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MASTER

PROJECT MANAGEMENT PLAN
PROJECT L-070
300 AREA PROCESS SEWER PIPING UPGRADE

Prepared by

Westinghouse Hanford Company

February 24, 1994

U.S. Department of Energy
Field Office, Richland
Richland, Washington

APPROVALS

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Date 9/2/94

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ACRONYMS

AI	Acceptance Inspection
ATP	Acceptance Test Procedure
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
BA/BO	Budget Authority/Budget Outlay
CCB	Change Control Board
CDR	Conceptual Design Report
CF	Construction Forces
CM	Construction Management
CR	Change Request
D/C	Design Construct
DOE	U.S. Department of Energy
DOE-HQ	U.S. Department of Energy-Headquarters
RL	U.S. Department of Energy-Richland Operations Office
EA	Environmental Assessment
EAC	Estimate At Completion
EPA	U.S. Environmental Protection Agency
ETF	Effluent Treatment Facility
FDC	Functional Design Criteria
FCC	Fixed Price Construction Contractor
FSAR	Final Safety Analysis Report
FY	Fiscal Year
IMT	Integrated Management Team
KEH	Kaiser Engineers Hanford Company
LOI	Letters of Instruction
NEPA	National Environmental Protection Act
OTP	Operational Test Procedure
PA	Project Authorization
PI	Project Integrator
PM	Project Manager
PMD	Project Management Division
PMP	Project Management Plan
PNL	Pacific Northwest Laboratories
PSAR	Preliminary Safety Analysis Report
PSWBS	Project Summary Work Breakdown Structure
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
SD	Supporting Document
SDRD	Supplemental Design Requirements Document
SURR	Start-Up Readiness Review
TEC	Total Estimated Cost
TEDF	Treated Effluent Disposal Facility
WBS	Work Breakdown Structure
WHC	Westinghouse Hanford Company

PROJECT MANAGEMENT PLAN

INTRODUCTION

This Project Management Plan (PMP) reflects the recommendation of the Defense Nuclear Safety Board (DNSB) to empower the U.S. Department of Energy (DOE) Operating Contractor with complete authority to complete assigned tasks. The result of this recommendation is a change in the historic role of the Onsite Engineer Contractor Kaiser Engineer Hanford (KEH) as being duly assigned to the Onsite Operating Contractor Westinghouse Hanford Company (WHC) effective January 1, 1994. The plan describes such roles, changes and responsibilities of the project team which includes the U.S. Department of Energy Operations Office, Richland (RL), Westinghouse Hanford Company (WHC), and others as appropriate.

This PMP satisfies U.S. Department of Energy (DOE) Order 4700.1 which sets forth policies and requirements to be followed in the management of all RL projects. Use of this document is described in the Project Management Manual, WHC-CM-6-2, and the Projects Department Procedures, WHC-CM-6-12.

1.0 PROJECT OBJECTIVES

1.1 Purpose of Project

Project L-070, 300 Area Process Sewer Piping Upgrade will replace the existing aged and deteriorating gravity process sewer pipe system in the 300 area with a liquid effluent collection system composed of gravity, pressure and/or vacuum where appropriate.

1.2 Technical Objectives

The Technical objectives for the project are identified in the Functional Design Criteria WHC-SD-L070-FDC-001, Revision 1, or subsequent revisions as approved by RL.

1.3 Schedule Objectives

The project schedule baseline is reflected below. The project master schedule, Attachment A, illustrates schedule completion objectives.

<u>ACTIVITY</u>	<u>START</u>	<u>COMPLETE</u>
Engineering	01/94	01/95
Field Engineering	02/95	12/96
Onsite Construction	02/95	10/96
Fixed Price Procurement	01/95	05/95
Fixed Price Construction	06/95	10/96
Project Integration	01/94	12/96
Other Project Support	01/94	12/96

If a TPA CR is required the following are deadline submittal dates: M-17-06J submit design April 30, 1995 is January 15, 1995 and M-17-06K replace process sewer June 30, 1997 is March 18, 1997.

1.4 Cost Objectives

The overall capital cost for the project is approximately \$11.7M dollars, based upon the summary cost (Attachment C) estimate in the Advance Conceptual Design Report ACDR-SD-L070-CDR-001, Rev. 0.

<u>WBS ELEMENT</u>	<u>ACTIVITY</u>	<u>CAPITAL(\$K)</u>	<u>EXPENSE (\$K)</u>
1.0	Engineering	990	
1.2	Field Engineering	340	
3.0	Construction	5,530	
3.3	O.C. Construction (Burial)	920	
4.0	Project Integration	620	
5.0	Other Project Support		1,800
	Contingency	<u>1,500</u>	
		9,900	<u>11,700</u>

The budget BA/BO schedule, Attachment B shows the capital budget requirements for the project. Future revisions to the BA/BO schedule will be documented by an approved change request.

2.0 PROJECT DESCRIPTION

The existing 300 Area process sewer system piping consists of approximately 34,500 liner feet of piping ranging from 4 inches to 36 inches, with discharges from some 60 buildings and/or facilities. Discharge practices of the past 47 years of service are known to consist of quantities of uranium, acid, solvents, organic, and other chemicals used in operation of the 300 Area.

The vitrified clay piping system integrity is questionable due to the build up of deposits over its life of service, and known cracks in the piping system. This creates the concern from the limited information achieved from pipe video taping of possible exfiltration.

The piping (29,200 liner feet) system will require several pressure lift stations for the high flow discharges, vacuum valve stations for low flow scenarios and gravity flow as the first alternative when prudent. The system will collect the process sewer at a central and satellite station for pressure transport to the L-045H Treated Effluent Disposal Facility (TEDF) sump.

The pressure lift stations when utilized will consist of two submersible pumps installed in a concrete wet pit. Pumps will be duplex, complete with standby power, electrical switch gear, and a monitoring network with connection to a central collection station. The vacuum system will have monitoring capabilities of the vacuum pump and vacuum reservoir tank associated with the central collection station.

The new piping system is proposed to address the issue of pipe deterioration, and possible exfiltration into the soil column. The new process sewer system will discharge the liquid effluent to the Treated Effluent Disposal Facility collection sump located in the northeast corner of the 300 Area for subsequent pumping to the treatment facility. The Project L-070 will provide the proposed piping support to Project L-045H, 300 Area Treated Effluent Disposal Facility, and will preclude possible exfiltration into the soil column.

3.0 MANAGEMENT ORGANIZATION AND RESPONSIBILITY

This section identifies the major project specific participants (Attachment D) and establishes the organizational authority, responsibility, and accountability required to effectively manage this project. This section also specifies the authority, responsibility, and accountability for management of the project baseline (scope, cost, and schedule); quality assurance (QA); regulatory requirements (health, safety, and environmental protection); and interface management and control.

3.1 U.S. DEPARTMENT OF ENERGY-RICHLAND FIELD OFFICE (RL)
Office of Assistant Manager for Environmental (AME) Management

The AME has assigned a RL Project Manager (PM) to provide technical surveillance, overview and evaluation of project execution to assure compliance with the project authorization, design criteria, and RL requirements.

3.1.1 Project Manager

The RL PM will provide overview management that project activities are planned, managed, and reported in compliance with DOE orders, regulatory requirements, and baseline documents. The RL PM will also provide overview management of design and construction activities of the operating contractor. The RL PM will finally provide management oversight for the budgetary and technical aspects of the project.

3.2 Management Team

WESTINGHOUSE HANFORD COMPANY

The project management team role and responsibility for the design, procurement, and construction of this project is defined below. The approach streamlines project management by focusing team members at the project level with a common objective. The project includes all activities, expense and capital, required to successfully complete the project.

