

RELEASE INSTRUCTIONS (RI) 0047383

DOCUMENT NO.:

WHC-CM-5-4

PAGE 1 OF 1

TO:

D. A. Isom
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H6-08

TITLE: Laboratories Administration

RELEASE NO.: 060

DATE PREPARED: June 4, 1997

I have entered this release into the document per instructions.

DA Isom

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6/18/97

Date

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Table of Contents	1 - 6	59	05/13/97	1 - 6	60	06/04/97
Section 3.27, "Hanford Analytical Services Long Range Planning Process"	--	-	--	1 - 30	0	06/04/97

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Table of Contents

<u>Section</u>	<u>Title</u>	<u>Revision</u>	<u>Effective Date</u>
1.0	POLICIES		
1.1	Safety Priority and Procedure Compliance Policy	5	05/13/97
2.0	ORGANIZATION		
NOTE:	The charter for Analytical Services may be found in WHC-CM-1, <i>Company Policies and Charters</i> .		
2.1	Charters — Section Title (no text)		
2.1.1	222-S Analytical Operations Charter	3	04/13/95
2.1.2	222-S Facility Operations Charter (incorporated into 2.1.1)	Canceled	10/22/93
2.1.3	Program Management and Integration Charter	2	04/05/95
2.1.4	Work Control and Data Management Charter	Canceled	04/26/95
2.1.5	Office of Sample Management	Canceled	04/26/95
2.1.6	Plutonium Finishing Plant Engineering Laboratory	Canceled	07/06/95
2.1.7	Process Laboratories and Technology Charter	Canceled	07/11/95
2.1.8	PUREX Analytical Laboratories Charter	Canceled	07/20/95
2.1.9	Engineering and Technology Services Charter	1	03/31/95
2.2	Committees, Boards, and Task Teams	Canceled	08/17/95
2.2.1	Laboratory Instrument Control Board Charter	Canceled	09/18/96
2.2.2	Chemical Hygiene Committee Charter	1	05/31/95
2.2.5	Laboratories ALARA Committee Charter	Canceled	09/14/95
2.2.6	Laboratories Pollution Prevention Team Charter	1	05/01/95
2.2.8	Laboratory Facility Plant Review Committee Charter	Canceled	06/12/96
2.3.1	Waste Sampling and Characterization Facility — Startup Charter	Canceled	04/12/95
2.3.2	Waste Sampling and Characterization Facility — Analytical Operations Charter	2	02/26/96
2.3.3	Quality Systems Charter	1	08/02/96
2.3.4	Laboratory Transition Charter	0	03/21/95
2.3.6	222-S Production/Scheduling Charter	0	08/05/96

Table of Contents

<u>Section</u>	<u>Title</u>	<u>Revision</u>	<u>Effective Date</u>
3.0	ADMINISTRATION		
3.1	Manual Administration	6	03/31/97
3.1-A	Manual Administration — Procedure (incorporated into Section 3.1, Rev. 5)	Canceled	04/05/95
3.2	Out-of-Tolerance Report System	Canceled	01/15/93
3.3	Corrective Action Requirements, Occurrence Categorization, Notification, and Reporting (moved to 6.7)	Canceled	09/13/93
3.4	Data Package Preparation	Canceled	03/03/97
3.5	Administration for Nuclear Materials	4	09/09/96
3.6	Laboratories Entry Requirements	0	03/07/95
3.7	222-S Complex Radiological Postings	Canceled	07/25/95
3.8	Shift Turnover at 222-S Laboratories Complex	Canceled	07/06/95
3.9	Laboratory Procedures	6	05/13/97
3.10	Procedure Changes and Procedure Change Authorizations (incorporated into 3.9, Rev. 3)	Canceled	03/23/95
3.11	Format and Content Guide for Analytical Services Technical Procedures (see LAP-111-000)	Canceled	11/03/95
3.12	Internal Audit Program (moved to 8.5)	Canceled	08/15/94
3.13	Unreviewed Safety Questions (USQ) Program	Canceled	06/12/96
3.14	Laboratory Sample Tracking	1	03/31/97
3.14-A	Laboratory Sample Tracking — Procedure	Canceled	08/15/94
3.15	Data Package Administrative Verification	1	03/31/97
3.15-A	Data Package Administrative Verification — Procedure	Canceled	08/15/94
3.16	Data Package Control Requirements and Procedure	3	03/31/97
3.16-A	Data Package Control — Procedure (incorporated into 3.16, Rev. 1)	Canceled	03/01/95
3.17	222-S Laboratory Radioactive Material Inventory Control Program	Canceled	09/14/95
3.18	Hanford Environmental Information System (HEIS) Data Entry	Canceled	03/03/97
3.19	Sample Authorization Form (SAF) Issuance and Procedure Change 1	0, Chg 1	03/31/97

Table of Contents

<u>Section</u>	<u>Title</u>	<u>Revision</u>	<u>Effective Date</u>
3.26	Terms and Conditions of Requests for Services at the Waste Sampling and Characterization Facility	0	07/30/96
3.29	Make or Buy Policy for Hanford Analytical Services Program	0	01/21/97
3.27	<i>Hanford Analytical Services Long Range Planning Process</i>	0	06/04/97
3.30	Analytical Services Acquisition Evaluation Procedure	0	01/21/97
4.0	TRAINING		
4.1	Training Responsibilities and Definitions	2	04/10/97
4.2	Training Development and Maintenance	1	04/10/97
4.3	Training Administration Change 1 (5)	1	11/15/95 01/22/96
4.4	On-The-Job Training	4	05/01/96
4.5	Training Programs	2	09/11/95
4.6	Training Plan for Hanford Analytical Services Laboratories RCRA Waste Management Units	2	04/30/97
5.0	PROCEDURES		
5.1	Analytical Laboratory Procedures (renumbered 3.9)	Canceled	01/15/93
5.2	Supporting Documents	Canceled	09/15/92
5.3	Laboratory Directions	Canceled	09/15/92
5.4	Laboratory Test Programs	0	03/30/92
6.0	CONDUCT OF OPERATIONS		
6.1	222-S/WSCF Daily Operating Instructions/Standing Orders	1	09/15/95
6.2	222-S Lockout/Tagout Guidance (replaced by LAP-01-100, 222-S Lockout/Tagout Guidance)	Canceled	01/23/96
6.7	Occurrence Categorization, Notification, and Reporting (Conduct of Operations Chapter 7)	8	04/10/97
6.7-A	Corrective Action Requirements, Occurrence Categorization, Notification, and Reporting — Procedure (incorporated into 6.7, Rev. 5)	Canceled	06/06/95
6.8	Lessons Learned Administration	0	01/22/96

