DISTRIBUTION SHEET

To	From	Page 1 of 1
Distribution	M.E. Borgeson	Date 12/9/94
Project Title/Work Order		EDT No. 608802
Project 95L-EWT-100, Hazardous Materials Management and Emergency Response Training Center, WHC-SD-T100-PMP-001		ECN No. N/A

NAME	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
L.S. Ayre	HO-57	X			
B.G. Baker	L6-57	X			
F.D. Beard (2)	A5-18	X			
M.E. Borgeson (10)	HO-57	X			
D.J. Carrell	H6-22	X			
W.S. Chin	A5-18	X			
D.J. Donnelly	G6-57	X			
P.L. Fitzgibbons	H5-26	X			
W.R. Hayes	S3-97	X			
J.R. Kelly	R3-28	X			
K.I. Lane	L4-93	X			
K.A. McGinnis	HO-57	X			
P.J. McKenna	R3-54	X			
C.E. Norton	E6-03	X			
J.E. Ollero	A1-55	X			
R.H. Palmer	R2-58	X			
P.K. Sato	HO-57	X			
S.W. Seiler	G3-10	X			
D.L. Street (5)	A5-20	X			
P.J. Vandervert	HO-57	X			
Project Files	R1-28	X			
Central Files (2 + Original)	L8-04	X			
O.S.T.I. (2)	L8-07	X			

DISCLAIMER

5 sta. 4

DEC 12 1994

ENGINEERING DATA TRANSMITTAL

Page 1 of 1

1. EDT 608802

2. To: (Receiving Organization)	3. From: (Originating Organization)	4. Related EDT No.:
Distribution	HAMMER Projects	None
5. Proj./Prog./Dept./Div.:	6. Cog. Engr.:	7. Purchase Order No.:
95L-EWT-100	M.E. Borgeson	N/A
8. Originator Remarks: Initial Project Management Plan Release		9. Equip./Component No.: N/A
		10. System/Bldg./Facility: N/A
11. Receiver Remarks:		12. Major Assm. Dwg. No.: N/A
		13. Permit/Permit Application No.: N/A
		14. Required Response Date: N/A

15. DATA TRANSMITTED

(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Approval Designator	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	WHC-SD-T100-PMP-001		0	Project Management Plan	QD	1/2		
				Hazardous Materials				
				Management and Emergency				
				Response Training Center				
				Project 95L-EWT-100				

16. KEY

Approval Designator (F)	Reason for Transmittal (G)	Disposition (H) & (I)
E, S, Q, D or N/A (see WHC-CM-3-5, Sec.12.7)	1. Approval 4. Review 2. Release 5. Post-Review 3. Information 6. Dist. (Receipt Acknow. Required)	1. Approved 4. Reviewed no/comment 2. Approved w/comment 5. Reviewed w/comment 3. Disapproved w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION (See Approval Designator for required signatures)

(G) Reason	(H) Disp.	(J) Name (K) Signature (L) Date (M) MSIN	(J) Name (K) Signature (L) Date (M) MSIN	(G) Reason	(H) Disp.
1/2	1/2	Cog.Eng. Maurice E. Borgeson H0-57 10/14/94			
1/2	1/2	Cog. Mgr. 10/18/94			
1/2	1/2	QA C2 Norton E6-03 10-18-94			
		Safety			
		Env.			
1/2	1/2	HAMMER Programs: Karen McGinnis H0-57 10/14/94 /BH			
1/2	1/2	Telecommunications: C Easton H2-35	10/17/94		

18.	19.	20.	21. DOE APPROVAL (if required)
M E Borgeson 12-9-94 Signature of EDT Originator Date	Authorized Representative for Receiving Organization Date	M E Borgeson 12-9-94 Cognizant Manager Date	Ctrl. No. 9407320 [X] Approved [ ] Approved w/comments [ ] Disapproved w/comments

BD-7400-172-2 (04/94) GEF097

BD-7400-172-1 (07/91)

RELEASE AUTHORIZATION

Document Number:	SD-T100-PMP-001, REV 0
Document Title:	Project Mangement Plan, Hazardous Materials Management and Emergency Response Training Center
Release Date:	12/12/94

This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:

Kara M. Broz — December 12, 1994

SUPPORTING DOCUMENT

1. Total Pages 28

2. Title	3. Number	4. Rev No.
Project Management Plan, Hazardous Materials Management and Emergency Response Training Center	WHC-SD-T100-PMP-001	0

5. Key Words

HAMMER

APPROVED FOR PUBLIC RELEASE

KMB 12/12/94

6. Author

Name: M.E. Borgeson

Signature

Organization/Charge Code 7FB90/E35113

7. Abstract

This document provides project specific management plans for Project 95L-EWT-100.

8. RELEASE STAMP

OFFICIAL RELEASE BY WHC 5

DATE DEC 12 1994

Ste 4

PROJECT MANAGEMENT PLAN

HAZARDOUS MATERIALS MANAGEMENT AND EMERGENCY RESPONSE TRAINING CENTER PROJECT 95L-EWT-100

WESTINGHOUSE HANFORD COMPANY

U.S. DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE
RICHLAND, WASHINGTON

PREPARED BY: Marvin E. Borgeson — Project Engineer, HAMMER Project — Date 10/14/94

WHC APPROVALS: Marvin E. Borgeson — Project Manager, HAMMER Project — Date 10/14/94

[signature] — Manager, Environmental and Effluent Treatment Projects — Date 10/19/94

Karen McGinnis — Manager, Waste, Analytical and Environmental Services, HAMMER Program — Date 10/14/94

[signature] — Manager, Quality Engineering Construction Projects — Date 10/18/94

CONCURRENCE: Donna L. Steele — Project Manager, U.S. Army Corps of Engineers — Date 10/18/94

DEPARTMENT OF ENERGY APPROVAL:

Paul Hernandez — Project Manager, Project Management Division — Date 11/22/94

CONTENTS

THIS PAGE INTENTIONALLY LEFT BLANK

PROJECT-SPECIFIC MANAGEMENT PLAN

HAZARDOUS MATERIALS MANAGEMENT AND EMERGENCY RESPONSE TRAINING CENTER

Project 95L-EWT-100

1.0 PROJECT OBJECTIVES

1.1 Purpose of Project

For the next 30 years, the main activities at the Hanford Site will involve the handling and cleanup of toxic substances. Thousands of workers involved in these new activities will need systematic training appropriate to their tasks and associated risks. This project is an important part of the Hanford Site mission and will enable the U.S. Department of Energy (DOE) to meet high standards for safety.

