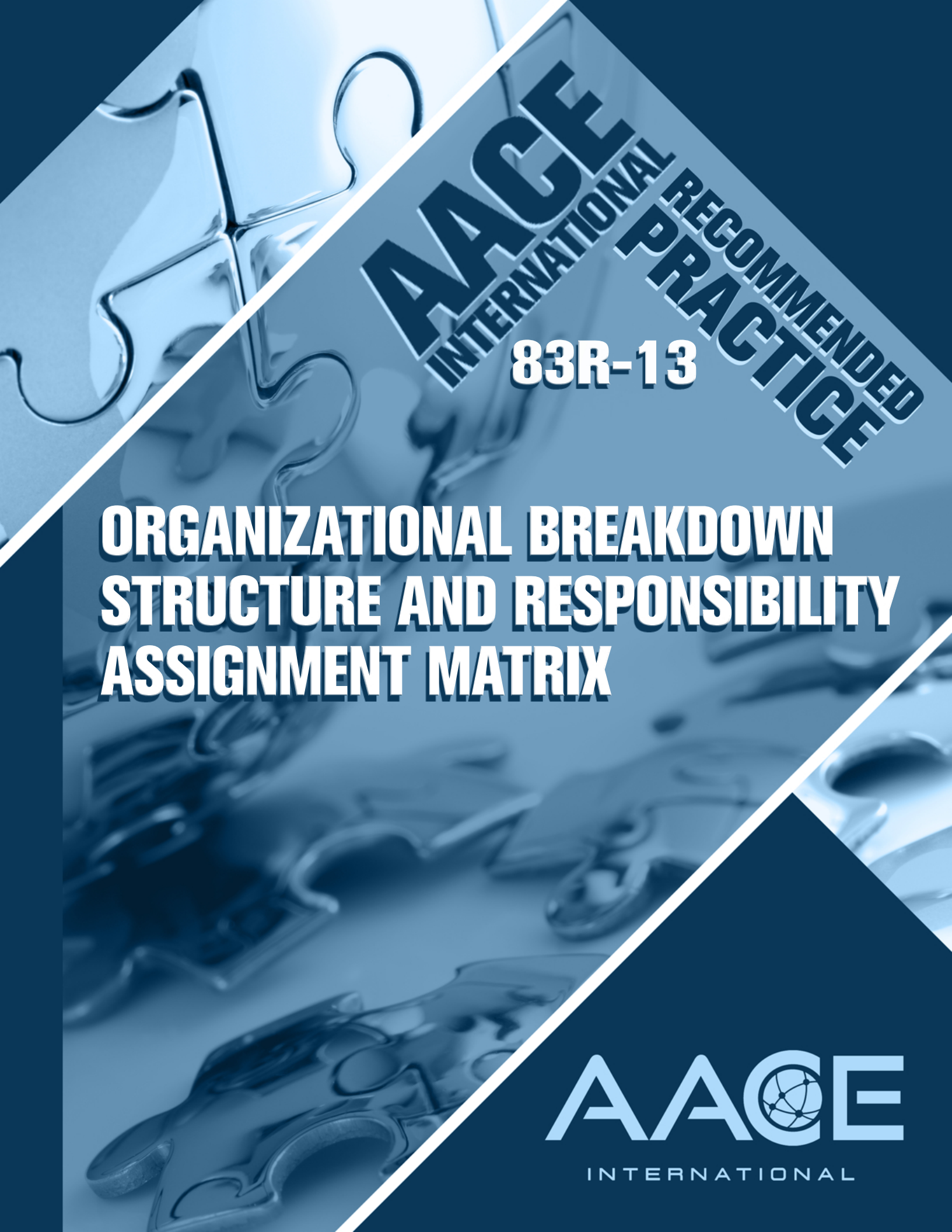
AACE INTERNATIONAL RECOMMENDED PRACTICE

83R-13

ORGANIZATIONAL BREAKDOWN STRUCTURE AND RESPONSIBILITY ASSIGNMENT MATRIX



AACE INTERNATIONAL

AACE® International Recommended Practice No. 83R-13

ORGANIZATIONAL BREAKDOWN STRUCTURE AND RESPONSIBILITY ASSIGNMENT MATRIX

TCM Framework: 7.1 – Project Scope and Execution Strategy Development
8.1 – Project Control Plan Implementation
11.2 – People and Performance Management