Table of Contents

<u>Section</u>	<u>Title</u>	<u>Revision</u>	<u>Effective Date</u>
6.9	Required Reading Change 1 (Page 2)	0	09/02/96 03/12/97
6.11	Logkeeping Practices (see LAP-12-100)	Canceled	04/10/97
6.17	Operator Aid Postings (Conduct of Operations, Chapter 17)	2	04/10/97
7.0	RECORDS MANAGEMENT		
7.1	Laboratory Data Management Access Control for Data Packages	Canceled	03/12/97
7.2	Laboratory Records System	1	02/19/97
8.0	QUALITY ASSURANCE/QUALITY CONTROL		
8.1	222-S Laboratory Analytical Quality Assurance Plans	1	04/08/96
8.2	Laboratory Instrument Calibration Control System	Canceled	08/05/96
8.3	Laboratory Quality Affecting Software Control System	1	08/15/94
8.5	Laboratory Assessments	0	08/15/94
8.5-A	Laboratory Assessments — Procedure	0	08/15/94
8.6	Laboratory Computer Configuration Control	0	12/15/95
8.7	222-S Laboratory Management Assessments	1	04/30/97
8.8	Corrective Action Management	0	01/08/96
8.9	Management Assessment Program Change 1 (Pages 9, 11)	0	11/14/96 03/12/97
9.0	WORK CONTROL		
9.1	Material Control	2	04/10/97
9.1-A	Material Control — Procedure (incorporated into Section 9.1, Rev. 1)	Canceled	11/21/95
9.2	Restricted Access Area Signage	0	04/18/94
9.3	222-S Complex Construction Work Authorization	0	05/02/94
9.4	222-S High Radiation and Very High Radiation Area Access Control	2	12/12/96
9.5	Access Control Entry System (ACES)	0	10/16/95

Table of Contents

<u>Section</u>	<u>Title</u>	<u>Revision</u>	<u>Effective Date</u>
9.8	Notice of Construction Review	0	08/26/96
10.0	LABORATORY INSTRUMENTS		
10.1	Instrument Preventive Maintenance	1	01/08/96
11.0	RADIOLOGICAL CONTROL		
11.1	Policy and Management Commitment	0	12/22/95
11.2	Assignment of Responsibilities	0	12/22/95
11.3	Administrative Control Levels	0	12/22/95
11.4	Radiological and ALARA Performance Goals/Indicators	0	12/22/95
11.5	ALARA Training	0	12/22/95
11.6	Plans and Procedures	0	12/22/95
11.7	Internal ALARA Program Reviews and Work Practice Assessments	0	12/22/95
11.8	Optimization Methodology	0	12/22/95
11.9	ALARA Design Reviews	0	12/22/95
11.10	ALARA Work Documentation	0	12/22/95
11.11	ALARA Program Records	0	12/22/95
12.0	WASTE MANAGEMENT		
12.1	Low-Level Waste Certification Plan for the 222-S Laboratory Facilities	0	TBI

Table of Contents

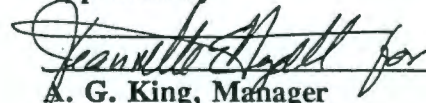
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June 4, 1997

Page 1 of 30

Hanford Analytical Services
Long Range Planning Process

Approved by


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Hanford Analytical Services

Author:
Organization:

R. A. Spohr
Business Administration

1.0 PURPOSE

This instruction provides the Hanford Analytical Services (HAS) cost estimate/basis of estimate requirements to complete a budget baseline, rebaseline, and/or change request (CR) in order to develop an activity based cost (ABC) estimate that is technically complete, fully documented, and defensible.

Successful implementation of the process described herein enhances HAS long range planning, program control, and cost estimating activities by:

- Improving the planning process and performance measurement criteria.
- Significantly reducing cost estimate assessment and validation in terms of time and resources.
- Providing historical data to support ongoing cost estimate/basis of estimate submittals as well as increasing the confidence level of the applicable task/sub-task.

2.0 SCOPE

This instruction applies to all HAS personnel involved in long range planning, scheduling, and cost estimating activities. The process described herein is initiated to direct ABC estimating activities in a budget baseline, rebaseline and/or CR process [for example, activity data sheet (ADS)/program plan (PP) preparation] and carries through to cost account plan (CAP) development in the Financial Data System (FDS).

3.0 RESPONSIBILITIES

3.1 Program Manager

Has overall responsibility for the quality and the reliability of the ADS and PP processes. This includes all cost estimating, scheduling, and budget documentation throughout Hanford Analytical Services. In addition, the program manager is responsible for determining the technical scope baseline, analyzing functional performance requirements, defining technical standards, approving the work breakdown structure (WBS), and working with the respective cost account manager (CAM), program administrator, reviewer, and scheduler.

3.2 Program Control Manager

Has overall responsibility for managing the Program Control Group (also referred to as the Program Office Core Team). Additionally, responsible for the preparation of the ADS, PP, cost account authorizations (CAAs), current year financial execution documents, and status reporting.

3.3 ADS/PP Coordinator

Has overall responsibility to ensure the ADS/PP, rebaselines, and CRs are in compliance with all U.S. Department of Energy (DOE) and Hanford Company orders/guidance.

3.4 Budget Analysts/Schedulers

Primarily responsible for all FDS input for HAS. Ensures compliance with WHC-CM-2-17, *Budget Formulation Manual*, as well as WHC-CM-2-5, *Management Control System*. Also responsible for resource allocation (loading resources identified in estimate) to resource loaded schedules (PX) that are in compliance with RLP 5000.11, *Schedule Validation*. Additionally, responsible for coordinating with other HAS organization schedulers to ensure all schedules that are submitted to the ADS/PP coordinator are accurate.

3.5 Program Office Core Team

The Program Office Core Team consists of the program control manager, ADS/PP coordinator, program administrators, budget analysts, and the schedulers. The team is responsible for developing, preparing, and maintaining HAS cost estimate punchlists, schedules, process documentation, forms, training, and historical data. Additionally, the team is responsible for reviewing, revising, recommending changes, and approving submitted cost estimate/basis of estimate input data sheets and associated CAP summary documentation. The team loads schedules into PX, downloads PX information to FDS, updates the PP, develops the ADS, compares available funding to requested workscope, and establishes a central records management system for HAS project control data.

3.6 Cost Account Manager

CAMs are responsible for assisting the program office in the generation of CAAs; identifying interim milestones to demonstrate progress of authorized workscope; and supplying cost estimates that consider methodology, labor, and non-labor items such as supplies, equipment, training, vendor quotes, and regulatory requirements. Additionally, CAMs are responsible for completing the cost estimate/basis of estimate input data sheets for each task and/or sub-task within the cost account (including historical data).

3.7 Requirement Case

Also referred to as the planning case or compliance case, represents a program planning baseline that includes all safety and compliance activities. Any activities included in the Requirement Case which are not required by legal or safety requirements should be justified on programmatic, technical, cost-effectiveness, and/or efficiency grounds.

3.8 Target Case

The Target Case represents a comprehensive Office of Environmental Restoration and Waste Management (EM) program based on Office of Management and Budget (OMB) budget mark and outyear budget constraints. The activities reflected in this case are those that can be performed at the constrained budget level with a focus on completing high priority safety and compliance activities.

3.9 Decrement Case

A Decrement Case may be required, generally, for the budget year only. Specific guidance will be provided by DOE as a percent reduction in the designated target case. The purpose of this case is to assist DOE in planning for potential budget reductions during the congressional budget process.

4.0 PROCESS

To meet the requirements outlined by DOE, HAS shall standardize and identify cost estimating and scheduling activities in the development of task packages and scope.

HAS CAMs shall determine the associated cost estimate content, technical scope, and methodology by completing a HAS CAP Summary (Figure 3, Form 6.3) for each CAP.

4.1 Budget - Baseline

HAS baselining activities are conducted using both the ADS and PP processes.