The Hazardous Materials Management and Emergency Response Training Center (HAMMER) project will construct a centralized regional training center dedicated to training hazardous materials workers and emergency responders in classrooms and with hands-on, realistic training aids representing actual field conditions. The HAMMER Training Center will provide a cost-effective, high-quality way to meet the Hanford Site training needs. The training center creates a partnership among DOE; government contractors; labor; local, state, and tribal governments; and selected institutions of higher education.

1.2 Technical Objectives

The technical objective of this project is to meet requirements identified in the Functional Design Criteria, WHC-SD-T100-FDC-001, Revision 0 or subsequent revisions as approved by U.S. Department of Energy, Richland Operations Office (RL).

The 80-acre training center will include training equipment and various simulated jobsite conditions to create a state-of-the-art learning environment. The maximum population is expected to be 184 personnel including staff, students, and visitors. The average population is expected to be 108 personnel. As cleanup evolves and new technologies are developed, the HAMMER Training Center will be versatile enough to meet changing training needs. The HAMMER project will:

- Provide classroom training.
- Provide training equipment and various simulated job site conditions that create a hands-on state-of-the-art learning environment.
- Meet the training needs of the Hanford Site as cleanup evolves and as new technologies are developed.
- Meet the training needs of emergency response organizations.

1.3 Schedule Objectives

Definitive design activities for the HAMMER project are scheduled to start in the first quarter of FY 1995. Physical construction will start in the fourth quarter of FY 1995. Bidding for fixed price construction contracts will start in third quarter of FY 1995. The project summary schedule in Appendix A shows the RL-controlled milestones for the project that are required to meet the scheduled completion objectives. The HAMMER project is scheduled for completion of construction and start of operation in calendar year 1997.

The schedule dates are based on the project Conceptual Design Report (CDR), WHC-SD-T100-CDR-001 Revision 0.

WBS Element	Activity	Schedule Start	Completion
1.0	Engineering	11/1994	8/1997
2.0	Procurement	3/1996	5/1997
3.0	Construction	4/1995	5/1997
4.0	Project Management	11/1994	8/1997

1.4 Cost Objectives ($000)

The overall capital cost objectives for the project are estimated to be $29.9 million, based on the estimate provided by the U.S. Army Corps of Engineers (USACE), dated September 21, 1994 and documented in the project Conceptual Design Report, WHC-SD-T100-CDR-001 Revision 0.

WBS Element	Estimated Cost	Contingency	Total
1.0 Engineering	$ 2,780,000	$ 420,000	$ 3,200,000
2.0 Procurement	570,000	90,000	660,000
3.0 Construction	21,700,000	3,320,000	25,020,000
4.0 Project Management	910,000	110,000	1,020,000
TOTAL ESTIMATED COST	$25,960,000	$3,940,000	$29,900,000
Other Project Costs	$ 5,460,000	$ 40,000	$ 5,500,000
Total Project Cost	$31,420,000	$3,980,000	$35,400,000

2.0 PROJECT JUSTIFICATION AND DESCRIPTION

2.1 Justification

In March 1989, the Code of Federal Regulations Occupational Safety and Health Administration rules (29 CFR 1910) promulgated a regulation to protect workers in hazardous waste operations and emergency response. The National Fire Protection Association (NFPA) Standard 472 also defines professional requirements for responders to hazardous materials incidents. Two general types of training are addressed for hazardous materials; training for hazardous waste site workers

and training for emergency response organizations including fire departments, law enforcement agencies, emergency medical services organizations, and others (WHC-EP-0319-1990).

The hazardous site worker standard sets forth the general elements that should be covered in training courses for cleanup workers. Cleanup workers' health and safety depends to a great degree on the use of personal protective equipment and on their ability to recognize and respond appropriately to unanticipated hazards. (Office of Technology, Background Papers Hazardous Ahead: Managing Cleanup Worker Health and Safety at the Nuclear Weapons Complex, Washington, D.C.)

The law requires training at some level for essentially all persons who may work with or come into contact with hazardous materials. The regulations cover private enterprises and federal, state, and municipal governments. This law went into effect in March 1990 (WHC-EP-0319-1990). These new requirements are driven by the Superfund Amendments and Reauthorization Act of 1986 (SARA) Title II rules, which identify far-reaching training requirements for emergency planning, community "right-to-know" education, and emergency response.

NFPA Codes and Standards are written to ensure that minimum safety and health standards are specified for the organization, training and education, vehicles and equipment, protective clothing and equipment, emergency operations, facility safety, and medical requirements of fire departments. The NFPA standards require that fire department facilities comply with all legally applicable health, safety, building and fire requirements. The standards further require that formal training and the demonstration of a variety of skills be accomplished, documented and certified to ensure that fire department personnel will be able to do their assigned tasks swiftly, safely and with competence. Meeting these training standards, particularly those that have a requirement to be demonstrated by actual use, entails the use of facilities ranging from classrooms and administrative space to highly specialized hands-on structures (WHC-SD-L094-ES-001)

Many training courses exist in hazardous materials handling but few training facilities in the nation are explicitly designed to give hands-on practical training in realistic situations. Even fewer provide practical training for radioactive and mixed hazardous-radioactive materials.

The hands-on props at HAMMER Training Center are justified based on regulatory training requirements, the desire for enhanced safety, and a commitment to continuous improvement of training quality and training retention. All three elements must be considered because the regulations tend to describe broad goals but lack detailed guidance. The diversity of hazards, settings, and work tasks in environmental clean-up operations and the uncontrolled nature of the pollutants call for more in depth and focused skill training. The comprehensive HAMMER Training Center will permit the combination of classroom lecture for providing basic knowledge and hands-on skill development and practice with devices and in settings that provide challenges similar to those in the actual work environment.

2.2 Project Description

The HAMMER Training Center for worker safety will be a new 80-acre training site for hazardous material workers and emergency responders. This training center will be constructed at the southern end of the Hanford Site and will be bordered by Horn Rapids Road and the Hanford Patrol Academy road. The center will provide classroom training and will provide hands-on training aids that will simulate hazardous waste handling and management, environmental restoration, fire training, transportation, and emergency response activities. Design and construction will be completed in two phases. Phase I will include site preparation, selected utilities, pumphouse, some special equipment/ systems and several props. Phase II will include buildings, site finishing work, lighting, burn props and the junction/diversion box with tank prop.

