1.8.2.1.2 Site System Engineering Implementation Fiscal Year 1998 Multi-Year Work Plan

Date Published
September 1997

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Project Hanford Management Contractor for the
U.S. Department of Energy under Contract DE-AC06-96RL13200

Approved for public release; distribution is unlimited

LEGAL DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

This report has been reproduced from the best available copy.
Available in paper copy and microfiche.

Available to the U.S. Department of Energy
and its contractors from
U.S. Department of Energy
Office of Scientific and Technical Information (OSTI)
P.O. Box 62
Oak Ridge, TN 37831
(615) 576-8401

Available to the public from the U.S. Department of Commerce
National Technical Information Service (NTIS)
5285 Port Royal Road
Springfield, VA 22161
(703) 487-4650

Printed in the United States of America

DISCLM-1.CHP (8-95)

INFORMATION RELEASE REQUEST - (Long Form)

(GRAY SHADED AREAS NOT TO BE FILLED IN BY INITIATOR)

10/3/97

1. COMPLETE THIS SECTION FOR ALL DOCUMENTS

A. Information Category

Speech or Presentation

- ☒ Full Paper
☐ Summary
☐ Abstract
☐ Visual Aid

- ☐ Journal Article
☐ Multimedia Presentation
☐ Software

☐ Other _____

B. Document ID Number (include rev., vol., etc.)

HNF-SP-1239, Rev 0

C. List attachments (i.e., copyright permission, copyright transfer)

n/a

D. Document Title

1.8.2.1.2 Site System Engineering Implementation Fiscal Year 1998 Multi-Year Work Plan

E. WHC Project or Program

Site System Engineering

F. New or novel (patentable) subject matter?

If "Yes", has disclosure been submitted by WHC?

☒ No or Yes☐ No or Yes If "Yes", Disclosure No(s): _____

G. Information received from others in confidence, such as proprietary data, and/or inventions?

☒ No or Yes

If "Yes", contact WHC General Counsel.

H. Copyrights?

☒ No or Yes

If "Yes", attach permission.

I. Trademarks?

☒ No or Yes

If "Yes", identify in document.

2. COMPLETE THIS SECTION FOR ALL DOCUMENTS REQUIRING SUBMISSION TO OSTI

A. Unclassified Category

UC - 2000

B. Budget & Reporting Code

B&R - EW7070100

3. COMPLETE THIS SECTION ONLY FOR A JOURNAL SUBMISSION

A. Title of Journal

4. COMPLETE THIS SECTION ONLY FOR A SPEECH OR PRESENTATION

A. Title for Conference or Meeting

B. Group or Society Sponsoring

C. Date(s) of Conference or Meeting

D. City/State

E. Will material be published in proceedings?

☐ No or Yes

Will material be handed out?

☐ No or Yes

5. REVIEWS

Reviewers

Yes

Signature indicates Approval as Requested unless otherwise Indicated

Name (print)

Signature/Date

Limited-Use Info.

General Counsel

☐

DOE-RL

☐

Communications

☐

Applied Technology-Export Controlled Information or International Program

☐

Other

☐

Other

☐

6. Applied Technology Material Referenced

☒ No☐ Yes

7. Release Level

☒ Public☐ Limited Distribution

B. Author/Requestor

M. L. Grygiel

(Print and Sign)

Date

9/16/97

9. Responsible Manager

J. E. Ferguson

(Print and Sign)

Date

9/16/97

INFORMATION RELEASE ADMINISTRATION APPROVAL

IRA Approval is required before release. Release is contingent upon resolution of mandatory comments. NOTE: This block for IRA use only.

U.B.

10/3/97

Date Cancelled

Date Disapproved

10. LEGENDS/NOTICES/MARKINGS (Required by WHC-CM-3-4 or Reviewer). Reviewer indicates applicable markings to be affixed or removed.

	Affix	Remove	Initials
Applied Technology	☐	☐	
Availability - OSTI	☒	☐	VB
Availability - ESTSC	☐	☐	
Availability - NTIS	☒	☐	VB
Business-Sensitive Information	☐	☐	
Computer Software Notice	☐	☐	
Copyright License Notice	☐	☐	
Export Controlled Information	☐	☐	
Legal Disclaimer	☒	☐	VB
Limited Disclosure	☐	☐	

	Affix	Remove	Initials
Official Use Only	☐	☐	
Patent Status	☐	☐	
Predecisional Information	☐	☐	
Programmatic Notice	☐	☐	
Proprietary Information	☐	☐	
Purpose and Use	☐	☐	
Thesis/Dissertation	☐	☐	
Trademark Disclaimer	☐	☐	
Other:	☐	☐	

11. MANDATORY COMMENTS (List only mandatory comments here. All other comments shall be made on the document and returned to the author.)

