



EXPRO National Manual for Projects Management

Volume 7, Chapter 3

Project Estimate Types Procedure



Document No. EPM-KPE-PR-000001 Rev 003



Project Estimate Types Procedure

Document Revisions History:

Revision:	Date:	Reason For Issue
000	29/01/2018	For Use
001	25/12/2018	For Use
002	25/02/2019	For Use
003	23/08/2021	For Use



Project Estimate Types Procedure

THIS NOTICE MUST ACCOMPANY EVERY COPY OF THIS DOCUMENT

IMPORTANT NOTICE

This document, ("Document") is the exclusive property of Government Expenditure & Projects Efficiency Authority.

This Document should be read in its entirety including the terms of this Important Notice. The government entities may disclose this Document or extracts of this Document to their respective consultants and/or contractors, provided that such disclosure includes this Important Notice.

Any use or reliance on this Document, or extracts thereof, by any party, including government entities and their respective consultants and/or contractors, is at that third party's sole risk and responsibility. Government Expenditure and Projects Efficiency Authority, to the maximum extent permitted by law, disclaim all liability (including for losses or damages of whatsoever nature claimed on whatsoever basis including negligence or otherwise) to any third party howsoever arising with respect to or in connection with the use of this Document including any liability caused by negligent acts or omissions.

This Document and its contents are valid only for the conditions reported in it and as of the date of this Document.



Project Estimate Types Procedure

Table of Contents

1.0	PURPOSE.....	5
2.0	SCOPE.....	5
3.0	DEFINITIONS.....	5
4.0	REFERENCES.....	6
5.0	RESPONSIBILITIES	6
6.0	PROCESS.....	7
6.1	Degree of Project Definition	7
6.2	Estimate Classification	7
6.3	Class 5 (Stage 1 Registration)	10
6.4	Class 4 (Stage 2 Initial Planning)	11
6.4.1	Description	11
6.4.2	Project Definition	11
6.4.3	End Use.....	11
6.5	Class 3 (Stage 4 Budget Preparation)	11
6.6	Class 2 (Stage 6 Final Installed Cost).....	12
6.7	Class 1 (Stage 6 Final Installed Cost).....	12
7.0	ATTACHMENTS.....	12
	Attachment 1 - Classification of Estimates	13
	Attachment 2 - Representative List of Project Definition Deliverables.....	14
	Attachment 3 - Sample Estimate Accuracy Model (illustrative purposes only)	15
	Attachment 4 - Sample Estimate Classification Development (illustrative purposes only)	16



Project Estimate Types Procedure

1.0 PURPOSE

The purpose of this procedure is to define the classification of different types of estimates. During a proposal or project development effort, a clear and concise estimate classification facilitates discussion on the relationship between an estimate's level of scope definition and its expected accuracy range together and drives the estimate planning process. This procedure applies to works performed under all Government construction projects executed throughout the Kingdom of Saudi Arabia.

2.0 SCOPE

This procedure applies to all Entities and defines the best practice approach to the Estimate Classification matrix which displays the relationship between the level of scope definition, the information available and the expected accuracy range. The matrix is based on the five classifications used by the Association for the Advancement of Cost Engineering, International (AACE), in their Recommended Practices (RPs):

- 17R-97: "Cost Estimate Classification System"
- 18R-97: "Cost Estimate Classification System – as Applied in Engineering, Procurement, and Construction for the Process Industries"
- 47F-11: "Cost Estimate Classification System – as Applied in Mining and Mineral Processing Industries"
- 56R-08: "Cost Estimate Classification System – as Applied for the Building and General Construction Industries"
- 69R-12: "Cost Estimate Classification System – Ass applied in Engineering, Procurement, and Construction for the Hydropower Industry"

Note that this matrix is based on the above AACE recommended practices but reflects the best practice approach to Estimate Classification. Estimate classifications should also be examined during Project Estimate Review and Project Estimate Approval Procedures EPM-KPE-PR-000004 and EPM-KPE-PR-000005 respectively.