A detailed description of the facility is provided in the CDR. Following is a list of buildings, training props and facilities provided by the project.

1. Administration/Classroom/Complex. This portion of the facility will house classrooms, administration and staff offices, an emergency operations center training area and classrooms/administration and their support areas. The emergency operations center space is dual purpose and also serves as classroom space.

2. Training/Support Building. This building will store training materials, supplies and equipment required for various training exercises. Space will be provided for two classrooms, change rooms, rest rooms, a personnel decontamination area, mask disinfecting capability, indoor training activities during inclement weather, and a bay area for craft-specific training activities and mock-up of craft specific props. The garage portion of the building will provide parking bays for emergency response vehicles, and space for indoor training activities. This portion of the building will also provide space for storage of fire fighting equipment, Self-Contained Breathing Apparatus (SCBA) maintenance, a compressor room and an SCBA bottle fill station.

3. Training Tower. The six story Training Tower will provide realistic fire fighting training for structural and laboratory fires. Live fire exercises will not be conducted in this structure. Ladder exercises, hose drills, repelling, and high-angle rescue training will be performed at this prop. The lower two levels will provide a simulated laboratory setting for mock laboratory accidents.

4. SCBA Search and Rescue Building. This two story structure will provide a flexible training area for simulating various SCBA search and rescue scenarios. This building will utilize a cold smoke system, but is not designed for actual fire training.

5. Burn Structure Prop. This three story structure provides different space configurations, access/egress possibilities, stairway and roof features, and fire props. Facility elevations are designed to simulate a residence, warehouse, office building, and apartment

complex. The prop rooms will be patterned after a warehouse, living room, bedroom, and electrical room.

The fire props and all associated equipment in the burn structure will be computer controlled, Liquid Petroleum Gas (LPG) fired and designed and provided by a vendor specializing in fire prop design.

6. Specific Pad Requirements. Training pads will consist of six concrete pads, constructed on grade, with props to simulate fires, leaks, spills, and materials handling. LPG will be used for the burn fuel. Control platforms will be placed on a berm to provide an adequate view of training operations. The training pads provided are listed below.

6.1 Flammable Liquids Burn Pad. This pad will be used for flammable liquids fire fighting practice.

6.2 Liquid Petroleum Gas Burn Pad. This Burn Pad will be used for LPG fire fighting practice. An LPG tank and a Christmas tree burn prop will be located on the pad. The LPG tank arrangement will be used to simulate a burning tank. The Christmas tree prop will provide training in the safe approach and securement of a leaking gas fire through the efforts of a team of fire fighters.

6.3 HAZMAT Training Pad. The HAZMAT Training Pad will consist of a spill/leak area, a drum and cylinder area and a hot waste area. The spill/leak training area will be used to train for the cleanup of HAZMAT spills and leaks. The drum and cylinder area will be used to simulate an open storage area for drums, pressurized tanks, cylinders. This pad will be used to train personnel in the techniques of patching, plugging, and transferring materials from leaking containers. The hot waste area will be used for training on the proper handling of radioactive wastes.

6.4 Railroad Tank Car Burn/Spill Pad. This pad will be used for simulating tanker spills for both railroad and highway tankers. Water will be used to simulate leaks, and cold smoke for fire simulation.

6.5 90-Day Storage Pad. This pad will be used to simulate a 90-day storage area for hazardous waste containers. It will be used for instructing students in the methods of management, monitoring, taking inventory, and handling and segregating stored materials.

6.6 Above-Ground Pipeline Pad. This pad includes equipment to simulate a leak in an above-ground pressurized pipe or to simulate a petroleum pipeline rupture.

7. Artificial Stream and Pond. This pond will serve as a supply and recovery reservoir for training water used for the fire training loop.

8. Fire Pumper Test Platform. The platform is sized to accommodate a fire pumper truck and is for parking the truck which is used for pumper tests and for pumping water into the training loop.

9. Emergency Response Vehicle Staging Area. The paved staging area will be sized to accommodate maneuvering and positioning of a full complement of emergency vehicles.

10. Characterization/Remediation Site Training Area. A 4-acre area will be provided for training exercises involving hazard characterization and remediation of a contaminated site.

11. Buried Simulated Waste Training Area. A 4-acre area will be provided for training exercises involving hazard characterization and remediation of a waste burial ground.

12. Junction/Diversion Box (J-Box) with Tank Training Prop. The J-Box Training Prop will be designed to simulate the type of liquid transfer switching station encountered within tank farms. The tank simulation will have risers extending above grade to give the appearance of the typical tank farm tank.

13. Railroad Tank Car with Rail Training Prop. This prop is used to simulate railroad accidents with HAZMAT transport rail cars and for spill containment training. Tank car leakage will be simulated by using water.

14. Buried and Above Ground Tanks Prop. This prop will consist of one above ground and one underground fuel storage tank. Their function will consider training on underground storage tank location, dismantling, and removal exercises. The above ground tank will be designed for training on hydrocarbon fuel removal and leakage control.

15. Confined Space/Fall Protection Prop. The Confined/Space/Fall Protection Prop will be an existing relocated structure, that will provide training for workers in a confined space and/or elevated work areas.

16. Well Sampling Stations. The well sampling stations will allow for environmental sampling training using a mobile sampling truck. Two wells will be located at the characterization/remediation site.

17. Trench Site. The trench site will simulate a liquid disposal crib. Its function will include training for low-angle rescue operation, drum recovery, crib remediation, and other similar activities.

18. Other Support Facilities. Additional facilities will include a comfort station/group shelter, parking lots, utilities, communications network, lighting, landscaping, and fencing.

Water and sewer will be provided by connections to the City of Richland systems that are being installed by the city to a location near the site. Electrical services will be provided from the City of Richland.

The Hanford Local Area network (HLAN) fiber optic cable inter-area distribution system will be extended from the 300 Area to the HAMMER Training Center. Telephone service will be connected to the existing site telephone system. A radio communication system will be provided for the training supervisors, instructors and safety officers. A telecommunications proposal was prepared for RL approval.

