EXPRO National Manual for Projects Management

Volume 3, chapter 8

Project Cost Estimate (Class 4) Procedure

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1.0 PURPOSE

The procedure provides general guidelines for the preparation of an Order of Magnitude cost estimate for an intended Infrastructure project and may be referred to as the 'Feasibility' estimate. This level of effort estimate is representative of a Class 4 estimate as defined by the Association for Advancement of Cost Engineering (AACE) in their Recommended Practice: 56R-08 Cost Estimate Classification System - As Applied for the Building and General Construction Industry.

2.0 SCOPE

The procedure applies to all projects that have passed Stage 1 of the Expro Stage Gate Process.

3.0 DEFINITIONS

Definitions	Description
Basis of Estimate (BoE)	A document that details the premise, from which critical aspects of a cost estimate is developed.
BUA	Built-Up Area
Capital Costs	Costs requiring front-end or capital financing, such as services and construction costs combined, are most commonly referred to as capital costs.
Coordinator	The individual in-charge of a particular Gate in the Stage Gate process.
Cost Estimate	Evaluation of all costs of the elements of a project or effort as supported by an agreed-upon-scope
Entity	A Saudi Government organization which is responsible for the delivery of government funded infrastructure projects.
Estimator(s)	Person or team within the Entity tasked with preparing an estimate of the cost of an intended project.
Estimate Classification	Classification of estimate, from Class 5 – Class 1, based on the level of project definition that subsequently also defines the level of estimate accuracy.
Initial Cost Estimate (Class 5)	The first cost estimate prepared for an intended project during the Entity 5-Year Projects Portfolio Planning Stage.
Outline Business Case (OBC)	The second business case of a Project, produced at Stage 2 of its Stage Gate, confirming the feasibility of the project when examined in all Five Cases
Project Definition	Expressed as a percent complete of project and technical deliverables.
Project Sponsor	The individual who submits the project for approval.

Definitions	Description
Scope of Work	Scope of work defines the limits of the project support / estimating effort.
Stage Gate	A Gated Project Execution Process that is designed to help Project Managers successfully organize, plan, set up, and execute infrastructure projects.
Stage 2: Project Initial Planning	Once an infrastructure project has been registered and a Expro project registration number awarded, it may proceed to Stage 2: Project Initial Planning. The primary objective of this stage is to reduce project risks by further planning, developing, testing, and refining the initial project parameters, established during the Entity's 5-Year Projects Portfolio Planning stage.
Strategic Outline Case (SOC)	The first business case of a Project prepared by an Entity/EPMO in support of a potential investment initiative (project).
TIC	Total Installed Cost
Whole Life Costing (WLC)	Includes all cost components incurred throughout the life of a project.

4.0 REFERENCES

1. HM Treasury (2018). *The Green Book, Appraisal and Evaluation in Central Government*. Retrieved from https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-governent

2. Association for the Advancement of Cost Engineering, International (AACE) (2017), *56R-08: Cost Estimate Classification System – as Applied for the Building and General Construction Industry*. Retrieved from http://web.aacei.org/

3. ENT-S00-MN-000001 Entity 5-Year Projects Portfolio Planning Guide
4. EPM-S00-GL-000003 Project Initial Planning Introduction
5. EPM-KP0-GL-000001 Project Controls & Reporting Introduction Guideline
6. ENT-S00-PR-000006 Entity Initial Project Cost Estimate (Class 5) Procedure
7. ENT-S00-PR-000009 Entity Initial Project Schedule Procedure
8. EPM-S00-PR-000005 Project Schedule - Level 1 Procedure
9. EPM-KPE-PR-000001 Project Estimate Types Procedure
10. EPM-KPE-PR-000003 Project Estimate Methodology / Development Procedure
11. EPM-KPE-PR-000004 Project Estimate Review Procedure
12. EPM-KPE-PR-000005 Project Estimate Approval Procedure

5.0 RESPONSIBILITIES

The procedure will be undertaken by an Estimator, with sufficient knowledge and experience, upon the request of the Stage 2 Coordinator. Once the estimate has been prepared, it will then be reviewed by Manager of Estimating, and concurred by the Coordinator. In certain cases, and where in-house Estimating expertise is not available the procedure may be undertaken by a 3rd party specialist consultant.