The following performing organizations are the major project participants:

* Project Integrator (PI)	Westinghouse Hanford Company
* Project Integration Group	Westinghouse Hanford Company
* Program Integration	Westinghouse Hanford Company
* Operations	Westinghouse Hanford Company
* Sponsoring Program	Kaiser Engineers Hanford Company
* Engineering Definitive Design and Engineering During Construction	Westinghouse Hanford Company (assigned to Kaiser Engineers Hanford Company)

Construction

Perform Onsite Construction
Manage Fixed-Price Contractor
Acceptance Inspection

Westinghouse Hanford Company
(assigned to Kaiser Engineers
Hanford)

*** Quality Assurance**

Performance Assessment

Westinghouse Hanford Company

3.2.1 Project Integrator (PI)

WESTINGHOUSE HANFORD COMPANY

The PI has overall responsibility for project implementation and is the ultimate decision making authority within the management team.

The PI is accountable to the Westinghouse Management for project cost, schedule, scope, and technical performance of the L-070 Project. The PI will be responsible for performing the overview of all project activities to ensure that quality work is safe, environmentally sound, and cost effective. Specific responsibilities are assigned to the performing organizations by the PI.

Summary of Responsibilities

- Overall responsibility for project implementation
- Responsible for Project Management Plan
- Responsible for technical performance, safety, acceptance testing, and closing-out project
- Central point-of-contact with Kaiser Engineer Hanford assigned to Westinghouse Hanford Company
- Provides final technical oversight for definitive design, and construction services
- Approves official completion of design, and construction

3.2.2 Project Integration

WESTINGHOUSE HANFORD COMPANY

Because of the size and complexity of this project, the PI will be supported by the project specific participants provided in Attachment D.

3.2.3 Program Integration

WESTINGHOUSE HANFORD COMPANY

The WHC Liquid Effluent Treatment Program will provide program integration for the project.

Summary of Responsibilities

- Responsible for FDC
- Coordinate permitting and submit to regulators
- Interface with the RL Program personnel concerning the project activities
- Define overall requirements of the process sewer piping system
- Define the building administrative controls on discharges points
- Project support
- Technical support

3.2.3.1 Functional Criteria

It is the responsibility of the sponsoring program to provide the Functional Design Criteria (FDC) for the project. The approved FDC for this project is WHC-SD-L070-FDC-001, Rev. 1. The maintenance of this document and subsequent revisions are the responsibility of the WHC Program representative. Any revisions, deviations, or variations to the project FDC must comply with the established Change Control requirements described in Section 7.4.

3.2.3.2 Project Support

The Liquid Effluent Treatment Program will manage the expense funding for project support. The Project Support activities are summarized as follows:

- Provide Technical Support in design reviews
- Perform engineering analysis as required
- Perform safety analysis as required
- Define operational requirement in meeting permit requirements.

Further technical support for activities such as design review, submittal reviews, and building discharge administrative controls implementation will be provided.

3.2.3.3 Permitting Interface

The Liquid Effluent Treatment Program Manager will provide the required interface with the permitting organizations and the regulatory agencies. This interface will be executed with the direct involvement of the PI and these activities will be evaluated against the project baselines and critical path.

3.2.4 Operations

WESTINGHOUSE HANFORD COMPANY

The end user of Project L-070 will be the 300 Area Liquid Effluent Facilities organization within WHC. Project support from the operations organization is essential to assure that the operational objectives of the facility are achieved. Support for design reviews, submittal reviews, procedure development, readiness review and operator training are the primary responsibilities of this organization. Interface with the project team and contractors during construction is essential to develop competent and efficient operating personnel.

The Operations organization is responsible for the operations/maintenance interface, operational testing, official acceptance of completed construction for the operating contractor, readiness review, and training.

Summary of Responsibilities

- Provides Operational/Maintenance interface
- Prepare Operational Test Procedures (OTP), conduct OTP and start-up readiness review
- Performs operational acceptance testing, readiness review, and training
- Develops operations and maintenance procedures

3.2.5 Sponsoring Program

KAISER ENGINEERS HANFORD COMPANY

KEH Landlord Program Management is the sponsoring program and has responsibility for the following:

1. Providing project funding
2. Including project activities in work plans
3. Maintaining technical oversight responsibility
4. Providing reporting to DOE programs

Summary of Responsibilities

- Project funding includes both capital and expense funding for all project activities. These fund plans are included in Cost Account Authorizations and Cost Account Plans administered and controlled by LPM.
- Project activities will be included in the LPM FY Work Plan and 5-Year Plan.
- Initial documents and changes to established budgets, schedules, milestones, and technical requirements are also monitored and approved by LPM to ensure program objectives are being met. Change control class/level 0, I, and II are approved by LPM.
- LPM will maintain and provide reporting to DOE program counterparts.

3.3 Engineering

WHC (ASSIGNED TO KEH)

Engineering services will be provided by WHC who assigned this task to KEH. WHC will manage engineering activities. The engineering organization is responsible to the PI for cost, schedule, technical compliance, of the design aspects. RL will overview the technical activities. The following services will be provided:

- Provide the design media with the support of a specialty civil engineering firm for the process sewer piping system. This shall include acceptance tests, training and start-up support, start-up procedures, operations manuals, vendor information, maintenance manuals, and an Energy Conservation Report.
- Provide the construction fair cost estimate at the end of design.

3.3.1 Construction

WHC (ASSIGNED TO KEH)

The Construction Management organization will provide assigned construction services, including inspection and construction supervision, with the support of a specialty civil engineering firm to construct the project through a fixed price contract.

The Construction Management (CM) organization is responsible to the PI for cost, schedule, and technical compliance to the requirements of this project. It is the policy and intent to perform the construction activities with fixed price contractors whenever possible. The CM is responsible for management of fixed price construction contracts. On-site construction by KEH Construction Forces (CF) is managed as an integral part of the overall construction program for Project L-070. Site safety and environmental compliance for construction activities is the responsibility of the construction organization and is managed as part of these programs.

Inspection services are provided through Acceptance Inspection (AI) to provide construction approval to approved inspection plans, structured inspection programs, and audits and surveillances.

Acceptance Inspection for the Government is performed by KEH AI for the project, procurement, and construction activities. The AI will assure conformance to the technical requirements through a planned inspection program based on overview inspections of the work being performed by the various vendor's, and contractors. Each primary vendor and contractor will perform inspection of their own work.

These inspections are intended to provide assurance that the design requirements are properly incorporated into the work and that these inspections are performed on a timely basis. All inspections will conform to a plan developed and approved during detailed design and to the requirements set forth in the project Quality Assurance Program Plan (QAPP) section 6.3.

The AI will perform inspections of critical components and characteristics. The components requiring verification will be determined during their detailed design. In addition, the AI will overview selected vendor/contractor inspections to assure conformance to the overall inspection program. The AI retains the organizational independence to act as the Government's inspection agency through KEH. This program adheres to the applicable requirements of NQA-1 and DOE orders.

Summary of Responsibilities

- Contract administration
- Construction safety
- Perform construction management
- Provide for fixed price construction contractors and construction forces
- Coordinate overall construction
- Responsible for the following:
 - Bid package preparation and award of the fixed price construction
 - Field Engineering
 - Site Safety
 - Constructibility review
 - Start-up support
 - Records Management acceptance
 - Testing and turnover
 - Submittal control

- Punch list
- Close out project documents

3.3.1.1 Construction Forces (CF)

The CF will be responsible to the construction manager of final tie-ins to the 300 Area Facility buildings. The CF will perform selected construction activities related to work in potentially contaminated areas. The CF will be responsible to Construction for cost, schedule, and technical compliance for their scope of work. The CF will comply with all applicable safety and environmental programs through compliance to existing WHC programs.