3.0 PROJECT ORGANIZATION

The project organization is based on the team concept, using both onsite and offsite resources, as required. Participants include the RL, Westinghouse Hanford Company (WHC), USACE, and subcontracted architect-engineer and construction contractors. Overall management and execution of the project and program is the responsibility of RL. WHC provides program and project integration and technical direction for RL during all phases of the project. The operating contractor will be responsible for overall project reporting to RL. The team is further enhanced by the appropriate WHC support services and WHC safety, quality, environmental, and health organizations that are employed to fulfill the project objectives in an efficient, safe, quality, secure, and environmentally responsive manner.

Definitive design will be performed by a combination of the USACE, Walla District, and an offsite architect-engineer contractor. Engineering inspection, procurement and construction management will be performed by the USACE. Construction and procurement will be performed by fixed-price construction or procurement contracts awarded on the basis of competitive bidding.

4.0 PRINCIPAL PROJECT PARTICIPANT RESPONSIBILITIES

4.1 General

Principal project participants' responsibilities and authority and the activities that are required of each participating organization throughout the duration of the project are explained in RLIP 4700.1A, "Project Management System," and are detailed below. Organizations involved with this project are shown in Appendix B.

4.2 U.S. Department of Energy

The DOE will provide programmatic direction and overall surveillance of project performance through the RL.

The Secretary has delegated the responsibility for approval of mission need and principal management activities to the Acquisition Executive. Program responsibilities rest with the Assistant Secretary of the Office of Environmental Restoration and Waste Management.

The Office of Oversight and Self Assessment has responsibility and authority for the HAMMER project, including establishment of funding levels. The designated Project Program Manager provides programmatic direction, overview, project assistance, and coordination.

The DOE:

1. Maintains an overview of project performance to insure achievement of technical, cost, and schedule baselines through the project reporting system and periodic project review meetings, as required.

2. Maintains an overview of project management execution.

3. Ensures that all required DOE activities in support of projects are accomplished, including the assistance and guidance from other government offices, as needed.

4.3 U.S. Department of Energy Richland Operations Office

The HAMMER project management approach follows the principle of decentralization of program and project activities to the RL. The RL is responsible for the management of the HAMMER project with appropriate level of DOE oversight. The RL Program and Project Organization is shown in Appendix B.

As the RL program office, the Human Resources and Administration will provide coordination of related oversight and assessment programs and liaison with waste operations. This office will also represent, as the single coordinating office, the interests of the other support offices and programs and site management. Human Resources and Administration will concur on baseline changes affecting program office activities.

Overall management and execution of project is the responsibility of the RL Project Management Division (PMD) office. The PMD has assigned a Project Manager (PM) for the day-to-day technical execution and management of the HAMMER project. The RL PM ensures the project activities are planned, managed, and reported in compliance with applicable DOE orders, regulatory requirements and baseline documents. The PM will be responsible for coordination with other RL divisions and staff, as necessary. Project activities will be authorized and funded to the USACE and WHC by the project office and the RL PM will provide oversight for the budgetary and technical aspects of the project.

The RL PM is responsible for overall control of the project, including cost and schedule control and control of design development and construction. The project will implement the Site Management Control System, the Progress Tracking System, which uses both project baseline control and change control management procedures for organizing, planning, monitoring, and controlling scope, schedule, and cost.

The PM will provide quarterly reports to DOE that summarize design and construction progress, milestones status, cost status, and problem areas with proposed resolution as required by DOE 4700.1, "Project Management System." Baseline changes will be reported in accordance with DOE 4700.4A, "Baseline Change Control Process at the Executive Level."

The RL PM is the RL single point-of-contact with WHC during design and construction and will review, approve, release or coordinate approval or release of key documents like the following, as appropriate.

- Project plan
- Functional design criteria
- Conceptual design report
- Project specific management plan
- Quality assurance plan
- Definitive design documents, as required
- Work orders, as required
- Inspection plans
- Engineering change notices, as required
- Official acceptance of construction
- Change requests

The RL PM:

1. Reviews cost estimates, including supporting materials, provided by WHC before initiation of design, procurement, or construction.

2. Approves and issues project authorization for performance of work, identification of contractors, and provision of funding.

3. Conducts the monthly management review meetings.

4. Provides advice and assistance in accordance with assigned functional responsibilities during project development, authorization, and execution.

5. Provides technical surveillance and overview of project execution to ensure compliance with directives, design criteria, and DOE requirements.

6. Ensures that construction projects are executed in a manner consistent with applicable DOE approved policies, orders, criteria, and standards.

7. Reviews, approves, and transmits the construction reports required by the DOE.

8. Transmits to the DOE-HQ, as required, copies of the project documentation, including appropriate backup information.

9. Coordinates design reviews within the RL and serves as single point-of-contact for such reviews.

10. Approves all changes that affect the approved project baseline including changes to the functional design criteria, the authorized budget, and the authorized schedule.

11. Provides technical assistance, coordination, negotiation, and oversight to verify contractual compliance for offsite architect-engineer/Small Business Act, Section 8(a) [SBA 8(a)] contractors.

12. Serves as technical monitor.

13. Releases definitive design documents for construction.

4.4 Operating and Engineering Contractor

The WHC Program Manager is responsible for providing program direction and management for the HAMMER program as assigned by RL. The Program Manager will provide direction for project objectives and requirements of the facility that are to be used as the basis for design, and assure that the program objectives are met. The Program Manager will assure that the Technical Task Packages are prepared and include the funds estimated to support the project up to and including turnover for operations. The Program Manager will also interface with the RL Program Managers to resolve program issues and coordinate with stakeholders.

The WHC Project Manager (PM) is responsible for the technical direction and management of the total project as assigned by RL. The total project includes all activities, expense and capital, required to successfully complete the project. The designated WHC PM is responsible for ensuring that the project is completed in accordance with the approved project baseline. The PM is responsible for coordinating project activities with the user and performing organizations to assure that the project is in compliance with technical, quality, safety, safeguards and security, and environmental requirements. Coordination will include design reviews, and quality assurance direction for engineering, procurement, and construction. The WHC PM will direct the activities of the USACE as assigned by RL.

Specifically, the WHC PM:

1. Provides technical and daily project management for coordination and control of design, procurement (as appropriate), and construction activities. This includes planning, scheduling, estimating, engineering, construction, and inspection services.