3.0 DEFINITIONS

Definitions	Description
AACE	Association for the Advancement of Cost Engineering.
BOQ	Bill of Quantities
Bulk Materials	Those commodities, such as concrete, formwork, reinforcing steel, embedded metal, wire, cable, conduit, cable tray, pipe, fittings, valves, instruments, general building materials, etc., that, for the most part, are purchased in quantity and fabricated or assembled in the field. Generally, they are interpreted to mean all materials that are not defined as equipment. For the purpose of forecasting categories, bulk materials exclude materials that are supplied and installed by subcontractors.
Contingency	The amount of money, job-hours, and time that must be included in an estimate, forecast, and schedule to provide for uncertainties in quantity, pricing, productivity, activity duration, and timing that lie within the defined scope of the project. This funding is held separate from any specific direct or indirect accounts and should be released for use only by the Project Manager or Site Manager upon recognition of approved trends..
Direct Costs	Direct Field Costs include the cost of all materials and improvements forming a permanent part of the



Project Estimate Types Procedure

Definitions	Description
	finished project and of all contractor and subcontract labor engaged in installing or erecting such materials or performing such improvements.
EPMO/Entity	Entity Project Management Organization
Escalation	Changes in the basic cost of materials and services that may occur from the base date of an estimate or forecast to the time when the material is purchased or delivered or the service is performed. Escalation generally relates to the price trends occurring in a given segment of the industry, while inflation is the aggregate average of a large number of changing prices and costs throughout the economy. The two are related but rarely equal to one another.
HVAC	Heating Ventilation and Air-Conditioning
Material Equipment	Those components completely shop-assembled before delivery to the jobsite and that provide storage such as HVAC (Heating Ventilation and Air-Conditioning) systems.

4.0 REFERENCES

1. EPM-KPC-PR-000001 - Project Cost Coding Structures Procedure
2. EPM-KPC-PR-000007 - Project Trend Program Procedure
3. EPM-KPC-PR-000002 - Project Budget Control Procedure
4. EPM-KPC-PR-000003 - Project Cost & Commitment Procedure
5. EPM-KPC-PR-000004 - Project Forecasting Procedure
6. EPM-KPP-PR-000001 - Project Planning and Scheduling Definitions and Concepts Procedure
7. EPM-KPE-PR-000003 - Project Estimate Methodology/Development Procedure
8. EPM-KPE-PR-000004 - Project Estimate Review Procedure
9. EPM-KPE-PR-000005 - Project Estimate Approval Procedure
10. ENT-S00-PR-000006- Entity Initial Project Cost Estimate (Class 5) Procedure
11. Association for the Advancement of Cost Engineering, International (AACE) (2017) 17R-97: Cost Estimate Classification System. Retrieved from <http://web.aacei.org/>
12. Association for the Advancement of Cost Engineering, International (AACE) (2017) 18R-97: Cost Estimate Classification System – as Applied in Engineering, Procurement, and Construction for the Process Industries. Retrieved from <http://web.aacei.org/>
13. Association for the Advancement of Cost Engineering, International (AACE) (2017) 47F-11: Cost Estimate Classification System – as Applied in Mining and Mineral Processing Industries. Retrieved from <http://web.aacei.org/>
14. Association for the Advancement of Cost Engineering, International (AACE) (2017) 56R-08: Cost Estimate Classification System – as Applied for the Building and General Construction Industries. Retrieved from <http://web.aacei.org/>
15. Association for the Advancement of Cost Engineering, International (AACE) (2017) 62R-12: Cost Estimate Classification System – as Applied in Engineering, Procurement, and Construction for the Hydropower Industry. Retrieved from <http://web.aacei.org/>

5.0 RESPONSIBILITIES

The Engineering team provides input to the Project Estimator regarding the status of key engineering documents and the basis of quantity development.

The Project Estimator develops the appropriate classification based on the guidance provided in this procedure and provides recommendation to the Entity Manager of Estimating.

Entity Manager of Estimating verifies that the level of scope definition and anticipated estimating methodology are compatible with the Project Estimator's expected estimate classification.



6.0 PROCESS

Estimates take many forms and serve a variety of purposes; they vary from initial feasibility and engineering economic studies to competitive bid estimates and detailed budget estimates for planning and control. The degree of project and estimate scope definition ranges from conceptual to highly specific and detailed. The estimate classification is correlated to the degree of project definition available and the purpose of the estimate. The degree of project definition determines the tools that can be used to prepare the estimate and is an indicator of the level of accuracy of the estimate.