6.0 PROCESS

6.1 Introduction

This section outlines the framework required to successfully and consistently prepare an Order of Magnitude (Class 4) Estimate. The process covers the following topics:

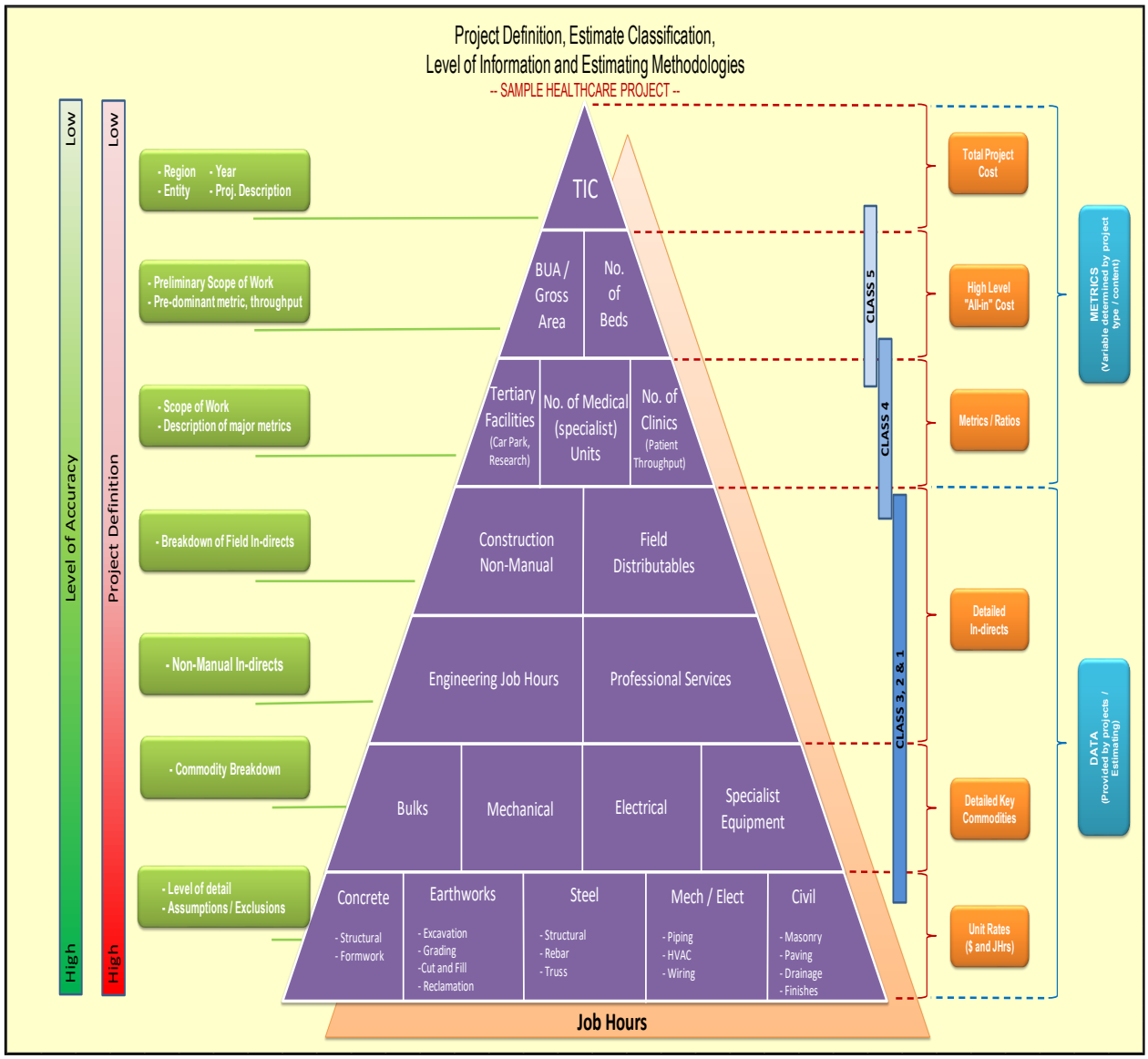
- Relationship between estimate classification, methodology and input requirements
- Estimate Plan
- Estimate Classification - Class 4 estimate
- Methodologies to prepare Class 4 estimate
- Adjustment for Optimism Bias update
- Input required to prepare Class 4 estimate
- Cashflow Update
- Opportunity Cost Analysis update
- Estimate consolidation and review

