When you takeoff by hand, you have a count and length device, a "black book" with prices and labor units, a calculator, and a lot of NECA forms. Computerized estimating involves the same basic elements, but it offers tremendous advantages in both speed and accuracy. This article will discuss the four basic parts of computerized estimating programs.

THE DATA BASE

The database, the heart of any estimating program, contains the common items and assemblies (group of items) that are used in estimates. An estimator can easily find items and/or assemblies in the database and can easily sort through the information to build additional assemblies.

Every item and/or assembly has its own specifications, such as price, labor, cost code, and unit price. Each item should have no less than three prices and three labor units for bidding and or change orders. In addition, every assembly should have the ability to be unit priced. Ideally, all of these specifications should be user-defined.

Most major database have the ability to be updated by a pricing service. If the pricing service provides a master list, the programs should have the ability to "hot key" into that list to "grab" items that are not contained in the program's permanent database.

Typical programs also should give the estimator the ability to move an item or block of items (or assemblies). This gives you the ability to set up the database to fit your needs.

THE TAKEOFF

The second part of an estimating program, and just as important as the database, is the takeoff area. A typical program has at least two ways that a user can input data. The first way is manual or lump sum takeoff. The estimator takes off the job by hand and either types the counts and length into the computer while estimating or writes down all the totals and, when finished, types in all of the information at one time. The second and most popular way to takeoff a job is with electronic probes. If the user has a program that contains both count and length probes, counts and rolls are input automatically.

Typically, a count probe is just a ball point pen with a count switch in it. As an item or assembly is counted, the pen marks the print and sends a command to the computer to "add one more" of whatever the estimator is counting. The length probe is shaped like a ball point pen with a small wheel on the end. When the wheel is rolled across the print, it inputs the length of a run directly into the computer. Count and length probe input all but eliminates math and typing errors. This method also speeds up the input process by eliminating unnecessary steps. Depending on the program, count and length probes can input from one to three items or assemblies at a time.

BID EXTENSION

Extension is the third part of estimating programs. After an estimator completes a takeoff, a list of material (items) needed for the job (or change order) can be generated. Most programs have a "report writer" function that allows a user to structure reports in any way desired. With these extension choices, estimators may extend the takeoff (material lists) into several breakout or phases and have sub-breakouts by job cost categories.

BID SUMMARY

The last part of an estimating program is the bid summary. This is where information from the extension reports is taken to provide a sell price. This sell price is generated by:

1. Changing the labor hours into dollars
2. Bringing in material prices
3. Listing quotation dollars, sub contracts dollars, and direct job expense dollars
4. Taking them through various markups for overhead recovery and profit

Typically, a bid summary allows estimators to ask all the "what if" questions and, as they are answered, see the results on the same screen. This gives the estimator a final price.

SOFTWARE IS UNIQUE

All contracting organizations are different, as are all software publishers that specialize in estimating programs. Because of these difference, all software is unique. However, all software will (or should) contain no less than the four basic areas listed above. Also, they should have multi-user multi-tasking local area network ability. Some publishers provide additional features that may or may not be necessary for the end user, such as various file import/export, digitizer input, and special keyboards.

Simple estimating packages can be purchased for less than $1,000. The more complex packages that contain all of the features listed above, start at about $6,000 for one station. Contractors that generate $500,000 or more a year in sales really need the support of these complete packages.

ESSENTIAL MANAGEMENT TOOLS

The estimating computer is just as essential a management tool as a calculator, two-way radio, or fax machine. In fact, the truth is that contractors who have no work do not need a radio or a fax machine. Jobs are what make things happen.

A computerized estimating tool may not be the total answer for your company, but it will allow you to turn out estimates in a faster, less boring, and more accurate way. Computers are one management tool that, if implemented correctly, will get you the work that will "make things happen".
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