3.4 Fixed Price Construction Contractors (FPCC)

The FPCC is responsible for procurement, construction, acceptance testing, and start-up support for the continuous discharge of the process sewer system piping upgrade. The contractor will be selected through the competitive bid process. The FPCC will be accountable to WHC (assigned through the Construction Management Organization) for the cost, schedule, and technical compliance of their scope of work. The FPCC will also be accountable to perform their activities in accordance with approved safety and environmental programs which fall within the overall site programs. Acceptance testing, as required, will be performed to assure functional requirements are achieved.

4.0 WORK BREAK DOWN STRUCTURE

4.1 Work Breakdown

- 1.0 Engineering
- 1.2 Field Engineering
- 3.0 Construction
- 4.0 Project Integration
- 5.0 Other Project Support

5.0 SCHEDULE

5.1 Project Schedule

There are two Tri Party Agreement Milestone associated with the project. The TPA Milestones are M-17-06J, Submit Design Documentation for the 300 Area Process Sewer Piping Replacement to EPA, and Ecology by April 1995, and M-17-06K Replace the 300 Area Process Sewer Piping beginning at five feet from outside the contributor buildings, and replace the piping up to the interface point to the 300 Area Treated Effluent Disposal Facility by June 1997. The Milestones are referenced in the master schedule in section 1.3.

6.0 PROJECT EXECUTION

6.1 Document Control

The existing document control station will be utilized to support the project requirements. Documents will be externally released and accessible to the project team when appropriate. Associated correspondence with the project will be controlled by this document control station.

6.1.1 Safety Analysis

The project Functional Design Criteria (WHC-SD-L070-FDC-001, Rev. 1) does not require a safety analysis based upon the analyzed bounds of an applicable Safety Analysis Report (SAR).

6.1.2 Submittal Control

The engineering responsibilities for this project include submittal processing and control. Project specific procedures will be prepared that identify the requirements for processing submittals.

6.2 Design and Construction Configuration Control

WHC shall be responsible to assure that the assigned engineering organization maintains a design QA plan to control design, and those changes to the design that arise during construction, in accordance with the change control process described in Section 7.4.

KEH shall be responsible to assure that the various construction contractors establish construction Quality Control to control construction in accordance with applicable requirements.

The construction contractor(s) are responsible for establishing, implementing, and documenting an inspection program in accordance with approved specifications and drawings.

6.2.1 Baseline Management

The scope, schedule, and cost baseline management for all aspects of this project are evaluated and monitored by the Project Integration organization. Revisions and/or changes required to any of these baseline elements must be initially approved by the PI. The formal revisions to these elements are executed as part of the Change Control Process defined in Section 7.4.

6.2.2 Project Engineer Responsibilities

The WHC project engineer is responsible for determination of class change, assigning cause codes, evaluation and preparation of the change request, and approving the Class I and II changes prepared by the engineer/constructor. The project engineer will also assist the user representative in reviewing and approving changes to ensure compatibility with sponsor objectives.

6.2.3 Project Manager Responsibilities

The WHC project manager is responsible for approving Class I and II changes, and scheduling change control meetings for approval. A Level 3 Manager is required to approve all Class I change requests.

6.2.4 Engineer/Constructor

When the engineer/constructor prepares the project change request, the preparer is responsible for providing technical supporting documentation and assist in reviewers in evaluating cost, schedule, and technical impacts of the change.

6.3 Quality Assurance

The overall QA, including quality engineering for the project will be planned and implemented in accordance with DOE Order 5700.6C, RL 5700.1A, ASME NQA-1 (latest edition) and other applicable quality standards. Quality activities will be graded based on the potential impact on environmental, safety, and health and reliability and continuity of operations.

6.3.1 Quality Assurance Program Plan

All project related activities shall establish and implement appropriate quality assurance requirements identified in the Project Quality Assurance Plan (QAPP). The QAPP for this project is WHC-SD-L070-QAPP-001, Rev. 0. Conditions adverse to quality are identified in nonconformance reports, audit reports, surveillance reports, and corrective action requests. Investigation and corrective actions in response to these adverse conditions shall be completed in a timely manner.

6.3.2 Quality Assurance Records

Each organization that maintains QA records will be required to control them in accordance with the applicable requirements of NQA-1.

6.3.3 Audits

Internal and external audits are to be performed by the Quality Compliance Assurance Organization to assure project compliance with QA program requirements. These will be performed in accordance with the Quality Assurance Project Plan QAPP in section 6.3.1.

6.4 Monthly Reports

An integrated monthly report will be submitted by the PI to RL and will contain information in the areas listed below.

- Major accomplishments
- Issues and Corrective actions
- Cost performance
- Schedule status

The information contained in these reports will be obtained from the same data base that supports day-to-day management by the project participants.

6.4.1 Project Meetings

The PI has lead responsibility to conduct biweekly status reviews which are conducted with all project participants responsible for providing support to Project L-070. The meetings will focus on cost status, schedule status, and problem areas or potential problem areas. The meeting will cover: (1) significant progress and work status, (2) significant problems and planned solutions, (3) contingency status and (4) cost and schedule status. Subsequent meetings will highlight previously identified problems and their current status, as well as disposition of previously identified priority efforts.

The project will be reported on in depth to RL by the PI at the regularly scheduled monthly Management Review Meeting.

7.0 PROJECT CONTROL

7.1 Technical Baseline

This project's technical baseline is defined by the project's FDC, WHC-SD-FDC-L070-001, Rev 1. The FDC may be further expanded as appropriate by a separate Supplemental Design Requirements Document (SDRD) or by letters of instruction (LOI) to further define specific design requirements. Changes to the FDC require Project Change Control approval as defined in Section 4.3.

7.2 Schedule Baseline

The baseline schedule objectives are outlined in 1.3.

7.3 Cost Baseline

The Project Authorization (PA) authorizes funding for the project. The PA requires that work be performed consistent with the scope, cost estimate, and schedule baselines. Changes to baselines as a result of revised planning for a fiscal year will require a modification to the PA. A PA modification will be prepared each year as additional budget authority is made available.

The total estimated cost (TEC) for the project is approved and controlled by DOE-HQ. The TEC is initially established with the conceptual design and becomes baseline after formal validation by DOE-HQ. The funding baseline for the project is the approved BA/BO schedule. The funding baseline represents the amount and timing of funding required to complete the project within the scope, cost, and schedule baselines. The TEC for Project L-070 is \$9.9M dollars.

7.4 Change Control Requirements

Change Control action is initiated to address changes to the project scope, schedule or cost that exceed the thresholds defined in this section. All changes are approved and documented using the Change Request form (CR). Change Requests shall be completed immediately upon the identification of a prospective change as described in Section PM-14 of WHC-CM-6-2, Projects Department Procedures. If a CR is prepared, based on preliminary information the final impact assessment information will be compared to identify any significant difference. If the difference is significant, the original CR will be referenced in a follow-up CR. A significant difference is defined as one that differs from the preliminary information by 10% or more. Three types of change classifications have been identified for control of baseline changes. The classes, and the approval authority that will administer them, are shown in the following table:

CLASS/LEVELS

CHANGE CONTROL THRESHOLDS

0.	1. All changes impacting Level 0 scope 2. Schedule extensions in excess of six months 3. Cost changes in excess of \$10 million
I.	1. All changes impacting Level 1 scope 2. Schedule extensions in excess of four months or more when TPA milestones cannot be achieved 3. Cost changes in excess of \$5 million of the TEC 4. Any increase to the TEC or TPC

CLASS/LEVELSCHANGE CONTROL THRESHOLDS

II.	1. All changes impacting Level 2 scope or RL performance baselines
2. Any schedule change of one month or more impact
3. Any use of contingency of 25K or more
III.	1. Changes not impacting Levels 0, 1, and 2 scope
2. Schedule milestones not classified as Levels 0, 1, and 2
3. Cost changes not classified as Levels 0, 1, and 2

CLASSIFICATION\$ LEVEL/SCHEDULE*ACTION REQUIRED

0	>10m/>6 month	Acquisition/Executive DOE-HQ
I	250K/4 month	WHC submit to RL COR for approval
II	25K-250K/1 month	WHC submit CR to RL PM for approval
III	25K/2 week	KEH submit CR to WHC for C.B. approval
IVa	10K/<1 week	KEH submit CR for WHC PE approval
IVb	<5K/1 week	KEH Log/Trend

*Change requests will only be used to obtain changes to performance measurement baselines. Funds requests, which do not change the base lines, will be used to obtain funds to cover contractor performance problems. All project change requests are limited to changes in contingency. WHC shall submit to RL all other change requests for information.