2. Provides for the development and submittal of all the required documents as defined in RLIP 4700.1A.

3. Requests funding and changes to project authorization by submittal of a request for project authorization or modification to the RL.

4. Provides technical direction and administration of design accomplished by the design agency.

5. Approves definitive design for compliance with the functional design criteria, project baseline, safety, quality, operability, maintainability, environmental compliance, and cost effectiveness. Involve environmental, safety, operations, programs, engineering, process control, quality assurance, the engineer-constructor, and RL in the design review, as appropriate.

6. Provides the administration of change control for design, procurement, and construction activities.

7. Acts as a focal point for coordination of project activities with other WHC organizations involved in the project activities to ensure compliance with the technical baseline.

8. Approves design and construction schedules from the engineer-constructor or the architect-engineer that are consistent with project requirements set forth by the RL.

9. Ensures optimum design in terms of cost, safety, reliability, maintainability, accuracy, and compliance with applicable codes, standards, criteria, regulations, and DOE Management Directives.

10. Coordinates with operations for outages and control of work in operating facilities.

11. Provides for technical direction and management of acceptance testing, operational testing, and initial startup of the facility.

12. Maintains official project files and notifies other organizations of record turnover requirements.

4.5 Engineer-Constructor

Under an interagency agreement, RL and WHC will be supported by the USACE, who will provide, as appropriate, architect-engineer services, equipment and material procurement, and construction management.

The USACE will provide conceptual design, definitive design, engineering during construction, inspection services, and construction management in accordance with direction provided by the RL HAMMER PM. Offsite design/build, architect-engineer or fixed price contracts may be used on selected designs, as agreed to by RL.

Construction safety practices will be implemented by the USACE in compliance with their interagency agreement with DOE RL. The USACE is the Construction Manager as defined by DOE Order 5480.9A, "Construction Project Safety and Health Management."

4.5.1 Design Services

USACE:

1. Provides design services as described in the approved statement of work to ensure that established project quality objectives and functional design criteria requirements are satisfied.

2. Assures that design meets applicable laws, standards, regulations, and applicable DOE Orders.

3. Provides project scheduling, estimating, and cost control services during design and construction.

4. Schedules and conducts the design kickoff meetings, prepares and issues meeting minutes, participates in the design review process and in the construction kickoff, construction progress, and management meetings.

5. Reports progress, accumulated cost, and estimate to complete for all architect-engineer services including design and acceptance inspection.

6. Reviews and approves vendor data submittals and maintains and distributes the record of status.

7. Provides design, cost, and schedule baseline change documentation and nonconformance reports, as required; provides distribution; and maintains a record of status.

8. Initiates and processes engineering changes, as appropriate; provides required accompanying documentation; and maintains required status records.

9. Provides field engineering services and performs inspections, in accordance with the inspection plan for acceptance of equipment and construction.

10. Provides accurate as-built design for completed construction projects, as required.

11. Prepares the procedures for acceptance tests and witnesses the performance of the testing, as required.

12. Maintains complete architect-engineer project design files in accordance with approved procedures.

4.5.2 Construction Services

During project construction, USACE:

1. Provides onsite construction management services in accordance with the approved statement of work, including quality assurance, quality control, safety review, environmental compliance, scheduling, estimating, and cost control during construction.

2. Administers fixed price contracts.

3. Provides orientation for construction subcontractors and SBA 8(a) construction contractors, as required.

4. Provides direct supervision and quality control of construction forces, as required.

5. Provides procurement services as related to construction.

6. Reviews design work at each stage of the project for constructibility, cost effectiveness, and integration into the total construction work package.

7. Maintains complete files on the construction procedures and construction schedules.

8. Provides cost estimates, special construction procedures, and construction schedules.

9. Schedules and conducts the construction kickoff and construction progress meetings; prepares and issues the minutes of those meetings; participates in the design kickoff, design reviews, and management review meetings.

10. Manages an effective cost and schedule control system for construction activities; provides construction work progress and cost information, based on the work breakdown structure, to WHC and the RL on a continuing basis in project status reports.

11. Implements construction project safety and health management on construction activities in compliance with their interagency agreement with DOE RL.

12. Provides construction site safety inspections and surveillances.

13. Ensures that construction activities are performed in a quality manner and in accordance with requirements and governing procedures.

14. Completes technical review, if required, and turnover of project records to WHC.

5.0 PROJECT MANAGEMENT AND CONTROL

Project management and control is performed in accordance with RLIP 4700.1A.

5.1 Work Breakdown Structure

The work breakdown structure is a product-oriented hierarchy of the scope of work that provides a system for organizing the project scope in a logical manner. A responsibility assignment matrix that identifies the organizations involved with specific products is in Appendix B.

WBS NO.	WBS ELEMENT	DIRECT PLUS ESCALATION
1.0	ENGINEERING	
1.1	DEFINITIVE DESIGN	
1.1.1	DEFINITIVE DESIGN PHASE I	$ 410,000
1.1.2	DEFINITIVE DESIGN PHASE II	$ 1,430,000
	SUBTOTAL DEFINITIVE DESIGN	$ 1,840,000
1.2	CONSTRUCTION ENGINEERING AND INSPECTION (E&I)	$ 940,000
	SUBTOTAL CONSTRUCTION E&I	$ 940,000
2.0	PROCUREMENT	$ 570,000
	SUBTOTAL PROCUREMENT	$ 570,000
3.0	CONSTRUCTION	
3.1	CONSTRUCTION PHASE I	$ 6,890,000
3.2	CONSTRUCTION PHASE II	$14,810,000
	SUBTOTAL CONSTRUCTION	$21,700,000
4.0	PROJECT MANAGEMENT	$ 910,000
	SUBTOTAL PROJECT MANAGEMENT	$ 910,000
	WBS SUBTOTAL	$25,960,000
	CONTINGENCY	$ 3,940,000
	TOTAL ESTIMATED COST	$29,900,000
5.0	OTHER PROJECT COST	$ 5,460,000
	WBS 5.0 SUBTOTAL	$ 5,460,000
	WBS 5.0 CONTINGENCY	$ 40,000
	TOTAL OTHER PROJECT COSTS	$ 5,500,000
	TOTAL PROJECT COST	$35,400,000

5.2 Baseline Definition

The RL approved FDC, WHC-SD-T100-FDC-001, latest revision, provides the technical scope and criteria for the project. Following definitive design, the approved design media (e.g., drawings and specifications) also become controlling technical documents.