6.2 Relationship between Estimate Classification, Methodology and Input Requirements

The level of project definition drives the estimate class that should be prepared at any given stage of a project. The estimate classification in turn identifies the pre-requisite inputs and methodologies available to prepare the estimate.

The diagram below illustrates this relationship between project definition (high / low), estimate classification Class 5 – Class 1), inputs / deliverables and relevant methodologies (Metrics / Ratios / Takeoff / Bill of Quantities):

Figure 1: Project definition, estimate classification, level of information and estimating methodologies



6.3 Elements of Project Total Installed Cost (TIC)

Typical elements of a cost estimate for the entire value of project TIC are:

- Land Acquisition.
- Studies, Surveys and Specialist Advice
- Project Management, Construction Management and Site Supervision
- Design Services.
- Construction.
- Entity Procured Specialist Equipment and Material
- Entity Provided Support to Delivery
- Risk & Contingency.
- Escalation/Inflation/Currency Risk.

At this stage it is required that the total capex estimate is broken down and represented in form of these cost elements. Subsequently, these elements shall be monitored and controlled continuously through the project lifecycle. Further information on, including definitions, of the nine cost elements is included in the Project

Estimate Introduction Guideline (EPM-KPE-GL-000001), and as reference, a template of Project TIC Cost and Summary Report is included in **Attachment 4** - TIC Cost Breakdown and Summary Report.

6.4 Estimate Plan

Prior to beginning preparation of an estimate, the Estimator shall hold a kick-off meeting with the Stage Gate Coordinator, and in consultation with the Estimating Manager shall complete the Estimate Plan. The Estimate Plan sets out project definition, key data required and establishes the estimating framework under which the estimate will be prepared. The contents of the Estimate Plan are listed hereunder and a sample template is included in **Attachment 1** - Estimate Plan Template:

- Project Data
- Description of the Project
- Site information
- Responsibilities for estimate development
- Estimate budget and schedule
- Basis of Estimate
- Qualifications and Assumptions

6.5 Class 4 Estimate

6.5.1 Description

The Order of Magnitude estimate is identified as a Class 4 estimate in the Recommended Practice 56R-08: Cost Estimate Classification System – as Applied for the Building and General Construction Industry, of the Association for Advancement of Cost Engineering, International (AACE).

6.5.2 Project Definition

The Class 4 estimate further builds on the Initial Cost Estimate (Class 5) prepared during the Entity's 5 Year Projects Portfolio Planning Stage. Similar to the initial estimate, Class 4 estimate is also prepared based on limited availability of information, with Engineering completion ranging between 1% - 15%. However, various studies and plans produced during Stage 2 provide additional information that is used to revise the initial estimate as well as the assumptions made around scope, location, site conditions, risk, optimism bias, etc. Key studies and plans produced during Stage 2 that feed into preparation of the Class 4 estimate include the following:

- Concept Masterplan and Development Framework
- Initial Environmental Assessment
- Land Acquisition Plan
- Permitting Plan
- Risk Assessment Update

6.5.3 End Use

This type of estimate is typically produced to support project conceptual and feasibility studies, alternative schemes analysis, update of economic and financial business cases, and preliminary budget approvals.

As further information on estimate classes, an Estimate Classification Matrix has been included in **Attachment 2** – Estimate Classification Matrix.

6.6 Methodology

The method for preparing Class 4 estimate is similar to that of Class 5 estimate, except that the former incorporates the output from the conceptual / feasibility studies, any initial engineering performed, surveys, Geotech date, land acquisition and environmental assessments, etc.