8.0 ENVIRONMENTAL ASSURANCE**8.1 Environmental Checklist**

The Environmental Point of Contact Checklist (Attachment E) provides potential permits and approvals for Project L-070. Preliminary review indicates that nine of the eleven permits/approval are needed to support construction activities. The remaining two permits and approvals support definitive design (one permit) and operations (one permit).

9.0 PROCUREMENT PLAN

9.1 Procurement

The current project strategy indicates that there are no long lead procurement items that must be provided to the fixed price construction contractor. Any deviations to this strategy that develop during definitive design will be defined in a procurement plan.

10.0 REFERENCES

ANSI/ASME NQA-1, 1989, *Quality Assurance Program Requirements for Nuclear Facilities*, Fairfield, New Jersey.

DOE, 1987, Order 4700.1, *Project Management System*, U.S. Department of Energy, Washington, D.C.

DOE, 1986, Order 5480.5, *Safety of Nuclear Facilities*, U.S. Department of Energy, Washington, D.C.

DOE, 1986, Order 5481.1B, *Safety Analysis and Review System*, U.S. Department of Energy, Washington, D.C.

DOE, 1988, Order 5500.2, *Emergency Notification, Reporting and Response Levels*, U.S. Department of Energy, Washington, D.C.

DOE, 1981, Order 5500.3, *Reactor and Nonreactor Nuclear Facilities Emergency Planning Preparedness and Response Program for DOE Operation*, U.S. Department of Energy, Washington, D.C.

DOE, 1991, Order 5700.6C, *Quality Assurance*, U.S. Department of Energy, Washington, D.C.

DOE, 1989, Order 6430.1A, *General Design Criteria*, U.S. Department of Energy, Washington, D.C.

DOE-RLIP, 1991, 4700.1A, *Project Management System*, U.S. Department of Energy Field Office, Richland, Richland, Washington.

DOE-RL, 1990, Order 6430.1C, *Hanford Plant Standards (HPS) Program*, U.S. Department of Energy Field Office Richland, Richland, Washington.

WHC-CM-4-2, *Quality Assurance Manual*, Westinghouse Hanford Company, Richland, Washington.

WHC-CM-6-1, *Standard Engineering Practices*, Westinghouse Hanford Company, Richland, Washington.

WHC-CM-6-2, *Project Management Manual*, Westinghouse Hanford Company, Richland, Washington.

ATTACHMENT A

PROJECT MASTER SCHEDULE

A-1

WHC-SD-L070-PMP-001 Rev. 0

ATTACHMENT B

BUDGET AUTHORIZATION/BUDGET OBLIGATION

PROJECT L-070
300 AREA PROCESS SEWER UPGRADE
BA / BO SCHEDULE

2/9/94 12:14

DOLLARS IN THOUSANDS

DATE: FEB.1994
KEH PE: LARUE
CLIENT PE: DRAGSETH

MHC-SD-L070-PMP-001, Rev. 0

ATTACHMENT C

SUMMARY ESTIMATE

KAISER ENGINEERS HANFORD
WESTINGHOUSE HANFORD COMPANY
JOB NO. L070/ER4561
FILE NO. L070BAC4

** TEST - INTERACTIVE ESTIMATING **
300 AREA PROCESS SEWER PIPING UPGRADE
CONCEPTUAL ESTIMATE
DOE_R01 - PROJECT COST SUMMARY

PAGE 1 OF 11
DATE 02/24/94 06:17:30
BY KLR/JJM/LGH/KDE

COST CODE =====	DESCRIPTION =====	ESCALATED TOTAL COST =====	CONTINGENCY % =====	TOTAL =====	TOTAL DOLLARS =====
000	ENGINEERING	1,330,000	15	200,000	1,530,000
	(ADJUSTED TO MEET DOE 5100.4)	-30,000		0	-30,000
501	BUILDINGS	410,000	20	80,000	490,000
600	UTILITIES	6,370,000	18	1,150,000	7,520,000
700	SPECIAL EQUIP/PROCESS SYSTEMS	280,000	20	60,000	340,000
	(ADJUSTED TO MEET DOE 5100.4)	40,000		10,000	50,000
=====					
	TOTAL ESTIMATED CONSTRUCTION COST	8,400,000		1,500,000	9,900,000
900	OTHER PROJECT COST	1,800,000	0	0	1,800,000
	(ADJUSTED TO MEET DOE 5100.4)	0		0	0
=====					
	TOTAL PROJECT COST	10,200,000	15	1,500,000	11,700,000

C-1

TYPE OF ESTIMATE	CONCEPTUAL ESTIMATE	FEBRUARY 24, 1994	REMARKS:
ARCHITECT ENGINEER	<i>Robert J. Schaefer</i>		
OPERATING CONTRACTOR	<i>OB J. Drayton</i>		

(ROUNDED/ADJUSTED TO THE NEAREST " 10,000 / 100,000 " - PERCENTAGES NOT RECALCULATED TO REFLECT ROUNDING)

WMC-SD-L070-PMP-001, Rev. 0

KAISER ENGINEERS HANFORD
WESTINGHOUSE HANFORD COMPANY
JOB NO. L070/ER4561
FILE NO. L070BAC4

** TEST - INTERACTIVE ESTIMATING **
300 AREA PROCESS SEWER PIPING UPGRADE
CONCEPTUAL ESTIMATE
DOE_R02 - WORK BREAKDOWN STRUCTURE SUMMARY

PAGE 2 OF 11
DATE 02/24/94 06:17:32
BY KLR/JJM/LGH/KDE

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	ONSITE INDIRECTS	SUB TOTAL	ESCALATION % TOTAL		SUB TOTAL	CONTINGENCY % TOTAL		TOTAL DOLLARS
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
111010	CATEGORY 1 DESIGN	524285	0	524285	0.00	0	524285	15	78644	602929
112010	CATEGORY 2 DESIGN	462370	0	462370	0.00	0	462370	15	69357	531727
SUBTOTAL 11 DEFINITIVE DESIGN		986655	0	986655	0.00	0	986655	15	148001	1134656
120000	CONSTRUCTION ENG/INSP	323255	0	323255	5.91	19104	342359	15	51353	393712
SUBTOTAL 1 ENGINEERING		1309910	0	1309910	1.46	19104	1329014	15	199354	1528368
310010	VACUUM PROCESS SEWER	706145	0	706145	6.32	44628	750773	20	150155	900928
310020	RETENTION PROCESS SEWER	245420	0	245420	6.32	15511	260931	20	52186	313117
310030	PRESSURE SEWER SYSTEM	146265	0	146265	6.32	9244	155509	20	31102	186611
SUBTOTAL 31 FORCE ACCOUNT CONSTRUCTION		1097830	0	1097830	6.32	69383	1167213	20	233443	1400656
320010	VACUUM PROCESS SEWER	1900016	323003	2223019	6.02	133826	2356844	20	471369	2828213
320020	RETENTION PROCESS SEWER	373697	63528	437225	6.02	26321	463546	20	92709	556256
320030	PRESSURE SEWER SYSTEM	432720	73562	506282	6.02	30478	536761	20	107352	644113
320035	LIFT STATIONS	245679	41766	287445	6.02	17304	304748	20	60949	365699
320040	COLLECTION STATION	340025	57804	397829	6.02	23948	421780	20	84356	506134
320050	SATELLITE COLLECTION STATION	120684	20516	141200	6.02	8500	149700	20	29940	179640
320060	ELECTRICAL-COLLECTION STATIONS	98588	16760	115348	6.02	6944	122292	20	24458	146751
SUBTOTAL 32 FIXED PRICE CONSTRUCTION		3511409	596939	4108348	6.02	247321	4355671	20	871133	5226806
330000	O/C CONSTRUCTION	866880	0	866880	6.32	54787	921667	20	184333	1106000
SUBTOTAL 33 CONSTRUCTION-O/C		866880	0	866880	6.32	54787	921667	20	184333	1106000
SUBTOTAL 3 CONSTRUCTION		5476119	596939	6073058	6.12	371491	6444551	20	1288909	7733462
400000	PROJECT INTERGRATION	599982	0	599982	3.48	20879	620861	0	0	620861
SUBTOTAL 4 PROJECT INTEGRATION		599982	0	599982	3.48	20879	620861	0	0	620861
500001	OTHER PROJECT COST - TO DATE	600000	0	600000	0.00	0	600000	0	0	600000

