

Cost Engineering Guide

- **Introduction**

The Appendix "A" defines the scope of A&E services. This Cost Engineering Guide further defines the cost engineering services identified in the Appendix "A" and identifies our technical and submittal requirements for cost engineers.

- **Communications**

Direct communication with the cost engineering reviewer is encouraged. If you have a question concerning a particular comment, contact your reviewer. This may avoid unnecessary re-submittal of plans, specifications and/or estimate due to a misunderstood comment. The reviewer's name, phone number, and email address can be found on the comment sheets.

- **Cost Engineering Minimum Requirements**

- **PC Operating System Minimum Requirements**

SUCCESS™ is capable of running on any Intel (or Intel compatible) based computer running Microsoft Windows 95/98/ME or greater, or Microsoft Windows NT 4.0 / 2000 / XP or greater. A CD-ROM drive is required for stand-alone installation. SUCCESS™ can be run on any Windows 95/98/ME or Windows NT 4.0 / 2000 / XP or greater compatible network.

- **Estimate Format**

- **General**

A SUCCESS™ detailed estimate is required for all projects. A SUCCESS detailed estimate is required for repair and renovation projects with budget construction estimates over \$100,000. For projects the "Norfolk Area" templates, NAVFAC reports, and latest CUPB database (also installed from CCB Tools) shall be used whenever possible. Presently, the SUCCESS™ Estimating and Cost Management System may be obtained in two ways:

- **CD-ROM**

The SUCCESS™ Estimating and Cost Management System is on the Construction Criterion Base (CCB) CD-ROM. THERE IS A FEE FOR A SUBSCRIPTION TO THE CCB. Details may be obtained at <http://www.ccb.org/welcome.py>

- **Internet**

The NAVFAC Cost Engineering website allows download of the Success™ software and updates directly from the internet at <http://www.uscost.net/CostEngineering/>.

- **Instructions For Using Success™**

Specific instructions are contained in the document “Success Instructions”, available at http://www.efdlant.navy.mil/download/lantops_04/Success-HT.pdf. This document is updated whenever policy or software changes.

- **Report Updates**

NAVFAC reports are provided with both the CCB and website versions of SUCCESS™; these reports are configured as part of the installation routine. Updates are periodically posted on the NAVFAC website, and may be downloaded directly.

- **Multiple Estimates**

Prepare separate estimates for each non-identical building, structure or addition exceeding \$100,000 Estimated Construction Cost (ECC). Costs of alteration work to existing buildings will not be included with building additions cost. When one construction contract contains more than one type of work (such as new construction, repair, and equipment installation), the SUCCESS™ estimate format shall provide a subtotal of each type of work in the project and a project total to be shown on a single summary report.

- **Organization of the Estimate**

- Sort construction work within the estimate in accordance with the Tri Service Work Breakdown Structure (WBS) 3rd level; such as 02 (Superstructure); 02.03 (Stair Construction), 02.03.02 (Exterior Stair Construction). The work items included at the various system levels are stated in the WBS Dictionary, which is installed with the SUCCESS™ software or is available at http://www.efdlant.navy.mil/download/lantops_04/wbsdictionary.pdf. Use the Systems Unit of Measure as stated in the WBS dictionary.
- The level of detail in the estimate is expected to correspond to the level of detail on the drawings.
- For CONUS projects, include the following Navy reports with each submittal. (Choose A, B, or C, whichever best represents the project’s complexity.)
 - A - Summary Report
 - B - System Report
 - C - Assembly Category Report
 - D - Mark-up report
 - E - Detail Report Unburdened
 - F - Error Report
- Final government estimates are classified ‘For Official Use Only’. Access to or disclosure of information regarding the estimate shall be limited to personnel whose official duties require knowledge of the estimate.
- Davis-Bacon Wage Rates are minimum rates for CONUS projects; these rates are incorporated into the Norfolk Area Templates for SUCCESS™. Prevailing wage rates and current construction market conditions affecting the geographic area prices are to be determined by the A&E.

- Provide sufficient information within the estimate to enable the reviewer to verify unit costs without frequent reference to drawings and specifications. Indicate costs that are quotations (prices to a construction contractor). It is not necessary to identify the quotation source in the estimate; however, the A&E should be prepared to identify the quotation source, upon request.

• Cost Estimates for OCONUS Projects

- As indicated in the Appendix A, a detailed computer cost estimate, including electronic disk copy, is required for each submittal using the SUCCESS™ cost estimating system. Unless indicated otherwise, the estimate (including take-off) shall be prepared by an in-country consultant utilizing local pricing for materials, equipment, and labor. The estimate shall be prepared in foreign currency and converted to U. S. dollars using the provided exchange rate.
- A special set of Templates and reports for OCONUS projects have been developed for the SUCCESS™ software. Instructions for Success 4.x (in MS Word format), templates, and reports are all present in the executable file. After downloading, double-click to expand; copy the two templates to the Success\Template subdirectory, and copy the reports to the Success\Reports\Navfac subdirectory. To download, go to http://www.efdlant.navfac.navy.mil/download/lantops_04/foreign-exchange-files.exe.
- Tax Rates and markups for OCONUS projects should be obtained from an in-country consultant. For Puerto Rico projects, use 40% Taxes and Insurance on Labor, and include a 5% "Municipality Tax" on material, labor, and equipment.

