ATTACHMENT L-07

ESTIMATING METHODOLOGY AND ASSUMPTION EXAMPLES

FOR

KENNEDY ENVIRONMENTAL AND MEDICAL CONTRACT (KEMCON)

Types of Estimates (Most statistical to Least statistical)

a. **Multiple Scaled Actuals/Scaled Actuals – Work Shown**

Details explanation and calculations on how actuals from same or similar projects specifically related to the task being proposed.

Example:

On the XYZ program, contract number NNK0741234, we built seven similar boxes at an average of 800 hrs each. This box design requires a new power supply (2 cards out of 10 total cards) & additional heat shielding. The new power supply adds 160 hrs per box because of the increased manual labor to assemble the heat sinks & rewiring of the motherboard. The heat shielding is a gold-aluminum five-layer fabric that must be installed with a drop of hot glue every in^2. This process has been used before on the QPRS program with a measured efficiency of 4 drops/min. The surface area of the fabric is 9600 in^2.

Estimate 800 hrs basic box assembly

160 hrs (2/10 * 800) extra assembly of new power supply

40 hrs heat shielding (9600 in^2 * 1 drop/in^2/ 4 drops/min / 60 min/hr)

1000 hrs total

b. **Scaled Actuals – Work Not Shown**

Estimate obtained by scaling actuals from previous, similar effort Source of original effort identified (e.g., contract/project)

General reasons for adjusting previous estimate provided; Rationale may or may not be provided; More than one effort may be referenced

Example:

On the XYZ program it took us 800 hrs to build a similar box, but this one is 25% more complex because of the added power conditioning specifications – estimate 1000 hrs

c. **Based on Specific Experience (Expert Opinion)**

Based on expert judgment; Estimate supported by qualified individual with substantive experience and/or expertise in functional discipline; May be based on previous project; Comparable relationship not defined; Specifics not provided

Example:

We estimate that it will take 10 engineers about 100 hrs each to build this box; Our company experience is that it takes 1000 hrs to build this box; Joe Schwartz says it takes 1000 hrs to build this box

d. **Engineering or technical judgment; engineering estimate**

No information provided that allows reviewer to determine estimate is accurate, reliable or realistic; No substantive supporting information provided to lend confidence to the estimate; No references to specific, previous projects or tasks that are similar

Example:

We estimate that it will take 10 engineers about 100 hrs each to build this box; Our company experience is that it takes 1000 hrs to build this box; Joe Schwartz says it takes 1000 hrs to build this box