The cost and schedule baselines are based on the estimate and schedule prepared for the CDR, WHC-SD-T100-CDR-001, latest revision.

5.3 Baseline Change Control

A change control process is used to revise cost, schedule, and technical baselines. This process covers design, construction, project management and other project cost activities. Also, any use of project contingency shall be by change request.

5.3.1 General

Any organization that identifies changes to project baselines will submit for consideration a Schedule and/or Cost Change Request to the WHC PM. The WHC PM will evaluate, document, and manage the change actions in coordination with WHC and the RL PM. All changes to project baseline or contingency use that requires RL approval will be submitted to RL by WHC.

5.3.2 Change Classifications

Class I Changes (Requires RL PM approval)

- A change to the Functional Design Criteria
- A change to the Total Estimated Cost
- A change that affects the approved work breakdown structure
- A change to a controlled milestone
- A change to RL approved control documents
- A change exceeding the Class I Cost and/or schedule thresholds specified in Paragraph 5.3.3

Class II Changes (Requires WHC PM approval)

- A change to the subordinate technical baseline (drawings, specifications) exceeding Class II Costs or schedule thresholds as specified in Paragraph 5.3.3
- A change to a work statement controlled milestone in the USACE working schedule that is not a project control milestone
- A change not meeting Class I Criteria but exceeding Class III cost thresholds in Paragraph 5.3.3

Class III Changes (Requires USACE PM approval, Design and Construction Only)

- Changes that are below the Class III thresholds

5.3.3 The cost and schedule thresholds shown in Table I will be utilized to manage project changes. Any use of contingency shall be documented.

TABLE 1 CHANGE CONTROL THRESHOLDS

DESIGN CHANGE CLASSIFICATION LEVEL	CHANGE NOTIFICATION	COST CHANGE $LEVEL*	SCHEDULE CHANGE	TECHNICAL/ CHANGES
I	CR	> 50K	Per Class I definitions and any change to an operations directive milestone.	Per Class I change definitions
II	CR	≤ 50K	Per Class II definitions	Per Class II definitions
III	CR	≤ 10K	NA	NA
CONSTRUCTION CHANGE CLASSIFICATION LEVEL				
I	CR	> 250K	Per Class I definitions and any change to an operations directive milestone.	Per Class I change definitions
II	CR	≤ 250K	Per Class II definitions	Per class II definitions
III	CR	≤ 100K	NA	NA
PROJECT MANAGEMENT CLASSIFICATION LEVEL				
I	CR	> 25K	NA	NA
II	CR	≤ 25K	NA	NA
III	NA	NA	NA	NA

*Changes that will reduce the contingency below 5% of project direct cost plus escalation and changes after contingency is reduce to 5% prior to construction completion, will be approved by DOE-RL.

5.4 Change Approval Requirements

Change control authority will reside with the RL PM, who will obtain the appropriate concurrences. Management of project contingency and all project baselines will be controlled within the thresholds and approval requirements shown in Paragraph 5.3.3.

5.4.1 U.S. Department of Energy Richland Field Office

The RL must approve the following:

1. Change to the approved functional design criteria
2. Change to any RL milestone identified on the conceptual project schedule or as specified by threshold in the Paragraph 5.3.3.
3. Change to the approved work breakdown structure

4. Increase in total estimated cost.
5. Use of Contingency as specified by threshold in Paragraph 5.3.3.

5.5 Performance Monitoring and Reporting

Project performance will be monitored against the project-approved schedule milestones, work breakdown structure estimate, and technical documents. Performance evaluations will be made at least monthly by WHC management. Information will be included in the project reports required by RLIP 4700.1A and discussed with the RL at the management review meetings. Project management will keep WHC and DOE management informed, provide visibility on key decisions, and ensure project execution is performed to achieve technical, cost, and schedule objectives.

Design reviews will be held for each design package. Reviews will cover the technical, functional, operational, maintenance, construction, environmental, regulatory, quality, and safety aspects of the project. Quality and safety surveillances will be initiated early in the process and continued through the life of the project to ensure that quality and reliability are an integral part of the HAMMER project.

The RL PM will prepare the monthly project executive summary and project management reports to summarize project status. Oral and written reports will be provided as needed. The reports will be submitted approximately the second week of the month.

Monthly reports will include a narrative that discusses overall project status; major achievements during the period including milestones accomplished and end items submitted; critical path items, their potential effect on project baselines, and action taken; anticipated progress and milestones to be accomplished during the next reporting period; status of agreements and commitments established at meetings; and problems affecting the cost and schedule with recommendations for solution. The reports will also address monthly performance by updating the schedule to show progress and current schedule. A comparison of the percent actual against the percent scheduled complete to date will be shown through earned value reporting. The reports will be submitted by the 15th of the month.

The USACE will provide monthly reports for project Phases I and II. Reports will be submitted to the RL PM and WHC by the 15th day of the month for the prior month. The information will be based on project status as of the last working day of the month reported. The following will be included:

1. Monthly Narrative. A discussion of the overall project status; major achievements during the period including milestones accomplished and end items submitted; any stoppage, accident, or unusual occurrence related to the work; critical path items, their potential effect on project baselines, and action being taken; anticipated progress and milestones to be accomplished during the next reporting period; status of agreements and commitments made at meetings; problems affecting cost and schedule with recommendations for resolution.

2. Monthly Performance. An update of the work plan schedule for USACE services to show progress and current schedule. This will include a comparison of the percent actual against the percent scheduled complete to date. Original control milestone dates will be retained on the schedule to provided a reference of performance. Deviations from the schedule will be explained, and, if late or behind schedule, corrective measures will be identified. If the schedule cannot be regained, an impact statement will be provided along with a request for schedule change.

5.6 Project Meetings

Project meetings will be held with RL, WHC, and the USACE as participants. The USACE will prepare meeting minutes and transmit to distribution.

1. Kickoff meetings, with an agenda, will be held for each phase of design and for each construction contract. The meetings will provide required information to accomplish design tasks and will assure a complete understanding of deliverables. The construction kickoff meetings will include contractor orientation, with safety emphasis, for working on the Hanford Site.

2. Progress meetings will be held as required to review project activities. These will be informal meetings and can be called by any of the meeting participants. Agreements and commitments from these meetings will be signed, implementing necessary changes or corrective actions within assigned responsibility and authority. The agreements and commitments made at progress meetings will not be a basis for project baseline changes.