Reviewer
(Print & Sign)

Date

Resolved by Author/Requestor
(Print & Sign)

Date

12. ADDITIONAL INFORMATION/COMMENTS:

RELEASE AUTHORIZATION

Document Number: HNF-SP-1239, Rev. 0

Document Title: 1.8.2.1.2 Site System Engineering Implementation
Fiscal Year 1998 Multi-Year Work Plan

Release Date: 10/03/97

This document was reviewed in accordance with clearance requirements of DOE Order 1430.1D, "Scientific and Technical Information Management," and DOE G 1430.1D-1, "Guide to the Management of Scientific and Technical Information," and is:

APPROVED FOR PUBLIC RELEASE

Information Release Specialist

V. L. Birkland
V. L. Birkland

10/3/97

Table of Contents

I. SUMMARY SECTION

1.0	Technical Baseline	2
1.1	Mission Statement	2
1.2	Boundary Diagram With Major Facility	2
1.3	Facility Responsibility Assignment Matrix	2
1.4	Planning Assumptions	3
1.5	Requirements	3
2.0	Project Hanford Breakdown Structure (PHMC)	4
2.1	Project Hanford Breakdown Structure Hierarchy	4
2.2	Tracking Work Scope Changes from FY 1997	4
3.0	Schedule Baseline	5
3.1	Project SMBS by PBS	5
4.0	Cost Baseline	6
4.1	Estimate Basis	6
4.2	Summary of Life Cycle Cost (LCC) BCWS	7
4.3	Summary of Life Cycle Budget (LCB) BA	7
4.4	Cost Baseline (Execution Year) by Month	7
4.5	Cost Baseline by Month by Cost Element	7

II. PROJECT BASELINE SUMMARIES (PBS) LEVEL

1.1 - 1.3	Technical Baseline	15
1.4	Drivers	15
1.5	Risk Management	16
2.0	WBS	17
2.1	WBS Hierarchy	18
2.2	WBS Dictionary	20
2.3	Responsibility Assignment Matrix (RAM)	31
3.0	Schedule Baseline	33
3.1	Project Master Baseline Schedule (PMBS)	33
3.2	Execution Year PBS	33
3.3	Milestones (RL, HQ, EA)	34
3.4	Milestone Description Sheets	34
4.0	Cost Baseline	39
4.1	Life Cycle Cost Baseline (BCWS) by PBS	39
4.2	Life Cycle Budget Authority (B/A) by PBS	39
4.3	Execution Year Cost Baseline by month/ADS	39
4.4	Staffing	45

I. SUMMARY SECTION

1.0 TECHNICAL BASELINE

This site-prescribed section of the Multi-Year Work Plan does not apply to this project.

1.1 PROJECT MISSION STATEMENT

Manage the Site Systems Engineering process to provide a traceable, integrated, requirements-driven, and technically defensible baseline. Through the Site Integration Group, Systems Engineering ensures integration of technical activities across all site projects. Systems Engineering's primary interfaces are with the Project Direction Office and with the projects, as well as with the Planning organization. Systems Implementation:

- Develops, maintains, and controls the site integrated technical baseline, ensures the Systems Engineering interfaces between projects are documented, and maintain the Site Environmental Management Specification
- Performs and documents functional and requirements analyses
- Works with projects, technology management, and the SIG to identify and resolve technical issues
- Supports technical baseline information for the planning and budgeting of the Accelerated Cleanup Plan and Multi-Year Work Plans
- Works with projects to ensure the quality of data in the technical baseline, including risk data and technical information

1.2 BOUNDARY DIAGRAM WITH MAJOR FACILITY

This site-prescribed section of the Multi-Year Work Plan does not apply to this project.

1.3 FACILITY RESPONSIBILITY ASSIGNMENT MATRIX

This site-prescribed section of the Multi-Year Work Plan does not apply to this project.

1.4 PLANNING ASSUMPTIONS

- RDD-100 will be deployed site wide and used as the standard for the technical baseline.

1.5 REQUIREMENT

- Project support is provided as needed for development and maintenance of Site Wide System Engineering products and activities

2.0 PROJECT HANFORD BREAKDOWN STRUCTURE (PHMC)

This site-prescribed section of the Multi-Year Work Plan does not apply to this project.

2.1 PROJECT HANFORD BREAKDOWN STRUCTURE HIERARCHY

This site-prescribed section of the Multi-Year Work Plan does not apply to this project.

2.2 TRACKING WORK SCOPE CHANGES FROM FY 1997

This site-prescribed section of the Multi-Year Work Plan does not apply to this project.

3.0 SCHEDULE BASELINE

See Section II, PBS Level

3.1 PROJECT SMBS BY PBS

This site-prescribed section of the Multi-Year Work Plan does not apply to this project.

4.0 COST BASELINE

4.1 ESTIMATE BASIS

The basis of estimate for this project was arrived at using the principles of Activity Based Costing (ABC) in which the project was segmented into discrete supporting activities. Costs were assigned to specific cost elements based on historical use patterns (trends), published rate tables, and escalation rate of 2.7 percent that are consistent with those developed by the FDH Chief Financial Officer and approved by the DOE-RL.

Cost estimates for FY 1998 were prepared at the task level or lower. Cost estimates for FY 1999 and out years were prepared at the cost account level using the escalation rate of 2.7 percent.