6.6.1 Cost v/s Capacity Graphs

Cost vs Capacity graphs are produced using historical and industry data for similar type of projects with varying capacities e.g. Combined Cycle Gas Turbine (CCGT) power plants at 400 Mega Watts, 600 Mega Watts, 1,000 Mega Watts etc. These are typically used in projects that constitute primarily of process and power related facilities where cost to capacity ratios can be used to prepare indicative estimates for a facility with a known desired throughput.

6.6.2 Ratios / Parametric Methods

This methodology uses 'all-in' costs of a facility using a predominant metric. This metric can be based on either throughput e.g. volume, count etc., or installed commodity e.g., linear mileage of roadway, cubic meter of earth etc. This method is to be used primarily in building, transportation and other heavy civil projects.

6.6.3 Comparison with Historical Projects

Comparison can be drawn to similar projects executed in the past. In projects where equipment cost constitutes a substantial portion of the project's costs, equipment cost is estimated and a correlation of total project cost to equipment cost is used to estimate total project cost based on the estimated equipment cost. This methodology is to be used in process related projects that have an equipment intensive cost expenditure e.g. pressure vessels, condensate plants, coker, cracker etc.

Learning curve effects provide a useful indication for factoring efficiencies in comparative / parametric estimates for similar, repeated projects e.g. mosques, parks, roads etc. However, this would require availability of a decent sized data set of similar projects.

6.6.4 Cost Indices

Cost indices and labor productivity data is used to obtain adjusted labor, plant and material costs. Published data is available, generally by country / region and industry that can be used for preparation of an initial cost estimate[1]. The data date of the published information should be taken into account, and where necessary, appropriate adjustments be applied.

6.7 Optimism Bias Update

Optimism Bias factors used in the Initial Cost Estimate should be revisited and adjusted considering the additional information now available. Although the procedure does not provide sample Optimism Bias factors for this stage, the Estimator, based on the quality and completeness of the inputs received, should take a subjective approach to revising these. In any case, it is not recommended at this stage that adjustment for Optimism Bias be taken out altogether.

[1] Cost indices specific to Saudi Arabia are not available at present, though there is work ongoing to create them. Reference cost indices can be used from sources such as *Turner & Townsend International Construction Market Survey* or *Arcadis Construction Cost Handbook*. The former contains construction data for U.A.E. which could be used as an exemplar.

6.8 Input to the Estimating process

Input information available for preparation of Class 4 estimate is more developed and granular than that used for the Initial Cost Estimate. Also, additional information is now available from the initial technical / feasibility studies and concept plans. Although information available may still vary from project to project, to the extent usable, all available information should be incorporated in the preparation of the estimate. The table below lists generic input items that may be used for preparation of a Class 4 estimate.

Estimate Type:	Order of Magnitude / Feasibility
Estimate Classification:	Class 4
Inputs / pre-requisites:	**In addition to inputs available at Class 5 estimate**
	Updated scope of work
	Updated site conditions
	Land use mix plan
	Concept Masterplan
	Plot layout guideline; by use or type with development area, plot area, built-up area, gross floor area, etc.
	Preliminary facility layout / rooms layout
	Utilities / Infrastructure plan; roads, drainage, water and wastewater, power, etc. (including existing)
	Preliminary architectural design guideline
	Preliminary phasing plan / permitting plan
	Land acquisition plan
	Updated risk assessment
	Relevant historical data
	Industry benchmarks / reference class benchmarks[2]
	Cost indices
	Updated opportunity cost analysis

A list of project definition deliverables by estimate class has been included in **Attachment 3** - Representative of List Project Definition Deliverables.

6.9 Cashflow Update

Cashflow and project S-Curve prepared during the Initial Cost Estimate stage should be revised, especially taking into consideration information such as the preliminary project phasing plan, land acquisition plan, infrastructure plan and plot layout. Mathematical regression expressions may be used to prepare an updated project S-Curve.