• Pre-Design Services

• 1391 + Preparation

The 1391+ Project Cost is based upon NAVFAC Guidance Unit Costs, DOD Guidance Unit Cost or other historical costs records. It is essential to identify special scope requirements that represent additional costs. Refer to the Team DD1391-plus and Parametric cost estimate (PCE) guidance at http://www.efdlant.navfac.navy.mil/download/lantops_04/1391plus.pdf

• PCE Preparation

The PCE Project Cost is based on the current scope and Supporting Facilities identified by WBS systems. Refer to the reference listed for 1391+ preparation, above.

• References for 1391+ and PCE Estimating

The following reference is for use in development of the 1391+ and PCE's; this document includes Tri-Service General Notes, Guidance Unit Costs (DOD), Size Adjustment Factors, NAVFAC Escalation Factors, and Area Cost Factors. To view, go to http://www.efdlant.navfac.navy.mil/download/lantops_04/1391References.pdf.

New for 2003 is the **Electronic Procurement Generator (EPG)**. This is a web based 1391 generator that is just being made available for 2004. To access this program, click here <https://iefacman.navfac.navy.mil>

To register to gain access to EPG, register as an individual. DO NOT Log in using the top box. In the second box, which is the lowest on the page (Labeled ieFACMAN links), click on New User Registration

Fill out all required boxes highlighted in RED. (If browse icon or drop down box is available, use it to select value.)

Input a password, confirm the password and write it down.

For the following fields, use these selections from the pull down menus:

- 1) for Business Line, use Capital Improvements
- 2) for Component, use Atlantic Division, NAVFACENGCOM
- 3) for UIC, click on the browse icon and in the search box type N62470%. The search should return N62470 - LANTNAVFACENGCOM NORFOLK VA, click on that entry.

Go to the Applications section and check the application(s) that you want to access. Choose only EPG, EPG Family Housing or Both. DO NOT choose any other applications.

You will need to fill in the following boxes on the right side of the screen:

- 1) for Region, use MidAtlantic (for LANT HQ folks or AE's doing work in that area) use NorthEast (for EFA NE area), and use Washington, D.C. (for EFA CHES area)
- 2) for Major Claimant, use NAVFAC
- 3) for Organization Level, use EFD/EFA

Click on Submit.

Please allow up to 3 days for the approval process to go through. The AE will receive "Contractor's rights" to the EPG program. However, in order for them to have edit or view rights on a specific 1391, the LANTDIV Team Leader or Project Manager must assign the Contractor to the Team and allow Edit rights.

- **Electronic Spreadsheet for Preparing 1391 and backup.**

An Excel spreadsheet has been created to assist in preparing budget estimating documents. This document has links that tie the 1391, Budget Estimate Summary Sheet, and Facility Development Sheets. It also includes links to Size Adjustment Factors, Escalation Table, and Category Codes. This document is available in the Microsoft Excel format. To view the file (in pdf format):

http://www.efdlant.navy.mil/download/lantops_04/1391GeneratorExcel2003.pdf.

Download a functional Excel version at http://www.efdlant.navy.mil/download/lantops_04/1391GeneratorExcel2003.zip.

- **Design Services**

- **Cost Estimate**

- The objective of the cost estimate is to guide the designer's "design to cost" discipline and insure, throughout the design phase, that the project's full scope is designed for construction within the available construction funds. The objective may be achieved if the estimate incorporates accurate quantity take-off, use of prevailing costs of material and labor at the project site, and an accurate assessment of the existing construction market conditions.

- Congressionally appropriated construction funding is fixed. Unless directed otherwise by the Project Manager, provide a base bid of approximately 90% of the available construction funds and provide additive items as necessary to complete the full scope within available construction funds. For example:

If the available construction funding for your project is \$1,000,000, you should design the base bid to approximately \$900,000 and provide additive bid items to attain full scope within the available construction funds.

- A government cost estimate, read at bid opening, which is within 10% of the lowest responsible bid, will generally insure an award. When this objective is not met, the A&E may be asked to participate in an immediate determination of the cost differences in order to plan the project's future.

• Estimates for Change Orders

Estimates for change orders to the contract plans and specifications shall be accomplished with adequate backup to negotiate. These estimates must use the NAVFAC Form 4330/43.

- An Excel version of this form is available at the following link: http://www.efdlant.navy.mil/download/lantops_04/Change_order_spreadsheet.xls. Estimates and summaries must be prepared for both increases and decreases in contract cost. NAVFAC 4330/43 must also be provided for "no-cost" changes.
- A 4330/43 Template for SUCCESS™ and two reports to print out a SUCCESS™ estimate in 4330/43 format, are installed with the standard NAVFAC installation of the software, but are also available from the NAVFAC website or at the following link: http://www.efdlant.navy.mil/download/lantops_04/4330_files.zip.

• Design Submittals

Each submittal shall include two hard copies and one electronic copy of the cost estimate. The electronic copy label shall indicate the Construction Contract Number (top line, bold), project title and location, A&E Firm name, submittal identification/date and date of disc scan. The cost estimate level of detail is expected to correspond to the level of detail on the drawings.

• 35% Design Development Submittal.

The estimate shall identify, by WBS systems, the entire project scope. Design contingency factors, if used, shall be applied at the system level and should rarely appear in estimates greater than 35% design development submittal.

• 100% Submittal (Prefinal).

Prepare the 100% (prefinal) estimate from 100% (prefinal) drawings and specifications. Obtain material supplier quotations for items with substantial impact upon the total project cost and denote those prices within the estimate.

• Final Submittal

Respond to all comments on the 100% Prefinal Submittal. Final Government Estimates are classified "For Official Use Only" prior to bid opening and will be stamped accordingly by Code CI46.