4.1.1 ADS process

The ADS process result is a five-year plan that is updated annually, as requested in writing by Project Hanford Management Contract (PHMC). PHMCs written request provides the guidance necessary for HAS to successfully complete the ADS process.

The following is a step-by-step approach that HAS shall use to complete the ADS process:

<u>Description/Activity</u>	<u>Action</u>
1. Receive ADS call letter; review for applicability and approach.	Program Office Core Team
2. Develop scope/action plan and identify key personnel (from other HAS organizations) to participate in completing the ADS process.	Program Office Core Team
3. Provide DOE with access for review and concurrence.	Program Office Core Team
4. Initiate kick-off meeting in order to provide training, guidance, forms to be used, and the schedule for completing the assignment to the responsible key personnel (CAMs, program administrators, budget analysts, and schedulers).	Program Office Core Team
5. Provide DOE with plan and kick-off briefing.	Program Office Core Team
6. Prepare and submit <i>Requirement Case</i> , cost estimate and basis of estimate forms (see Figures 1 and 2) and CAP summary form (see Figure 3) to the ADS/PP coordinator. All historical and/or backup documentation required to explain the cost estimate shall accompany the <i>Requirement Case</i> .	Key Personnel (CAMs, Program Administrators, Budget Analysts, Schedulers)
7. Review the <i>Requirement Case</i> for compliance and update/complete as necessary.	Program Office Core Team
8. Input <i>Requirement Case</i> into PX and produce the <i>PX ADS Requirement Case Schedule</i> .	Schedulers
9. Provide PHMC with access to the <i>PX ADS Requirement Case Schedule</i> documentation for review.	Program Office Core Team
10. Develop <i>ADS Target Case</i> , validate program priorities, prepare <i>Requirement Case Task Matrix</i> (Figure 4, Form 6.4), and identify productivity commitment (PC) candidates and low priority workscope.	Program Office Core Team

- | | | |
|-----|--|-----------------------------|
| 11. | Review <i>Target Case</i> with CAMS and make changes to schedule and back-up documentation as necessary. Finalize <i>Target Case</i> . | Program Office
Core Team |
| 12. | Input <i>Target Case</i> into PX and produce <i>PX ADS Target Case Schedule</i> . | Schedulers |
| 13. | Provide PHMC with access to the <i>PX ADS Target Case Schedule</i> documentation for review. | Program Office
Core Team |
| 14. | Summarize all fiscal year ADS data, initiate central file location, and input into the Environmental Planning Data System (EPDS). | ADS/PP Coordinator |
| 15. | Submit fiscal year ADS data to the PHMC for review and approval prior to submittal to DOE for formal review/approval. | ADS/PP Coordinator |

4.1.2 PP process

The PP process results in a program baseline (execution year plus 5 outyears plan) that is updated annually, as requested in writing by PHMC/DOE. The process is initiated when PHMC receives the DOE call letter. The PHMC call letter provides the guidance necessary for HAS to successfully complete the PP process.

The following is a step-by-step approach HAS shall follow to complete the PP process:

<u>Description/Activity</u>	<u>Action</u>
1. Receive PP call letter and review for applicability and approach.	Program Office Core Team
2. Develop scope/action plan and identify key personnel (from other HAS organizations) to participate in completing the PP process. The fiscal year ADS is used as the basis when completing the PP.	Program Office Core Team
3. Provide DOE with access for review and concurrence.	Program Office Core Team
4. Initiate kick-off meeting in order to provide training, guidance, forms to be used and the schedule for completing the assignment to responsible key personnel.	Program Office Core Team

- | | | |
|-----|---|---|
| 5. | Provide PHMC with plan and kick-off briefing. | Program Office
Core Team |
| 6. | Prepare and submit <i>Requirement Case</i> , cost estimate/basis of estimate forms (see Figures 1 and 2) as well as the CAP summary form (see Figure 3) to the ADS/PP Coordinator. All historical/ backup documentation required to explain the cost estimate shall accompany the <i>Requirement Case</i> . | Key Personnel
(CAMs, Program
Administrators,
Budget Analysts,
Schedulers) |
| 7. | Review the <i>Requirement Case</i> for compliance and update/complete as necessary. | Program Office
Core Team |
| 8. | Input <i>Requirement Case</i> into PX and produce <i>PX PP Requirement Case Schedule</i> . | Schedulers |
| 9. | Provide PHMC with access to the <i>PX PP Requirement Case</i> documentation for review. | Program Office
Core Team |
| 10. | Develop <i>PP Target Case</i> , validate program priorities, prepare <i>Requirement Case Task Matrix</i> (Figure 4, Form 6.4), identify PC candidates and low priority workscope. | Program Office
Core Team |
| 11. | Review <i>Target Case</i> with CAMs and make changes as necessary. Finalize <i>Target Case</i> . | Program Office
Core Team |
| 12. | Input <i>Target Case</i> into PX and produce <i>PX PP Target Case Schedule</i> . | Program Office
Core Team |
| 13. | Provide PHMC with access to the <i>PX PP Target Case</i> documentation for review. | Program Office
Core Team |
| 14. | Summarize all fiscal year PP data, initiate central file location, and redline current PP with revised text, milestones, and budget data. Review with PHMC, agree on content and finalize new update of PP for approval and basis of budget year work authorization. | ADS/PP Coordinator |

15. Submit fiscal year PP to the PHMC for review and approval prior to submittal to DOE for formal review/approval. With the approval of the program manager/program control manager, the ADS/PP coordinator may use the *ADS Target Case* as the *PP Requirement Case/Target Case* in order to initiate the PP process prior to any known changes in the WBS.
- ADS/PP Coordinator

4.2 Budget - Change Request (CR) "Program Baseline Maintenance"

Baseline established when PP is validated and approved by PHMC. Baseline may change due to the following: budget cuts, new scope requests, significant schedule changes resulting in a whole or partial rebaseline. Baseline changes are authorized and documented by the CR process. The HAS CR process (rebaseline), in accordance with change control procedures, includes, but is not limited to, the following:

<u>Description/Activity</u>	<u>Action</u>
1. Develop a change request by either initiating new (revised) cost estimate/basis of estimate completion forms (see Figures 1 and 2) or redlining a copy of the original baseline (ADS/PP) and/or rebaseline cost estimate/basis of estimate forms. All historical/backup documentation required to explain the revised cost estimate (baseline) shall accompany the rebaseline.	Key Personnel (CAMs, Program Administrators, Budget Analysts, Schedulers)
2. Submit CR as well as cost estimate/basis of estimate completion forms (see Figures 1 and 2) and a CAP summary form (see Figure 3), if applicable, to the ADS/PP coordinator.	Key Personnel (CAMs, Program Administrators, Budget Analysts, Schedulers)
3. Review the CR for compliance, update/complete as necessary, and forward to the schedulers.	ADS/PP Coordinator
4. Update PX baseline with data provided by ADS/PP Coordinator and develop <i>PX Change Request Schedule</i> . Concurrently, this data should be processed to FDS in order to develop a revised CAP. This activity will be completed after DOE has completed their formal/ informal review and has approved the CR.	Schedulers

5. Package CR documentation with applicable approvals and forward to DOE (if required) for review and concurrence.

ADS/PP Coordinator

6. For specific change request guidance refer to WHC-CM-2-5, *Management Control System*.

Key Personnel
(CAMs, Program
Administrators,
Budget Analysts,
Schedulers)

5.0 FORMS/FIGURES

- 5.1 Form 6.1, Hanford Analytical Services Cost Estimate/Basis of Estimate (Sub-Tasks)
- 5.2 Form 6.2, HAS Cost Estimate/Basis of Estimate (Scope, Milestones, Assumptions, Non-Labor Breakdown)
- 5.3 Form 6.3, HAS Cost Account Plan (CAP) Summary
- 5.4 Form 6.4, Requirements/Target Case Task Matrix

6.0 DESIGNATED REVIEWERS

Designated Reviewing Organizations

Business Administration (Champion)

CMPOC

T6-04

7.0 REFERENCES/BIBLIOGRAPHY

EM-30, Office of Waste Management, *Cost & Schedule Estimating Guide*.