- 4.2 SUMMARY OF LIFE CYCLE COSTS BASELINE (BCWS)
- 4.3 SUMMARY OF LCB BA
- 4.4 COST BASELINE (EXECUTION YEAR) BY MONTH
- 4.5 COST BASELINE BY MONTH BY COST ELEMENT

- 1. Summary of Life Cycle Budget Authority (B/A) by Year by Project Baseline
Summary (PBS) FY 1998 (\$750K)
- 2. Summary of Life Cycle Cost Baseline (BCWS) by Year by Project Baseline
Summary (PBS) FY 1998 (\$750K)

PROJECT WBS : 1.8.2.1.2

¹Budgeted Cost of Work Scheduled (BCWS) Equals Performance Measurement Baseline (PMB); Expense Carryover is **NOT** Included.

System Engineering Implementation
SUMMARY OF LIFE CYCLE COST BASELINE (BCWS) BY YEAR BY
BY PROJECT BASELINE SUMMARY (PBS)
FY 1998

(\$000s)

PROJECT WBS :		1.8.2.1.2									TOTAL
PBS TITLE	PBS NO	FY2007- FY2010	FY2011- FY2015	FY2016- FY2020	FY2021- FY2025	FY2026- FY2030	FY2031- FY2035	FY2036- FY2040	FY2041- FY2045	FY2046- FY2050	FY1997- FY2050
System Eng Implementation	RLOT01	2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860	34,017
											-
											-
											-
											-
											-
											-
											-
											-
											-
											-
											-
											-
											-
											-
											-
TOTAL BCWS/PMB¹		2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860	34,017

¹Budgeted Cost of Work Scheduled (BCWS)
 Equals Performance Measurement Baseline
 (PMB); Expense Carryover is NOT Included.

PROJECT WBS :	1.8.2.1.2
---------------	-----------

98myfni(Exhibit4a).xls

System Engineering Implementation
SUMMARY OF LIFE CYCLE BUDGET AUTHORITY (B/A) BY YEAR BY
BY PROJECT BASELINE SUMMARY (PBS)
FY 1998

(\$000s)

PROJECT WBS :		1.8.2.1.2									
											TOTAL
PBS TITLE	PBS NO	FY2007- FY2010	FY2011- FY2015	FY2016- FY2020	FY2021- FY2025	FY2026- FY2030	FY2031- FY2035	FY2036- FY2040	FY2041- FY2045	FY2046- FY2050	FY1997- FY2050
S E Implementation	RLOT01	1,845	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	27,833
											-
											-
											-
											-
											-
											-
											-
											-
											-
											-
											-
											-
											-
											-
TOTAL NEW B/A		18,458	23,111	23,111	23,111	23,111	23,111	23,111	23,111	23,111	278,333

System Engineering Implementation
FY 1998 COST BASELINE (BCWS) BY MONTH BY FUND TYPE BY PROJECT
EXECUTION YEAR
 (\$000s)

PROJECT WBS	PROJECT TITLE	FUND TYPE	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
1.8.2.1.2	SE Implementation	Operating Expense	50	85	70	50	53	69	70	69	58	50	63	63	750
		CENRTC													-
		GPP													-
		Line Item													-
		Total BCWS/PMB	50	85	70	50	53	69	70	69	58	50	63	63	750
		Mgmt Reserve ²													-
		Line Item Contingency ²													-
		Offsite Transfers ³													-
Total			50	85	70	50	53	69	70	69	58	50	63	63	750

¹Budgeted Cost of Work Scheduled (BCWS) Equals Performance Measurement Baseline (PMB); Expense Carryover Is Not Included.

²Management Reserve and Line Item Contingency Held By RL.

3. The above exhibit does not show 120K of FY97 Carryover to be level loaded over a period of twelve months.

System Engineering Implementation
FY 1998 COST BASELINE (BCWS) BY MONTH BY COST ELEMENT BY PROJECT
EXECUTION YEAR
(\$000s)

PROJECT WBS	PROJECT TITLE	COST ELEMENT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL	
1.8.2.1.2	SE Implementation	0 Salaries	32	57	47	32	34	45	46	45	38	32	42	41	491	
		1 Material	1	2	2	2	2	2	2	2	2	2	1	1	21	
		2 Purchased Serv														0
		3 Other Contr Chgs														0
		4 Internal Serv	2	1	1	1	1	1	1	1	1	1	1			11
		5 Internal Chgs														0
		6 LMSI														0
		7 Overheads	13	23	18	13	14	19	19	19	19	15	13	17	17	200
		8 Revenue		0	0	0	0	0	0	0	0	0	0	0	1	1
		9 Enterprise Cos	2	2	2	2	2	2	2	2	2	2	2	3	3	26
Total BCWS/PMB			50	85	70	50	53	69	70	69	58	50	63	63	750	

*Budgeted Cost of Work Scheduled (BCWS) Equals Performance Measurement Baseline (PMB); Expense Carryover is Not Included.

