Estimating International Projects in Multiple Currencies

Introduction

A major problem facing estimators bidding on International Construction Projects is dealing with multiple currencies within the same estimate. The situation arises often when projects are funded by international financial institutions in multiple currencies or when suppliers or subcontractors are providing material or services from different countries. In particular International Funding Organizations often require as a prerequisite in providing funds that goods and services be provided in the same currency that the financing is provided.

For example, if an International Airport Project where the air traffic control equipment and baggage handling systems are funded in $US then that portion of the estimate may have to be bid in $ US and the remaining civil portion of the estimate bid using the local currency. Another example would be a Light Rail Transit Project where the rolling stock and track work is estimated and financed in Euros, the electrical & security components are estimated and financed in $ and the civil work is estimated using the local currency.

In order to estimate projects in multiple currencies, the estimator must have a system that allows resource data to be saved in multiple currencies as well as a multi-level estimating system that will allow certain levels of the estimate Work Breakdown to be estimated in different currencies.

Resource Data in Multiple Currencies

The key to system utilizing multiple currencies is a system that allows the same resource to have multiple rates or multiple currency “zones” within the same file. For example, the same material resource such as Mechanical or Electrical Equipment could have multiple rates based on currency. The estimator when selecting the resource would select the appropriate currency “zone”. When the resources are summarized the quantities would be separated based on currency. The same would hold true for labour rates. An estimate may have a local Project Engineer paid in local currency as well as an Expatriate Project Engineer paid is a foreign currency. Both resources would rollup into the same account in the estimate, but also must be able to be summarized separately.

Converting Resources between different Currencies

To efficiently bid in multiple currencies you first must develop a Master Resource Database in a base currency and then have a procedure in place to convert the data to other foreign currencies. For material and labour resources this is a very straight forward process that involves just multiplying the rates by the appropriate exchange rate. For heavy construction equipment rates that are calculated based on depreciation, interest and operating cost formula the process is much more complicated and involves first

converting the value (purchase price) and parts costs based on the exchange rates then recalculating the total rates using local interest rates and fuel prices.

Muti-level Estimate Work Breakdown Structure

In order to bid in multiple currencies you must be able to estimate different levels of the Work Breakdown independently in different currencies, then have the ability to rollup the costs into a single “Base” currency. When starting a level of the Work Breakdown in a different currency you must be able to “Switch” the currency of the resource data that you are using for that level.

Multi-Currency Bill of Quantities

It is quite common on International Projects to have to split the same BOQ Items into more than one currency. To do this you have to setup “Activities” underneath the Item level in the Work Breakdown Structure in different currencies. As the costs are summarized the portion of costs that rollup into the BOQ Items in the various currencies must be kept separate. The system must also have the ability to spread indirect costs and margin based on currency content as well.

Entering and Comparing Quotations in Different Currencies

In a single estimate various suppliers may also quote on the same commodity in different currencies. The system must save the quotation in the source currency but also convert the currency to the base currency of the estimate so the quotations can be compared against each other.

Generating Cash Flows in Multiple Currencies

One of the prime purposes of creating an estimate in multiple currencies is that the financing will be procured in these same currencies. It is therefore important to have the ability to generate separate cash flows in each currency.

Conclusion

In summary in order to estimate projects in multiple currencies you must have the following capabilities built into your estimating system;

- Resources files with multiple rates for the same resource
- Resource files with separate zones based on currency
- Ability to convert equipment values separately from equipment operating costs
- Estimate files with multi-level Work Breakdown Structure (WBS)
- Ability to “Split” Bill of Quantity (BOQ) Rates
- Enter & compare quotations for the same commodity in different currencies
- Generate Cash Flows is different currencies