Using industry and asset class benchmarks, the Estimator at this stage should provide a segregated cashflow for each phase of the project i.e. pre-tender, design, construction, handover, and operations. The breakdown of the cashflow should be in line with the level of detail provided in the Project Level 1 Schedule.

6.10 Opportunity Cost Analysis Update

With the development of certain key documentations such as the concept masterplan, land acquisition plans and general project definition (scope of works), the premise for the opportunity cost analysis performed during earlier stage may no longer be valid. Examples where this may be the case include:

- Proposed alternative use for an asset i.e. land previously earmarked for the intended project may have now been proposed for a different use with a higher economic benefit.
- Change in project site location: Any change in location following site condition studies, environmental impact assessments, etc. may invalidate the opportunity cost analysis performed previously.
- Land value appreciation would require opportunity cost analysis to be updated.

[2] Reference class benchmark refers to comparing similar asset classes for higher accuracy. Examples include comparing urban metro to an urban metro; high-speed rail to high-speed rail project and so on.

- Change in the land acquisition strategy.
- Requirement of specialist equipment following further development of project scope, not considered previously.

Therefore, Opportunity Cost Analysis performed previously should be rechecked and updated, if necessary. The updated analysis will then inform the Outline Business Case (OBC) which is prepared at the end of Stage 2.

6.11 Estimate Consolidation and Review

Once the estimate has been prepared, the Estimator shall consolidate the estimate package to include all worksheets, project specific information used, reference to any historical projects data, published industry data, metrics, indices etc., and any other document that has been used in the preparation of the estimate. The Estimate Plan shall be updated to capture any changes in scope of work, estimate basis, assumptions and qualifications, etc.

The completed estimate package shall be reviewed by the Estimating Manager and concurred by the Stage Gate Coordinator.

7.0 ATTACHMENTS

1. EPM-S00-TP-000012 - Project Estimate Plan Guideline Template
2. EPM-S00-RG-000002 - Project Estimate Classification Matrix
3. EPM-S00-RG-000003 - Project Representative List of Project Definition Deliverables
4. EPM-KPC-TP-000039 - TIC Cost Breakdown and Summary Report Template

Attachment 1 - EPM-S00-TP-000012 - Project Estimate Plan Guideline Template

1.0 PROJECT DATA

Entity	Entity Name City, Region, Province, etc.
Project Location	Design – City, Country Construction – City
Project Scope	Describe the project, key quantities, etc.
Estimate Scope	Describe scope of the estimate
Type of Estimate	State the type and class (Class 5 – Indicative / Conceptual, etc.)
Purpose of Estimate	State what the estimate is being used for: Strategic Outline Case, Initial Screening, etc.
Pricing Level	Describe the basis for pricing – 4th quarter of (Year). Escalation is included or excluded, etc.
Project Schedule	Describe the major project milestones, stages, etc. Strategic Outline Case : Month / Year Ministry of Finance Approval : Month / Year Initial Planning Completed : Month / Year Design Frozen, 30% Complete : Month / Year Start of Construction : Month / Year Complete Construction : Month / Year

2.0 DESCRIPTION OF PROJECT

This section should include a general description of the project. If available, this section should include the following type of information:

- Intended project or facility purpose
- Typical operational characteristics
- Key partners, etc.

3.0 SITE INFORMATION

This section should include relevant project site data such as:

- Soil characteristics
- Water availability and quality data
- Climate
- Precipitation
- Ground cover—trees, shrubs, etc.

4.0 RESPONSIBILITIES FOR ESTIMATE DEVELOPMENT

This section should clearly define the estimate's division of responsibility (DOR). As a minimum, this section should address the following:

- Identifying party responsible for consolidating the estimate
- Identifying team members and their specific responsibilities to develop the estimate, including what information they are responsible for and to whom they need to provide it.
- If available, identifying post-estimate responsibilities.

This section should also include a table of all key personnel associated with the effort and their associated titles. As a minimum all estimating leads and key personnel must be identified.

5.0 ESTIMATE BUDGET

This section deals with the estimate preparation budget. The best method to provide this information is in tabular format, with each department listed with its approved budget.

