

Project Controls

Master Specification

PC-PL5 Cost Estimation

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1	Initial Issue (formerly P96)	27/06/19
2	Requirements for duplicate and Level 2 estimates	15/08/19
3	General review and update of document	August 2021

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Contents

Contents	3
PC-PL5 Cost Estimation	4
1 General	4
2 Estimator	4
3 Requirements for Cost Estimation	4
4 Estimating Methodology	5
5 Estimating Deliverables	5
6 Hold Points	6

PC-PL5 Cost Estimation

1 General

Scope

- 1.1 This Part sets out the requirements for Cost Estimation and associated documentation / deliverables required to be provided by the Contractor / Civil Estimator.
- 1.2 Cost estimation procured in accordance with this Specification is typically undertaken during the Proving and Pre-delivery phase of a project and as part of, or in support of, a Transport Planning Study. On occasion the Department may also seek to procure more detailed estimates which result from a project proceeding through to subsequent delivery phases. In this event the requirements of this Specification also apply.

References

- 1.3 In addition to the requirements of this Part, and where required by the Contract, Cost Estimation will consider the following Parts relating to Planning Studies:
 - a) Master Specification Part PC-PL1 "Framework for Planning Studies".
 - b) Master Specification Part PC-PL2 "Planning Investigations".
 - c) Master Specification Part PC-PL3 "Concept Design Development".
 - d) Master Specification Part PC-PL4 "Constructability Assessments".

2 Estimator

- 2.1 All estimates will be prepared by an organisation listed as a prequalified or panel supplier to the Department for the provision of "Civil Estimating and Scheduling Services", or prior to the establishment of this, the relevant proceeding prequalification or panel agreement.
- 2.2 The Contractor shall provide personnel that have appropriate experience in the development of cost estimates incorporating project programs, cash flows, staging diagrams and risk assessments for civil infrastructure projects of a similar type, magnitude and complexity as is applicable to the current engagement.

3 Requirements for Cost Estimation

- 3.1 Unless specified by the Principal in the Contract Documents, the Contractor shall undertake all necessary estimating and associated activities that it deems necessary to deliver on the stated objectives and outcomes to a level commensurate with the size and complexity of the Works.
- 3.2 The minimum level of the estimate which the Contractor shall undertake is as detailed in Table PC-PL5 3-1.

Table PC-PL5 3-1 Level of Cost Estimation

Estimate Level	Concept Development	Estimate developed for
Level 2	5% Initial Concept	Long list of options in the proving phase of a Planning Study.
Level 3	10% Shortlisted Concept	Approved shortlist of Concept Designs in the proving phase of a Planning Study.
Level 4	20% Reference Design	Preferred Concept Design in the pre-delivery phase of a project based on the reference design.