II. PROJECT BASELINE SUMMARIES (PBS) LEVEL

1.1 - 1.3 PROJECT MISSION STATEMENT

Manage the Site Systems Engineering process to provide a traceable, integrated, requirements-driven, and technically defensible baseline. Through the Site Integration Group, Systems Engineering ensures integration of technical information and activities across all site projects. Systems Engineering's primary interfaces are with the Project Direction Office and with the projects, as well as with the Planning organization. Systems Implementation:

- Develops, maintains, and controls an accurate (90% minimum database accuracy) site integrated technical baseline, the Systems Engineering interfaces between projects and the Site Environmental Management Specification.
- Performs and documents functional and requirements analyses
- Works with projects and technology management to identify and resolve technical issues
- Maintains a repository for accurate technical baseline information for the planning and budgeting of the Accelerated Cleanup Plan and Multi-Year Work Plans
- Works with projects to ensure the quality and accuracy of data in the technical baseline, including risk data and technical information (i.e., requirements, functions, technical logic, waste and material flows, infrastructure needs, interfaces, and technical issues).

1.4 DRIVERS

Project Management Hanford Contract
PHMC, Section C.2, Management and Integration Workscape
Part A - Site Planning
Part B - Management Systems
Management and Integration Plan (HNF MP-001 Rev. 1)
RLID 430.1, Systems Engineering Criteria Document and Implementing Directive
RLPD 430.1, Hanford Site Systems Engineering Policy
Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement)
OMB: Recommend use of systems engineering to resolve integration problems.
DNFSB 92-4 recommended using systems engineering to resolve integration problems.
DOE Standard 1073-93
Hanford Strategic Plan, DOE/RL-96-92
Hanford Site Environmental Management Specification, DOE/RL-97-55 (DRAFT)
Fluor Daniel Hanford Systems Engineering Management Plan (HNF-MP-007)

1.5 RISK MANAGEMENT

This site-prescribed section of the Multi-Year Work Plan does not apply to this project.

2.0 WORK BREAKDOWN STRUCTURE

2.1 WORK BREAKDOWN HIERARCHY

See Figure 2.1, WBS Hierarchy

Site Systems Engineering
PBS RL-0T01; ADS #7660-0

2.1 WBS Hierarchy

2.2 WBS DICTIONARIES

WORK BREAKDOWN STRUCTURE DICTIONARY		
1 PROJECT TITLE/PARTICIPANT SITE PLANNING INTEGRATION	2 DATE	3 IDENTIFICATION NO.
4 WBS ELEMENT CODE 1.8.2.1.2.1	5 WBS ELEMENT TITLE Maintain and Improve the Hanford Site Technical Database	
6 INDEX LINE NO.	7 REVISION NO. AND AUTHORIZATION 0	8 DATE
9 APPROVED CHANGES		
10 SYSTEM DESIGN DESCRIPTION	11 BUDGET AND REPORTING NUMBER EW3110010	

ELEMENT TASK DESCRIPTION -

Site Systems Engineering, in accordance with the PHMC, and in accordance with RLID 430.1, is responsible for producing and maintaining a Hanford Site Technical Database (HSTD). This technical data covers the Environmental Management technical work performed on the Hanford Site. It is developed by Site Systems Engineering and the projects, and supported by the tools and methods used by Systems Engineers. Data residing in the HSTD is used to validate the site cleanup system, identify technical issues for resolution where problems exist in the HSTD data, and to drive the projects' work planning process.

CONTENT/WORK STATEMENT -

750k Level - 2.8 FTEs

1. Load all applicable FY 1998 MYWP data into the Hanford Site Wide Technical Database (HTD) by December 31, 1997, including current forecasts for Infrastructure, Waste, Materials, Interfaces, Analytical Support Services, etc.

2. Ensure that all approved baseline changes that affect the HSTD data are incorporated into the HSTD within ten working days.
3. Complete all SSE Analysis model by March 31, 1998. Completion shall include approval by the affected FDH Project Director *and Major Subcontractor Project Manager(s) and their Chief Engineer(s)*. Analysis models which must be completed include: Liquid Effluent Case, TWRS, Solid Waste, Spent Nuclear Fuel, Facility Stabilization, Environmental Restoration, Technology Development Initiatives using the most recently available HSTD data. Technical issues resulting from analysis using the models will be dispositioned through the issue resolution process.
4. Complete a site requirements review and validation to the subproject (PBS) level by December 31, 1997. Issues resulting from this requirements review will be dispositioned through the issue resolution process.
5. Conduct additional requirements analysis considering the site EM Spec as a source document and requirements previously contained in the MDD.

WORK BREAKDOWN STRUCTURE DICTIONARY		
1 PROJECT TITLE/PARTICIPANT SITE PLANNING INTEGRATION	2 DATE	3 IDENTIFICATION NO.
4 WBS ELEMENT CODE 1.8.2.1.2.2	5 WBS ELEMENT TITLE System Engineering Applications	
6 INDEX LINE NO.	7 REVISION NO. AND AUTHORIZATION 0	8 DATE
9 APPROVED CHANGES		
10 SYSTEM DESIGN DESCRIPTION	11 BUDGET AND REPORTING NUMBER EW3110010	

ELEMENT TASK DESCRIPTION -

Site Systems Engineering, in accordance with the PHMC, and in accordance with RLID 430.1, is responsible for providing the technical basis for the integrated site baseline and its associated planning products. The technical baseline which provides this basis is housed in the Hanford Site Technical Database (HSTD). The data is used to produce the products and provide the support described below.