RLID 5000.1, *Baseline Execution & Management Process*, U.S. Department of Energy.

RLID 5000.2, *Long Range Planning Process*, U.S. Department of Energy.

RLP 5000.11, *Schedule Validation*, U.S. Department of Energy.

RLP 5700.9, *Cost Estimating Validation*, U.S. Department of Energy.

WHC-CM-2-5, *Management Control System*, Westinghouse Hanford Company.

WHC-CM-2-17, *Budget Formulation Manual*, Westinghouse Hanford Company.
Section 5.0, "Requirements/Standards/Cost Estimating"

U.S. Department of Energy, *Field Budget Formulation Handbook*.

8.0 ATTACHMENTS

8.1 HAS Project Controls Plan Activity Data Sheet (ADS) Flow

8.2 HAS Project Controls Plan Program Plan (PP) Flow

8.3 HAS Project Controls Plan Rebaseline/Change Request Flow

9.0 APPENDICES

9.1 HAS Category Index

9.2 Methodology

Instructions for Completing Figure 1:

1. Cost Account Plan (CAP) #:
See specific/current WBS in effect.
2. Work Package (WP) #: See specific WBS for the CAPs.
3. Task #: See specific WBS for the CAPs and associated WPs.
4. Task Description: Brief description of each task (#3) that is contained in the associated CAP and WP.
5. Preparer: Individual responsible for the actual preparation of the cost estimate.
6. Cost Account Manager (CAM): Individual responsible for completing the cost estimate as well as reviewing and approving the preparer's input.
7. Sub-Task #: Input the sub-task number, beginning with one (1) through XX.
8. Sub-Task Description: Brief description of each sub-task that divides the task into discrete quantifiable parts. If additional explanation is required, input "see attached" and complete additional page(s) to explain sub-task/task.
9. Labor/Non Labor Categories: See Appendix A for an index of applicable labor/non-labor category codes.
10. Organizational Codes: See Soft Reporting, Financial Data System, Tables, for the current listing of contractor organization codes.
11. Cost Element: See Soft Reporting, Financial Data System, Tables, for the current listing of cost elements.
12. FY__ (Schedule/Distribution): Input the year(s) you are scheduling associated work and input hours for the required duration either by month, or if possible, spread evenly over the duration needed to complete the work. Note that the form allows space for scheduling in three consecutive fiscal years. If addition years are required add a second sheet.
13. FY__ Totals: Input the fiscal year being summarized.
14. Labor Hours: Total number of hours required to complete task.
15. Non-Labor \$: Total number of non-labor dollars required to complete task. Note that overtime (OT) shall be in dollars, e.g., convert hours to dollars for OT.
16. Indicate continuation of work in additional outyears with an arrow () in this space (if required).

Figure 2. Hanford Analytical Services Cost Estimate/Basis of Estimate (Scope, Milestones, Assumptions, Non-Labor Breakdown).

Analytical Services		CAP#	(1)	TASK #	(3)	TASK:.....(4).....	Priority	(5)	Page	of													
Cost Estimate/Basis of Estimate		WPS	(2)	DESCRIPTION:.....			Date	(6)															
SCOPE						Performance Milestones:																	
(7)						Type (9)	Control # (10)	Brief Description (11)	FDS		SUB-TASK (13)	EOD (14)											
									Y	N													
Assumptions: (8)																							
MATERIALS		ST	COST	EQUIPMENT		ST	COST	SUPPLIES		ST	COST	COMPUTER		ST	COST	PURCHASED SVCS		ST	COST	SUPP/OTHER ORGS		ST	COST
1	(15)	1 st	(17)	1	(18)	1 st	(20)	1	(21)	1 st	(23)	1	(24)	1 st	(26)	1	(27)	1 st	(29)	1	(30)		
2				2				2				2				2				2			
3				3				3				3				3				3			
4				4				4				4				4				4			
TOTALS				TOTALS				TOTALS				TOTALS				TOTALS				TOTALS			
TRAINING		ST	COST	TRAVEL		ST	COST	FDW/BHI/PHWL		ST	COST	HPR		ST	COST	IRM		ST	COST	OTHER/MISC.		ST	COST
1	(33)	1 st	(35)	1	(36)	1 st	(38)	1	(39)	1 st	(41)	1	(42)	1 st	(44)	1	(45)	1 st	(47)	1	(48)	1 st	(50)
2				2				2				2				2				2			
3				3				3				3				3				3			
4				4				4				4				4				4			
TOTALS				TOTALS				TOTALS				TOTALS				TOTALS				TOTALS			
Explanation of Non-Labor Costs		(51)										Earned Value Method		(52)									

Instructions for Completing Figure 2:

1. Cost Account Plan (CAP) #: See "Instructions for Completing Figure 1," Item 1, for a listing of FY 1996 Hanford Analytical Services CAPs.
2. Work Package (WP) #: See specific WBS for the respective WPs within the fourteen CAPs.
3. Task #: See specific WBS for the respective task within the associated WP and CAP.
4. Task Description: Brief description of each task (#3) that is contained in the associated CAP and WP.
5. Preparer: Individual responsible for the actual preparation of the cost estimate.
6. Cost Account Manager (CAM): Individual responsible for completing the cost estimate as well as reviewing and approving the preparer's input.
7. Scope: Brief description that completely details the task. Specifically include a narrative that broadens the task description, technical scope, included activities, historical comparisons, and/or previous experience (if any).
8. Assumptions: Brief description that details assumptions used for this particular cost estimate/basis of estimate. Specifically include assumption with corresponding dates/durations, policy drivers/requirements, associated risks, and parameters/constraints.