Rev. May 1, 2014

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Any terms found in AACE Recommended Practice 10S-90, *Cost Engineering Terminology*, supersede terms defined in other AACE work products, including but not limited to, other recommended practices, the *Total Cost Management Framework*, and *Skills & Knowledge of Cost Engineering*.

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INTRODUCTION

This recommended practice (RP) describes the purpose, management, and control of an organizational breakdown structure (OBS) and responsibility assignment matrix (RAM).

This RP provides guidance regarding the use of an OBS and RAM on projects. This RP defines the purposes of and typical examples for the OBS and RAM.

The intent of the RP is to document what most practitioners would consider to be good practices that can be relied on and that they would recommend be considered for use where applicable. The intended audience is total cost management professionals who are developing an OBS and RAM.

This RP is aligned with the *Total Cost Management Framework*, as well as the *American National Standards Institute (ANSI) Electronics Industries Alliance (EIA) - 748 Earned Value Management Systems (EVMS)* guidelines. (Guidelines 2, 3, 5, and 9.)

RECOMMENDED PRACTICE

Terminology within the RP

ORGANIZATION BREAKDOWN STRUCTURE (OBS) – A hierarchical relationship of the organization, including subcontractors, responsible for managing a designated scope of work within the work breakdown structure (WBS).

RESPONSIBILITY ASSIGNMENT MATRIX (RAM) – Depicts the intersection of the WBS and the OBS. The OBS relates the work breakdown structure (WBS) element to the organization and the named individual who is responsible for the assigned scope of a control account.

The OBS describes the organizational structure and how the organizations relate to each other. It is established as part of the initial project planning and is necessary for the successful integration of a project's scope, schedule, and budget. The OBS identifies all the project's key managers and may include the contractor's project team and subcontractors. The OBS is related to the WBS to ensure that all personnel are identified that are responsible to plan, manage and control the project.

Organization Breakdown Structure (OBS) Types

Companies have different organizational structures and the OBS for a given project can be designed to accommodate any of the following structures. For instance:

- Functional organization: This structure is quite common. Individuals are assigned to work according to a function such as engineering design or information services. Individuals within these groups can be assigned to support different projects but they remain part of the functional organization.

- Client-based organization: A common example of this type of organization is where an engineering company is organized to handle projects based on different types of clients: transportation, water, energy, and government for example. Organizations may also be structured along geographic lines, such as North America, Latin America, Middle East and North Africa (MENA), etc. however, the OBS structure must hierarchically decompose down to the control account level to allow for identification of a responsible party for WBS for EVM purposes.

- Dedicated project/program organization: A project or program manager is assigned to a large project or program and is given a budget, scope, and schedule. The manager hires and manages the human resources required for the project or program.

- Matrix organization: In this type of an organization, the project team member remains a member of their functional organization, but is assigned to a specific project, and is given assignments by the project manager rather than by the functional manager. Control account managers (CAMs) on a project can also fulfill a role as functional managers.

The OBS is a hierarchical breakdown of the project organization. The organization is established for the identified units of work. The OBS defines who manages the resources while the WBS is product-oriented. At a high level, the OBS gives a broad snapshot of the types of resources that are required.

An organizational breakdown structure can be as simple or complex as the project requires to adequately define the organization. Below are two examples of an OBS for a design project, with one being horizontal and the other vertical. The OBS identifies the roles and the person associated with each role.