CONTENT/WORK STATEMENT -

750k Level - 1.9 FTEs

Planning support products from the HSTD

- Guidance for MYWP preparation of technical sections of the MYWPs and PBSs
- Technical Sections of MYWP and PBS
- Support Integrated Priority List development
- Strategic planning support
- Ad hoc data requests

WORK BREAKDOWN STRUCTURE DICTIONARY		
1 PROJECT TITLE/PARTICIPANT SITE PLANNING INTEGRATION	2 DATE	3 IDENTIFICATION NO.
4 WBS ELEMENT CODE 1.8.2.1.2.3	5 WBS ELEMENT TITLE Technical Integration	
6 INDEX LINE NO.	7 REVISION NO. AND AUTHORIZATION 0	8 DATE
9 APPROVED CHANGES		
10 SYSTEM DESIGN DESCRIPTION	11 BUDGET AND REPORTING NUMBER EW3110010	

ELEMENT TASK DESCRIPTION -

Site Systems Engineering, in accordance with the PHMC, and in accordance with RLID 430.1, provides the forum for discussion and approval of integration related activities, products, and issues. This forum is the Site Integration Group (SIG). The SIG is attended by DOE and contractor representatives from the EM mission activities at Hanford. One of the key areas addressed by the SIG is technical integration issues which are contained in the Technical Issues Management List (TIML).

CONTENT/WORK STATEMENT -

750k Level - 0.3 FTE

1. Conduct of Site Integration Group (SIG).
2. Maintenance of the Technical Issues Management List (TIML) and action tracking of the TIML. Issue a quarterly status report on the TIML which includes issues closed during the period, issues opened during the period, issues being actively worked by ad hoc groups (and progress), issues with no activity during the period and planned actions.
3. Monthly issue of the TIML. (Letter notification if no change)

WORK BREAKDOWN STRUCTURE DICTIONARY		
1 PROJECT TITLE/PARTICIPANT SITE PLANNING AND INTEGRATION	2 DATE	3 IDENTIFICATION NO.
4 WBS ELEMENT CODE 1.8.2.1.2.4	5 WBS ELEMENT TITLE Configuration Management Implementation	
6 INDEX LINE NO.	7 REVISION NO. AND AUTHORIZATION 0	8 DATE
9 APPROVED CHANGES		
10 SYSTEM DESIGN DESCRIPTION	11 BUDGET AND REPORTING NUMBER EW3110010	

ELEMENT TASK DESCRIPTION -

Per the PHMC, "...the Contractor shall...establish a configuration management (CM) system based on industry consensus standards, which is integrated with other management tools." The Configuration Management Plan (MP-013) sets forth the basic architecture and objectives of the CM System. The FY 1998 tasks will continue the establishment of the PHMC Team CM system, based on a graded approach, through the development of an implementation plan, a configuration status accounting (CSA) system and associated CM procedures. (CSA tracks 'control of' and 'changes to' the established configuration of a system. Through the selection and use of metrics, it provides the status of CM activities and helps ensure timely implementation and completion of change notices.) (Metrics - The use of quantitative statistics relating to a management or technical area (i.e., configuration management, requirements management) to define/track the level of change activity in that area and/or the variance from an expected level of activity. Metrics are also used to show the stability and/or consistency of a system (e.g., how stable (good) is the configuration control system of the PHMC team).

CONTENT/WORK STATEMENT - (This is a .8 FTE effort and all of it is part of the \$1 M funding cap)

1. Develop and execute the PHMC Configuration Management Implementation Plan. The plan will contain (as a minimum):
 - PHMC Team organizational roles and responsibilities
 - A basic schedule for implementation
 - A decision flowchart to aid in establishing "graded approach" minimums for each organization
 - A decision flowchart to aid in defining and selecting "Configuration Items" to be placed under configuration control (Configuration Items may include the ISB, the IPL, and the Project Technical Baselines)
 - A description of a graded approach to CSA implementation.
2. Review/revise current and, where necessary, develop new PHMC configuration management procedures.

Topics covered in the procedure(s) include:

- Configuration Item (CI) identification and tracking
- Configuration Control
- Configuration status accounting (CSA)
- CM process review and improvement
- Change Control implementation
- Change documentation
- Interface Control
- Change Notification

Deliverables

1. Complete Project specific configuration management implementation plans (CMIPs), reviewed and approved by FDH for compliance with the PHMC CM requirements, by March 31, 1998.
2. Establish a baseline and performance metrics system for essential drawing control for the projects and facilities by July 31, 1998.

WORK BREAKDOWN STRUCTURE DICTIONARY		
1 PROJECT TITLE/PARTICIPANT SITE PLANNING INTEGRATION	2 DATE	3 IDENTIFICATION NO.
4 WBS ELEMENT CODE 1.8.2.1.2.7	5 WBS ELEMENT TITLE Project Management Support	
6 INDEX LINE NO.	7 REVISION NO. AND AUTHORIZATION 0	8 DATE
9 APPROVED CHANGES		
10 SYSTEM DESIGN DESCRIPTION	11 BUDGET AND REPORTING NUMBER EW3110010	

ELEMENT TASK DESCRIPTION -

To maximize efficiency and encourage communications across function, the Project Management support function consolidates managerial and administrative functions in a uniform activity. It consolidates management oversight, secretarial support, departmental administrative duties, special projects, and planning.