KAISER ENGINEERS HANFORD
WESTINGHOUSE HANFORD COMPANY
JOB NO. L070/ER4561
FILE NO. L070BAC4

**** TEST - INTERACTIVE ESTIMATING ****
300 AREA PROCESS SEWER PIPING UPGRADE
CONCEPTUAL ESTIMATE
DOE_R02 - WORK BREAKDOWN STRUCTURE SUMMARY

PAGE 3 OF 11
DATE 02/24/94 06:17:33
BY KLR/JJM/LGH/KDE

WBS	DESCRIPTION	ESTIMATE SUBTOTAL	ONSITE INDIRECTS	SUB TOTAL	ESCALATION % TOTAL	SUB TOTAL	CONTINGENCY % TOTAL	TOTAL DOLLARS
500002	OTHER PROJECT COST - FY '94	230000	0	230000	0.00	0	0	230000
500003	OTHER PROJECT COST - FY '95	342000	0	342000	2.33	7969	0	349969
500004	OTHER PROJECT COST - FY '96	375000	0	375000	5.28	19800	0	394800
500005	OTHER PROJECT COST - FY '97	205000	0	205000	8.42	17261	0	222261
SUBTOTAL 5	OTHER PROJECT COST	1752000	0	1752000	2.57	45030	0	1797030
=====								
PROJECT TOTAL		9,138,011	596,939	9,734,950	4.69	456,504	15	11,679,721

1. DOCUMENTS AND DRAWINGS

=====

DOCUMENTS: ADVANCED CONCEPTUAL DESIGN REPORT DATED JANUARY 1994 (ISSUE E) PRELIMINARY

DRAWINGS: ES-070V-C2 K2 THROUGH K21 (20 TOTAL)

2. MATERIAL PRICES

=====

UNIT COSTS REPRESENT CURRENT PRICES FOR SPECIFIED MATERIAL.

3. LABOR RATES

=====

CURRENT KEH BASE CRAFT RATES, AS ISSUED BY KEH FINANCE (EFFECTIVE 10-01-93), INCLUDE FRINGE BENEFITS, LABOR INSURANCE, TAXES AND TRAVEL WHERE APPLICABLE, PER HANFORD SITE STABILIZATION AGREEMENT, APPENDIX A (EFFECTIVE 09-06-93). NON CRAFT HOURLY RATES ARE BASED ON THE 1994 FISCAL YEAR BUDGET LIQUIDATION RATES AS ISSUED BY KEH FINANCE (EFFECTIVE 10-01-93).

4. GENERAL REQUIREMENTS/TECHNICAL SERVICES/OVERHEADS

=====

- A.) ONSITE CONSTRUCTION FORCES GENERAL REQUIREMENTS, TECHNICAL SERVICES AND CRAFT OVERHEAD COSTS ARE INCLUDED AS A COMPOSITE PERCENTAGE BASED ON THE KEH ESTIMATING FACTOR/BILLING SCHEDULE, REVISION 16, DATED OCTOBER 01, 1993. THE TOTAL COMPOSITE PERCENTAGE APPLIED TO ONSITE CONSTRUCTION FORCES LABOR, FOR THIS PROJECT, IS 93% FOR SHOP WORK AND 134% FOR FIELD WORK, WHICH IS REFLECTED IN THE "OH&P/B&I" COLUMN OF THE ESTIMATE DETAIL.
- B.) ONSITE CONTRACT ADMINISTRATION AND CONSTRUCTION MANAGEMENT COSTS, ASSOCIATED WITH THE OVERALL MANAGEMENT OF THE FIXED PRICE CONTRACTS, ARE INCLUDED AS A COMPOSITE PERCENTAGE AND LUMP SUM ALLOWANCE (FOR BID PACKAGE PREP) BASED ON THE ESTIMATING FACTOR/BILLING SCHEDULE. THE TOTAL COMPOSITE PERCENTAGE AND LUMP SUM ALLOWANCE ARE APPLIED AGAINST THE TOTAL FIXED PRICE CONTRACT AMOUNT WHICH IS REFLECTED ON THE KEH SUMMARY REPORT DOER07, INCLUDED WITH THIS ESTIMATE. (FINAL ESTIMATES MAY BE PARTIALLY MANLOADED AND INCLUDED WITHIN THE ESTIMATE DETAIL)
- C.) FIXED PRICE CONTRACTOR OVERHEAD, PROFIT, BOND AND INSURANCE COSTS HAVE BEEN APPLIED AT THE FOLLOWING PERCENTAGES AND ARE REFLECTED IN THE "OH&P/B&I" COLUMN OF THE ESTIMATE DETAIL:
- LABOR -15% MATERIAL -15% SUBCONTRACTS - 5%

5. ESCALATION

=====

ESCALATION PERCENTAGES WERE CALCULATED BY THE HANFORD MATERIAL & LABOR ESCALATION STUDY, DATED FEBRUARY 1993.

6. ROUNDING

=====

U.S. DEPARTMENT OF ENERGY - DOE ORDER 5100.4 PAGE 1-32 SUBPARAGRAPH (M), REQUIRES ROUNDING OF ALL GENERAL PLANT PROJECTS (GPP'S) AND LINE ITEM (LI) COST ESTIMATES. REFERENCE: DOE 5100.4, FIGURE 1-11, DATED 10-31-84.

7. REMARKS

=====

- A.) ASSUME SHORING WILL BE USED FOR MORE THAN ONE BUFFER STATION.
- B.) BARRICADES INCLUDE SIGNS, FLAGGING, AND CONSTRUCTION FENCE.
- C.) ALL PRESSURE PIPE TRENCHES FIGURED TO BE 3' WIDE BY 6' DEEP.
- D.) ASSUME ASPHALT REPAIR TO AVERAGE 6' WIDE
- E.) ASSUME GRAVEL STABILIZATION TO AVERAGE 15' WIDE.
- F.) AN ALLOWANCE WAS USED FOR CONCRETE REMOVAL AND REPAIR.