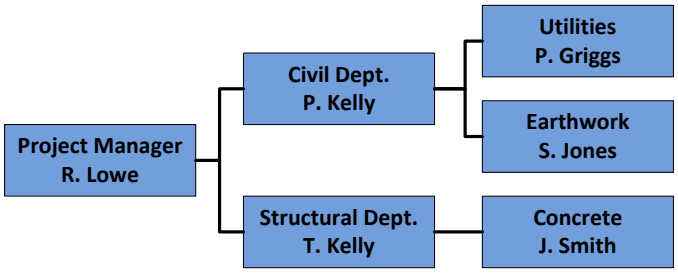

Figure 1 – Project or Matrix Organization

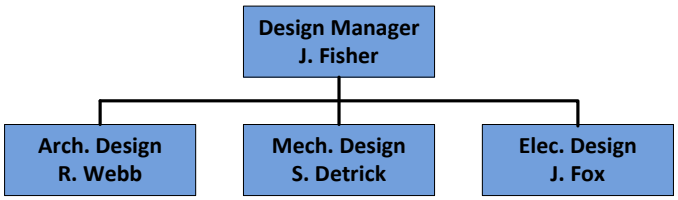

Figure 2 – Functional Organization

Other projects may be more complex and may span across several sites and groups. An example of the OBS/organization chart for a complex project is as follows:

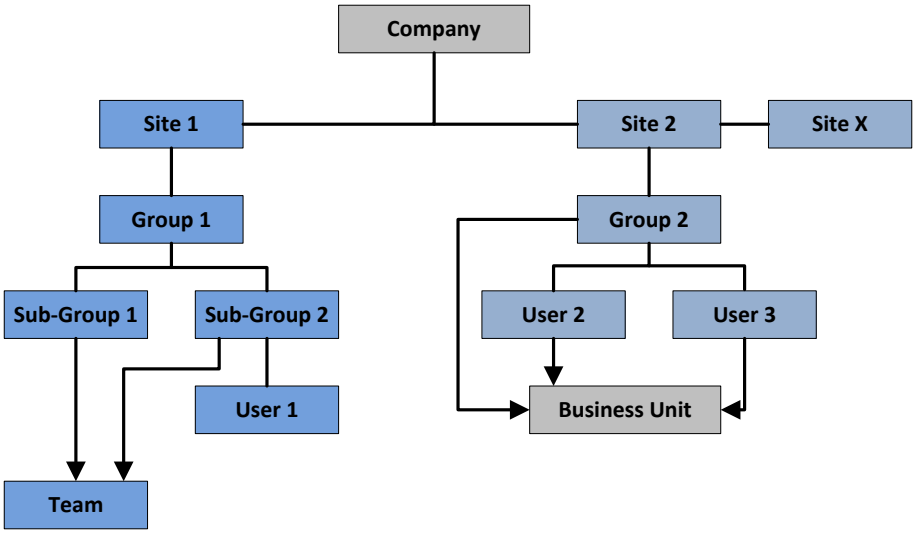

Figure 3 – Example of a Complex OBS

Responsibility Assignment Matrix (RAM)

The RAM is used to define the framework for assigning work responsibilities. The OBS defines the organizational elements to which the WBS will be assigned but it is not the framework for assigning work. Previous examples have shown the higher level OBS assignments. At the lower levels of the OBS, the intersection with the WBS designates control accounts, and is used for work management and cost collection as shown in the figure below.