6.1 Degree of Project Definition

The degree of project definition is expressed as a percent complete of project and technical deliverables. This roughly correlates with the overall percent complete of engineering. The degree of project definition defines maturity or the extent and types of input information available to the estimating process; such inputs include project scope definition, requirements documents, specifications, project plans, drawings, calculations, and other information that must be developed to define the project.

6.2 Estimate Classification

Five estimate classes range from the lowest level of project definition and accuracy in Class 5 to the highest level in Class 1:

- Class 5 - Indicative / Conceptual (Stage 1 – Registration)
 - Class 4 - Feasibility / Order of Magnitude (Stage 2 – Initial Planning)
 - Class 3 – Preliminary (Stage 4 - Budget Preparation)
 - Class 2 - Engineer's
 - Class 1 - Definitive
- } (Stage 6 - Final Installed Cost)

All estimates are within the five classes. Estimate classes can overlap in terms of level of project definition/typical engineering percent complete and estimate accuracy ranges; therefore, they should not be considered exclusive as shown in **Figure 1**.



Project Estimate Types Procedure

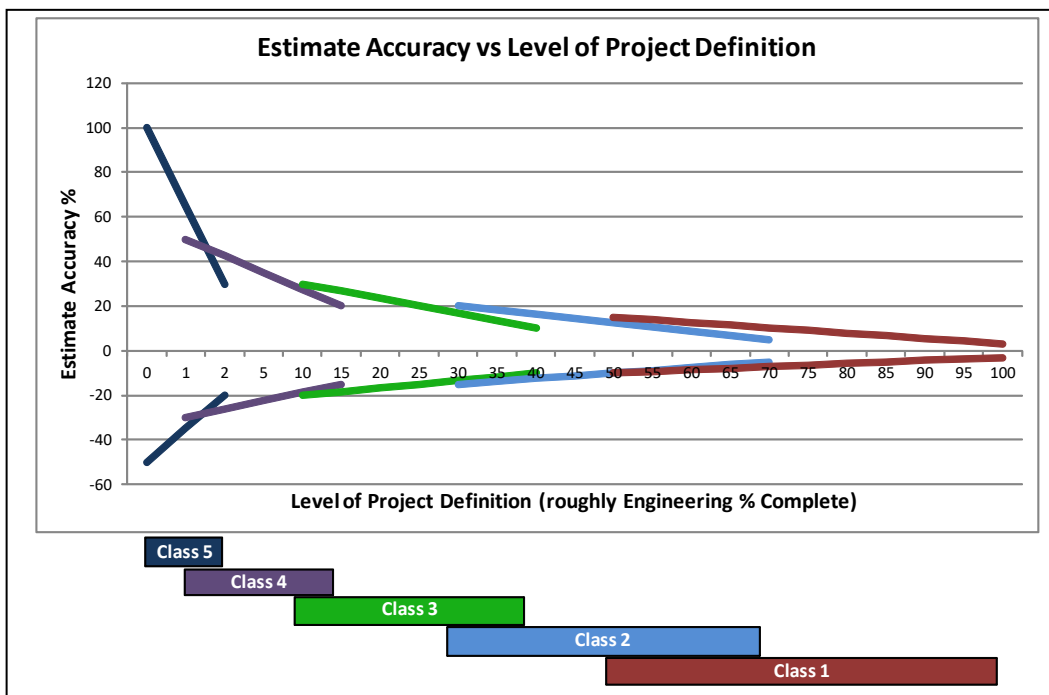


Figure 1 – Example of the Variability in level of Project Definition/Typical Engineering Percent Complete

The matrix shown in **Attachment 1** provides the expected accuracy ranges, typical use, typical degree of engineering completeness, typical estimating methodology, typical basis of unit costs and typical contingency levels associated with each class of estimate.

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 shown in **Figure 2** illustrates this relationship between project definition (high / low), estimate classification Class 5 – Class 1), inputs / deliverables and relevant methodologies (Metrics / Ratios / Takeoff / BOQ (Bill of Quantities)).



Project Estimate Types Procedure

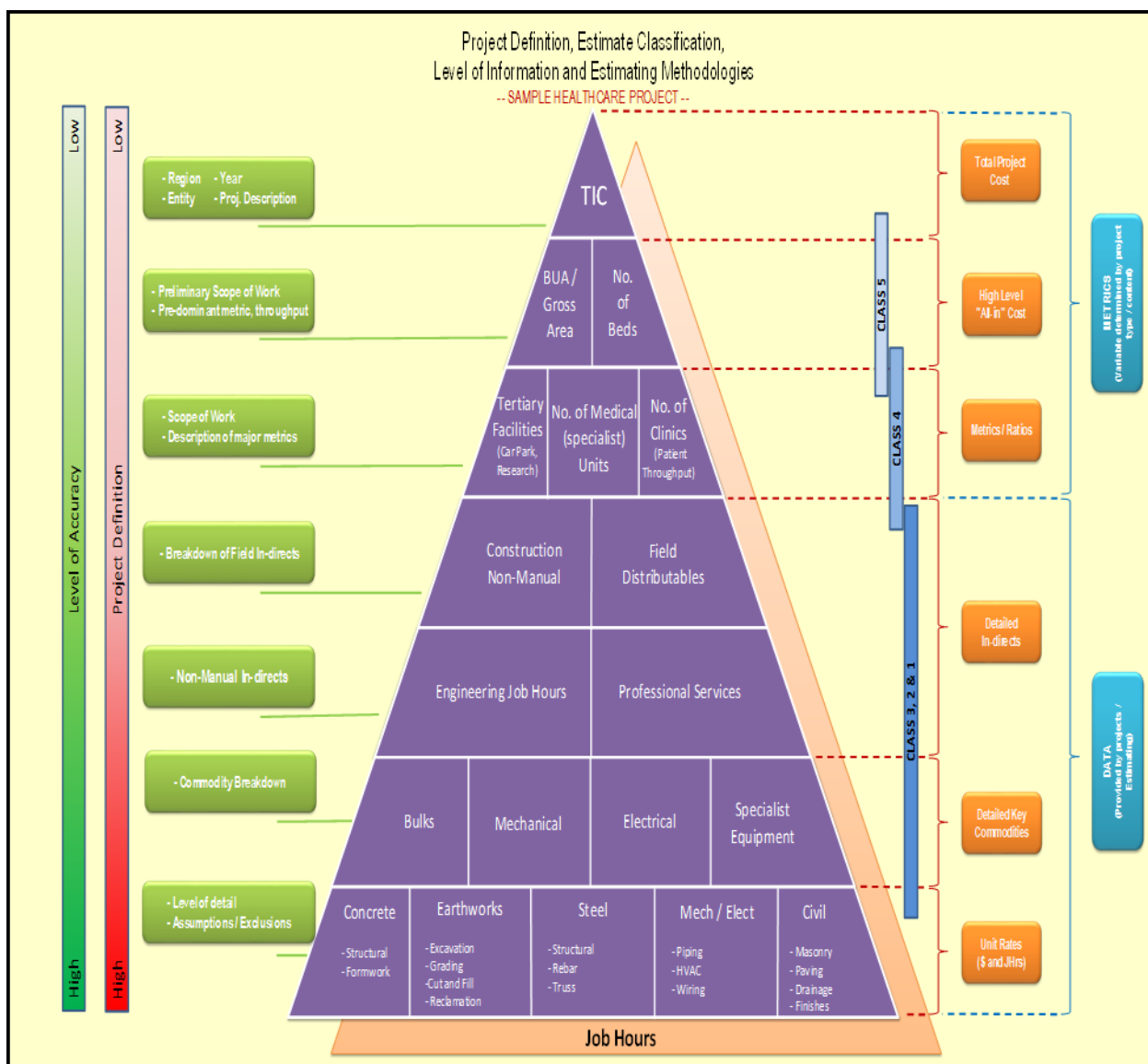


Figure 2: Project definition, estimate classification, level of information and estimating methodologies

Additionally, Attachment 2 provides the level of project definition / representative list of deliverables that could be expected for each class of estimate

Figure 3 depicts the overlap of estimate accuracy ranges across the five classes of estimates as well as the fact that the estimate accuracy is assessed following the application of an appropriate level of contingency.



