The Six Phases of a Project

Phase One: Enthusiasm!

Phase Two: Disillusionment...

Phase Three: Panic (Help!!)

Phase Four: Search for the Guilty

Phase Five: Punishment of the Innocent

Phase Six: Praise and Honors for the Non-Participants
Work Breakdown Structure (WBS)

“A family tree subdivision of effort to achieve an end objective.

The WBS is developed by starting with the end objective required and successively subdividing it into manageable components in terms of size and complexity.

It should be product or task oriented and should include all the effort necessary to achieve the end objective.”

-NASA
ACES Work Breakdown Structure (WBS)

From MIL-HDBK-881:

- A **product-oriented family tree** composed of hardware, software, services, data, and facilities. A WBS displays and defines the product, or products, to be developed and/or produced.

- It **relates the elements** of work to be accomplished to each other and to the end product.

- A WBS can be expressed down to any level of interest. However the top **three levels** are as far as any program or contract need go unless the items identified are high cost or high risk. Then, and only then, is it important to take the work breakdown structure to a lower level of definition.

<table>
<thead>
<tr>
<th>WBS levels</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Highest level element</td>
</tr>
<tr>
<td>1.1</td>
<td>Second level element</td>
</tr>
<tr>
<td>1.11</td>
<td>Third level element</td>
</tr>
<tr>
<td>1.12</td>
<td>Third level element</td>
</tr>
<tr>
<td>1.2</td>
<td></td>
</tr>
</tbody>
</table>

**WBS Dictionary:** The dictionary lists and defines the work breakdown structure elements.
ACES  Work Breakdown Structure (WBS)

- The WBS is a method for dividing a project into smaller tasks or activities.

- A WBS reduces the likelihood of something falling through a crack.

- It subdivides the project into tasks that are defined, estimated and tracked.

- Can be structured according to project phase, timeline or deliverables.
ACES Work Breakdown Structure (WBS)

Why use a WBS?

- Identifies the tasks, subtasks and units of work (a WBS element) to be performed.

- Increases the probability that every requirement will be accounted.

- Can be used to track the costs of each of these elements.

- Can be used to monitor progress by completion of tasks.
ACES Work Breakdown Structure (WBS)

WBS Elements

- **Manageable** – specific authority and responsibility assigned to each task.

- **Independent** – minimum interfacing with and dependence on other tasks.

- **Integratable** – total project is accounted for by the set of tasks.

- **Measurable** – results measured in terms of progress by completion of tasks.
ACES  Work Breakdown Structure (WBS)

WBS Structure

WBS by major project phase
1 Analysis
2 Design
3 Construction

WBS by timeline (building construction project)
1 Design
2 Excavate
3 Concrete
4 Steel
5 Utilities
6 Finishing

WBS by deliverable (a multimedia publication project, for example)
1 Book
2 CD
3 Videotape

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