Performance Milestones: Items 9-14

9.	Type	Description	(PX) Code
	TPA	Tri-Party Agreement Regulatory Driven Deliverable	T - TPA Major T - TPA Interim T - TPA Target
	RL	DOE-Richland Operations Office Contractor (WHC) Required Deliverable	K - RL K - PBI
	Key	Program Office Deliverable between program office and respective CAM	R - WHC-KEY
	Other	All other CAM milestones Deliverable to the CAM from performing organization	O - Other

Type	Description	(PX) Code
HQ	DOE-HQ major milestone Determined to be critical to the success of the total program or project and has been selected for monitoring and control by DOE-HQ .	M - HQ
10.	<u>Control #:</u> Obtain control number for milestones from either the respective work control manager or the program office milestone coordinator.	
11.	<u>Brief Description:</u> Concise statement of the milestone which explains what the milestone consists of.	
12.	<u>FDS Update:</u> If milestone(s) need to appear in the respective FDS CAP, please check Y; if not, please check N.	
13.	<u>Sub-Task:</u> If possible, include respective sub-task (from Figure 1) that the milestone is directly related to within the task.	
14.	<u>ECD:</u> Enter the estimated completion date of the milestone.	
15.	<u>Materials:</u> List all materials required to complete task. If needed, input "see attached," for a specific breakdown of all required materials.	
16.	<u>ST:</u> Sub-task that is directly related to material (from Figure 1).	
17.	<u>Cost:</u> In dollars (\$), include cost of materials.	
18.	<u>Equipment:</u> List all equipment required to complete task. If needed, input "see attached," for a specific breakdown of all required equipment.	
19.	<u>ST:</u> Sub-task that is directly related to equipment (from Figure 1).	
20.	<u>Cost:</u> In dollars (\$), include cost of equipment.	
21.	<u>Supplies:</u> List all supplies required to complete task. If needed, input "see attached," for a specific breakdown of all required supplies.	
22.	<u>ST:</u> Sub-task that is directly related to supplies (from Figure 1).	
23.	<u>Cost:</u> In dollars (\$), include cost of supplies.	
24.	<u>Computer:</u> List all costs for computer equipment (CPU, monitor, printer, etc.) required to complete task. If needed, input "see attached," for a specific breakdown of all required computer equipment.	

25. ST: Sub-task that is directly related to computer equipment (from Figure 1).
26. Cost: In dollars (\$), include cost of computer equipment.
27. Purchased Svcs: List all associated contracts, purchase orders, purchase requisitions, task orders, work orders, etc. required to complete task. If needed, input "see attached," for a specific breakdown of all required purchased services.
28. ST: Sub-task that is directly related to purchased services (from Figure 1).
29. Cost: In dollars (\$), include cost of purchased services.
30. Supp/Other Orgs: List all associated costs from support organizations (not including ICF KH, PNL, or BHI) required to complete task. If needed, input "see attached," for a specific breakdown of all required support organizations.
31. ST: Sub-task that is directly related to support organizations (from Figure 1).
32. Cost: In dollars (\$), include cost of support organizations.
33. Training: List all training (onsite/offsite) required to complete task. If needed, input "see attached," for a specific breakdown of all required training.

NOTE: This information should be an extraction of the "WHC Required Training Matrix" (e.g., required class x type of personnel x number of personnel x hours required).

34. ST: Sub-task that is directly related to training (from Figure 1).
35. Cost: In dollars (\$), include cost of training (e.g., classes/ registration fees). (As listed on the "WHC Required Training Matrix".)
36. Travel: List all required travel, including specific location, related to offsite training, business, and/or professional organizations needed to complete task. If needed, input "see attached," for a specific breakdown of all required travel.
37. ST: Sub-task that is directly related to travel (from Figure 1).
38. Cost: In dollars (\$), include cost of travel.

NOTE: Include approximate costs of related expenses, e.g., flights, hotels, rental cars, and per diem.

39. KEH/PNL/BHI: List all support from ICF KH, PNL, and BHI required to complete task. If needed, input "see attached," for a specific breakdown of all required KEH/PNL/BHI support.
40. ST: Sub-task that is directly related to KEH/PNL/BHI support (from Figure 1).

41. Cost: In dollars (\$), include cost of KEH/PNL/BHI support.
42. MPR: List all MPR (materials, equipment, supplies, computer equipment, and purchased services) for the task. If needed, input "see attached," for a specific breakdown of MPR.
- NOTE (1): MPR figured at planning rates (%) determined at Company level.
- NOTE (2): Can be located in the "Budget Guideline Handbook" section of Soft Reporting.
43. ST: Sub-task that is directly related to MPR (from Figure 1).
44. Cost: In dollars (\$), include cost of MPR.
45. IRM: List all associated IRM support required to complete the task. If needed, input "see attached," for a specific breakdown of IRM support.
46. ST: Sub-task that is directly related to IRM support (from Figure 1).
47. Cost: In dollars (\$), include cost of IRM support.
48. Other/Misc: List all other related support (that is not included under previously-mentioned non-labor categories) required to complete the task. If needed, input "see attached," for a specific breakdown of other non-labor support.
49. ST: Sub-task that is directly related to other non-labor support (from Figure 1).
50. Cost: In dollars (\$), include cost of other non-labor support.
51. Explanation of Non-Labor Costs: Additional information to support above listed non-labor costs required to complete tasks. Should this include actual costs from previous years, hardcopy list of materials, equipment, supplies, purchased services, etc., input "see attached" in order for details to be included in basis of estimate.
52. Earned Value Method: To complete box, see referenced WHC-CM-2-5, *Management Control System*:
- | | |
|---------------------|-----------------------|
| A) Milestone | D) Level of Effort |
| B) Percent Complete | E) Modified Milestone |
| C) Equivalent Unit | F) Apportioned Effort |

Figure 3. Hanford Analytical Services CAP Summary.

FORM 6.3
HANFORD ANALYTICAL SERVICES
COST ACCOUNT PLAN (CAP) SUMMARY

CAP TITLE _____

CAP NUMBER _____

COST ESTIMATE CONTENT

1. ESTIMATE STAGE - See Appendix B
2. ESTIMATE CATEGORY - See Appendix B
3. PERIOD - OCTOBER 1, 199X - SEPTEMBER 30, 199X
4. PURPOSE -The purpose of this estimate is to provide a cost baseline for the " _____"
" _____" CAP which can be validated under the DOE guidelines.
5. INTENDED USE - The cost estimate is to be used for budget formulation of the " _____"
" _____" CAP within Hanford Analytical Services and as the cost baseline.

TECHNICAL SCOPE

1. WORK PROCESS (In Detail)

The " _____" CAP is responsible for:

-
-
-
-

NOTE: Obtain the electronic copy of this form from
your financial or program business representative.

2. INCLUDED ACTIVITIES (*List Specific Task Packages*)

Activities under the operations of this CAP are:

-
-
-

3. EXCLUDED ACTIVITIES

4. POLICY DRIVERS/REQUIREMENTS

-
-
-
-
-

5. ASSOCIATED RISK

Risk associated with not performing the work described in this document are:

-
-
-
-
-

6. CONTINGENCY DEVELOPMENT7. ESCALATION FACTORS/SOURCE8. ASSUMPTIONS

See "Assumption Sections" for each specific task (activity) under the _____ associated work packages, included in Cost Estimate/Basis of Estimate Work Sheets.

