



Lawrence Berkeley National Laboratory
Project Management Office

PROCEDURE Page

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Number: PMO-1.2

Revision: 0

Effective Date: June 1, 2005

Review Period: 3 years

Supersedes Issues:

Title:

PROJECT WORK BREAKDOWN STRUCTURE (WBS)

Section where used:

Project Management

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Revision Log:

Rev. No.	Effective Date	Pgs. Affected	Brief Description of Revision

1.0 PURPOSE

The Work Breakdown Structure (WBS) divides the entire project into its component elements in order to establish a framework for effective management control of the project scope, schedule and budget.

2.0 SCOPE

The WBS is a product-oriented, hierarchical depiction of all work elements required to accomplish the entire work scope of the project. Project Managers are responsible for the creation of a WBS for all projects with a Total Estimated Cost (TEC) over \$100k.

3.0 REFERENCES

DOE Order 413.3.
LBNL Earned Value Management System Description.
PMO Procedure 1.1, Project Plan.
PMO Procedure 1.4, Control Accounts, Work Packages & Planning Packages.

4.0 PROCEDURE

4.1 Structure

Title**PROJECT WORK BREAKDOWN STRUCTURE (WBS)**

A project WBS is a product-oriented grouping of project work elements that organizes and defines the total scope of the project. The WBS is a multi-level framework that organizes and graphically displays elements representing work to be accomplished in logical relationships. Each descending level represents an increasingly detailed definition/division of a project component. It is the structure and code that integrates and relates all project work (technical, schedule, and budget) and is used throughout the life cycle of a project to identify, assign, and track specific work scopes. The WBS will be established in sufficient detail so that each control account has a unique WBS element. The WBS is detailed in the Project Execution Plan (PEP), or attached as an appendix.

4.2 Responsibility

Project Managers are responsible for the creation of a WBS for their assigned projects, with input from other members of the project team.

4.3 WBS Dictionary

Where the title of a WBS element does not provide an adequate description of the work involved, the project shall develop a WBS dictionary. The WBS dictionary is a set of specific definitions that describe the scope of each work element identified in the WBS. It defines each element to at least the control account level in terms of the content of the work to be performed. If a WBS dictionary is not used on a project where Earned Value Management System (EVMS) reporting is required, the project must demonstrate, to the satisfaction of the Laboratory Project Management Officer, that the Scope of Work (SOW) and the WBS are fully reconciled.

5.0 APPENDIX

Appendix A: Work Breakdown Structure (WBS).

Appendix B: WBS Dictionary.

Title

APPENDIX A: WORK BREAKDOWN STRUCTURE (WBS)



Work Breakdown Structure (WBS)

1.0 Molecular Foundry

- 1.1 Technical Equipment**
 - 1.1.1 Imaging Technical Equipment
 - 1.1.2 Nanofabrication Technical Equipment
 - 1.1.3 Theory Technical Equipment
 - 1.1.4 Inorganic Technical Equipment
 - 1.1.5 Biology Technical Equipment
 - 1.1.6 Organic Technical Equipment
 - 1.1.7 General Use Equipment
 - 1.1.8 Technical Equipment Management
- 1.2 Conventional Facilities**
 - 1.2.1 Engineering Design (Title I & II)
 - 1.2.1.1 A/E - Title I
 - 1.2.1.2 A/E - Title II
 - 1.2.1.3 LBNL Facilities - Title I
 - 1.2.1.4 LBNL Facilities - Title II
 - 1.2.2 Construction
 - 1.2.2.1 Construction General Contractor (R&S)
 - 1.2.2.2 LBNL Construction
 - 1.2.2.3 Furniture
- 1.3 Project Integration**
 - 1.3.1 Project Management
 - 1.3.2 Construction Management
 - 1.3.2.1 CM/GC Contractor
 - 1.3.2.2 LBNL Construction Management
 - 1.3.3 Construction Support
 - 1.3.3.1 Inspection
 - 1.3.3.2 Administration
 - 1.3.3.3 Consultants
 - 1.3.3.4 Travel / S&E
 - 1.3.4 Title III
 - 1.3.4.1 A/E
 - 1.3.4.2 LBNL Team
- 1.4 Other Project Costs**
 - 1.4.1 Preliminary Costs (MSD - 508791)
 - 1.4.2 Building Commissioning & Start Up
 - 1.4.3 Technical Equipment Test & Acceptance

Title

APPENDIX B: WBS DICTIONARY

**U. S. DEPARTMENT OF ENERGY
WORK BREAKDOWN STRUCTURE DICTIONARY
PART II – ELEMENT DEFINITION**

1. Project Title / Participant Molecular Foundry		2. Date October 2004	3. Identification Number
4. WBS Element Code 1.2.1		5. WBS Element Title Engineering Design (Title I & II)	
6. Index Line No. 32	7. System Design Description File Number: 1.2.1 Title: Systems Description Document and Design Requirements Document	8. Project ID MF121 – MF Title I&II (Summary)	
9. Element Task Description			
<p>COST CONTENT</p> <p>A/E Titles I & II design and LBNL support, review, comment and acceptance.</p> <p>TECHNICAL CONTENT</p> <p>Titles I & II design drawings, specifications, calculations, VE studies and construction estimates.</p> <p>WORK STATEMENT</p> <p><u>Activity</u></p> <p>Preparation of Title I – 50% design Preparation of Title I – 100% design Preparation of Title II – 50% design Preparation of Title II – 100% design Answer questions during bid period and issue Addendum</p> <p>Review and recommend construction contract awards</p>			