Project Estimate Types Procedure

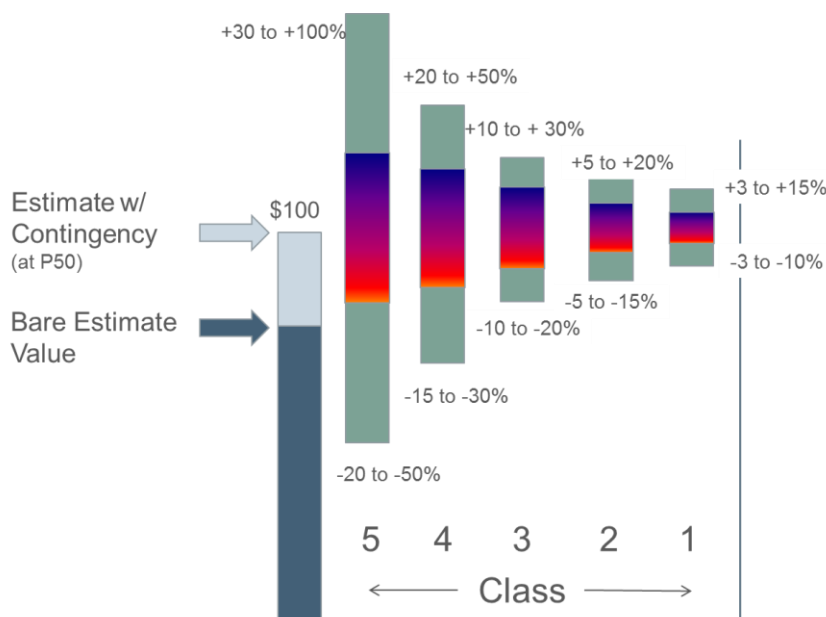


Figure 3 – Example of the Variability in Accuracy Ranges

For illustrative purposes **Attachment 1** and **Figure 3** expected accuracy ranges were determined at a 50% level of confidence for contingency, after the application of contingency at P50, per AACE RP 18R-97.

In addition to the degree of project definition, estimate accuracy is also subject to:

- Level of non-familiar technology in the project
- Complexity of the project
- Quality of reference cost estimating data
- Quality of assumptions used in preparing the estimate
- Estimating techniques employed.
- Time and level of effort budgeted to prepare the estimate.

When a request is made to provide a statement relative to estimate accuracy, the following guidance is provided:

- Use the Expected Accuracy Ranges provided in the estimate classification matrix; or
- Make an assessment on where the particular estimate fits within the range. **Attachment 3 – Sample Estimate Accuracy Model** can be used to facilitate this approach.

The sections below provide more detailed information on each class of estimate.

6.3 Class 5 (Stage 1 Registration)

The Initial Cost Estimate is identified as a Class 5 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). Class 5 estimate is an indicative or conceptual estimate; it is defined by a specified level of project definition and maturity of input information available to the estimating process.

This type of estimate is typically produced to support project screening and viability, market studies, or evaluation of alternative schemes where there is very little engineering (less than 2%) or very little scope definition available. Nevertheless, to the extent possible, a written outline project description precedes the estimate effort.



Project Estimate Types Procedure

As further information on estimate classes, an Estimate Classification Matrix has been included in **Attachment 1**.

The type of information needed for this kind of estimate includes:

- Scope of Work
- Geographic location
- Site conditions
- Outline site layout / gross dimensions
- Relevant historical data
- Industry benchmarks / reference class benchmarks
- Cost indices
- Opportunity cost analysis

Refer to ENT-S00-PR-000006- Entity Initial Project Cost Estimate (Class 5) Procedure

6.4 Class 4 (Stage 2 Initial Planning)

6.4.1 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).

6.4.2 Project Definition

The Class 4 estimate further builds on the Initial Cost Estimate (Class 5) prepared during the Entity's 5 Year 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 which 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

6.4.3 End Use

This type of estimate is typically produced to support project conceptual and feasibility studies, alternate scenario 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 1**.

Refer to EPM-S0-PR-000006 - Project Cost Estimate - Class 4 Procedure

6.5 Class 3 (Stage 4 Budget Preparation)

Class 3 estimates are usually prepared when design engineering is 10 to 40 percent complete. They are prepared in support of preliminary budget and control, studies and funding requests. This type of estimate incorporates engineering design, site productivity, labor wage rate, escalation, and other factors that influence job costs, and fee is addressed as a discrete element. Bulk material take offs are generally limited to critical materials based on scope definition with the balance of quantities factored. Significant effort is concentrated on the scope of work and on the pricing of major engineered items such as production equipment or materials. When complete, the class 3 estimate typically provides total project revenue, total costs, manual labor job hours, non-manual labor job hours, bulk quantities, construction duration, home



Project Estimate Types Procedure

office job hours by department (if available), and other available data. Class 3 estimate development ideally is based on a scope of work prepared by the proposal or project team.