4 Estimating Methodology

- 4.1 The Contractor shall ensure that all estimates are prepared in accordance with the current version of the Department's EST600 Estimating Manual, Transport Infrastructure Projects (DRAFT), found at: https://www.dpti.sa.gov.au/__data/assets/pdf_file/0003/173532/Estimating_Manual.pdf.
- 4.2 Estimates are required to be registered with the Principal Cost Manager (Estimating and Programming). Registration of the estimate shall constitute a **Hold Point**.
- 4.3 Estimates will be presented using "EST600-2 – Standard Estimating Spreadsheet, Levels 2, 3, 4, 5 & 5B" with all applicable options contained in a single file.
- 4.4 Where the estimated project cost is anticipated to be in excess of \$25 million (P90, real \$) duplicate estimates may be required. If required, the need for a duplicate estimate shall be confirmed by the Principal in the Contract Documents. The reconciliation of duplicate estimate values shall only occur where approved by the Principal.
- 4.5 The Contractor shall complete all tabs within EST600-2, including all details which would typically form part of the "Estimating Work Order" where this is not provided as part of this contract.
- 4.6 The Contractor shall ensure that all relevant scope items are included within the estimate and not "excluded" where they are likely to form part of the project scope (e.g. costs associated with land acquisition, service relocation and contaminated soils).
- 4.7 Where viable opportunities to use low emission materials and/or recycled materials in place of traditional materials have been identified in accordance with PC-PL2 "Planning Investigations", estimates will be based on the assumption that these opportunities will be implemented.
- 4.8 Where a Green Infrastructure Assessment has been undertaken in accordance with PC-PL2 "Planning Investigations", estimates will be inclusive of the planned extent and type of green infrastructure shown.
- 4.9 Estimates will be prepared inclusive of constructability considerations as determined within PC-PL4 "Constructability Assessment".
- 4.10 Estimates will incorporate assessment of risk items using probabilistic risk methods to determine P50 and P90 estimate values.
- 4.11 With the exception of the long list of options / Level 2 estimates, all estimates will also incorporate the development of project program(s), cash flow(s), staging diagrams and risk assessment tables which clearly link to the derived P50 and P90 values. For Level 2 estimates it is anticipated that simplified / generic risk assessment tables will be utilised when deriving P50 and P90 values.
- 4.12 The Contractor shall advise on opportunities to provide improved "value for money" and best for project outcomes.
- 4.13 Estimates will incorporate completion of 'Estimator' and 'Estimate Reality Checker' reviews, with the relevant section of the Estimate Cover Sheet (within EST600-2) is to be marked accordingly.
- 4.14 A general review of the estimate is to be undertaken by an appropriate representative of the planning/design consultant to ensure that the applicable scope has been adequately accounted for and that the estimate is compliant with the Department's estimating requirements, including those detailed within this Specification. Upon completion of this, the 'Additional Reviewer' section of the Estimate Cover Sheet (within EST600-2) is to be marked accordingly. These reviews are required prior to submission to the Department for lodging within the estimating database.

5 Estimating Deliverables

Reports

- 5.1 A single Microsoft Excel version of the options estimate file in the "EST600-2 – Standard Estimating Spreadsheet, Levels 2, 3, 4, 5 & 5B" format inclusive of the following tabs, each of which are to be fully completed:
 - a) "Cover Sheet";

- b) "Scope, Risk & Methodology";
 - c) "Summary Option(s)";
 - d) "Calculation Option(s)"; and
 - e) "Inherent & Contingent Risk Option(s)" tabs.
- 5.2 Summary report of information and supporting documentation including, but not limited to, the following:
- a) Project schedule/program(s);
 - b) Project cash flow(s);
 - c) Staging diagram(s);
 - d) Risk register(s) and information to support the basis of risk calculations;
 - e) Details of opportunities to improve value for money and best for project outcomes; and
 - f) Commentary on the constructability methodology (and additional information as required to support the estimate).
- 5.3 Provision of all estimating deliverables inclusive of applicable drawings, and the acceptance of these by the Principal Cost Manager (Estimating and Programming) or their delegate, shall constitute a **Hold Point**.
- 5.4 Once received, and at the discretion of the Principal Cost Manager (Estimating and Programming) or their delegate, estimates will be recorded within the Departments estimating database.
- 5.5 Early estimates (typically those at Levels 2 and 3) will be reviewed for completeness and where appropriate to do so will be marked as 'Endorsed to Lodge'. More detailed estimates (typically those at Levels 4 and 5) may be subject to more detailed reviews and where appropriate to do so, be reviewed as per the Department's standard estimate review process.

Records

- 5.6 The Contractor shall retain all information used to allow for future revision, analysis or audits. This includes, but is not limited to:
- a) First principles estimating calculations with proprietary estimating software; and
 - b) Input data associated with risk calculations (in order to allow risk assessment calculations to be re-run / future validation of outputs).

6 Hold Points

- 6.1 The following is a summary of Hold Points referenced in this Part:

Document Ref.	Hold Point	Response Time
4.2	Registration of the estimate	5 Working days
5.3	Provision of estimating deliverables	10 Working days