

Numbers and Operations: Lead Estimator

RRR Construction Company

Job Description: Management and technical consulting.

Problem:

An important customer has asked you to bid on a construction project. You estimate labor costs at \$100,000; materials and supplies at \$50,000; permits and related costs at \$10,000; overhead at \$20,000; and taxes at \$30,000.

You know from experience that you should project a contingency of 15% for cost overruns.

How much should you bid to complete the project and make a 20% profit?

What percent profit would you make if no cost overruns are experienced?

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Solution: (See problem page for details.)

1. Your total estimated project costs are \$210,000.

Personnel	\$100,000
Materials and supplies	\$50,000
Permitting & related costs	\$10,000
Overhead	\$20,000
Taxes	\$30,000
TOTAL	\$210,000

Your total estimated project costs with contingency for cost overruns are \$241,500.

Total estimated project costs \$210,000 x 15 % Contingency = \$31,500 Total additional contingency amount

TOTAL w/ contingency (cost + contingency) = \$241,500

3. Your total bid to the customer should be \$289,800.

Total estimated project costs with contingency \$241,500 x 20% Profit = \$48,300
Total additional profit

Total bid (costs + contingency + profit) = \$289,800

4. Your percent profit if no cost overruns are experienced would be 27%.

Total bid with profit \$289,800 - \$210,000 Total cost with no overruns = \$79,800
Total profit with no overruns

profit ÷ total bid = % profit

$\$79,800 \div \$289,800 = .27536 = \sim 27.5\%$ profit

Logic Check:

$\$289,800$ (total bid) - 27.563% (profit w/o overruns) = $\$210,000.63$ (cost w/o overruns)