6.6 Class 2 (Stage 6 Final Installed Cost)

Class 2 estimates are customary when engineering is 30-70 percent complete. For projects with reliable historical data, the low end of engineering progress (e.g., 30 percent complete) may suffice to support this class of estimate; conversely, a first-of-a-kind project with a very complex scope requires a greater degree of engineering development. A Class 2 estimate provides the basis for the project execution budget that is the key document for use by project cost control personnel. As for the other estimate classes, a scope of work initially defines the project.

6.7 Class 1 (Stage 6 Final Installed Cost)

Class 1 estimates require a rigorous estimating effort and are generally used to support fixed-priced construction proposals. These estimates are similar to class 2 estimates except that design engineering is usually 50 to 100 percent complete. Quantity surveys, with 100 percent engineering complete, are typically performed from the documents provided except for subcontracting packages. Subcontracting packages may be developed by the proposal or project team and must have very clearly defined work scopes and interfaces. These packages then yield fixed-priced quotes for inclusion with other direct costs.

The Project Estimator makes the determination of the estimate class primarily based upon the degree of project definition (engineering % complete). While the determination of the estimate class is somewhat subjective, the design input data, completeness and quality of the design deliverables serve to make the determination more objective. Further, there are other criteria that drive the classification of an estimate including the quantification method used and the basis of unit costs.

It should be noted that for any particular estimate, not all portions of the estimate will be at the same level of project definition. For example, civil design might be at 90% complete while electrical design might be at less than 30% complete. Additionally, firm pricing might be available on the permanent plant equipment while pricing on bulk materials might be based on historical information. The sample provided in **Attachment 4** can be used to assist in developing the classification designation for an estimate

7.0 ATTACHMENTS

1. Classification of Estimates
2. Representative List of Project Definition Deliverables
3. Sample Estimate Accuracy Model (illustrative purposes only)
4. Sample Estimate Classification Development (illustrative purposes only)



Project Estimate Types Procedure

Attachment 1 - Classification of Estimates

This matrix is a general guideline that is not industry-specific and is based on AACE Recommended Practice (RP) No. 17R-97: "Cost Estimate Classification System" and 18R-97 "Cost Estimate Classification System – as Applied in Engineering, Procurement, and Construction for the Process Industries". Note that this matrix is based on the referenced AACE RPs but reflects Entity approach to Estimate Classification.

Class ¹ ->	Class 5	Class 4	Class 3	Class 2	Class 1
Expected Accuracy Range ²	L: -20% to -50%	L: -15% to -30%	L: -10% to -20%	L: -5% to -15%	L: -3% to -10%
	H: +30% to +100%	H: +20% to +50%	H: +10% to +30%	H: +5% to +20%	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 ³	0% to 2%	1% to 15%	10% to 40%	30% to 70%	50% to 100%
Level of Project Definition	(Refer to Attachment 2 - Representative List of Project Definition Deliverables)				
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 by Entity.	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 indirects 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 >\$2M 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 ⁴	>30%	>25%	15% to 25%	5% to 15%	5% to 10%

Notes:

- Five cost estimate classes are established based on level of project definition with Class 5 having the lowest level, and Class 1 having the highest level of definition.
- Expected Accuracy Range: The state of process technology and availability of applicable reference cost data affect the range markedly. The +/- value represents typical percentage variation of actual costs from the cost estimate after the application of contingency (typically at a 50% level of confidence) for given scope.
- Typical Engineering % Complete: Refers to the general percent of engineering and design complete. Note that in most cases this percentage will be a subjective assessment of percent complete since actual measurement may not be available.
- The stated contingency ranges are "typical" ranges and are provided as guidelines. The typical contingency levels shown only address estimate uncertainty and EXCLUDE contingency attributed to schedule uncertainty and risk events that must be evaluated and added to these typical ranges. There are many factors that can affect the amount of contingency recommended by Estimating on a particular estimate including level of familiarity in the project technology, completeness of engineering definition, quality of reference cost data, time to prepare the estimate, etc. The final contingency value included in an estimate (that may be outside the typical ranges) is determined by management based on business drivers that can include alignment with strategic business plans, tolerance for risk, etc.