6.0 BASIS OF ESTIMATE

Here, the Project Estimator must discuss how the Basis of Estimate (BoE) document will be handled. As a minimum, the following should be discussed:

- Maintained as a living document by individual team members as they develop their estimates.
- How to submit and revise their BoE documents.
- Review and revision process.
- Where to find specific information regarding the process to create the BoE documents. Specifically, template format and recommended wording.

Project-specific BoE development guidelines will be issued separately by the Estimator.

7.0 QUALIFICATIONS AND ASSUMPTIONS

Here, direction should be given regarding the following:

- How to describe assumptions made where information was not available from the scope / definition documents.
- List and number all boundary conditions and other clarification assumptions pertaining to the estimate.
- Describe the major elements which have been excluded from the estimate and the reasons for doing so, e.g., work will be done by others, land already owned by the entity, etc.
- Where to compile assumptions and when the project Sponsor needs to receive all the input.

Attachment 2 - EPM-S00-RG-000002 - Project Estimate Classification Matrix

Estimate Class >	Class 5	Class 4	Class 3	Class 2	Class 1
Expected Accuracy Range	L: -20% to -50% H: +30% to +100%	L: -15% to -30% H: +20% to +50%	L: -10% to -20% H: +10% to +30%	L: -5% to -15% H: +5% to +20%	L: -3% to -10% H: +3% to +15%
Estimate Description	Indicative / Conceptual	Feasibility / Order of Magnitude	Preliminary	Engineer's	Definitive
Typical Use	Project screening and viability, market studies, evaluation of alternate schemes	Conceptual and feasibility studies, order of magnitude	Preliminary budget and control, studies and funding requests	Project execution budget and control	Check estimate
Typical Engineering % Complete	0% to 2%	1% to 15%	10% to 40%	30% to 70%	50% to 100%
Level of Project Definition	(Refer to Document No. EPM-S00-RG-000003 – Representative List of Project Definition Deliverables Guideline)				
Typical Estimating Methodology / Approach	Using the actual cost of a previous, similar project as a basis for estimating the cost of the current project. Use of percentage factors and expert judgment.	Based on overall factors by plant capacity, facility size (length, area, volume), cost/capacity graphs, ratio methods, and comparison with similar work completed previously.	Estimate is categorized into major equipment/components and key quantities (some quantities may be estimated or factored). Detailed bulk material take-offs are generally limited to critical bulks based on scope definition. Preliminary project execution approach available to address self-perform versus subcontract scope. Time-related elements based on preliminary schedule.	Detailed material take-offs are made for all major commodities from engineering design drawings and specifications. For those areas of the project not fully defined, an assumed level of detail takeoff (forced detail) may be developed to use as line items in the estimate instead of relying on factoring methods. Firm project execution approach available. Detailed definition of in-directs including non-manual staffing, construction equipment, freight, insurance, etc. Time-related elements based on firm schedule.	Similar to Class 2 except detailed material take-offs are made for all or nearly all commodities from engineering design drawings and specifications.
Typical Basis of Unit Costs	Estimated costs typically based on historical information (that may be adjusted using indices), factored from other costs, etc.	Estimated costs typically based on historical information (that may be adjusted using indices), factored from other costs, etc. Labor may also be adjusted to site conditions.	Incorporates broad assessments of engineering design, site productivity, labor wage rate, escalation, fee and other factors which influence the job costs. Majority of unit costs are based on historical (that may be adjusted using indices) but there may be areas where informal or budget quotes are available (e.g. budget quotes for package bulks such as Integrated Control System, etc.)	Incorporates detailed assessment of engineering design, site productivity, labor wage rate, escalation, fee and other factors which influence the job costs. Installation hours based on performance assessments by trade, skill levels and estimated construction equipment usage. Majority of major components/commodity unit costs are based on informal or budget quotes (market/current pricing) but there may be areas where are formal quotes are available (typically available for major equipment and most package bulks).	Similar to Class 2 except that the majority of major equipment/components and commodities unit costs are based on formal or budget quotes. Committed or equivalent purchase orders may also be executed for equipment, bulk materials, subcontracts and specialized packages. Craft wage rates known and project assignment conditions approved.
Typical Contingency Level	>30%	>25%	15% to 25%	5% to 15%	5% to 10%