9. PARAMETERS/CONSTRAINTSApplicability

	Y	N		Y	N
Unusual facility features	<input type="checkbox"/>	<input type="checkbox"/>	Security	<input type="checkbox"/>	<input type="checkbox"/>
Safety requirements	<input type="checkbox"/>	<input type="checkbox"/>	Radiological environment	<input type="checkbox"/>	<input type="checkbox"/>
Project management	<input type="checkbox"/>	<input type="checkbox"/>	Weather conditions	<input type="checkbox"/>	<input type="checkbox"/>
Construction management	<input type="checkbox"/>	<input type="checkbox"/>	Material sources	<input type="checkbox"/>	<input type="checkbox"/>
QA/QC	<input type="checkbox"/>	<input type="checkbox"/>	Work type & amount	<input type="checkbox"/>	<input type="checkbox"/>
Training	<input type="checkbox"/>	<input type="checkbox"/>	Resource constraints	<input type="checkbox"/>	<input type="checkbox"/>
Permitting	<input type="checkbox"/>	<input type="checkbox"/>	Special tools & equipment	<input type="checkbox"/>	<input type="checkbox"/>
Facility inspections	<input type="checkbox"/>	<input type="checkbox"/>	Indirect costs (fringe, tax, insurance)	<input type="checkbox"/>	<input type="checkbox"/>
Work shift/differential	<input type="checkbox"/>	<input type="checkbox"/>	Vendor quotes	<input type="checkbox"/>	<input type="checkbox"/>
Overtime allocation	<input type="checkbox"/>	<input type="checkbox"/>	Subcontractor quotes	<input type="checkbox"/>	<input type="checkbox"/>
Crew mix	<input type="checkbox"/>	<input type="checkbox"/>	Dress requirements	<input type="checkbox"/>	<input type="checkbox"/>
Regulatory compliance Rpts.	<input type="checkbox"/>	<input type="checkbox"/>	Other (Describe below)	<input type="checkbox"/>	<input type="checkbox"/>

METHODOLOGY (See Appendix B)

- | | |
|-------------------------------------|---|
| <input type="checkbox"/> Analogy | <input type="checkbox"/> Definitive |
| <input type="checkbox"/> Parametric | <input type="checkbox"/> Trend Analysis |

EXPLANATION1. WORK BREAKDOWN STRUCTURE

The DOE work breakdown structure code for the " _____ " CAP is WBS _____. Under this WBS designator the work has been divided into _____ work packages.

Work under each work package (WP) has been characterized into discrete ABC activities (tasks), as shown on the Cost Estimate/Basis of Estimate Worksheets, contained in this estimate. The activities (tasks) are the level at which costs are to be tracked. Activities, under the ABC costing system, correspond to tasks in FDS. Each activity (task) will be assigned a TPCN number for interface with the FDS system.

The WBS structure is depicted in Figure A. A description of each work package, activity (task) and subsequent sub-tasks, identified by department personnel during the interview process is contained in this package.

2. LABOR RATES

Labor rates are established and published in FDS - Budget Report. The overhead (OH) rate then is applied in the labor database to yield the hourly rate used in the estimate. Application of the General and Administrative (G&A) and Sitewide Support Pool (SSP) is done at the summary level of each sub-element (cost account), which is automatically done in the FDS module.

3. MATERIALS/SUPPLIES/EQUIPMENT/SUB-CONTRACT

Materials, supplies, equipment, subcontract (purchased services) are detailed specifically to each sub-task within the task package contained in the Cost Estimating/Basis of Estimate Worksheets.

4. VENDOR QUOTATIONS

See attached applicable vendor quotations, sorted by tasks within each work package for _____.

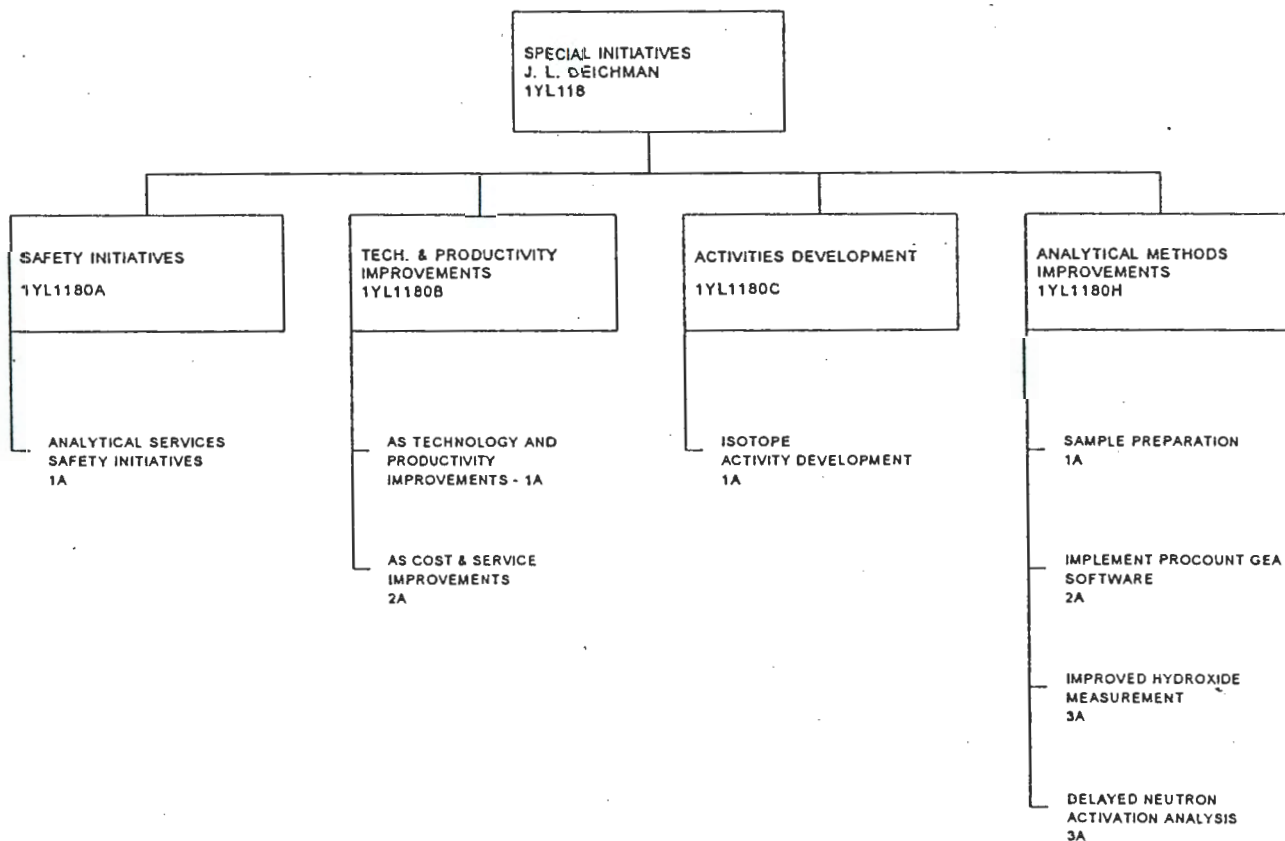
5. HISTORICAL COMPARISONS/COST ESTIMATE REBASELINE DEVELOPMENT

For the development of the cost estimate, a review of ADS _____, Subactivity _____, " _____ " was conducted, and where appropriate, historical data (labor records, archived FDS reports, CAPs) were used to support the estimate.

WORK BREAKDOWN STRUCTURE

COST ACCOUNT PLAN _____ (Pictorial Format)

PROJECTED FY 1997 WBS COST ACCOUNT 1YL118



"FIGURE A"

Figure 4. Requirements/Target Case Task Matrix.