KAISER ENGINEERS HANFORD
WESTINGHOUSE HANFORD COMPANY
JOB NO. L070/ER4561
FILE NO. L070BAC4

**** TEST - INTERACTIVE ESTIMATING ****
300 AREA PROCESS SEWER PIPING UPGRADE
CONCEPTUAL ESTIMATE
DOE_R03 - ESTIMATE BASIS SHEET

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DATE 02/24/94 16:42:17
BY KLR/JJM/LGH/KDE

- G.) AN ALLOWANCE WAS USED FOR HAND LOCATING EXISTING UNDERGROUND UTILITIES.
- H.) ASSUME ALL BURIAL TO BE LOW LEVEL WASTE.
- I.) ASSUME 20% OF ALL EARTH EXCAVATED IN RADIATION AREAS TO BE HAULED OFF AND BURIED AS LOW LEVEL WASTE.
- J.) ESTIMATE DOES NOT INCLUDE ANY MASK WORK.
- K.) ASSUME ALL BACKFILL TO BE DONE WITH MACHINE ASSISTANCE.
- L.) ASSUME ELECTRICAL CONDUITS WILL BE PLACED IN THE SAME TRENCHES EXCAVATED BY THE PROCESS SEWER CONTRACTOR. A SEPARATE COST FOR ELECTRICAL EXCAVATION IS NOT INCLUDED.
- M.) OPC COST PROVIDED BY KEH PM.
- N.) PROJECT UPGRADE PROVIDED BY KEH PM.
- O.) PROJECT INTEGRATION COSTS AND OPC COSTS HAVE NO CONTIGNECY APPLIED TO THEM PER KEH PM.

ATTACHMENT D

SPECIFIC PARTICIPANTS

Specific Participants

Function/Organization	Name	MSIN	Phone
RL AME Project Engineer	G. R. Mezger	A5-18	6-5039
RL Programs	E. A. Green	G3-18	6-1572
Project Integrator	H. E. Wellsfry	L4-93	2-0812
WHC Project Engineer	K. Lane	L4-93	6-7691
WHC Programs - LE	J. A. Eacker/O. H. Bradt	L6-04	6-9988
KEH Landlord Program	K. D. Hayden	G3-09	6-4429
KEH Landlord Program	K. Nelson-Jensen	G3-09	6-3150
WHC Operations - 300 Area	D. W. Lindsey	L6-04	2-3087
KEH Site Planning	K. S. Daly	G3-10	6-7547
WHC Industrial Safety	D. B. Tullis	N1-80	2-0770
WHC Environmental	K. S. Tollefson	H6-21	2-2234
WHC Quality Assurance	M. C. Arntzen, Jr	L4-93	2-3305
KEH Electrical Utilities	L. C. Groner	S2-12	3-2756
WHC HPT	D. R. Ekstrom	L6-52	6-1135
WHC Permitting	R. J. Swan	H6-21	6-0967
WHC Regulatory Analysis	R. J. Swan	H6-21	6-0967
WHC CERCLA Interface	G. C. Henckel III	H6-04	6-1994
WHC Fire Protection	D. G. Parthree	L6-51	6-0394
WHC Central Engineering	S. White	H5-72	2-3236
WHC Process Engineering	A. R. Olander	L6-04	3-3643
WHC Environmental Safety Assurance	F. A. Schmorde	L0-24	6-0080
WHC SAD Development	R. B. Bendixsen	H4-70	6-9523
WHC Security	B. C. Hammer	G5-15	6-1179
WHC Instrumentation & Control	R. Whitehurst	N1-42	6-4663
WHC Instrumentation & Control	C. W. Dickey	G3-15	6-7424
WHC Document Control	C. M. Dunnum	R1-28	3-3834
KEH Construction Management	J. H. Mortimer	L4-95	6-5505
PNL Interface	A. S. Ikenberry	P7-68	6-0963
BCSR Interface	H. E. Eaton	A2-35	6-9453-15
KEH Engineering/Civil	K. D. Bare	G7-55	2-2755
KEH Engineering/Mechanical	T. Ambalam	E6-46	6-6049
KEH Engineering/Electrical	C. L. Sublett	G7-52	2-2435
SCM Engineering/Civil-Sanitary	Jim Lauer	Fort Wayne, IN	(219)485-6312

ATTACHMENT E

ENVIRONMENTAL POINT OF CONTACT CHECKLIST

**Westinghouse
Hanford Company**
**Internal
Memo**

From: Regulatory Program Integration 88110-RJS-93-129
 Phone: 376-0967 H6-30
 Date: January 13, 1994
 Subject: POINT OF CONTACT CHECKLIST FOR THE 300 AREA PROCESS SEWER
 REPLACEMENT

To: G. Dragseth L4-93

cc: J. A. Bates	H6-22	R. J. Landon	H6-21*
R. C. Bowman	H6-24	J. J. Luke	H6-25
D. J. Carrel	H6-22	P. J. Mackey	B3-06
J. J. Dorian	H6-30	S. M. Price	H6-23
D. B. Encke	X5-55	J. R. Robertson <i>JRR</i>	H6-30
R. H. Engelmann	H6-26	EPIC	H6-08
B. G. Erlandson	H6-20	RJS:POC File/LB	H6-30
K. A. Gano	X0-21	*w/o Attachments	
K. A. Giese	H6-25		

Attached please find the Point of Contact (POC) checklist for the 300 Area Process Sewer Replacement. If you have any questions regarding this checklist, please contact me on 376-0967 or Ms. J. R. Robertson 376-8162.

Please keep in mind that if the project scope changes significantly, a new POC checklist should be prepared. If project scope changes do not appear to be significant but a question arises as to whether a small scope change could affect the baseline permitting requirements, please contact Ms. Robertson on 376-8162.

 R. J. Swan
 Engineer

amk:srh

Attachment

SCOPE OF WORK 300 AREA PROCESS SEWER REPLACEMENT

This Point of Contact (POC) checklist evaluates the environmental requirements for the 300 Area Process Sewer Upgrade System (Project L-070). Project L-070 involves the construction and operation of a new process sewer collection system which will discharge effluents to the 300 Area Treated Effluent Disposal Facility (TEDF), Project L-045. Discharge of waste water may also be pumped from TEDF to the Richland Publicly Owned Treatment Works, as part of Project V-784.

Effluents discharged from L-070 to L-045, and permitting activities related to releases to the river (or associated construction), will be dealt with through L-045. Remaining sewer pipes are to be removed from service and eventually disposed of as part of the 300 Area CERCLA program.

The existing 300 Area Process Sewer System is primarily a gravity system (supplemented by two lift stations) that discharges facility process waste water to the soil column at the 300 Area process trenches. Present effluents are now drained by gravity to existing trenches where they are discharged to the soil column.

Two proposed actions have been selected as viable alternatives to upgrading the 300 Area process sewer system.

Alternative #1 - Construction and operation of a new pressurized process sewer collection system consisting of approximately 48 lift stations and more than 25,000 feet of buried polyvinyl chloride, or similar pipe. Each lift station would consist of two submersible pumps installed in a wet pit constructed of concrete. The lift stations would be monitored by an alarm station 24 hours per day, and be equipped with a duplex pump system including controls, and switchgear. The new lift stations would, in most cases, be connected to the existing drain pipes from the buildings and would be gravity fed from the buildings. The new process sewer pipes would tie into the new lift stations.

Alternative #2 - Installation of a vacuum collection system will consist of a central vacuum station, vacuum collection piping, and collection sumps with vacuum valves. The vacuum station building would be located in the 300 Area and would contain duplex vacuum pumps, a vacuum reservoir tank, a water collection tank, and water discharge pumps and controls. Normally, the vacuum pumps maintain the vacuum system. The water collection tank would discharge through pumps to the collection sump/lift station for the TEDF. About 36 collection sumps would be installed, with one near each of the buildings to be connected to the system. Each sump would contain a vacuum valve and controls. Advantages of the vacuum system, compared to the pressure system, are potentially less initial capital costs, fewer maintenance and operating problems, a less complex system, and an environmentally safer system because pipe breaks would not result in pressurized leakage of liquids into the soil.