CONTENT/WORK STATEMENT -

750k Level - 0.55 FTE

1. Projects/RL interface - Ongoing dialogue with Project Management as part of SSEs mandate to ensure horizontal integration of baselined workscope, i.e., integration of across projects. This activity also comprises those activities needed to keep RL-PMD and other RL parties apprised of status, issues, and accomplishments.

2. Departmental planning and oversight - Provides forward thinking direction necessary to accomplish organizational goal as they support the site's mission. RL required deliverable specific to this function such as the MYWP, PBS, monthly spending forecast, PTS report, etc., are performed under Project Management.
3. Personnel training and development - Assess current capabilities relative to future needs; develops corresponding personnel development plans to ensure the organization can respond to the demands associated with completing its mission.
4. Special Projects - Provides limited resources to respond to anticipated, but yet to be defined, initiative connected with, and necessary to achieve planned work scope.
5. Secretarial support - Provides the secretarial/clerical network needed to support departmental functions.

Deliverables	Due Date
1. Monthly spending forecast/project status report processing	Seven days following Performance
2. PBS	TBD
3. Quarterly RL briefing of Project Status	12 Jan 98 13 Apr 98 (Mid-Year) 13 Jul 98 10 Oct 98 (Year- End)
4. Draft MYWP Section 1 (confirm 90% database accuracy)	* 30 July 98
5. Final MYWP Section 1 (confirm 90% database accuracy)	*28 Aug 98
6. TIML (except when no changes occur)	Monthly
7. TIML Status Report	Quarterly
8. Notice of Completion (letter) FY 1998 MYWP data loaded into HSTD (confirm 90% database accuracy)	31 Dec 97
9. Notice of Completion (letter) All SSE analysis models complete and issues identified	31 Mar 98

Deliverables	Due Date
10. Notice of Completion (letter) Site Requirements Review/Validation with issues identified	31 Dec 98
11. Project baseline data incorporated Activity Report	Quarterly
12. Documentation of HSTD database accuracy measurement criteria and verification methodology	30 Nov 97

*Subject to change with guidance.

2.3 RESPONSIBILITY ASSIGNMENT MATRIX (RAM)

See Figure 2.3, Responsibility Matrix (RAM)

Site Systems Engineering
PBS RL-0T01; ADS #7660-0

2.3 Responsibility Matrix (RAM)

3.0 SCHEDULE BASELINE

3.1 PROJECT MASTER BASELINE SCHEDULE

3.2 EXECUTION YEAR PBS

Activity ID	Activity Description	Start Date	Finish Date	1997			1998									
				OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1 Hanford Environmental Management																
1:08 Support																
1:08:02 Mission Support																
1:08:02:01 Mission Support - Other Multi-year Programs																
1:08:02:01:02 Systems Engineering																
1:08:02:01:02:01 Hanford Site Technical Database																
3	Issue PBS Technical Section		0APR98													
1	Issue Draft MYWP Technical Section		30JUN98*													
2	Issue Final MYWP Technical Section		0SEP98													
1:08:02:01:02:02 Systems Engineering Application																
4	Systems Engineering Application	01OCT97	30SEP98													
1:08:02:01:02:03 Technical Integration																
5	Technical Integration	01OCT97	30SEP98													
1:08:02:01:02:04 Configuration Management Implementation Plan																
6	Configuration Management Implementation Plan	01OCT97	30SEP98													
1:08:02:01:02:05 Project Administration Support																
9	Project Administration Support	01OCT97	30SEP98													

Project Start 01OCT97
 Project Finish 30SEP98
 Data Date 01OCT97
 Run Date 01OCT97

SEB0

FLUOR DANIEL HANFORD
 SITE SYSTEMS ENGINEERING
 PROJECT MASTER BASELINE SCHEDULE

Sheet 1 of 1

PRELIMINARY AS OF 8/29/97 9:30am

Date	Revision	Checked	Approved

3.3 MILESTONES

3.4 MILESTONE DESCRIPTION SHEETS

MILESTONE DESCRIPTION SHEET			
Title: Maintain and Improve the Hanford Site Technical Database			Date: 8/26/97
Assigned To: M.L. Grygiel			CIN:
Program WBS Designator: 1.8.2.1.2.1			Due Date: 5/31/98
Control Number:			Rev: 0
MILESTONE TYPE: ☐ DOE-HQ ☐ DOE-RL ☐ DOE-FO ☐ CONTRACTOR	DIVISION: ☐ State ☐ Federal ☐ DOE ☐ RCRA ☐ TPA Number	DELIVERABLE: ☐ Report ☐ Letter ☐ Drawings ☐ Other (specify)	ADDRESS TO: ☐ DOE-HQ ☐ DOE-RL ☐ Other (specify)
<p>Milestone Description:</p> <ol style="list-style-type: none"> 1. Develop and load into HSTD, the data to support site level systems engineering technical products including waste and material forecast data revision to support planning, site and project specifications and interface controls documentation. 2. Perform requirements analysis to refine requirements from currently considered source documents and the Site EM specification. 3. Completed Site Systems Analysis models for Liquid Effluents, TWRS, Solid Waste, Spent Nuclear Fuel, Facility Stabilization, Environmental Restoration, and Science and Technology, Development initiatives 			