Project Estimate Types Procedure

Attachment 2 - Representative List of Project Definition Deliverables

This matrix is a general guideline and should not be viewed as a definitive list of all deliverables that must be in place before establishing the class level of a particular estimate.

The deliverables list is generic and each item may or may not be applicable to the project being estimated.

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:	As for Class 2 plus:
	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 / geotech report complete with substantial understanding of foundation requirements/design.	Completed or nearly completed design
	Preliminary Block Flow Diagrams, process description/expected plant capacity/configuration (including Outside Battery Limits (OSBL))	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.	Process P&IDs typically Issued For Construction (IFC) and Auxiliaries/Utilities typically Issued For Design (IFD)/IFC. HAZOP completed and action items closed.
	Gross dimensions	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 .	Typically 50% of model reviews completed, 90% reviews status.
		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.		



Project Estimate Types Procedure

Attachment 3 - Sample Estimate Accuracy Model (illustrative purposes only)

Project Name: **Sample Project**

Estimate Class: **4**

Base Estimate **SAR 2,800.0**

Contingency % **15%**

Total Estimate **SAR 3,220.0 w/Contingency**

Block #	Description	Value		Accuracy Range		Weighted	Weighted
		SAR million	% Total \$	Low End	High End	Low End	High End
	BASE ESTIMATE						
01	Facility-1 ISBL	SAR 966.0	30%	-10%	18%	-3.0%	5.4%
02	Facility -2 ISBL	SAR 966.0	30%	-10%	18%	-3.0%	5.4%
03	Common OSBL (greenfield)	SAR 418.6	13%	-10%	50%	-1.3%	6.5%
04	Tie-in Existing Fac's / Bldgs / Utils (brownfield)	SAR 193.2	6%	-10%	50%	-0.6%	3.0%
05	Tank (1ea new) - include beyond 5m			0%	0%	0.0%	0.0%
06	Tank Modifications (2ea modify)	SAR 128.8	4%	-10%	35%	-0.4%	1.4%
07	Modify Existing Facilities	SAR 32.2	1%	-15%	40%	-0.2%	0.4%
08	Facility -3 ISBL			0%	0%	0.0%	0.0%
09	Site Preparation; Constrion Facilities, Laydown	SAR 386.4	12%	-10%	50%	-1.2%	6.0%
10	Perimeter Wall / Faciities	SAR 128.8	4%	-10%	50%	-0.4%	2.0%
Base	Total Base Project Costs	SAR 3,220.0	1.00	-10%	30%	-10.1%	30.1%

Instructions:

1. Add/Delete rows and/or adjust Descriptions to align with current project.
2. Enter data in yellow cells. All other cells are calculated.



Project Estimate Types Procedure

Attachment 4 - Sample Estimate Classification Development (illustrative purposes only)

September 2016

<u>Cost Category</u>	<u>Cost Category</u> (weighting ==>)	<u>Class of Estimate</u>			Weight Within Estimate (H, M, L)	Comments	Calculated Score
		Level of Project Definition	Quantification Method	Basis of Unit Costs			
Directs	Civil/Structural/Architectural	2	2	3	M		2.25
	Piping	3	3	3	H		3.15
	Electrical/Instrumentation	4	4	4	L		3.80
	Process Equipment	2	1	2	H		1.84
Distribs	Temp Facilities/Constr Services	3	3	4	L		3.09
	Construction Equipment/Small Tools	4	4	4	L		3.80
	Field Non-Manual	2	2	3	M		2.25
	Startup Manual & Non-Manual	3	3	3	L		2.85
	Camp	3	3	3	M		3.00
	Other	4	4	4	L		3.80
Professional Services	Labor	2	2	2	L		1.90
	Non-Labor	2	2	2	L		1.90
Other	Taxes	3	3	3	L		2.85
	Insurances	3	3	3	L		2.85
	Freight	3	3	3	L		2.85
	Other	4	4	4	L		3.80
	Escalation	3	3	3	M		3.00

Overall Estimate Classification:

3

<== Weighted Calculated Score (can be over-ridden by Project Estimator)

2.9

Notes:

- 1) Fill each of the relevant cells under "Class of Estimate" with a designation of 1 through 5 that best describes that element.
- 2) Enter "High", "Medium", or "Low" under the "Weight Within Estimate" column.
- 3) Assign Overall Estimate Classification.