Attachment 3 - EPM-S00-RG-000003 - Project Representative List of Project Definition Deliverables

Estimate Class >	Class 5	Class 4	Class 3	Class 2	Class 1
Level of Project Definition	Geographic location / Country - Regional specific / General Site Conditions	As for Class 5 plus:	As for Class 4 plus:	As for Class 3 plus:	Completed or nearly completed design
	Gross dimensions	Layout / reference project plot plan (with assumed major utilities interface points location), assumed subsurface conditions	Actual project location, preliminary plot plan/plant layout (typically Issued For Approval (IFA) for overall plot plan), preliminary site assessment, preliminary understanding of sub-surface condition (for local foundation requirements).	Site assessment complete, site investigation / geotechnical report complete with substantial understanding of foundation requirements/design.	Process P&IDs typically Issued For Construction (IFC) and Auxiliaries/Utilities typically Issued For Design (IFD)/IFC. HAZOP completed and action items closed.
	Preliminary Block Flow Diagrams, process description/expected plant capacity/configuration	Process Flow/Block Diagrams	Preliminary P&IDs (typically IFA for process and Issued For Review (IFR) for utilities), preliminary PFDs on material handling and major systems, preliminary definition of utility requirements.	Process and Utilities P&IDs typically Issued For Hazard Study Review (IFH). (For Power projects with substantial historical / reference basis, redline markup of P&IDs for steam, condensate, feedwater, fuel gas and circulating water systems may be used.) HAZOP significantly defined.	Typically 50% of model reviews completed, 90% reviews status.
		Battery limit scope, general description/sizing of facilities, draft scope of work description (including design basis, facility services, major interconnections, etc.), scope comparison data	Preliminary design of major structures and facilities, design documents for civil/earthwork (e.g. track alignments, surveys, etc.), preliminary piping models, preliminary single line diagram / power distribution design, preliminary water balance	Large bore modeled and routed for critical systems .	
		Preliminary equipment list (may have sizing, material/performance specifications, weights, etc.)	Specifications preliminary/complete for major equipment and key bulk materials.	Specifications complete for most major equipment and key bulk materials.	
			Scope description including preliminary definition of vendor scope and overall scope related qualifications and assumptions.		

Attachment 4 - EPM-KPC-TP-000039 - TIC Cost Breakdown and Summary Report Template

### PROJECT NAME ###	ESTIMATION	BUDGET AND BUDGET CONTROL				COMMITMENT AND FORECAST						VARIANCE	COST AND VALUE TO DATE					
	Estimated Cost	Original Budget	Client Approved Scope Changes	Current Budget	Authorised Funding to date	Contract Award	Executed Change Orders	Current Contract Value	Pending Changes / Trends	Un-committed	Estimate At Completion (EAC)	Current Budget minus EAC	Certified	Accrual	Actual Cost of Work Performed ACWP	Budget Cost of Work Performed BCWP	Budget Cost of Work Scheduled BCWS	PAID
COST ELEMENT DESCRIPTION	SAR M	SAR M	SAR M	SAR M	SAR M	SAR M	SAR M	SAR M	SAR M	SAR M	SAR M	SAR M	SAR M	SAR M	SAR M	SAR M	SAR M	SAR M
1. Land acquisition (including costs and fees associated)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. Studies, Surveys and Specialist Advice		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
210-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
220-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Project Management, Construction Management and Site Supervision		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Design services		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
410-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
420-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5. Construction		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
510-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
520-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6. Entity Provided Support to Delivery		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
610-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
620-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7. Entity Procured Specialist Equipment and Material		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
710-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
720-		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8. Risk & Contingency		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
810- Evaluated Risk Exposure		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
820- Contingency		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9. Escalation/inflation/currency risk		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
910- Escalation		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
920- Currency hedging costs		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL PROJECT COST		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0