<p>Description of what constitutes completion of this milestone:</p> <ol style="list-style-type: none"> 1. Issue of approved Section 1 of the FY 1998 MYWPs by December 31, 1997. 2. Issue a letter from FDH to DOE-RL certifying that the Site Systems Analysis models are operational by March 31, 1998. This letter will include approvals by project directors, subcontractor managers, and subcontractor Chief Engineer or equivalent. 3. Issue a site requirement review report by January 31, 1998, documenting the results of the site requirements review to be completed by December 31, 1997. 			
Cost Account Manager:	Date	Program/Project Manager	Date
Program Element Manager	Date	DOE Monitor	Date

MILESTONE DESCRIPTION SHEET			
Title: Systems Engineering Application			Date: 8/26/97
Assigned To: M.L. Grygiel			CIN:
Program WBS Designator: 1.8.2.1.2.2			Due Date: 7/31/98
Control Number:			Rev:
MILESTONE TYPE: ☐ DOE-HQ ☐ DOE-RL ☐ DOE-FO ☐ CONTRACTOR	DIVISION: ☐ State ☐ Federal ☐ DOE ☐ RCRA ☐ TPA Number	DELIVERABLE: ☐ Report ☐ Letter ☐ Drawings ☐ Other (specify)	ADDRESS TO: ☐ DOE-HQ ☐ DOE-RL ☐ Other (specify)
Milestone Description: 1. Interface with Project Directors, providing support and use existing Site Systems Analysis to support baseline analysis and produce support planning products from the HSTD. Those products are Guidance for MYWP preparation, Technical Sections of MYWP and PBS.			
Description of what constitutes completion of this milestone: 1. Issue Draft MYWP Section 1 based on Mission Planning Guidance in accordance with agreed upon schedule guidance from DOE RL. 2. Issue Technical Sections for the Project Breakdown Structure and Multi-Year Work Plans in accordance with schedule guidance from DOE RL.			

Cost Account Manager:	Date	Program/Project Manager	Date
Program Element Manager	Date	DOE Monitor	Date

4.0 COST BASELINE

4.1 - 4.3 PBS COST BASELINE EXHIBITS

1. Summary of Life Cycle Budget Authority (B/A) by Year by Project Baseline Summary (PBS) FY 1998 (\$750K)
2. Summary of Life Cycle Cost Baseline (BCWS) by Year by Project Baseline Summary (PBS) FY 1998 (\$750K)

System Engineering Implementation
LIFE CYCLE BUDGET AUTHORITY (B/A) BY YEAR BY FUND TYPE
BY PROJECT BASELINE SUMMARY (PBS)
FY 1998

(\$000s)

PROJECT WBS:		1.8.2.1.2									
PBS NO:		RLOT01									
PBS TITLE:		SE Implementation									
FUND TYPE	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	SUBTOT FY1997- FY2006
OPERATING EXPENSE	750	750	750	750	750	750	750	750	750	750	7,500
CENRTC											-
GENERAL PLANT PROJECT											-
LINE ITEM (List Each One)											
03-Dxxx Other Spent Fuel											-
											-
											-
											-
Subtotal Line Items	-	-	-	-	-	-	-	-	-	-	-
TOTAL NEW B/A	750	750	750	750	750	750	750	750	750	750	7,500

System Engineering Implementation
LIFE CYCLE BUDGET AUTHORITY (B/A) BY YEAR BY FUND TYPE
BY PROJECT BASELINE SUMMARY (PBS)
FY 1998

(\$000s)

PROJECT WBS:	1.8.2.1.2									
PBS NO:	RLOT01									
PBS TITLE:	SE Implementation									
FUND TYPE	FY2007-FY2010	FY2011-FY2015	FY2016-FY2020	FY2021-FY2025	FY2026-FY2030	FY2031-FY2035	FY2036-FY2040	FY2041-FY2045	FY2046-FY2050	TOTAL FY1997-FY2050
OPERATING EXPENSE	1,845	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	27,833
CENRTC										-
GENERAL PLANT PROJECT										-
LINE ITEM (List Each One)										
03-Dxxx Other Spent Fuel										-
										-
										-
										-
Subtotal Line Items	-	-	-	-	-	-	-	-	-	-
TOTAL NEW B/A	1,845	2,311	2,311	2,311	2,311	2,311	2,311	2,311	2,311	27,833

System Engineering Implementation
LIFE CYCLE COST BASELINE (BCWS) BY YEAR BY FUND TYPE
BY PROJECT BASELINE SUMMARY (PBS)
FY 1998

(\$000s)

PROJECT WBS:	1.8.2.1.2										
PBS NO:	RL0T01										
PBS TITLE:	SE Implementation										
FUND TYPE	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	SUBTOT FY1997- FY2006
OPERATING EXPENSE	750	750	770	791	812	835	857	880	904	928	8,277
CENRTC											-
GENERAL PLANT PROJECT											-
LINE ITEM (List Each One)											-
											-
											-
											-
Subtotal Line Items	-	-	-	-	-	-	-	-	-	-	-
TOTAL BCWS/PMB ¹	750	750	770	791	812	835	857	880	904	928	8,277
MGMT RESERVE ²											-
LINE ITEM CONTINGENCY ²											-
OFFSITE TRANSFERS ³											-
Subtotal	-	-	-	-	-	-	-	-	-	-	-
TOTAL	750	750	770	791	812	835	857	880	904	928	8,277

¹Budgeted Cost of Work Scheduled (BCWS) Equals Performance Measurement Baseline (PMB);

Expense Carryover NOT Included.