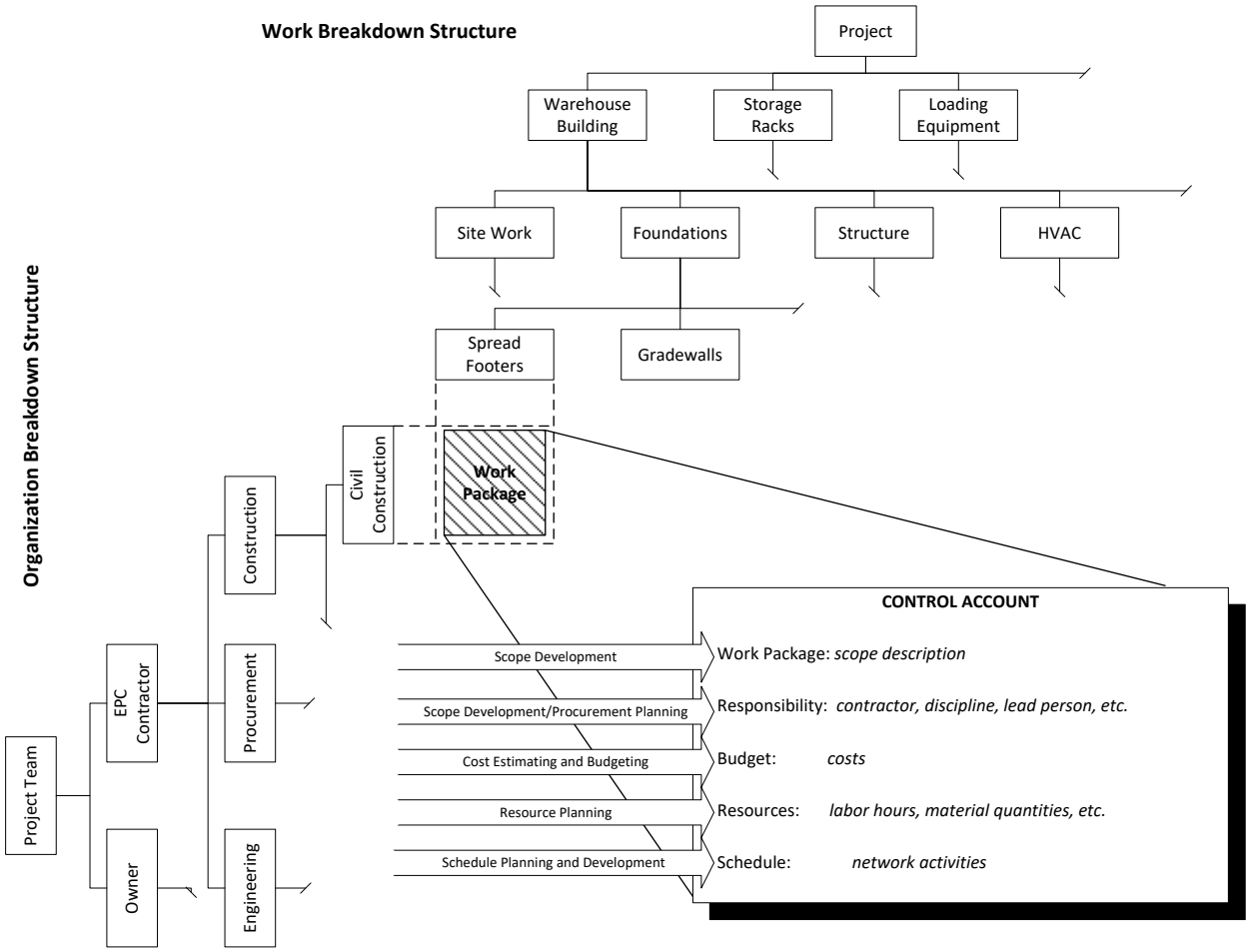

Figure 4 – (TCM Figure 8.1-1) Intersection of the OBS with the WBS

The RAM identifies the person who is responsible for the work, regardless of who actually performs the work. The RAM displays the lowest level where the WBS and the OBS intersect. The integration of the WBS and OBS identifies specific responsibility for project tasks. In the example below, an "X" appears at the intersection of the WBS task and the OBS manager who is responsible for that task. This defines the specific department that is responsible for the work.