3. Design review meetings will be held at a mutually agreed on location. As a minimum, the USACE project engineer and the lead design engineer will attend these meetings. Design review milestones are included in the RL approved statement of work.

5.7 Configuration Management

Project design and construction is being performed by the USACE in accordance with their interagency agreement with RL. The USACE will conduct and control design in accordance with the approved project work plan, consistent with their established policies, procedures, and practices. Drawing numbers will be provided by WHC. Approval of design media will be documented on an Engineering Data Transmittal for project file record purposes after completion of design. Project drawings turned over to WHC will be released by Engineering Data Transmittal through the Configuration Documentation Work station after construction and drawing as builts are complete.

6.0 QUALITY ASSURANCE

The HAMMER project will be executed in full compliance with governing orders, policies, and procedures. The HAMMER project quality assurance program will be performed in accordance with DOE 5700.6C, "Quality Assurance," to provide the requisite level of quality. The quality assurance policy has been defined in the FDC (WHC-SD-T100-FDC-001). A Project-Specific Quality Assurance Program Plan (WHC-SD-T100-QAPP-001) provides for the project Quality Assurance reviews and verifications for the HAMMER project.

7.0 ENVIRONMENTAL ASSURANCE

The HAMMER project will reduce risks to the environment, to the worker, and to the health and safety of the public by providing highly trained, qualified workers to handle hazardous materials.

The environmental, health, and safety risks associated with the project are considered low. There is no radiation work zone. Construction and operation of the facilities and systems provided by the HAMMER project will comply with Occupational Safety and Health ACT regulations.

An environmental requirements checklist has been prepared to determine permits and approvals that are applicable to the project. Site evaluations required under the National Historical Preservation Act and the Endangered Species Act that also support preparation of National Environmental Policy Act Documentation have been completed. An Information Bulletin and Categorical Exclusion was transmitted to RL, on January 12, 1994 for review. The DOE has determined that construction and operation of the facility is categorically excluded under DOE's National Environmental Policy Act Regulations.

8.0 PROCUREMENT PLAN

The HAMMER project procurement actions will be performed by the USACE. Maximum practicable opportunity will be made for small, disadvantaged, minority, and labor surplus area businesses to participate. Procurement actions will be in compliance with interagency agreements between the USACE and the DOE.

Fixed price construction contracts for construction activities will be subcontracted on a competitive basis to the maximum extent possible. The use of fixed price incentive fee and cost plus award fee construction contracts is not anticipated. Procurement of equipment and materials supporting construction will be by the fixed price construction contractor or by the USACE.

9.0 TEST AND EVALUATION PLAN

Inspection requirements will be developed that will assure construction activities meed design requirements, including minimum codes and standards and

critical characteristics as outlined in the Project-Specific Quality Assurance Plan. This will be supplied by WHC at the start of detailed design.

Inspection points and tests, as required, will be outlined in written procedures or instructions and documented in accordance with the USACE Quality Assurance Plan.

Operations Test Procedures will be prepared and executed to assure operating systems meet functional and design requirements. A turnover plan will be prepared to define the process for turnover of completed facilities to operations.

10.0 REFERENCES

DOE 4700.1, "Project Management System."

RLIP 4700.1A, "Project Management System."

DOE 4700.4A, "Baseline Change Control Process at the Executive Level."

DOE 5480.9A, "Construction Project Safety and Health Management."

DOE 5700.6C, "Quality Assurance."

Hazardous Materials Transportation Uniform Safety Act, 1990

Title 29 CFR 1910, "Occupational Safety and Health Standards."

NFPA 472, "Professional Competence of Responders to Hazardous Materials Incidents."

WHC-EP-0319, "Hazardous Materials Management and Emergency Response (HAMMER) Training Center Feasibility Study."

SARA, "Superfund Amendment and Reauthorization Act, Title II Rules 1986."

WHC-SD-L094-ES-001, Dohrer, C.H., 1992, "Fire Station/Fire Ground Training Facility."

WHC-SD-T100-FDC-001, "Functional Design Criteria, Hazardous Materials Management and Emergency Response Training Center."

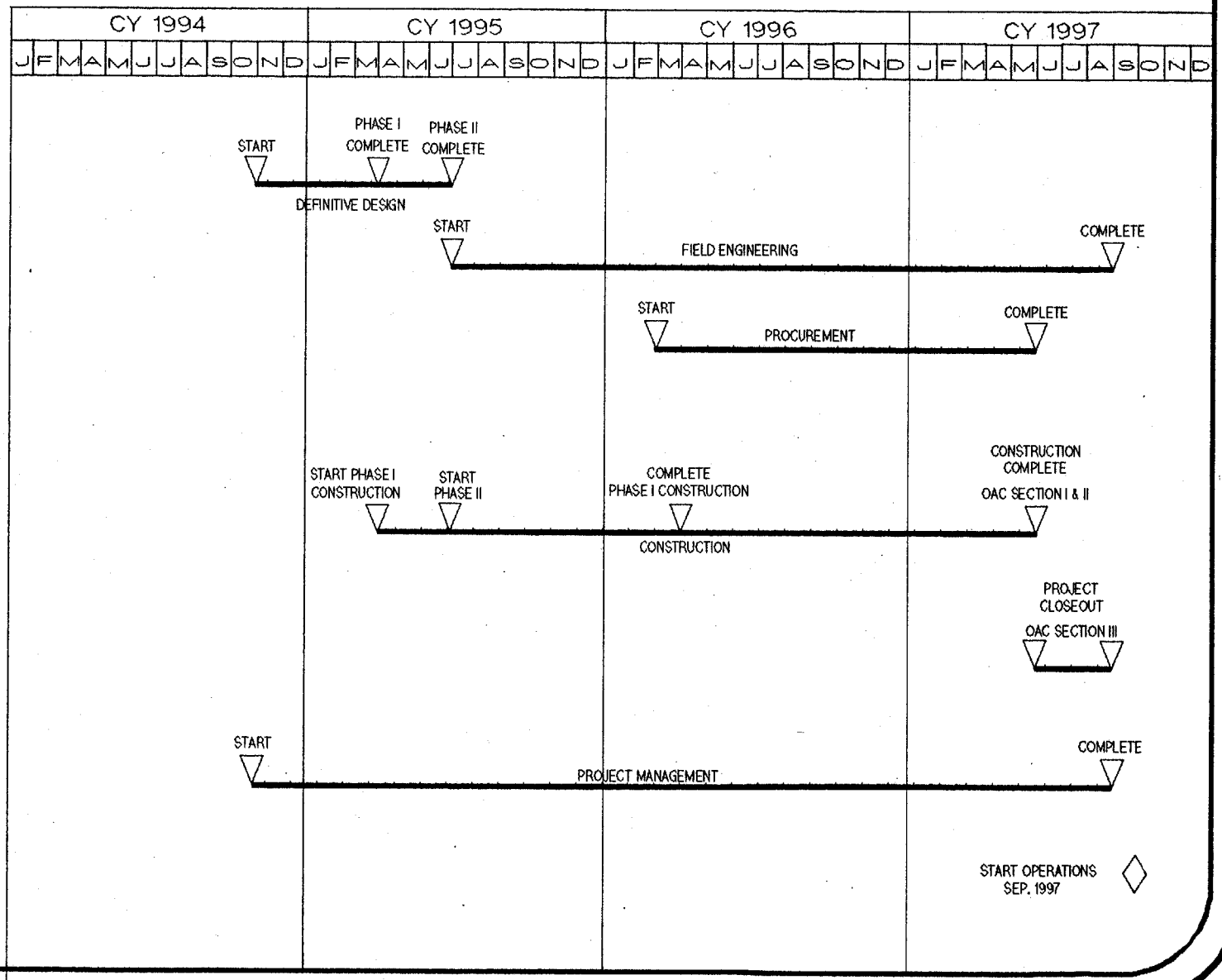
WHC-SD-T100-CDR-001, "Conceptual Design Report, Hazardous Materials Management and Emergency Response Training Center."