HAS - _____
(FY XXXX)

Required =

Target =

Delta =

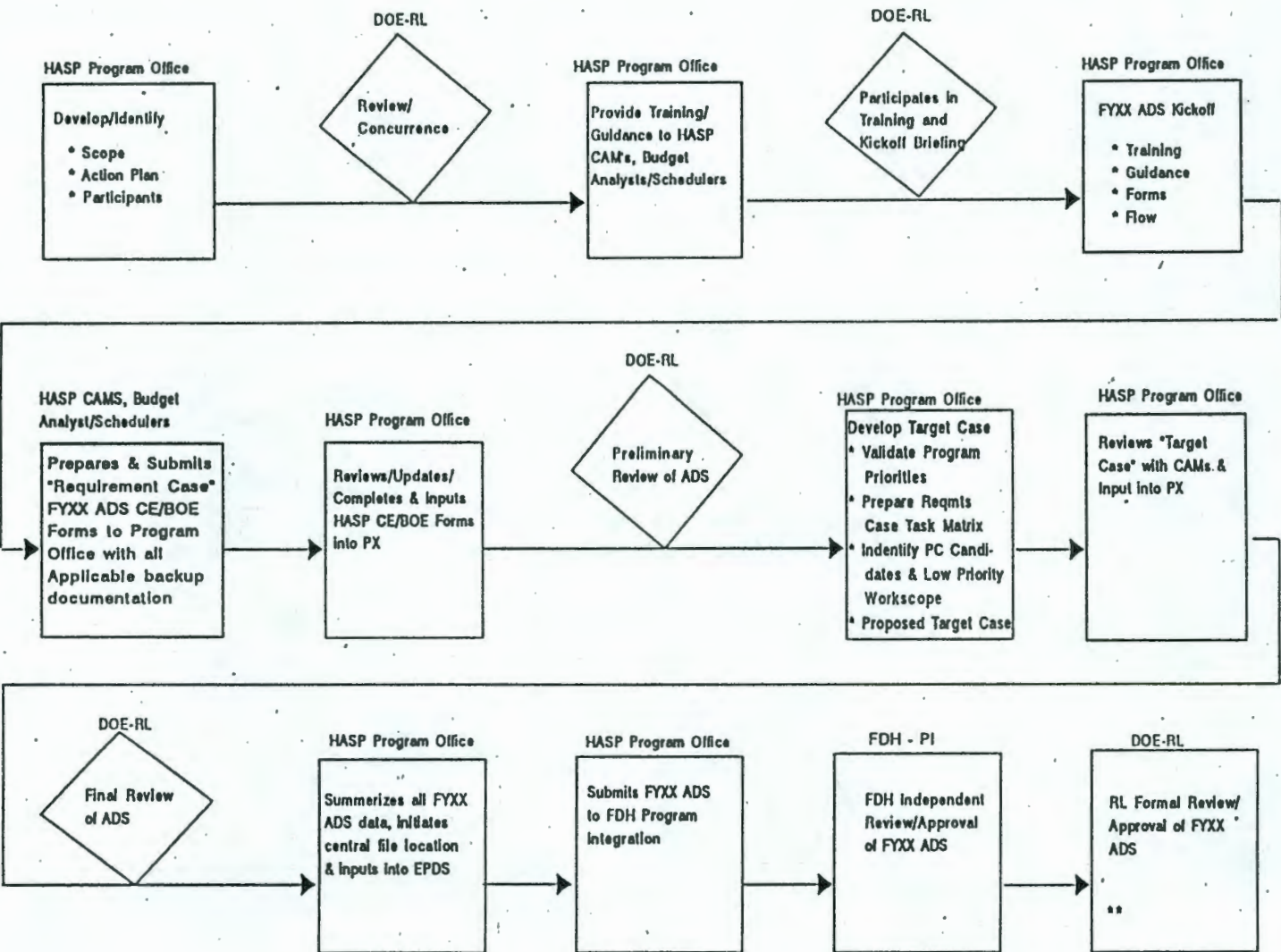
CAP Number:

CAP Title:

WP	Task	Description	Hrs/N-L\$	Requirements Remarks	Reductions to Target	Target Remarks

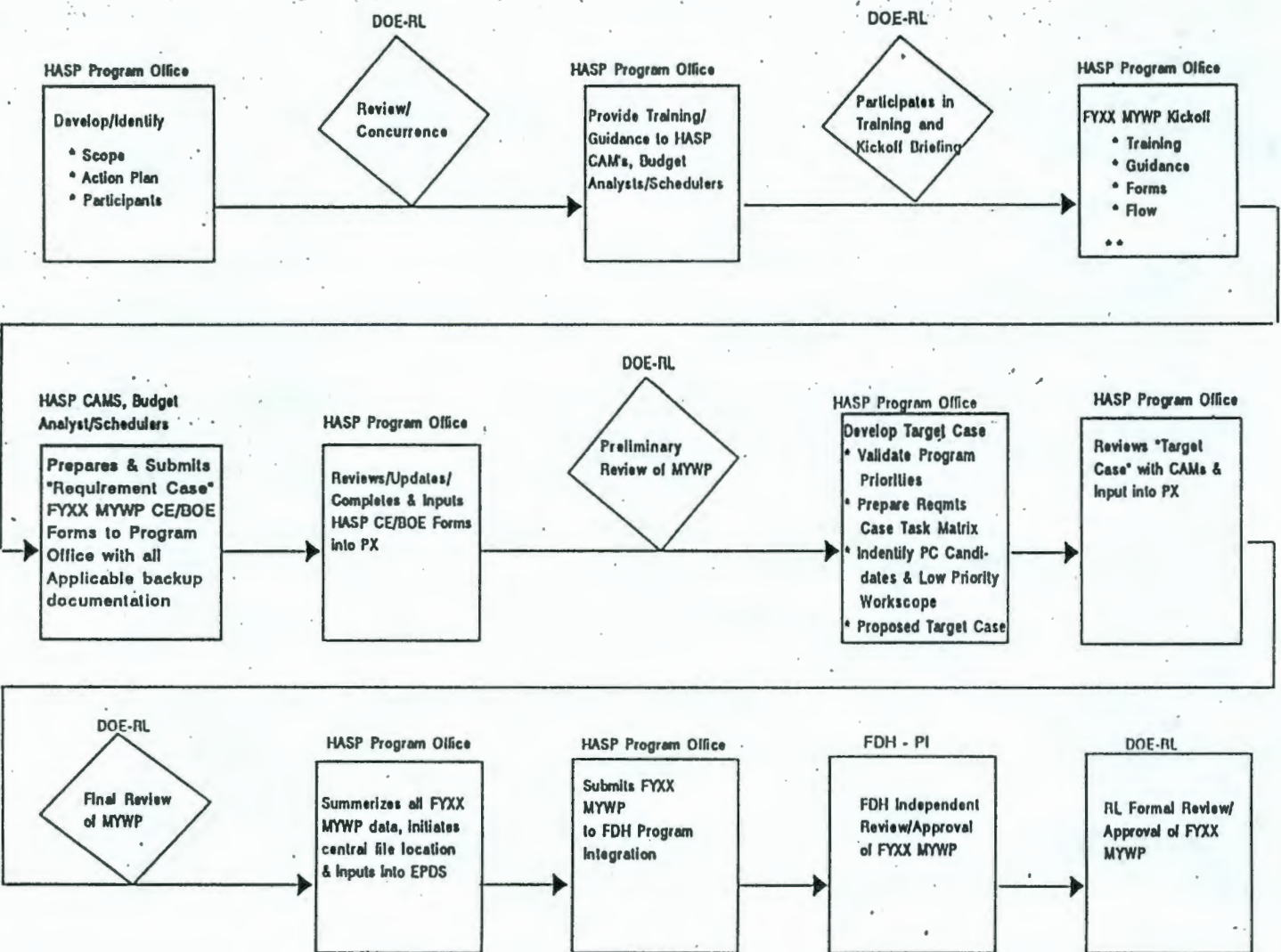
Form 6.4

Attachment 1. Hanford Analytical Services Project Controls Plan
Activity Data Sheet (ADS).



