

**“Project Management Using Earned Value”
Case Study Solution 25.1**



25.1

CASE

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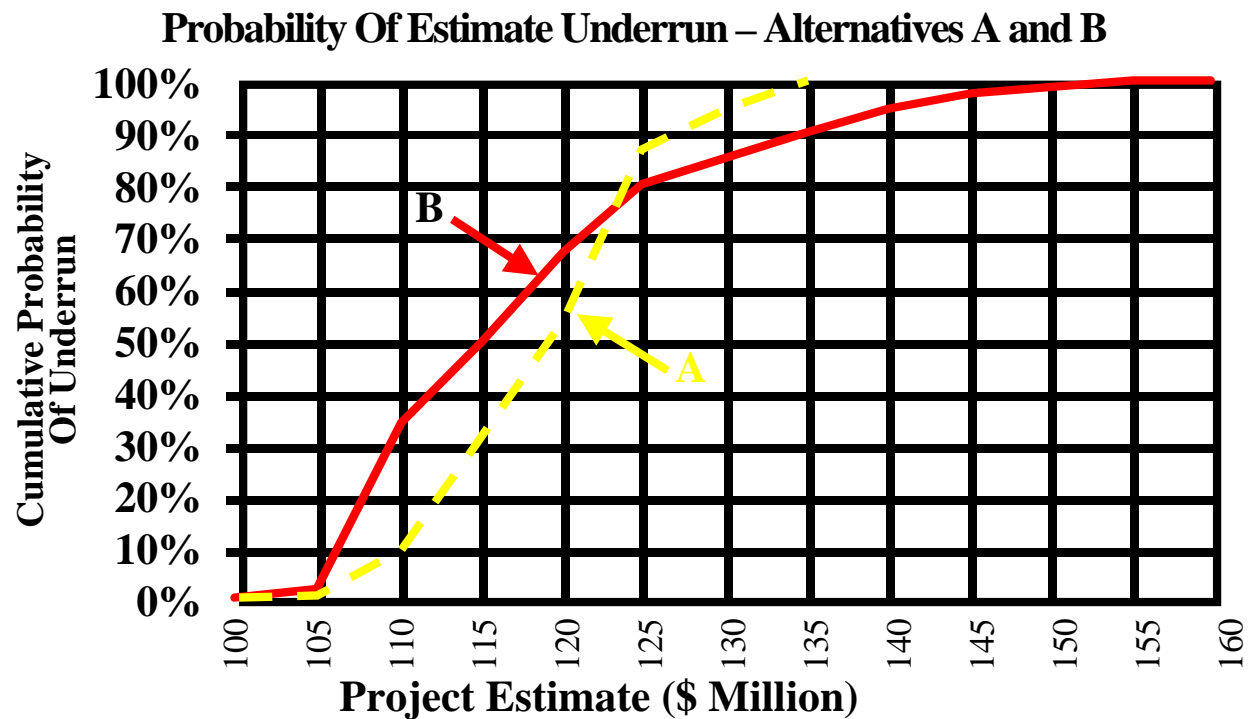
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**Estimate
Analysis**

SOLUTION

1. It is more likely that it will be underrun, since \$120 million corresponds to a 55% chance of underrun.
2. Alternative “B” is the riskier option. While this alternative actually has a higher probability of underrunning the present estimate than alternative “A” (68% vs. 55%), it has a significantly higher maximum value. Alternative “B” has the greater skewness to the right that allows for a much higher potential overrun to the estimate than “A”.
3. The 95% cumulative probability of underrun value corresponds to a total estimate of \$130 million. Since the estimate is for \$120 million currently, it would take a contingency value of \$10 million to provide the desired level of confidence. These are the results for Alternative “A”. For alternative “B”, the 95% confidence level corresponds to \$140 million. This requires a contingency of \$20 million for the same confidence level as in alternative “A”. This quantifies the riskier condition in alternative “B”.



SOLUTION (continued)

ESTIMATE UNDERRUN PROBABILITY

Estimate \$ x Million	Alternative A	Alternative B
100	0%	0%
105	1%	2%
110	10%	35%
115	32%	50%
120	55%	68%
125	87%	80%
130	95%	85%
135	100%	90%
140	100%	95%
145	100%	98%
150	100%	99%
155	100%	100%
160	100%	100%