

# Project Controls

## Master Specification

## PC-PL5 Cost Estimation

### Document Information

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DEPARTMENT FOR  
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## Document Amendment Record

| Version | Change Description                               | Date        | Endorsement record (KNet ref.) |
|---------|--|-------------|--------------------------------|
| 1       | Initial Issue (formerly P96)                     | 27/06/19    |                                |
| 2       | Requirements for duplicate and Level 2 estimates | August 2020 |                                |
|         |  |             |                                |
|         |  |             |                                |
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## 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 is typically undertaken during the Proving and Pre-delivery phase of a project and as part of, or in support of, a Planning Study.

#### 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 for the provision of "Civil Estimating" services on the Department's Panel for the Provision of Estimating and Cost Management Services. Details of this panel can be found at: [https://www.dpti.sa.gov.au/contractor\\_documents/panel\\_contracts](https://www.dpti.sa.gov.au/contractor_documents/panel_contracts).
- 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 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](https://www.dpti.sa.gov.au/__data/assets/pdf_file/0003/173532/Estimating_Manual.pdf).
- 4.2 The Estimate will be registered with the Project Officer Estimating Services. 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 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 Estimates will be prepared inclusive of constructability considerations as determined within PC-PL4 “Constructability Assessment”.
- 4.8 Estimates will incorporate assessment of risk items using probabilistic risk methods to determine P50 and P90 estimate values.
- 4.9 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.
- 4.10 The Contractor shall advise on opportunities to provide improved “value for money” and best for project outcomes.
- 4.11 Estimates will incorporate completion of “Estimator” and “Estimate Reality Checker” reviews.

## 5 Estimating Deliverables

### Reports

- 5.1 Options Estimate in Microsoft Excel format inclusive of the following:
  - a) fully completed “Cover Sheet”;
  - b) “Scope, Risk & Methodology”;
  - c) “Summary Option(s)”;
  - d) “Calculation Option(s)”;
  - 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 Program(s);
  - b) 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 to the Project Officer Estimating Services shall constitute a **Hold Point**.

## Records

5.4 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  |
| 4.13          | Provision of estimating deliverables | 10 Working days |