ENVIRONMENTAL POINT OF CONTACT CHECKLIST
SUMMARY LIST OF POTENTIAL PERMITS AND APPROVALS

<u>Environmental Media</u>	Permit, Approval, or Requirement	Regulation	Regulatory Agency	Restriction	Applicable (Y or N) * See narrative
<u>NEPA</u>	NEPA Documentation	10 CFR 1021	DOE	Title II Design (Projects), Procurement	Y
<u>SEPA</u>	SEPA	WAC 197-11	State Agency	License, Permit	* To Be Determined
<u>Air Emissions</u>	NESHAPs	40 CFR 61 Subpart H	EPA	Construction	Y
	RAEP	WAC 246-247	DOH	Construction Operation	Y
	NOC	WAC 173-400 WAC 173-460 BFCOA Reg. 80-7	Ecology BFCOA	Construction	* To Be Determined
	PSD	WAC 173-400	Ecology BFCOA	Construction	* To Be Determined
<u>Asbestos</u>	Notice of Intent	BFCOA Article 10 40 CFR 61, Subpart M	BFCOA	Prior to Working with Asbestos	N
<u>Fire</u>	Fire Permit	WAC 173-425	Hanford Fire Department	Open Burning	N
<u>Soil Column Waste Water Disposal</u>	SWDP	WAC 173-216	Ecology	Operation	N
	Approval of Engr. Rpt., Plans & Specs., and ? O&M Manual	WAC 173-240	Ecology	Construction	*To Be Determined
	UIC Permit/Registration	WAC 173-218	Ecology	Operation	N

<u>Environmental Media</u>	Permit, Approval, or Requirement	Regulation	Regulatory Agency	Restriction	Applicable (Y or N) * See narrative
<u>Domestic Waste Water Disposal</u>	Septic Systems <14,500 gpd Capacity Design Approval	WAC 246-272	DOH	Construction	N
	Septic Systems >14,500 gpd Capacity Design Approval	WAC 173-216	Ecology	Construction	N
	Pretreatment Permit	40 CFR 403, City Ordinance	City of Richland	Discharge to City Sewage Facility	N
	Operator Certification	WAC 173-230	Ecology	Operation	N
	Discharge Standards	WAC 173-221	Ecology	Discharge	N
<u>Surface Waste Water Disposal</u>	NPDES Permit	40 CFR 122	EPA	Operation	N
	Storm Water Discharge Under General Permit	57 FR No. 175	EPA	River Construction	N
	Dredge & Fill Permit	33 CFR 320, 323	COE	River Construction	N
	Section 10 Permit	33 CFR 320, 322	COE	River Construction	N
	Nationwide Permits	33 CFR 330	COE	River Construction	N
	Hydraulic Projects Permit	WAC 220-110	WA Dept. of Fisheries	River Construction	N
	Shoreline Development Permit	WAC 173-14 -20	Benton County	River/Island Construction	N

<u>Environmental Media</u>	Permit, Approval, or Requirement	Regulation	Regulatory Agency	Restriction	Applicable (Y or N) * See narrative
	Aquatic Lands Lease	WAC 332-30	WA Dept. of Natural Resources	Construction	N
	Hanford Reach Study Act Notification	PL 100-605	U.S. Parks Service	Construction Within 1/4 Mi. of River	N
	Water Quality Modification Permit	WAC 173-201	Ecology	River Construction	N
	Certification of NPDES Permit	40 CFR 121	Ecology	Operation	N
	Categorical Standards	40 CFR 405-471	EPA	Operation	N
<u>Drinking Water Supply</u>	Approval of Engr. Rpt., Plans & Spec.	WAC 246-290	DOH	Construction	N
	System ID.#	WAC 246-290	DOH	Operation	N
	Operator Certification	WAC 246-292	DOH	Operation	N
<u>Solid Waste</u>	Solid Waste Handling Facility Permit	WAC 173-304	BFHD	Construction	N
<u>Dangerous Waste</u>	Dangerous Waste Permit (RCRA - A/B)	WAC 173-303 & 40 CFR 264, 265, 270	Ecology	Construction of New Facilities or Expansion of Existing Facilities	N
<u>Underground Storage Tanks</u>	Tank Permit	WAC 173-360	Ecology	Operation	N
<u>All Media</u>	Floodplain Wetland Assessment	10 CFR 1022	DOE	Any Surface Disturbance	N

<u>Environmental Media</u>	Permit, Approval, or Requirement	Regulation	Regulatory Agency	Restriction	Applicable (Y or N) * See narrative
	Cultural Resource Review Clearance	36 CFR 800	DOE	Surface Disturbing Activities & Modification of Bldgs Eligible for Listing on Historical Register	Y
	Excavation Permit	36 CFR 800	DOE	Excavation Project	Y
	Endangered Species Approval	50 CFR 402.6	Fish and Wildlife Service	Construction Habitat Modification	Y
	Preoperation Monitoring of Facilities, Sites, & Operations	DOE Order 5400.1	DOE	Operation	Y
	Radiation Protection Standards	DOE Order 5400.5	DOE	Construction	Y
	Facility Fire Protection Standards	DOE Order 5480.7	DOE	Construction	N

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)**NEPA Documentation - 10 Code of Federal Regulations (CFR) 1021**

A NEPA review is required for all proposed actions at the Hanford Site. Documentation of the completed NEPA review process could include an Environmental Impact Statement (EIS), an Environmental Assessment (EA) or a Categorical Exclusion (CX). The EIS is required for proposed actions significantly affecting the quality of the human environment. In cases where it is uncertain whether an EIS is required, an EA is prepared. CXs by DOE from the requirement to prepare an EIS or EA are possible if the proposed action clearly would have no significant impact on the quality of the human environment. However, any action that is determined categorically excludable still requires documentation.

Note: All cultural resource surveys and ecological survey/reviews must be completed before any NEPA paperwork is submitted to RL.

Evaluation:

A draft EA/Finding of No Significant Impact (EA/FONSI) were completed and submitted to RL on March 10, 1993. The EA/FONSI were revised to include the TEDF discharge to the Richland Publicly Owned Treatment Works option and resubmitted to RL on June 15, 1993. Comments were received from RL on September 27, 1993. The revised EA/FONSI was resubmitted to RL on October 8, 1993, and they are presently reviewing the document. Contact Mr. R. H. Engelmann, 376-7485, for additional information.

STATE ENVIRONMENTAL POLICY ACT (SEPA)**SEPA Documentation - WAC 197-11**

SEPA is the state or local equivalent of NEPA that requires evaluation of environmental impacts associated with a project prior to approval (license or state permit). A SEPA checklist is completed if required by the state or local agency.

Evaluation:

The agency will determine if a state EIS is required or will issue a determination of nonsignificance. The state agencies consider impacts on the environment prior to making decisions. If a state approval or permit is required, a SEPA Checklist will most likely be necessary. Contact Mr. Engelmann, 376-7485, for additional information.

AIR EMISSIONS**National Emission Standards for Hazardous Air Pollutants (NESHAPs)
(radionuclide only) - 40 CFR 61 Subpart H.**

Any new stationary source or modification of a stationary source of radionuclide emissions is subject to a preconstruction review and approval by the EPA, Region 10. The adjective "stationary" is meant to be applied to the source while it is operational.

Radioactive Air Emissions Program (RAEP) - WAC 246-247**Notice of Construction (NOC) - WAC 246-247-070**

All new and modified sources of radionuclide emissions are subject to a preconstruction review and approval by the State of Washington Department of Health (DOH). The definition of a modification in WAC 246-247-070 (2) is, "addition to, enlargement, replacement, or alteration of any process or source which will significantly change potential emissions." "Potential to Emit" is defined as the maximum rate of release of radionuclides from an emission unit, assuming no emission control equipment is present but operations are otherwise normal. The determination of "Potential to Emit" is calculated utilizing one of the following methods:

- Multiply the annual possession quantity of each radionuclide by the release fraction for that radionuclide depending on its physical state (40 CFR 61, Appendix D), to determine the level of documentation required to obtain regulatory approval to construct.
- Perform a back-calculation using measured emission rates and in situ measurements of the control equipment efficiencies, as approved by the EPA and DOH; or
- Use an alternative method approved by EPA and the DOH.

