

Basis of Estimate

1. **WBS ID** 1.4.6 \$136,629 total cost for this WBS

2. **WBS Name** CPT Management

3. **Estimated by** Tyce DeYoung (Michigan State University)

4. WBS Dictionary Description

This element includes management and oversight of all activities within WBS 1.4.

5. Assumptions and Related Documents

The estimates described in this document rely on the following assumptions, which are consistent with the Project’s “Key Assumptions” document” (1) and the “Cost Estimating Plan” (2).

- The cost estimate technique classifications (A-L) follow the US Government Accountability Office (GAO) best practices. These are summarized in the Project’s Key Assumptions document (1). The techniques are: A=Analogy; C=Engineering build-up; D=Expert opinion; E=Extrapolation from actuals; F=Parametric; L=Learning Curves.
- Contingency codes are assigned to each item: C1—C8. These reflect the estimated uncertainty in the estimate. The meanings of the contingency codes and the percentage of contingency in each case are described in the Key Assumptions document (1).

6. Scope

There are no L3 areas broken out within this WBS element.

7. Materials, Supplies, Equipment, Travel

7.1. Procurement of Materials, Supplies, Equipment

An allowance for miscellaneous supplies of \$500/year for the duration of the effort is based on SME estimate.

7.2. Summary of Materials, Supplies, and Equipment Resources

WBS	Activity	Subtype	12mo Subtotal PY5	12mo Subtotal PY6	12mo Subtotal PY7	12mo Subtotal PY8	Estimating Technique	Contingency
1.4.6	CPT Management miscellaneous Supplies	M & S	\$500	\$500	\$500	\$250	F - Parametric	C1

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7.3. Travel

WBS	Activity	12mo Subtotal PY5	12mo Subtotal PY6	12mo Subtotal PY7	12mo Subtotal PY8	Estimating Technique	Contingency
1.4.6	Reviews and Project Planning Meetings	\$3,600	\$3,600	\$3,600	\$1,800	E - Extrapolation from Actuals	C1

Two domestic trips per year are budgeted for travel to WIPAC in conjunction with project planning meetings and reviews. Travel associated with specific development efforts is budgeted within the corresponding L4 area.

8. Labor

8.1. Labor Estimate

1.5 months of summer salary is budgeted for the L2 manager for each year of the project, on a level-of-effort basis, based on past experience.

8.2. Summary of Labor Resources

WBS	Activity	Resource ID	LPY5	LPY6	LPY7	LPY8	Estimating Technique	Contingency
1.4.6	CPT Management - Ty DeYoung	KE	225	225	225	0	E - Extrapolation from Actuals	C1

9. References

[Ref-1] 1. **IceCube Upgrade Project**. *Key Assumptions for the IceCube Upgrade Project*.

[Ref-2] 2. —. *Cost Estimating Plan*.

Revision History

Date	Revised by	Summary of changes
2022-03-09	Tyce DeYoung	First version created
2022-03-28	V. O'Dell	Review and cleanup
2022-04-10	T. DeYoung	Updated total cost based on recalculated labor and fringe rates