²Management Reserve and Line Item Contingency Held by RL.³Work Performed at Sites Other Than Hanford.

System Engineering Implementation
LIFE CYCLE COST BASELINE (BCWS) BY YEAR BY FUND TYPE
BY PROJECT BASELINE SUMMARY (PBS)
FY 1998

(\$000s)

PROJECT WBS:	1.8.2.1.2									
PBS NO:	RL0T01									
PBS TITLE:	SE Implementation									
FUND TYPE	FY2007- FY2010	FY2011- FY2015	FY2016- FY2020	FY2021- FY2025	FY2026- FY2030	FY2031- FY2035	FY2036- FY2040	FY2041- FY2045	FY2046- FY2050	TOTAL FY1997- FY2050
OPERATING EXPENSE	2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860	34,017
CENRTC										-
GENERAL PLANT PROJECT										-
LINE ITEM (List Each One)										-
										-
										-
										-
Subtotal Line Items	-	-	-	-	-	-	-	-	-	-
TOTAL BCWS/PMB	2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860	34,017
MGMT RESERVE ¹										-
LINE ITEM CONTINGENCY ²										-
OFFSITE TRANSFERS ³										-
Subtotal	-	-	-	-	-	-	-	-	-	-
TOTAL	2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860	34,017

¹Budgeted Cost of Work Scheduled (BCWS) Equals Performance Measurement Baseline (PMB);

Expense Carryover NOT Included.

²Management Reserve and Line Item Contingency Held by RL.

³Work Performed at Sites Other Than Hanford.

System Engineering Implementation
FY 1998 COST BASELINE (BCWS) BY MONTH
BY PROJECT BASELINE SUMMARY (PBS)
BY ACTIVITY DATA SHEET (ADS)
EXECUTION YEAR

(\$000s)

PROJECT WBS:		1.8.3													
PBS NO:		RLOT01													
PBS TITLE:															
ADS TITLE	ADS NO	FUND TYPE	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
SE Implementation	7660	OP EXP	50	85	70	50	53	69	70	69	58	50	63	63	750
		CENRTC													-
		GPP													-
		LI													-
		SUBTOT	50	85	70	50	53	69	70	69	58	50	63	63	750
		OP EXP													-
		CENRTC													-
		GPP													-
		LI													-
		SUBTOT	-	-	-	-	-	-	-	-	-	-	-	-	-
		OP EXP													-
		CENRTC													-
		GPP													-
		LI													-
		SUBTOT	-	-	-	-	-	-	-	-	-	-	-	-	-
		OP EXP													-
		CENRTC													-
		GPP													-
		LI													-
		SUBTOT	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL BCWS/PMB			50	85	70	50	53	69	70	69	58	50	63	63	750

¹Budgeted Cost of Work Scheduled (BCWS) Equals Performance Measurement Baseline (PMB); Expense Carryover Is NOT Included.

4.4 STAFFING PROFILE EXHIBIT

EXHIBIT 5 (750K)
AVERAGE ANNUAL FULL TIME EQUIVALENTS
(includes Major Subcontractors but not Enterprise Companies)

PBS Num	PBS Title	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
RL-OT01	SE Implementation	6.5	7	8	8	8	8.5	9	9	9	9.5

Total PBS FTEs	<u>6.5</u>	<u>7</u>	<u>8</u>	<u>8</u>	<u>8</u>	<u>8.5</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9.5</u>
----------------	------------	----------	----------	----------	----------	------------	----------	----------	----------	------------

CORRESPONDENCE DISTRIBUTION COVERSHEET

Author

Addressee

Correspondence No.

J. E. Ferguson
372-8246

S. H. Wisness, RL

FDH-9758923

Subject: FINAL 1.8.2.1.2 MULTI-YEAR WORK PLAN

INTERNAL DISTRIBUTION

Approval	Date	Name	Location	w/att
		Correspondence Control	A3-01	X
		Central Files	B1-03	X
		Document Processing Ctr.	A3-93	X
		DOE-RL Reading Room	H2-53	X
		Hanford Technical Library	P8-55	X
<u>Lockheed Martin Hanford Corporation</u>				
		Buriak, D. L.	H8-71	X
		Ferguson, J. E.	H8-71	X
		Grygiel, M. L.	H8-71	X
		Smith, S. T.	H8-71	X
<u>United States Department of Energy,</u> <u>Richland Operations Office</u>				
		Wisness, S. H.	A5-18	X
		Sieracki, S. A.	A7-80	