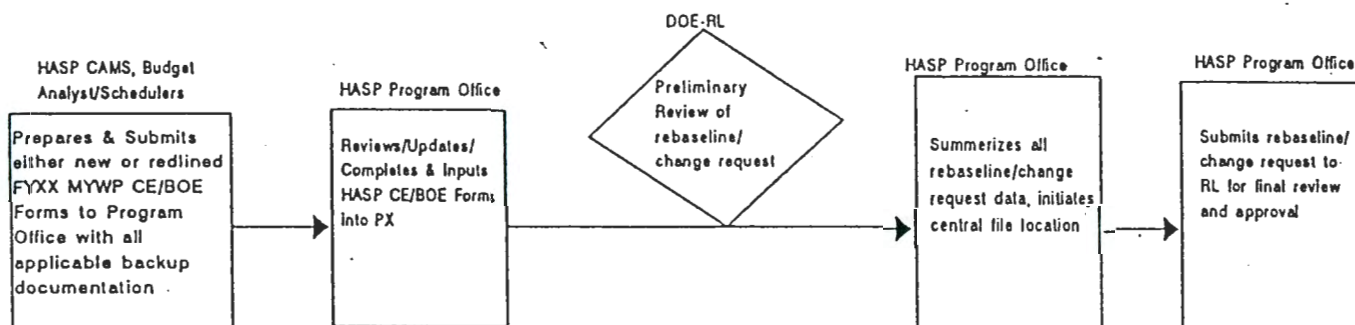
**Basis for FYXX MYWP Update

Attachment 2. Hanford Analytical Services Project Controls Plan Program Plan (PP).



*Concurrently, this data should be processed by FDS in order to develop a revised CAP.

** NOTE: ADS Target Case may be used for the MYWP Basis Requirement Case/ Target Case prior to changes to the WBS with approval of the HASP Director.

Attachment 3. Hanford Analytical Services Project Controls Plan
Rebaseline/Change Request Flow.

*Concurrently, this data should be processed to FDS in order to develop a revised CAP.

Appendix A. Hanford Analytical Services Job Category Index.

Labor Job Categories and PX Labor Codes:**MANAGERS**

M010 First line
M020 General/executive
M030 Project/Program

ENGINEERS

E010 Chemical
E020 Civil
E040 Electrical
E050 Environmental
E060 Industrial
E070 Mechanical
E080 Nuclear
E090 Petroleum/Mining
E100 Plant
E110 Quality Control
E120 Safety
E130 Other
E140 Construction

SCIENTISTS

S010 Chemists
S020 Environmental
S030 Geologists
S040 Life
S050 Material
S060 Mathematicians
S070 Physicists
S080 Social
S090 Other
S100 Computer

ADMIN/OTHER PROFESSIONALS

P010 Accountant/auditor
P020 Architect
P030 Buyers/procurement
P040 Communications
P050 Compliance inspectors
P060 Computer System Anal
P070 Cost Est/planner/sch
P080 Health Physics
P090 Industrial Hygiene
P100 Lawyers
P110 Personnel/Labor Rela

ADMIN/OTHER PROFESS (CONT.)

P120 Physicians
P130 Physician Assis/Nurs
P140 Safeguard & Security
P150 Trainers
P160 Tech Writers & Edit
P170 Other Adm Prof Occupations

GEN ADM/SECRETARY/CLERK

G010 Admin Assistants
G020 Office Clerks (Gen)
G030 Office Clerks (Special)
G040 Secretaries
G050 Typist/Word Process
G060 Gen Admin Support Staff

TECHNICIANS

T010 Computer Oper/Coder
T020 Drafters
T030 Engrg Technicians
T040 Envir. Sci Technicians
T050 Health Phys. Technic.
T060 Indus. Saf/Health Tech
T070 Instru/Control Tech
T080 Lab. Technicians
T090 Media Technicians
T100 Survey/Map Tech

CRAFTS

C010 Carpenters
C020 Electricians
C12B HVAC
C040 Machinists
C050 Masons
C060 Millwrights
C070 Painters
C080 Plumbers/Pipefitters
C090 Struct/Metal Workers
C100 Vehic./Mob Equip Mech
C110 Welders
C120 Other Crafts

OPERATORS

R010 Chemical System Ops
R020 Drillers
R030 Material Moving Equip
R040 Nuclear Plant
R050 Nuclear Waste Process Ops
R060 Production System Ops
R070 Utilities Operators
R080 Other Operators

LABOR & GEN WORKERS

L010 Firefighters
L020 Food Service Workers
L030 Janitors/Cleaners
L040 Laundry Workers
L050 Gen Mat Handlers/Laborers
L060 Spec Mat Handlers/Laborers
L070 Lt. Vehicle Drivers
L080 Security Guards
L090 Other

Appendix B. Methodology.

A. Estimate Stage

- Performance
 - Design complete/known product or process
- Preliminary
 - Conceptual process design/approximate product or process known
- Order of Magnitude
 - No conceptual design/assumed or unknown product or process

B. Estimate Category

- Baseline Estimate (BE): Cost estimates prepared before the work is initiated that serves as the basis for measuring cost performance of the organization accomplishing an activity. The actual costs of performing the work are compared to the BE to assess cost performance. The BE may be a conceptual design estimate or subsequent estimate.
- Conceptual Design Estimate (CDE): Cost estimates required for line item/expense construction projects.
- Current Working Estimates (CWEs): Cost estimates that are used to assess progress and the amount of work remaining to be accomplished on program or project activities. CWEs are prepared periodically throughout the life of the activity. CWEs are also called estimate to complete and estimate at completion.
- Independent Cost Estimate (ICE): Cost estimate prepared by a third party who had no involvement in the original estimate for the express purpose of validating or cross-checking the estimate.
- Planning/Feasibility Study Estimate (PFSE): Cost estimate used for scoping studies and for preliminary budget estimates prior to start of conceptual or definitive work. Prepared for a proposed program or project.

C. Methodology

- **Analogy:** This method of cost estimating uses past similar efforts as a base. The estimated and the actual costs are increased or decreased by a factor, depending upon the differences between the current and past effort, to derive an estimated cost. This method is often used for PFSEs.
- **Definitive:** This method of cost estimating uses a detailed scope definition or detailed design to list all labor and materials required to complete the program activity. Costs are estimated at the lowest level of detail available and then summarized upward through the WBS.
- **Parametric:** This method of cost estimating relies on the development of a Cost Estimating Relationship (CER), such as cost per square foot; from previously completed activities that have similarities to the proposed activity in scope, function, or materials.
- **Trend Analysis:** To develop a cost index, this method of cost estimating compares the originally estimated costs against actual costs on work performed to date. The index is used to adjust the cost estimate for work not yet completed.

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