Office of Technology, Background Paper, "Hazards Ahead: Managing Cleanup Worker Health and Safety at the Nuclear Weapons Complex, Washington D.C."

APPENDIX A

PROJECT SUMMARY SCHEDULE

PROJECT T-100 - HAMMER MILESTONES

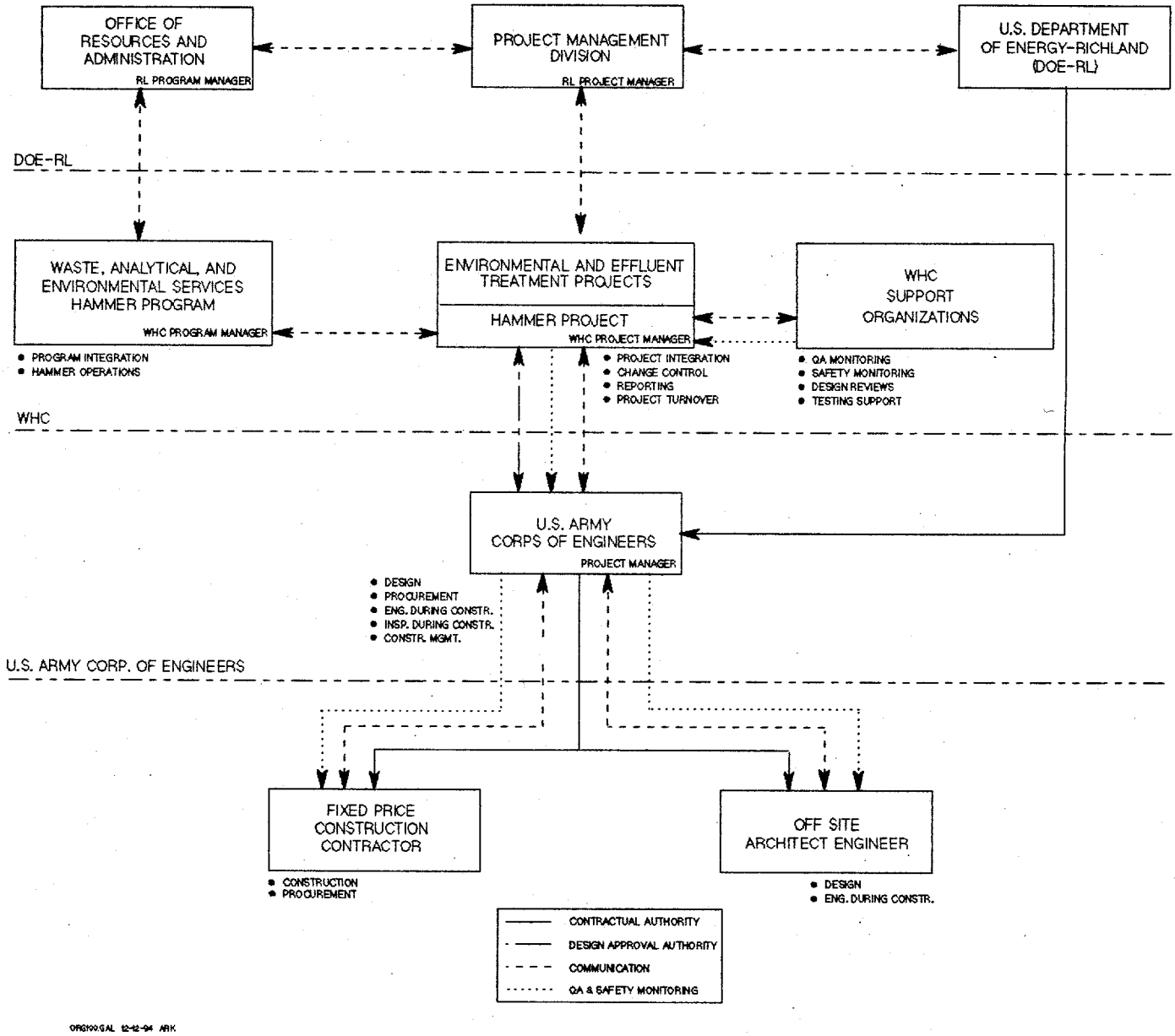


HAMMERPMP.CAL 9-27-94 ARK

APPENDIX B

PROJECT ORGANIZATION

HAZARDOUS MATERIAL MANAGEMENT & EMERGENCY RESPONSE TRAINING CENTER PROJECT 95L-EWT-100 PROJECT ORGANIZATION



ORG100:GAL 12-12-94 ARK