If the calculated Committed Effective Dose Equivalent (CEDE) to the maximally exposed individual (MEI), caused by the emissions, is calculated to be more than 0.1 millirem (mrem) per year, an NOC must be submitted to DOH for approval. Also, addition to, enlargement, modification, replacement, or alteration of emission control equipment which will significantly change potential emission or dose to the public will require Best Available Radionuclide Control Technology for emission control pursuant to WAC 46-247-070 (3). If the CEDE to the MEI, caused by the emissions, is less than 0.1 mrem per year, a less detailed notification must be submitted to DOH for approval prior to construction.

Registration of Source - WAC 246-247-050

The Effluent Information System/Onsite Discharge Information System (EIS/ODIS) is an annual report provided to DOE per DOE Order 5400.1. If a source is listed in the EIS/ODIS, it must be registered with the DOH. The basis for determining if a source must be listed in the EIS/ODIS, and thus requiring registration, is the WHC criteria for record sampling, listed in WHC-CM-7-5, Section 2.5.4, paragraph 3.

General Regulations For Air Pollution Sources - WAC 173-400**New Source Review (NSR) Applicability - WAC 173-400-050**

An NOC is a written application to permit construction of a new source or modification of an existing source. The application describes the proposed design, assesses potential impacts to the public and environment, and provides an assessment of Best Available Control Technology. An NOC is required as a result of two regulations. Sources subject to WAC 173-400 (including 40 CFR 60 and 40 CFR 61 sources) and WAC 173-460 may require preparation of an NOC for preconstruction approval by the appropriate state or local agency.

Source Registration - WAC 173-400-100

Any source listed must register with Ecology.

Controls for New Sources of Toxic Air Pollutants - WAC 173-460

The sequence of questions and requirements during an analysis regarding the applicability of WAC 173-460 includes:

1. Will the source be emitting Toxic Air Pollutants (TAPs) other than nonprocess fugitive emissions in a significant quantity?
2. Does the source fall into one of the source categories listed?
3. Is the source exempt?
4. Is this a "new source" of TAPs?
5. Best Available Control Technology for Toxics (T-BACT) is required for sources for which there are increases in TAPs or TAPs not previously emitted.
6. Reasonably Available Control Technology for Toxics (T-RACT) is required for the TAPs, for which the rate of emissions will decrease or stay the same due to the project.

Prevention of Significant Deterioration - WAC 173-400

Any increased emission of criteria pollutants from a new or modified source may trigger a major modification as defined by 40 CFR 52.21. Expected increases must be considered in conjunction with total Hanford Site emissions. Preconstruction approval may be required by Ecology. The criteria pollutants include:

- Carbon monoxide
- Nitrogen oxides
- Sulfur dioxides
- Particulate matter and PM-10
- Ozone (volatile organic compounds)
- Lead (elemental)
- Fluorides
- Sulfuric acid mist
- Total reduced sulfur compounds (including H₂S)
- CFC's 11, 12, 113, 114, 115
- Halons 1211, 1301, 2402
- Municipal waste combustor (MWC) acid gases, MWC metal and MWC organics.

If an NOC is required, the amount of the criteria pollutants must be reported in that NOC (see NOC section).

Evaluation:

Contact Mr. J. J. Luke, Air and Water Permitting, at 376-8629 to arrange additional analysis of the air emissions. In addition, ambient air monitoring may be required. Mr. A. R. Johnson of Environmental Engineering Studies coordinates this work for WHC. Mr. Johnson can be reached on 372-3056.

SOIL COLUMN WASTE WATER DISPOSAL

Approval of engineering reports, plans and specifications and operating and maintenance manual - WAC 173-240

Prior to construction or modification of those domestic or industrial wastewater facilities requiring Ecology wastewater discharge permits, engineering reports, plans and specifications for the project must be submitted to and approved by Ecology. Operation and maintenance manuals must be submitted prior to completion of construction.

Evaluation:

A review of Project L-070 documentation (e.g., drawings and specifications) may be required by Ecology for informational purposes. A waiver by this agency may be necessary for the collection system. To obtain more information, call Mr. S. J. Skurla, 372-1102, or Mr. J. E. Turnbaugh, 372-2096.

DANGEROUS WASTE**Dangerous Waste Permit - WAC 173-303**

Facilities that treat, store or dispose of regulated dangerous waste must obtain the necessary dangerous waste permits. Determination of whether a waste is a regulated dangerous waste must be done in accordance with WAC 173-303-070 designation procedures. Existing Hanford Facility Treatment, Storage, and Disposal (TSD) units are receiving permits in accordance with schedules and procedures identified in the Tri-Party Agreement. New Hanford Facility TSD units that are not identified in the Tri-Party Agreement will require development of a permitting plan to detail the strategies and schedules to be used for development of the necessary dangerous waste permits. This plan must be developed early in the project development phase. Strategies and schedules to be used for development of the necessary dangerous waste permits for new TSD units will need to be discussed with the appropriate regulatory agencies to gain their concurrence.

Evaluation:

All waste materials, associated piping and contaminated equipment shall be disposed of or decontaminated in accordance with the WHC Environmental Compliance Manual, WHC-CM-7-5, Section 7.0. For questions regarding compliance, please contact Mr. E. H. Smith of Regulatory Analysis on 376-0234.

ALL MEDIA**Cultural Resource Review - 36 CFR 800**

A Cultural Resource Review shall be performed prior to initiating any potential surface-disturbing activities onsite, or if any modifications are planned for any facility with the potential for inclusion on the National Historical Register. Contact Ms. M. K. Wright, 372-1791, PNL.

Evaluation:

A Cultural Resources Review was conducted and monitoring of excavations by an archaeologist will be required for this activity (letter HCRC #91-300-019, PNL).

Excavation Permit - 36 CFR 800

An Excavation Permit is required prior to initiating any potential surface-disturbing activities onsite.

Evaluation:

An Excavation Permit will be required for this project. Contact Mr. K. A. Gano, 373-4949, Environmental Compliance Support.

Endangered Species Approval - 50 CFR 402.6

A site assessment should be made to determine whether any planned activities have the potential to disturb any critical habitat utilized by threatened and endangered species.

Evaluation:

A biological survey was completed. The conclusions included that violation of the Migratory Bird Treaty Act would not be anticipated if no trees or shrubs are uprooted. However, if trees or shrubs are to be uprooted, an additional survey must also be conducted in April or May 1994 (letter, BR#93-WHC-028, PNL).

**Preoperational Monitoring of Facilities, Sites, and Operations -
DOE Order 5400.1**

Note: For more information see WHC-CM-7-5, Section 5.0, 5.4.2.1.g & h; Section 8.0, 8.5.1.7; and Section 9.0, 9.3.1.3.

An environmental study shall be conducted prior to start-up of a site, facility, or process which has the potential for significant adverse environmental impact. This study should begin not less than one year and preferably two years prior to start-up to evaluate seasonal changes. This study precedes the conceptual design report and can include data acquired in the site selection process, excavation permit process, and NEPA/SEPA process.

Evaluation:

Mr. A. R. Johnson of Environmental Engineering Studies coordinates this work for WHC. Mr. Johnson can be reached on 372-3056.

Radiation Protection Standards - DOE Order 5400.5

This Order establishes standards and requirements which must be followed with respect to protection of members of the public and environment against undue risk from radiation. The general environmental protection program requirements are established in DOE Order 5400.1. This order requires that all DOE sites prepare an Environmental Monitoring Plan. The DOE/RL 91-50 "Environmental Monitoring Plan" includes the DOE/EH-0173T, "Environmental Regulatory Guide for Radiological Effluent Monitoring and Environmental Surveillance," which provides specific guidance regarding environmental monitoring activities.