 2 years due to construction

- WWTP (Yellow Book)
  - Delays due to lack of outfall licence
  - Delays by Contractor
  - Sub-standard Contract Documentation
  - Poor Programming
  - Delays in Commissioning due to lack of incoming flow
  - Tender Amount: €3.8M
  - Claims: €0.8M
  - EoT Claim: 18 months (on 24 month construction)

PROJECT 3 (TURKEY)

- Several Works contracts under a single Service supervision contract on various sites remote from each other
  - All contracts started together irrespective of individual circumstances
- Commencement Delays on several
  - Start in wintertime (2m snow)
- Lack of location & Building Permits on several
  - Delays, EoT, Costs etc.

SERBIA – MAIN ISSUES

- **Value For Money**
  - Technical Capacity in the competent Ministries
  - Technical Capacity in the Municipalities
  - Project Management Capacity
    - Ministries + Municipalities
  - Awareness of the 'Risk' Element
    - Incorrect assumption as to where Risk responsibility lies (particularly Yellow Book)
  - Post-Construction Organisational Capacity of the Municipalities
    - Technical and Financial (O&M)

Srećan put!
Go n-éirí an bóthar libh!