Responsibility Assignment Matrix			**Software**			**Hardware and Tooling**			
			Design	Test	Integrate	Design	Test	Integrate	Manuf.
Company	**Department**	**Manager**	1.1	1.2	1.3	2.1	2.2	2.3	2.4
ACME	Software	Finch	X						
LAUNCH	Hardware	Ortega				X			
CORP.	Testing	Haggerty		X			X		
	Integration	Johnson			X			X	
	Production	Simon							X

Figure 5 – Example of a RAM

A RAM may be further defined and developed into a type of chart called a RACI Chart, which indicates the individuals on a team who are responsible (R), accountable (A), consulted (C), and informed (I) regarding identified project deliverables. An example is shown in Figure 6. Note that only the "R" designation in the chart below represents the CAM who is responsible for the work.

JOB TITLES:	**Prog.Mgr**	**Proj.Mgr**	**Proj.Ctrl**	**Engineer**	**ES&H**	**Architect**
WBS ELEMENTS	**Ken S.**	**John P.**	**Julie O.**	**David J.**	**Cathy J.**	**Subcontr.**
1.0 Program Mgmt						
1.1 Strategic Planning	R	C	I			
1.2 Project staffing	A	R	I			
1.3 Reports & analysis	I	A	R	C		
2.0 Conceptual Design		A		C		R
2.1 Design criteria	A	R		C	C	I
2.2 Budget & schedule		A	R			
2.3 Design mgmt.		R		C	I	
2.4 Technical input		A		R	I	C
2.5 Develop design		A	I	C	I	R

Figure 6 – RACI Chart to Show Type of Responsibility
Legend: R (Responsible); A (Accountable); C (Consulted); and I (Informed).

Costs may also be included in the RAM. This is often found in EVM systems and is called a monetized RAM. This document identifies the budget for which each control account manager is responsible. This document is used by project managers (PM) and CAMs to further define the scope of the CAM's responsibilities.

If the monetary amount is considered too large for an individual CAM to manage, additional CAMs may be assigned to cover that scope. Alternatively, if the monetary amount is considered too small, scope items may be consolidated under existing CAMs. The goal is to balance the work scope and budget with the abilities of the CAMs.

The design of both the OBS and RAM should allow for the implementation of earned value systems on projects or programs. Figure 7 is an example of a monetized RAM:

WBS	Control Account Number	Control Account Name	Control Account Manager	Org	Budget
1.2.1	1.2.1	Program Management	James Cash	1010	1,837,384
1.2.2.1	1.2.2.1	Initial System Design	Jay Freidman	1070	2,138,500
1.2.2.2	1.2.2.2	Systems Design Support	John Stone	1070	2,517,996
1.3.1	1.3.1	Acceptance Test Planning	Dan Sanchez	107I	1,400,297
1.3.2	1.3.2	Environmental Tests	Mitzi Oishi	107I	474,987
1.3.3	1.3.3	Mock-ups	Mitzi Oishi	107I	410,087
1.3.4	1.3.4	Test & Evaluation Support	Mitzi Oishi	107I	348,944
1.4.1	1.4.1.1	Training Services	Mary Cohen	103A	1,586,991
1.4.3	1.4.3	Facilities	Steve Lewis	103A	1,364,819
1.5.1	1.5.1	Engineering / Technical Pubs	Randy Ayoub	102A	577,021
1.5.2	1.5.2	Management Data	Randy Ayoub	102A	269,291
		Total - Distributed Budget			12,926,317
		Management Reserve	Marsha Johnson	1010	1,342,685
		Total - Contract Budget Base			14,269,002

Figure 7 – Monetized RAM

Security Issues

An issue may arise from the use of the OBS in cost and scheduling software to designate security access privileges. Such software typically allows anyone represented by an OBS designation superior to another OBS to access their project records. The OBS structure should consider allowable security clearances when making the OBS assignments. A superior OBS position should have equal or greater security clearance than all subordinate OBS positions.

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