**MUSE Basis of Estimate**

**Scintillation Detector Construction WBS #**

I. General Information

Task Name: Construction of scintillation detectors

Unique ID Number

Date of Estimate: 01/18/2014

Estimate Generator: Steffen Strauch

Cost Category:

 M&S

XSWF

Comments:

Vendor Quote Number if Applicable:

Drawing Reference Number or Attachment:

Costing Method: estimate based on JLab FTOF experience (year?)

Total Task Cost: $87,687

Total Contingency: $9,646

II. Cost Estimate Breakdown

Cost of each element, along with justification

Cost estimate includes one graduate student for a total of one year (two times half a year) to help support and oversee the construction project. Supervised USC undergraduate students will construct the detectors and work on an hourly base.

|  |  |  |
| --- | --- | --- |
| No of batches | 19 | 6 scintillators per batch |
| Time/batch | 9 | days |
| Workers (UG students) | 2 |  |
|  | 8 | h/day |
| Total hours worked | 1368 | h per student |
| Compensation | $12 | 1/h |
| UG Compensation total | **$32,832** |  |
| Graduate student base salary | **$23,000** |  |
|  |  |  |
| Fringe rate | 8.29% |  |
| Fringe total | $4,628 |  |
| **Sub total** | **$60,460** |  |
|  |  |  |
| **Indirect cost** | **$19,952** | 33% on campus training and service |
|  |  |  |
| GS Tuition | $485 | per credit hour |
| Credit hours | 15 |  |
| **Tuition total** | **$7,275** |  |
|  |  |  |
| **Total** | **$87,687** |  |

III. Contingency and risk analysis

Use the table on the last page to estimate risks.



IV. Time Estimates and contingency on time

Time estimate is (optimistic+pessimistic+4\*most-likely)/6.

Sigma is (pessimistic-optimistic)/6.

Be sure to indicate if work days or calendar days.



Comments:

