Site Maintenance Plan

Part 2: Site Maintenance Action Plan for FY 1994

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Date Published
June 1994

Prepared for the U.S. Department of Energy
Office of Environmental Restoration and
Waste Management

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Hanford Company**

P.O. Box 1970
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Hanford Operations and Engineering Contractor for the
U.S. Department of Energy under Contract DE-AC06-87RL10930

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			ID Number (include revision, volume, etc.) WHC-SP-1094-FY94 REV 0		
			List attachments. None		
			Date Release Required <div style="text-align: right;">June 30, 1994</div>		
Title Site Maintenance Plan Part 2: Site Maintenance Action Plan for FY 1994				Unclassified Category UC-600	
				Impact Level 4	
New or novel (patentable) subject matter? ☒ No ☐ Yes If "Yes", has disclosure been submitted by WHC or other company? ☐ No ☐ Yes Disclosure No(s).			Information received from others in confidence, such as proprietary data, trade secrets, and/or inventions? ☒ No ☐ Yes (Identify)		
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CHECKLIST FOR SIGNATORIES					
Review Required per WHC-CM-3-4		Yes No		Reviewer - Signature Indicates Approval	
				Name (printed) Signature Date	
Classification/Unclassified Controlled Nuclear Information		☐ Yes ☒ No			
Patent - General Counsel		☐ Yes ☒ No			
Legal - General Counsel		☐ Yes ☒ No			
Applied Technology/Export Controlled Information or International Program		☐ Yes ☒ No			
WHC Program/Project		☐ Yes ☒ No			
Communications		☐ Yes ☒ No			
RL Program/Project		☒ Yes ☐ No		Burton E. Hill <i>[Signature]</i> 6/28/94	
Publication Services		☒ Yes ☐ No		Etay Alford <i>[Signature]</i> 6/28/94	
Other Program/Project		☐ Yes ☒ No			
Information conforms to all applicable requirements. The above information is certified to be correct.					
References Available to Intended Audience ☒ Yes ☐ No		INFORMATION RELEASE ADMINISTRATION APPROVAL STAMP Stamp is required before release. Release is contingent upon resolution of mandatory comments.
Transmit to DOE-HQ/Office of Scientific and Technical Information ☒ Yes ☐ No					
Author/Requestor (Printed/Signature) <i>Elwin L. Fisk</i> Date 6/27/94					
Intended Audience ☐ Internal ☐ Sponsor ☒ External					
Responsible Manager (Printed/Signature) <i>M. Susan Harrington</i> Date 6/27/94		Date Cancelled Date Disapproved			

EXECUTIVE SUMMARY

This Fiscal Year (FY) 1994 Site Maintenance Action Plan (SMAP) is Part II of the Site Maintenance Plan, and has been written by Westinghouse Hanford Company (WHC) to outline the requirements stated in DOE Order 4330.4B, *Maintenance Management Program*, Chapter 1, Paragraph 3.3.1.

The SMAP provides an annual status of maintenance initiatives completed and planned, a summary of performance indicators, a summary of maintenance backlog, a listing of real property and capital equipment maintenance cost estimates that were used to create the FY 1996 infrastructure and maintenance budget input, and a listing of proposed line item and general plant projects. Additionally, assumptions for various Site programs are listed to bring the Site Maintenance Plan into focus with overall Site activities.

The primary mission at Hanford is to clean up the Site. In this cleanup process WHC will provide scientific and technological expertise to meet global needs, and partnership with stakeholders in the region to develop regional economic diversification. Other missions at the Hanford Site include energy research and development, and waste management and disposal activities. Our primary mission has a 30-year projected life span and will direct the shutting down and cleanup of defense production facilities and the Fast Flux Test Facility. This long-term mission requires continuous maintenance and in many instances, replacement of existing basic infrastructure, support facilities, and utilities. Without adequate maintenance and capital funding these infrastructure, support facilities, and utilities will continue to deteriorate causing an increase in backlogged work.

ICF Kaiser Hanford Company, a subcontractor to WHC, has responsibility for Hanford Site infrastructure and support facility maintenance, utilities, and transportation. Bechtel Hanford, Inc. has been awarded the Hanford Environmental Restoration contract and is schedule to assume responsibility for these activities on July 1, 1994. This includes responsibility for the cleanup of Hanford's N Reactor and other 100 Area reactors.

Section 1.0 provides an introduction to the SMAP and contains programmatic and infrastructure assumptions, organization's responsibilities, maintenance cost estimates, and other major maintenance concerns. Section 2.0 of the SMAP discusses maintenance initiatives completed, while Section 3.0 addresses maintenance initiatives planned for FY 1994. Section 4.0 contains a summary of the ten standard performance measures. Section 5.0 is a summary of the backlogged maintenance activities. Section 6.0 presents the fiscal year maintenance budget data charts that were summarized for the April 1994 input to the U.S. Department of Energy, Richland Operations Office (RL) for the FY 1996 maintenance and infrastructure budget. Section 7.0 is the Site infrastructure capital funded projects with separate listings for line item projects and general plant projects. The FY 1993 through FY 1996 maintenance cost estimates for all maintenance organizations are summarized in Table 1.

The above summary maintenance cost estimates are based on escalated costs with adjustments made for known increases or decreases in work scope. These are the best April 1994 estimates of future WHC and subcontractor maintenance activities.

Table 1. Fiscal Year 1993 through Fiscal Year 1996 Estimated Maintenance Costs.

	Dollars in 000's			
	FY 1993	FY 1994	FY 1995	FY 1996
Transportation Equipment (ICF KH)	\$6,130	\$6,253	\$6,428	\$6,614
Telecommunications/Computer Systems (IRM)	\$14,031	\$17,754	\$20,260	\$22,978
Subtotal	\$20,161	\$24,007	\$26,688	\$29,592
Infrastructure/Support Facility Real Property (ICF KH)	\$25,947	\$25,535	\$26,103	\$26,859
Programmatic Property (WHC)	\$99,314	\$101,969	\$105,578	\$100,800
Subtotal	\$125,261	\$127,504	\$131,681	\$127,659
Total	\$145,422	\$151,511	\$158,369	\$157,251

ICF KH = ICF Kaiser Hanford Company
 IRM = Information Resource Management
 WHC = Westinghouse Hanford Company

The FY 1994 maintenance budget of \$151 million represents 1.5% of the \$10 billion that are WHC's responsibility and is the estimated replacement cost value of those Hanford facilities and infrastructure. *Committing to the Cost of Ownership-Maintenance and Repair of Public Buildings* (published by the National Academy Press in 1990) contains a proposal by the Committee on Advanced Maintenance Concepts for Buildings of the Building Research Board which states that, "The appropriate level of maintenance and repair spending should be, on the average, in the range of 2% to 4% of the current replacement value of the inventory." This is considered the cost of ownership. It is recommended that this 2% to 4% range be used for facilities that have a present or continuing mission. Maintenance should be reduced to minimum levels consistent with safety requirements for those facilities being transitioned or excessed.

As stated on page 9 of the May 1993 Hanford Site Development Plan, "Those infrastructure systems that were not upgraded (in the 1980s) are in fair to poor condition and will require upgrades or replacements to support the cleanup mission." The infrastructure capital funded projects listing in Section 7.0 of line item projects and general plant projects indicates a limited level of capital construction funds considering infrastructure replacement needs for the next 30 years.

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**SITE MAINTENANCE PLAN PART 2
SITE MAINTENANCE ACTION PLAN**

1.0 INTRODUCTION

The introduction creates a background for the plan and then provides highlights of the plan.

1.1 PROGRAMMATIC AND INFRASTRUCTURE ASSUMPTIONS

The programmatic and infrastructure assumptions describe the planning and guidance used to further define mission related activities.

1.1.1 Tank Waste Remediation System (TWRS)

The TWRS programmatic assumptions are as follows.

Tank Farms Operations and Maintenance

- Washington State and the Environmental Protection Agency will negotiate with the U.S. Department of Energy (DOE) and accept change control to *Hanford Federal Facility Agreement and Consent Order* (Tri-Party Agreement) milestones.
- Tank Farms will comply with Washington State Administrative Code (WAC) Chapter 4, Parts 173-303.
- Base safe case maintenance will be accomplished.
- Maintenance backlog on priority 1 and 2 items will be reduced.
- Interim operational safety requirements and implementation will proceed as planned. Any significant changes will impact tank farms maintenance.
- Application of design and work control requirements will be based in part on the initial component or system design or as-built conditions.
- Stabilization and isolation preparations will continue so that the pumping of tanks can start after the release of single-shell tanks.

Waste Tank Safety

- Safety issue resolution will be on an individual tank basis, and mitigation/remediation will not preclude final disposal options.
- No structural failures of waste tanks will occur that will require an accelerated approach.

- Waste Tank Safety will provide near-term instrumentation, monitoring and ventilation upgrades, as well as upgrades that are necessary to mitigate tank safety.
- Tank Farm Upgrades will provide utilities and other needed safety infrastructure upgrades.

Tank Farms Upgrades

- Safety analysis performed on waste tanks will establish the minimum functional requirements for safety-related equipment. It is assumed that existing equipment capabilities and original design requirements are consistent with new safety analysis assumptions.
- Tank Farm facilities will be maintained in a safe and environmentally clean condition in accordance with current standards and specifications. Facilities will be provided for all aspects of tank farms waste management with particular emphasis on safe storage of high-level, transuranic liquid, and other tank wastes. As a minimum, facilities upgrades shall consist of an upgraded safety analysis report, and a clear and succinct, well defined design basis that will be sustained by a configuration control system.

1.1.2 Solid/Liquid Waste Remediation

The solid/liquid waste remediation programmatic assumptions are as follows:

- Solid Waste Management
 - Characterize transuranic waste to support retrieval and processing.
 - Continue solid waste operations.
 - Store and dispose of low-level waste to meet performance assessment requirements.
 - Continue hazardous waste management for nonradioactive hazardous waste.
 - Continue transuranic waste management to support continuity of operations.
 - Reduce low-level waste volume to comply with DOE Order 5820.2A.
 - Store special case waste to resolve safety issues in hot cells.
 - Initiate and complete the Advanced Conceptual Design Report and National Environmental Policy Act documentation for project W-112, Enhanced Radioactive Mixed Waste Storage.

- Begin construction of Module 1 of the Waste Receiving and Processing Facility known as WRAP 1. Operation of this \$89.1 million facility is expected to begin in March 1997.
- Liquid Effluents
 - The 200 Area Treated Effluent Facility will provide a treatment system to reduce the concentration of radioactive and hazardous waste constituents to acceptable levels. The treated effluent will be discharged into a State approved disposal facility. Construction of this facility will begin in the spring of 1993, and operations will begin in June 1995.
 - Interim compliance will ensure completion of characterization and permitting of all interim waste streams by June 1995.
 - Miscellaneous liquid effluent streams will continue to be characterized, evaluated, eliminated or reduced, and permitted as required by agreements with regulators.
 - The 300 Area Treated Effluent Disposal Facility will treat and dispose of liquid effluents that currently are discharged to the 300 Area process trenches. Construction of this facility will start in fiscal year (FY) 1993. The facility will be operational in December 1994.
 - The 200 Area Treated Effluent Disposal Facility will provide a collection pipeline to transport 200 Area effluent streams to a single permitted soil column disposal site. Construction on the collection pipeline started in April 1993. The first phase of the facility will begin operations in June 1995 and the second phase in October 1997.
- Hanford Environmental Compliance
 - Continue design, procurement, and construction activities as scheduled and budgeted. Initiate preoperational activities as necessary on completed subprojects. Complete the Hanford Environmental Compliance Project in FY 1995.
- Waste and Decontamination Services
 - Complete inspection and repackaging of Tank Farms known and unknown waste containers.
 - Close out 50 waste remediation commitment tracking audit items.
 - Close out 25 QUEST findings.
 - Close out 80 maintenance backlog packages.
 - Commence decontamination operations in 2706-T.
 - Install Ingersol Rand air compressor.

- Install waste level indicator for 211-T sump.
- Install ice blaster in 2706-T.
- Improve the decontamination process in 221-T canyon.
- Provide plan for pressurized water reactor fuel removal.
- Procure and place into operation an inspection and repackaging unit at T Plant to verify and repackage generator waste containers.
- Commence high-level decontamination in the 221-T canyon.

1.1.3 Transition Projects Division

The facility operations programmatic assumptions are as follows.

- There is no nuclear material production mission for any Hanford facility. Plant operations in FY 1994 will target the first phase of deactivation at specified facilities and interim actions at other facilities to ensure safe storage of nuclear materials.
- There is no nuclear material production mission for the Plutonium Finishing Plant (PFP). The PFP operations in FY 1994 will target stabilization of residue materials located throughout the facility to reduce the risk to employees and the public. Vault storage operations will continue into the future. An environmental impact statement (EIS) will be initiated in FY 1994 to determine the options available for future mission(s) of the PFP for the stabilization of all reactive materials.

The PFP protected area will provide consolidated special nuclear material (SNM) storage for the Hanford Site in the foreseeable future. The PFP may be suitable for other missions in support of Hanford environmental cleanup.

- The K Basins are to be upgraded and operated. The Hanford irradiated fuel EIS will be initiated to determine fuel disposition. The EIS scope will be completed during FY 1994. Encapsulation of K East fuel is projected to begin during June 1994 and continue for two years.
- The Uranium-Trioxide (UO₃) Plant process has returned the recovered nitric acid to the Plutonium-Uranium Extraction (PUREX) Plant, flushing and blanking the uranyl nitrate hexahydrate processing system, and cleaned out the residual uranium from the calciners. At the end of FY 1994 nearly all deactivation activities except for isolation and shutdown of the utilities; heating, ventilating, and air conditioning (HVAC); and final facility layup will be completed.
- Deactivation of PUREX has been initiated as shown in the schedule outlined in the PUREX project management plan. The major

deactivation emphasis are on those activities which remove, reduce, and/or stabilize remaining radioactive sources within the confinement structure and the hazardous chemicals at the plant. During deactivation, surveillance and maintenance activities will continue to ensure minimum safety compliance. Surveillance and maintenance activities including shift surveillance readings, instrument calibrations, and preventative maintenance, will be phased out throughout the deactivation schedule as systems are closed out.

- B Plant will begin implementation of the clean-out and stabilization plan during FY 1994 with the deactivation of specified outdoor tanks and the completion of organic consolidation. Completion of the (CSP) and transition to standby condition will be performed to the extent funding becomes available.
- The 300 Area Fuel Supply Facilities will be maintained in minimal compliance to provide for safe storage of SNM. During FY 1994, preparations to vacate the 313 Building will continue with personnel scheduled to move from the facility during the fourth quarter.

1.1.4 Advanced Reactor

The advanced reactor programmatic assumptions are as follows.

- Maintain the Fast Flux Test Facility (FFTF), Fuels and Materials Examination Facility (FMEF), 308 Building, and related facilities in a safe condition and in compliance with standards and environmental requirements.
- Proceed with the planned FFTF shutdown and related activities commencing with the initiation of reactor defueling.
- Maintain the FMEF in a standby condition until directed otherwise by DOE. Key elements of FMEF include the preservation of the safety system qualification, which may be needed if FMEF is to be used for other DOE missions.
- Complete the cleanup of the 308 Building and place the building under minimum surveillance to meet safety and environmental regulations, and consistent with the disposition of TRIGA fuel. Cleanup is scheduled to be completed on March 28, 1994.
- Continue with disposition of nuclear energy legacy items in accordance with funding and priorities from DOE and requirements of Washington State Department of Ecology.
- Conduct processing activities in the Interim Examination and Maintenance Cell to support shutdown. Activities will include processing test assemblies FSP-1R and PO-4.
- Promptly close out prior activities that supported possible new FFTF missions.

1.1.5 Environmental Restoration (ER)

Key assumptions and constraints for major system acquisition (MSA) ER are as follows.

- On July 1, 1994, Bechtel Hanford, Inc. (BHI) will be the contractor responsible for the overall management of the Hanford ER MSA project.
- The U.S. Army Corps of Engineers (USACE) will be responsible for the management of their activities, those of their contractors, and activities of other Hanford Site contractors performing under USACE direction.
- The ER program is responsible for the decontamination and decommissioning of N Reactor.
- Surplus facilities will be maintained in a safe condition via surveillance and maintenance until they are decommissioned.

Storage and disposal facility assumptions and constraints are as follows.

- A major storage and disposal facility is required by FY 1996.

1.2 HANFORD SITE INFRASTRUCTURE

The Hanford Site infrastructure assumptions are as follows.

- All Hanford Site infrastructure will be required near or above present levels to support maintenance programs for the next five years.
- The ER program will require all Hanford Site infrastructure capability and capacity for the next 30 to 40 years.
- The Hanford Site steam plants will require funding in the next 6 years in order to replace and/or upgrade significant portions of the 200 Area and 300 Area steam plants and their steam distribution systems. This infrastructure assumption is presently being studied as a privatization initiative.
- The electrical distribution system will require a continued level of maintenance and replacement/upgrade projects will be required.
- The Hanford Local Area Network (HLAN) has become an integral part of the Hanford Site's communication and information systems. Use of the HLAN continues to increase. Although a new fiber optic system has been installed, many parts of the supporting telecommunications infrastructure are only marginally adequate to provide reliable service. The FY 1997 line item project for an infrastructure fiber optic loop is estimated at \$6.2 million.

- Significant extensions and upgrades to infrastructure systems will be required to develop several work centers across the Site. Examples are: the Hanford Central Waste Complex and the TWRS in the 200 Areas, and new research and development facilities in the 300 Area, such as the Environmental and Molecular Sciences Laboratory.
- Technology and capacity upgrades for computing are needed to support growing requirements. Reduced maintenance costs and more cost-effective capabilities for increasing workloads and requirements creates a greater demand for ready access to information.
- The Hanford Site sewer systems have approximately \$44.6 million of identified line item and general plant projects to be funded in the next 4 years.
- The existing landfill will be closed. A new landfill will be required by FY 1997. Alternatives to construction of a new landfill are being evaluated.
- The major portion of the transportation systems, i.e., roads, railroads, and their related equipment, must be maintained for at least the next 40 years. A line item construction project to rebuild the primary route north of the Wye barricade is estimated to cost \$19.1 million. Projected program requirements indicate the need for a rail switching yard in or near the 200 Areas. Funding levels for capital equipment, roads, and railroad maintenance must be reflected in our planning to meet future requirements.
- General purpose facilities, such as offices, laboratories, shops, warehouses, and other buildings, will require continuous upgrade and replacement as older existing facilities constructed in the 1940's and early 1950's are retired, excessed, or demolished. Most of these facilities contain asbestos, inadequate electrical distribution, inadequate HVAC needed for cooling of modern automated data processing (ADP) equipment, and inadequate insulation for energy conservation.
- Asbestos abatement will remain a major portion of the steam plants and buildings maintenance expense funding over the next 10 years. The cost of long-term asbestos abatement for facilities constructed before the early 1950's will be equivalent to 50% or more of the cost of new replacement facilities.
- Special facilities, such as the standards laboratory, are required for the next 40 years.
- Administrative services will continue to require equipment to establish an electronic management system that will significantly improve the work flow process for tracking document creation, distribution, and storage. Identified projects include archiving of records and working documents, as well as, image management (graphics and photography), and on-demand printing.

- The special purpose facilities; systems of safeguards and security/patrol, medical services, and fire protection will be required for a minimum of 40 years. An upgrading of capital equipment will be required to meet reduced, but ongoing requirements that will need state-of-the-art technology.

1.3 ORGANIZATIONAL RESPONSIBILITIES FOR MAINTENANCE

Westinghouse Hanford Company (WHC) has the maintenance responsibility for real property and programmatic buildings, equipment, and grounds in the 100, 200, 300, 400, 600, 700, and 1100 Areas of the Hanford Site. These areas encompass a wide variety of nuclear facilities and equipment including reactors, fuel fabrication facilities, chemical processing facilities, and security equipment. Nonnuclear facilities and systems such as road networks, transportation equipment, office equipment and buildings, fabrication services, railroad, electrical transmission and distribution, water, steam, information resources, communications systems, and waste disposal systems (both nuclear and nonnuclear) are included. This discussion focuses on the nonnuclear maintenance activities related to infrastructure and support facilities.

The Waste Tank Maintenance and Production Control organization charts shown in Figures 1, 2, and 3 depict a maintenance organization responsible for the maintenance of all program facilities under the responsibility of the TWRS organization.

The Transition Projects Maintenance organization charts shown in Figures 4, 5, 6, 7, 8, and 9 depict a maintenance organization responsible for the maintenance of all plants under the Transition Projects organization. Specifically included are maintenance for PFP, PUREX/UO₂ Plants, B Plant/Waste Encapsulation and Storage Facility, FFTF, and the Fuel Fabrication Facilities.

The 100-K Basins organization chart is shown in Figure 10. This is the only organization in the Spent Nuclear Fuel Project with maintenance activities.

The Solid Waste Disposal and Liquid Effluent Management Work Control and Maintenance organizations are shown in Figure 11.

The maintenance of Hanford Site utilities, infrastructure, and support facilities is performed by ICF Kaiser Hanford (ICF KH), a WHC subcontractor. The ICF KH maintenance organization consists of three elements. They are Maintenance, Utilities, Transportation and Waste Handling and are shown in Figure 12.

The ICF KH Maintenance organization provides maintenance for general purpose facilities in the 200, 300, 400, 600, 700, and 1100 Areas. Maintenance personnel provides sitewide custodial services; maintain grounds in the 200, 300, 400, 700, and 1100 Areas; provide sitewide road striping; and maintain the Site's rail crossing signals. The Fabrication Services organization provides sitewide machine, boiler, sheetmetal, and pipe shop support for fabrication of replacement components, and maintenance of existing

Figure 1. Tank Waste Remediation System Upper Management.

..... Indicates other organizational elements not shown in this chart

TWRS = Tank Waste Remediation Systems

Figure 2. Waste Tank Maintenance Organization Chart.

Waste Tank Production Control

Figure 3. Waste Tank Production Control.

Figure 4. Transition Projects Upper Management.

1-12

----- Indicates other organizational
elements not shown in this chart

UO₃ = Uranium Trioxide Plant
FFTF = Fast Flux Test Facility
PFP = Plutonium Finishing Plant
WESF = Waste Encapsulation and Storage Facility

Figure 5. Plutonium Finishing Plant Transition Project.

PFP = Plutonium Finishing Plant

Figure 6. Plutonium-Uranium Extraction/Uranium-Trioxide Transition Project.

Figure 7. Fast Flux Test Facility Transition Project.

FFTF = Fast Flux Test Facility
 FMEF = Fuels and Materials Examination Facility

Figure 8. B-Plant/Waste Encapsulation and Storage Facility Transition Project.

WESF = Waste Encapsulation and Storage Facility

Figure 9. Fuel Fabrication Facilities Transition Project.

FMEF = Fuels and Materials Examination Facility

Figure 10. 100 K-Basins.

..... Indicates other organizational elements not shown in this chart

Figure 11. Solid Waste Disposal and Liquid Effluent Services.

Figure 12. ICF Kaiser Hanford Company Upper Management.

facilities. The maintenance shops also support engineering research and development work for Hanford and other DOE site. In addition, craft support is provided on request to the major program facilities, i.e., PUREX, PFP, FFTF, Waste Tanks, etc. The ICF KH maintenance organization chart is shown in Figure 13.

The Utilities organization maintains the three Site powerhouses, electrical utilities, and water and sewer systems. The Utilities organization is also responsible for providing laundry services (by contract), steam, raw water, sanitary water, and water sampling for the Hanford Site. Electrical Utilities maintains a major high voltage distribution and control system and provides support to programmatic facilities when requested. The Utilities organization chart is shown in Figure 14.

The Transportation and Waste Handling organization maintains all vehicles, rolling stock, and fixed diesel engines on the Site. This includes railroad engines, mobile cranes, heavy construction equipment, trucks, buses, and cars. The railroad and road system are also maintained by this organization. The Transportation and Waste Handling organization chart is shown in Figure 15.

The WHC Fire Department's Fire Systems Testing and Maintenance organization is shown in Figure 16.

Information Resource Management (IRM), operated by BCS Richland, Inc., a subcontractor to WHC, is chartered to provide resources, oversight, and maintenance for one of the most extensive and complex ADP and telecommunications networks in the nation. It consists of an extensive local area network, which links approximately 11,000 personal computers and a telecommunications network of approximately 12,000 connections. Information Resource Management provides maintenance support for all radio and communications equipment, microwave, local area networks, nonprocess computers, personal and peripheral computers, and all business machines. The maintenance organization portion of IRM is shown in Figure 17.

Pacific Northwest Laboratory (PNL) is also a Hanford Site contractor and provides maintenance on their facilities located in the 300 Area.

1.4 SUMMARY OF FY 1993, FY 1994, FY 1995, AND FY 1996 ESTIMATED MAINTENANCE DOLLAR REQUIREMENTS

The FY 1993 through FY 1996 maintenance costs estimates for the maintenance organizations that are detailed in Sections 6.2 and 6.3, and the estimated programmatic maintenance activities listed in Section 6.1 are summarized in Table 1-1.

The FY 1994 through FY 1996 Infrastructure/Support Facility and equipment maintenance summary estimates are based on escalated costs with adjustments made for known increases or decreases in scope. The programmatic property maintenance estimates are based mainly on budget guidance. All dollars are expressed in terms of direct dollars, plus applicable organization overheads. These are the best March 1994 estimates of WHC maintenance activity.

MAINTENANCE

Figure 13. Central Maintenance Services.

Figure 14. Utilities.

DOE = Department of Energy

Figure 15. Transportation.

GSA = General Services Administration

Figure 16. Fire Systems Maintenance.

Figure 17. BCS Richland, Inc. Maintenance.

- Computer/Telecommunications Maintenance
- Network/Radio Maintenance
- Workstation Maintenance/Business Machine Repair

----- Indicates other organizational elements not shown in this chart

Table 1-1. Fiscal Year 1993 through Fiscal Year 1996 Estimated Maintenance Costs.

	Dollar estimates in thousands			
	FY 1993	FY 1994	FY 1995	FY 1996
Transportation Equipment (ICF KH)	6,130	6,253	6,428	6,614
Telecommunications/Computer Systems (IRM)	14,031	17,754	20,260	22,978
Subtotal	\$20,161	\$24,007	\$26,688	\$29,592
Infrastructure/Support Facility Real Property (ICF KH)	25,947	25,535	26,103	26,859
Programmatic Property (WHC)	99,314	101,969	105,578	100,800
Subtotal	\$125,261	\$127,504	\$131,681	\$127,659
Total	\$145,422	\$151,511	\$158,369	\$157,251

ICF KH = ICF Kaiser Hanford Company
 IRM = Information Resource Management
 WHC = Westinghouse Hanford Company.

Committing to the Cost of Ownership-Maintenance and Repair of Public Buildings, published by the National Academy Press in 1990, contains a proposal by the Committee on Advanced Maintenance Concepts for Buildings of the Building Research Board that, "The appropriate level of maintenance and repair spending should be, on the average, in the range of 2% to 4% of current replacement value of the inventory." It is recommended that this range be utilized for facilities having a current or continuing mission. Transitioning and excessed facilities, maintenance should be reduced to minimum levels consistent with safety requirements for transitioned and excessed facilities.

1.5 MAINTENANCE PROGRAM HIGHLIGHTS AND SHORTCOMINGS

Maintenance (ICF KH)

- Continued a roof inspection program. Roofs are inspected to a set of criteria to determine structural stability for roof access.
- Placed the operational responsibility for all general purpose facilities under one organization. This has streamlined the method of requesting and scheduling required work as well as giving a more consistent approach to prioritizing of work.
- Assigned septic systems to a single point of contact. This was a requested by U.S. Department of Energy, Richland Operations Office

(RL) to allow tracking of requirements and status of the septic systems. The single point of contact was initially assigned to Construction Support Services and later transferred to Site Services.

Utilities (ICF KH)

- Completed rebuilding the #2 boiler at the 200 Area east powerhouse.
- Upgraded the coal handling system at 300 Area powerhouse.
- Installed the new water treatment equipment in the 200 Area water plants and in the 300 Area water plant.
- Closed the 183-D filter plants.
- During FY 1993, successfully completed 11 offsite shipments of polychlorinated biphenyl (PCB) waste by handling more than 19,000 gal and 161,000 lb of regulated waste without an accident. In 1994, completed five offsite shipments of 7,204 gal of oil, 11,284 lb of solid wastes, and 65,812 lb of metal carcasses.
- Line crews and Relay Technicians completed a Bonneville Power Administration (BPA)-sponsored project at Building 183-D. Efforts included reducing a transformer from 9,000 kVA to 500 KVA and installing current and power transformers in metering schemes. The electrical utilities group received a \$13,606 rebate from the BPA as part of their energy savings plan. The \$13,606 rebate will be used as revenue to offset future electric bills from BPA.
- Successfully completed nine retrofills of electrical transformers. The mineral oil filled transformers were reclassified from PCB-contaminated to noncontaminated PCB following temperature and in-service time requirements. The retrofilling program has been in effect for several years, and efforts are continuing in the reclassification of PCB-contaminated transformers.
- The Electrical Utilities organization successfully initiated a Wood Pole Testing Treatment Program after addressing environmental, administrative, and procurement delays. Many of the wooden poles were more than 30 years old, and climbing them was becoming a safety concern. A 10 year implementation plan was developed to ensure all the wood poles will be addressed within a specified time period. Nearly 350 poles were tested and treated.
- Three 230 kV oil circuit breakers were rebuilt during FY 1993.
- Electrical Utilities continues to take aggressive actions to reconfigure under-utilized electrical circuits and remove abandoned aerial lines. During this reporting period, approximately 100 poles were extracted, several substations eliminated and numerous aerial lines and their associated hardware removed.

1.6 MAJOR MAINTENANCE CONCERNS NOT ADDRESSED BY BUDGET PROJECTIONS

Maintenance (ICF KH)

- Sufficient funding has not been provided for the maintenance of the interior and exterior of buildings, many of which are 30 to 40 years old. As an example, the outside of the 200 Area buildings are covered with transite siding that is coming off the buildings and falling to the ground.
- Because of age, many facilities do not meet all federal and state requirements.
- The steam and water piping is consistently leaking requiring repair and replacement.
- The buildings are uninsulated and energy inefficient.
- The electrical system is not up to present code and replacement parts can no longer be obtained for repairs.
- Many facilities lack adequate HVAC systems.
- Funding is needed to perform upgrades to fire protection systems and to correct deficiencies identified in Tiger Team inspections.
- Funding is needed to upgrade hazardous material/waste temporary storage areas.
- Employee parking lots are in need of repair.
- Vehicle shortages continue to be a problem in all areas. Discussions with Fleet Management indicate that this problem will continue unless funding is provided for more vehicles.
- Many septic systems are failing. Estimates range up to \$500,000 to replace them. The failed systems are currently being pumped at great expense.

The Fabrication Shops 277W/200W, 272W/200W, and 272E/200E are at best in poor condition. The cost of routine maintenance efforts will increase as the facilities and the systems in them (cranes, compressors, HVAC units, etc.) continue to show their age.

Transportation and Waste Handling (ICF KH)

The Fleet Maintenance Shops located in the 1171 Building and Bus/Rail Dispatch located in the 1170 Building are generally in satisfactory condition. The following concerns are applicable to these facilities:

- The cost of routine maintenance will increase as these facilities and systems in them, i.e., cranes, compressors, hoists, etc. age.

Utilities (ICF KH)

- Need the funding to continue rebuilding the #4 and #5 boilers in the 200 East powerhouse.
- The water piping is consistently leaking, requiring repair and replacement.
- River screens for pump plants need repaired/replaced.
- The steam piping is consistently leaking, requiring repair and replacement.
- Many substations are in need of repairs because of age. Identified deficiencies include interior/exterior painting, fire protection upgrade, etc.
- Electrical Maintenance Shop has inadequate room for rebuilding transformers, storing parts washer, etc. Temporary ventilation is required to ensure odors from transformer painting, parts washer activities, and old oil do not permeate nearby office and eating areas. Electrical Utilities is in the process of identifying resolution options including partitioning existing location, improving ventilation, and upgrading unused tunnel area located near shop, etc.
- Annual maintenance and repair costs for 212-P PCB storage areas are increasing each year because of the age of the building. Repairs are required to ensure compliance with federal regulations. Since building is scheduled for D&D, no upkeep funds are available. Need to construct new storage facility.
- Additional covered parking area is needed for several pieces of new equipment that need to be protected from weather and outside elements while in storage. Need to extend current covered parking area to include new equipment.

Information Resource Management

The Hanford Local Area Network (HLAN) is currently at or near capacity. Users and file servers attached to HLAN continue to increase further taxing this resource. Future systems are expected to come on line that will rely on HLAN as the data transport mechanism, and the data requirements of these systems surpass current capacity. Plans have been developed to upgrade the infrastructure to fiber optic media.

Information Resource Management (IRM) has initiated a Waste Minimization Plan as required by state law. Each group within IRM has been charged with actively pursuing waste minimization. Some of the methods used are to substitute nonregulated chemicals for regulated chemicals whenever possible, reduce the amount of regulated chemicals used if there is no nonregulated substitute, change processes so that regulated materials are no longer required, and excess equipment that requires the use of regulated chemicals.

Fluctuating power, surges, and sags have been causing workstations to be dropped from the network. File servers are equipped with Uninterruptible Power Systems (UPS), but power failures do not trigger alarms until the UPS batteries die. Work is progressing to install monitors on all tail segments of the HLAN to provide alarms on any power interruption.

The UPSs are being installed in every concentration of communications equipment that represents a significant financial investment or where a power outage would affect remote users. Funding for installation of UPSs at certain critical locations has not currently been allocated, but the requirements have been identified. The UPSs will provide constant conditioned power and will provide a redundant power source during electrical power outages.

1.7 ORGANIZATION AND SCOPE OF SITE MAINTENANCE PLAN PART 2

The SMAP, Part 2 of the Site Maintenance Plan, is composed of seven main sections: Introduction, Maintenance Initiatives Completed, Maintenance Initiatives Planned this Fiscal Year, Performance Measures Summary, Summary of the Backlog of Funded and Unfunded Maintenance at End of FY, Summary Fiscal Year Maintenance Budget Data Charts (FY 1993 to FY 1996), and Site Infrastructure Capital Funded Projects.

The intent of the Section 1.0, Introduction, is to cover assumptions, responsibilities, a summary of dollar requirements, and maintenance concerns. Section 2.0 lists the maintenance initiatives completed, while Section 3.0 lists the maintenance initiatives planned for this fiscal year. Section 4.0 summarizes the nine performance measures utilized in reporting to DOE. Section 5.0 discusses the control of maintenance and repair backlog. Section 6.0 is the backup dollar detail for the April input to the FY 1996 Infrastructure and Maintenance budget submission. This budget input includes Section 7.0, the Infrastructure (Landlord) Capital Funded Projects.

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2.0 MAINTENANCE INITIATIVES COMPLETED

The completed initiatives are categorized into five basic categories as follows:

- Self-assessments and maintenance baseline surveys
- Safety improvement
- Maintenance order compliance or excellence
- Productivity improvement
- RL initiatives.

2.1 SELF-ASSESSMENTS AND MAINTENANCE BASELINE SURVEYS

Maintenance ICF KH

Safety/Accountability. A safety accountability matrix was developed from the ICF-KH Environmental, Safety, and Health Program Manual to provide management in the maintenance division with specific requirements, responsibilities, and deliverables. The matrix has been distributed to all Level III managers, and a checklist is being developed for distribution to management within this fiscal year.

Powerhouse Steam Plant Modeling/Tagging. The 200-E powerhouse steam plant was modeled using the 3-D modeling technique. This modeling was initiated because of the need of the Steam Accident Conduct of Operations Upgrade Team for drawing upgrades and component labeling. This modeling provided the capability needed to meet a committed restrictive time and cost schedule.

As the high, medium, and low pressure steam systems were modeled, the components were numbered using an approved procedure. The numerical and geometrical information was contained in the electronic database for generation of reports, drawings, and shaded renderings of the system. A tag list was developed and tags were manufactured from the list and installed in the plant. This method allows tags to be ordered before drawings are completed. Further, this method allows a variance from standard methods that first requires field walkdowns, then the generation of drawings and finally, tags are assigned and tabulated.

Transportation and Waste Handling (T&WH) ICF KH

The Fleet Maintenance organization has completed the first of many planned benchmarkings. The first of these was for lubrication and inspections.

Utilities ICF KH

The Utilities group is tracking all scheduled effectiveness and management effectiveness based scheduling using the scheduling system.

2.2 SAFETY IMPROVEMENT

Transportation and Waste Handling ICF KH

The WHC required Behavior Based Safety Training course has been completed by all Transportation and Waste Handling employees.

A hazards assessment is being conducted by Transportation and Waste Handling employees. When completed, a DORITE process will be implemented on key processes identified from the assessment.

Utilities ICF KH

All employees attended two required training sessions on behavior based safety training.

IRM

A desk procedure, titled Telecommunications Safety Information Book, has been developed to provide safety guidance to the IRM Maintenance organizations.

2.3 MAINTENANCE ORDER COMPLIANCE OR EXCELLENCE

Transportation and Waste Handling ICF KH

DOE Order 4330.4B, Maintenance Management Program, has been reviewed for applicability to vehicle maintenance. Requests for waivers to 4330.4B requirements which are not applicable will be forwarded to RL for approval. The main thrust is, will implementation of the requirements substantially improve the existing vehicle maintenance program?

Utilities ICF KH

The Utilities organization will ask for a waiver to DOE 4330.4B once they have studied how the private utilities sector maintains work management processes.

2.4 PRODUCTIVITY IMPROVEMENT

Maintenance ICF KH

Training Plan. The training plan assigned to the maintenance division in November 1993, has been initiated and is scheduled for completion on June 21, 1994. The training plan is currently on schedule with the main body of the plan already complete and the remaining portions of the plan being matrices that define position requirements for personnel.

Transportation and Waste Handling ICF KH

The RL has entered into a memorandum of understanding with General Services Administration (GSA). The GSA now owns about 2,000 former DOE

vehicles. The GSA is aggressively replacing aging and high mileage vehicles, including buses. The GSA vehicle rotation policies should result in less vehicle maintenance. Implementation of this GSA program started on February 2, 1994.

The Fleet Maintenance organization has signed an agreement with Chrysler Corporation to do all vehicle warranty work that would ordinarily be done by the Chrysler Corporation. This signed agreement reflects favorably on the high quality workmanship that is being performed by vehicle maintenance department personnel.

The Transportation and Waste Handling group has purchased 12 refurbished buses to improve the Site bus service and an integrated transportation system consisting of taxis and shuttles has been added. An average of 12,000 boardings per month has been observed and documented.

Utilities

The Utilities organization implemented a new work management scheduling systems in all of the Utilities sections. The new system tracks scheduling effectiveness on a monthly basis, and manpower effectiveness in those areas where improvements has been made in the first 6 months.

IRM

The HLAN has been upgraded to a router-based network using transmission control protocol/internetworking protocol (TCP/IP). This upgrade will improve system reliability, system diagnostic, and control capabilities.

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3.0 MAINTENANCE INITIATIVES PLANNED THIS FISCAL YEAR

Maintenance initiatives planned this FY for this section are the same as the five categories listed in Section 2.0.

3.1 SELF-ASSESSMENTS AND MAINTENANCE BASELINE SURVEYS

Maintenance ICF KH

Confined Space Entry Self Assessment. The Maintenance division has chosen confined space entry as an area of interest for a self-assessment activity. A self directed work team from Central Maintenance Programs of the maintenance division has begun reviewing the *Confined Space Entry Procedure*, WHC-CM-4-40 3.1, and developing a checklist to use in the assessment process.

The review and checklist is scheduled to be completed by the end of June. Upon completion of a management review, it is anticipated that the confined space entry self-assessment will be initiated in the Maintenance division during this fiscal year.

Electrical Self Assessment. The Maintenance division has participated in the Site-wide electrical safety assessment. This participation has resulted in the development of a Maintenance division electrical self-assessment process. The final version of an electrical safety checklist will be implemented this fiscal year, and is expected to continue in future years.

Environmental Self Assessment. The Maintenance Environmental Services North and South self-assessment program was implemented in June 1993. The Environmental Compliance self-assessment program is designed to be on-going monthly self-assessment. This program uses a tickler, tracking, and recall system to ensure that compliance actions are completed. This is a computer based system and;

- Identifies applicable requirements established by federal, state, and local environmental laws as interpreted in WHC-CM-7-5, Environmental Compliance Manual.
- Identifies facility/activity level procedures and documents that are needed to meet environmental requirements.
- Identifies singular tickler items, including description of requirements, scheduled completion dates, history of items completion, and delinquent items.
- Provides a consistent program for compliance with environmental regulations.

Currently, Resource Conservation and Recovery Act (RCRA) compliance is performing a quarterly self-assessment of maintenance activities. Maintenance Environmental Services North and South is in the process of evaluating its self-assessment program against the ICF-KH environmental manual.

Transportation and Waste Handling ICF KH

The primary focus of this organization is vehicle maintenance benchmarking.

Utilities ICF KH

Personnel in this organization will visit private utilities to see how they do business and will implement some of the lessons learned and good business practices.

3.2 SAFETY IMPROVEMENT

Maintenance ICF KH

Safety Improvement Plan. The Maintenance division safety improvement plan (SIP) has been submitted and a brochure distributed which includes eight highlights of the plan. The SIP is continually updated as we receive more input from the Level III managers. The ICF-KH Voluntary Protection Plan coordinator has requested information from this SIP.

This new format, SIP based on the DOE Voluntary Protection Program Application Guidelines, is becoming a WHC standard, and all SIPs in the future will need to follow this format. The majority of the items listed in the SIP are presently goals/objectives. This required a revamping of the SIP to identify specific actions/activities and their target dates.

Roofs. Roof assessments started in May of 1992 with the formation of the roof assessment task team. Plans were to have the Central Engineering organization to inspect the roofs of buildings for possible structural failures. Roof inspections commenced and are ongoing plus there are roofs reinspections in progress.

The use of a robot was initiated to load-test roofs where visual inspections could not be performed.

State-of-the-art repair methods were used to inject epoxy into wooden trusses in 272-E, 272-W, and 277-W buildings. Application of this technology has proven to be successful.

Currently, all buildings have been inspected, or are on a reinspection list. There are 18 buildings with restricted access. Six are targeted to be torn down this fiscal year. Seven have been repaired and are awaiting for design engineering to provide release. Five are currently being load tested using the robot.

Building management has taken the position not to load test the mobile units at this time. However, visual inspections and job safety analysis (JSA) are completed prior to access.

Rapid Action Team. The Rapid Action Team (RAT) was formed to address the growing number of safety/OSHA concerns being generated by building occupants.

The team consists of two electricians, one carpenter and one painter. The work activities being corrected are J-3 type work the has been pre-approved by the 200 Area work control group. Other generic J-2 type packages have been generated to work on redundant work that can be completed in the same format as the RAT work package.

This work activity will continue next fiscal year with the same number of personnel and level of effort. Currently, the 200 East area is 90% complete and the schedule is to move personnel to the 200 West Area.

Transportation and Waste Handling ICF KH

Specific tasks includes improvements to the parking lot will be completed, construct a new fueling station in the 200 Areas, and an upgrade the 100 Area gas station and bulk fuel storage.

Utilities ICF KH

Continue to label all valves and equipment within each facility.

IRM

Tower Safety. A program is being developed to improve safety in antenna tower operations. Implementation is scheduled for the first quarter of FY 1995.

Physical Conditioning. A physical conditioning program is being planned to reduce strain and repetitive motion injuries.

3.3 MAINTENANCE ORDER COMPLIANCE OR EXCELLENCE

Maintenance ICF KH

OSHA Inspections. A letter of intent has been distributed to and approved by all Level III managers regarding monthly safety/housekeeping surveillances which will be conducted by Central Maintenance Programs department. The purpose of this letter of intent is to meet the requirements in ICF KH Procedure IS 5, DOE Order 5480.4, DOE Order 5483.1A, and 29 CFR 1910 and 1926. The surveillances will be friendly walkthroughs to assist managers in identifying hazards, violations, etc. to improve safety and housekeeping conditions in their facilities. Any imminent hazard discovered by the team will be corrected on the spot, or immediate notification will be made to facility management. The cognizant supervisor shall eliminate any hazard or violation immediately, or as soon as possible after completion of the surveillance.

These surveillances will begin in the month of July. A written report will be issued to the Level III managers and those responsible for the facility surveyed, as well as the division manager. All corrections shall be noted on the checklist/document used.

Transportation and Waste Handling ICF KH

Waivers will be submitted on DOE Order 4330.4B, Maintenance Management Program.

Utilities ICF KH

Propose a waiver to DOE 4330.4B to allow the Utilities organization to perform maintenance work similar to private utility companies.

3.4 PRODUCTIVITY IMPROVEMENT

Maintenance ICF KH

Work Management Program. The decision was made to review the industry to determine an effective computer maintenance management system (CMMS) to be used for work management within the ICF KH system. A review was made of approximately 150 systems to identify a viable candidate for a test bed evaluation of a new maintenance documentation and control system for use at ICF KH. The requirements were to provide the state-of-the-art features in work order origination, planning, tracking, and history, as well as, provide management features such as labor tracking and report writing. The system selected was to be responsive to the requirements of DOE 4330.4B.

The bid criteria was prepared and submitted to the bid process. The submitted bids were evaluated and the MAXIMO system was selected and purchased. The installation of the software and required hardware necessary for LAN type evaluation was completed. The training of work control personnel using five concurrent users licensed to operate the system was initiated. The evaluation of the MAXIMO system is expected to be completed by the end of this fiscal year. Based on the results of this evaluation, it is expected that a recommendation for acquisition of additional system capacity will be prepared to install MAXIMO in all ICF KH operations maintenance work centers.

Activities expected for fiscal year 1995 are to develop a training plan and schedule to train the remaining ICF KH maintenance personnel in the operation of MAXIMO CMMS.

General Purpose Occupancy As-Built. Many facilities have been modified over the years but adequate documentation of these alterations to the drawings have not been made. Without adequate drawings electrical sources are not always known, thus increasing personnel to potential safety risk. The as-built drawings program started in 1990 in the 300 Area and is now Site-wide, and encompasses approximately 160 buildings that presently are under the maintenance of the occupancy pool. The as-built program is divided into two phases; the first phase is the electrical walkdowns and update of the drawings, and the second phase is the completion of the mechanical walkdowns and update of the drawings. To date 1400 electrical drawings have been completed, 150 drawings have been deleted, and 108 drawings have been created.

The as-built drawings program meets the requirements of DOE Order 5480.6, WHC-CM-6-3, WHC-6-1, EPI.3, Life Safety Code 101, National Electrical Code,

OSHA CFR 29, and the Hanford Electrical Standard. This program supports the de-activation schedule for these facilities.

DOE Monthly Activity Report. The DOE monthly activity report is used in conjunction with the site management system (SMS). It covers all of the items that Maintenance division performs which are not reported in the SMS, but are notable in terms of award fee purposes.

The report is made from the weekly significant events which the Level III managers submit at the end of every week. All of the weekly events reports are reviewed, and items that are milestones, show productivity, and are of importance are entered into one of four categories in this report. The categories are; Safety performance/issues, Environmental performance/issues, Significant accomplishments, and Issues/concerns. Once compiled, the report is submitted to ICF-KH senior management by the second Tuesday of every month.

Site Management System (SMS). The SMS monthly report is a report required by RL from the major contractors. The report consists of three parts; the Executive summary, the TPA milestone summary, and the Program manager detail reports.

Central Maintenance Programs (CMP) receives reports from North/South General Area Services and Custodial Services summarizing monthly activities in support of General Purpose Facilities (GPF). The report is completed in two parts, accomplishments/issues and the budget numbers, and an executive summary. CMP submits this report to the Program Manager, Site Services for inclusion into the WHC report to RL.

Naval Facilities Engineered Performance Standards System. DOE Order 4330.4B, "Maintenance Management Program," Chapter I establishes a requirement for engineered standards in estimating planned hours to perform a task. The Maintenance division evaluated several systems of engineered standards and has chosen to implement the Naval Facilities (NAVFAC) Engineered Performance Standards System. This system was chosen for its similarities to the type of facilities being worked, proven performance record, recognized accuracy, and the relatively low cost to implement. During FY 94, the Maintenance division will implement this system by training the planners in the use of engineered performance standards, establishing zone maps, and developing productivity measures.

Transportation and Waste Handling ICF KH

Agreements to do warranty work on Ford, Chevrolet, GM and Caterpillar equipment will be pursued.

Utilities ICF KH

The Utilities organization will continue to track schedule and management effectiveness and strive for continued improvements during the year.

IRM

Project L-196 (Hanford Infrastructure Fiber Loop) has been approved for implementation. This project will provide a redundant fiber path for inter-area telecommunications. The redundant path ensures reliable support for critical telecommunications systems.

4.0 PERFORMANCE MEASURES SUMMARY

This section is a summary of the performance indicators used at various facilities at Hanford for the end of May 1994. Monthly to quarterly charts containing with narrative explanations are summarized in this section.

- Total open work packages in the JCS--All open work packages at the reporting date, including corrective maintenance, preventive/periodic maintenance, modifications, and other packages (See Figure 18).
- Corrective Maintenance (CM) Backlog--All active CM work packages including a line for active work packages greater than 90-days since validation (See Figure 19).
- Corrective Maintenance (CM) Completed per Month--All CM work packages completed during the month (See Figure 20).
- Periodic (Preventive) Maintenance Completed per Month--All preventive maintenance (PM) packages that have been completed during the month (See Figure 21).
- Emergency Maintenance Completed per Month--All priority-1 CM packages completed during the month (See figure 22).
- Modifications Completed per Month--All modification work packages completed during the month (See Figure 23).
- Other Maintenance Completed per Month--All other maintenance including J3's completed during the month (See Figure 24).
- Packages Completed Without Suspension--A ratio of all packages completed with no suspensions to all completed packages during the reporting period (See figure 25).
- Time to Restore Priority-2 Corrective Maintenance--An average measure of the time to restore equipment to operation on a monthly basis. This reports the time CM items are open, from their validation date to the date operations accepts the equipment as operable (See Figure 26).
- Productivity--Monthly completion rates for those corrective maintenance, preventive/periodic maintenance, modifications, and other packages that were "worked" (See Figure 27).

Figure 18. Total Open Work Packages in the JCS.

Figure 19. Corrective Maintenance (CM) Backlog.

Figure 20. Corrective Maintenance (CM) Completed per Month.

Figure 21. Periodic (Preventive) Maintenance Completed per Month.

Figure 22. Emergency Maintenance Completed per Month.

Figure 23. Modifications Completed per Month.

Figure 24. Other Maintenance Completed per Month.

Figure 25. Packages Completed Without Suspension.

Figure 26. Time to Restore Priority-2 Corrective Maintenance.

Figure 27. Productivity.

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**5.0 SUMMARY OF MAINTENANCE BACKLOG FOR
ICF KEH MAINTENANCE AND UTILITIES
ORGANIZATIONS AT END OF FY 1994**

This section summarizes the maintenance backlog as defined in the DOE Order 4330.4B.

Maintenance backlog is the amount of maintenance and repair work not accomplished that is planned to sustain the intended function or design condition of the facility/equipment. Maintenance is the day-to-day work on installed equipment that is required to sustain it in a condition suitable for it to be used for its designated purpose. Maintenance backlog is measured in estimated work hours or dollars and the number of work requests. Good job screening will ensure that only valid work goes into Maintenance backlog with proper priority.

Paragraph 5.1, Maintenance Backlog by ICF KH maintenance organization presents the amount of maintenance work that is outstanding.

Paragraph 5.2, Projected Backlog by Fiscal Year Chart, requires a total chart of the Maintenance backlog to be created. The vertical scale on the chart is in millions of dollars and the horizontal scale is in fiscal years. By using the assumption that funding for maintenance will remain the same or decrease in future years, projections can be made of anticipated backlog in future years.

Paragraph 5.3, Significant Efforts or Activities to Reduce Backlog, records efforts to either reduce the backlog or at least reduce the higher priority items in the backlog.

**5.1 MAINTENANCE DIVISION SUMMARY (SIZE AND CONTENT)
OF BACKLOGGED ACTIVITIES OR PROJECTS**

The listing below provides a summary of Backlog items for the Site infrastructure, support facilities, and utilities. The list does not include deficiencies or backlog in the program areas.

MAINTENANCE DIVISION

Expense Funded Activities	Fiscal Year Scheduled	Estimated Costs in Thousands
GENERAL		
Condition assessment survey (CAS) inspection 200/300	1995-1998	300.0
Paint and trim repairs for the exterior of most wood frame buildings	1995-1998	500.0
Roof replacement/repair program	1994-1995	1,500.0
Assess electrical distribution deficiencies	1995-1998	700.0
200 AREA - 1994		
GENERAL		
Purchase radios	1994	3.8
Repair roof	1994	43.0
231Z		
Repair Roof	1994	22.0
272E		
Roof trusses	1994	67.5
272W		
Steam leak	1994	5.0
275E		
Paint shop	1994	25.0
Pave area	1994	34.0
275EA		
Flange leak	1994	4.2
622G		
Roof ladder	1994	21.0
2101M		
Enlarge L/room	1994	7.1
Sewer	1994	32.3
Carpet	1994	5.0
Parking lot light	1994	10.0
Office carpet	1994	20.9
Unit #9	1994	32.2
2704S		
Wood platforms	1994	3.4
2704W		
Purchase coolers	1994	6.4
2711E		
Roof repairs	1994	240.0
Swamp coolers	1994	31.0

Expense Funded Activities	Fiscal Year Scheduled	Estimated Costs in Thousands
2712E		
Steps/skirts	1994	2.2
2713W		
Storage shed	1994	37.5
2719WA		
Steam pipe	1994	34.3
2720		
Three air conditioners	1994	5.0
Sewer line	1994	36.2
2720W		
Shower modification	1994	5.0
2723W		
Platforms	1994	30.0
2750E		
Carports	1994	10.0
Flex ducts	1994	30.0
Fire door	1994	5.0
Aluminum stage	1994	14.1
2752E		
Install door	1994	2.6
6290		
Three concrete pads/building shop	1994	10.0
Pave access road	1994	50.0
M0-041		
Carpet	1994	5.0
M0-048		
Water line	1994	50.0
M0-405		
Windows/siding	1994	30.9
M0-931		
Roof/ceiling	1994	85.0
PFP		
Lights	1994	20.0

Expense Funded Activities	Fiscal Year Scheduled	Estimated Costs in Thousands
200 AREA - 1995-1998		
GENERAL		
Maintain hazardous materials satellite collection for general purpose buildings	1995-1998	100.0
Asbestos siding replacement	1995-1998	150.0
Asbestos abatement in buildings	1995-1998	150.0
Shorten the 200 Areas facilities current [represervation] program cyclic times. Implement a 5-year exterior and a 3-year interior painting program for general purpose facilities (each year cost)	1995-1998	300.0
200A		
HVAC duct cleaning	1995-1998	45.0
222B		
Facility upgrade	1995-1998	171.0
231Z		
Repair/replace linoleum	1995-1998	11.7
Replace roof	1995-1998	129.0
Repair wall, paint, install carpet	1995-1998	93.6
Modify HVAC ducts	1995-1998	111.0
Modify carpenter shop	1995-1998	53.9
Upgrade room 23/24 offices	1995-1998	19.5
234-5		
Intersection paving	1995-1998	15.0
251W		
Temperature bypass	1995-1998	45.0
Repair roof	1995-1998	25.5
252E		
Repair roof	1995-1998	15.0
271U		
Hazardous waste building	1995-1998	116.5
272E		
Drain by door	1995-1998	6.6
272S		
Sheetrock and paint	1995-1998	5.5
272W		
Electric main	1995-1998	14.9
Repair floor	1995-1998	11.5
Pave east side building	1995-1998	13.7

Expense Funded Activities	Fiscal Year Scheduled	Estimated Costs in Thousands
273W		
Install Fence	1995-1998	9.0
275E		
Install fence	1995-1998	9.3
Install lumber yard cover	1994-1997	12.8
Evaluate installing AC	1995-1998	22.5
275W		
Paint exterior of building	1995-1998	4.7
Pave parking area	1995-1998	5.0
277W		
Air handler steam coils	1995-1998	111.8
Repair roof leak comp. room	1995-1998	11.3
609E		
Repair French drain	1995-1998	96.0
Repair rusted metal roof	1995-1998	15.0
Hose tower monorail	1995-1998	11.6
621A		
Relocate emergency generator	1995-1998	6.5
Wye roof repair	1995-1998	15.0
622G		
Repair walls	1995-1998	225.0
1706KE		
Facility upgrades project C018	1995-1998	133.9
2101M		
Expand parking/handicap parking	1995-1998	87.8
Upgrade exterior	1995-1998	26.3
Remove buffalo units	1995-1998	225.0
L/room ceiling	1995-1998	10.5
Install carpet rooms 213/214	1995-1998	91.5
Light switches	1995-1998	9.0
Asbestos abatement	1995-1998	24.0
211A		
Construct new doorway	1995-1998	17.3
Lay carpet/tile	1995-1998	31.0
2704E		
Prepare site/install chemical building	1994-1996	84.1
2704S		
Replace roof	1995-1998	32.4
2704W		
HVAC	1995-1998	30.0
2713E		
Procure/install AC	1995-1998	81.0

Expense Funded Activities	Fiscal Year Scheduled	Estimated Costs in Thousands
2713W		
Paint rooms	1995-1998	3.5
2720W		
Install metal door	1995-1998	7.7
A/C units	1995-1998	16.0
2721E		
HVAC design/install	1995-1998	59.3
2728		
Lower ceiling	1995-1998	7.7
2750E		
Clean/recaulk outside walls	1995-1998	15.1
Install driveway/east parking lot	1995-1998	15.1
Roof leak repair	1995-1998	66.7
Injection well	1995-1998	75.0
B225 redo conference room	1995-1998	6.5
Heat tape	1995-1998	15.0
Add concrete to existing pad	1995-1998	11.6
Permanent roof rail	1995-1998	49.5
2751		
Install windbreaks	1995-1998	186.0
2751E		
Replace carpet	1995-1998	54.0
2752		
Install windbreaks	1995-1998	186.0
2752E		
Handicap walks	1995-1998	11.3
2753		
Install windbreaks	1995-1998	186.0
2753E		
Handicap walks	1995-1998	11.3
Install new sidewalk	1995-1998	3.8
Provide additional parking	1995-1998	105.0
6290		
Asphalt parking lot	1995-1998	67.2
Mezzanine platform		
Modify HVAC system		
BTW		
Walkways	1995-1998	9.0
MO-017		
Carpet	1995-1998	7.8
MO-021		
Handicap walks	1995-1998	11.3

Expense Funded Activities	Fiscal Year Scheduled	Estimated Costs in Thousands
MO-037		
Modify wall	1995-1998	5.7
Change configuration of trailer	1995-1998	5.7
MO-043		
Handicap walks	1995-1998	11.3
MO-047		
Utility sink	1995-1998	6.5
MO-056		
215 Sanitary water line	1995-1998	6.9
MO-324		
Repair floor/ceiling and paint	1995-1998	7.5
MO-393		
Install new wall and lights	1995-1998	3.5
MO-405		
Upgrade electrical	1995-1998	91.8
Window repair	1995-1998	22.5
MO-407		
Replace carpet	1995-1998	17.1
MO-996		
Replace windows	1995-1998	3.8
Replace carpet	1995-1998	15.8
Security access control	1995-1998	322.5
300 AREA - 1994-1998		
300A		
Clean HVAC ducting	1994-1998	90.0
305		
Stair treads	1994	6.0
309		
Roof guard rails	1994-1998	15.0
Soils sampling lab	1994-1998	17.1
325		
Sidewalk	1994-1998	10.0
328		
Engraver room	1994-1998	9.0
Fire protection 2/3 floor	1994-1998	35.0
Roof repair	1994-1998	20.0
Landscaping	1994-1998	15.0
Reroof building	1994-1998	150.0
Handrails	1994	7.0
Emergency lights	1994	12.0
Carpet	1994	10.0
Paint exterior of building	1994-1998	12.0

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Expense Funded Activities	Fiscal Year Scheduled	Estimated Costs in Thousands
337		
Stairway enclosure	1994	41.0
Retaining wall	1994-1998	40.0
337B		
Air compressor	1994-1998	15.0
400A		
Paving and grounds/upper lot	1994-1998	120.0
747		
Carpet	1994-1998	12.0
748		
Repair and reroof building	1994-1998	20.0
Sidewalk	1994-1998	10.0
3506A		
Install HLAN cable	1994-1998	15.0
Paint buildings	1994-1998	25.0
3506B		
Paint buildings	1994-1998	25.0
3701D		
Reroof	1994-1998	39.0
3705		
Roof access	1994	12.0
Paint exterior	1994-1998	40.0
3707D		
Install light switches	1994	12.0
Reroof building	1994-1998	35.0
Additional circuits	1994	12.0
3709		
Reroof building	1994-1998	25.0
Spray booth	1994-1998	69.0
3713		
Install rollup door	1994-1998	15.0
Reroof building	1994-1998	60.0
Install HVAC	1994-1998	25.0
Change lighting/fluorescent	1994-1998	20.0
Reside building	1994-1998	35.0
3718N		
Construct new lunchroom	1994-1998	10.2
3763		
Reroof	1994-1998	80.0
Paint exterior and trim	1994-1998	30.0

Expense Funded Activities	Fiscal Year Scheduled	Estimated Costs in Thousands
3765		
Paint trim	1994-1998	30.0
Rusted 1/2" condensate pipe	1994	3.0
Reroof	1994-1998	40.0
3768/3769/3770		
Retaining wall	1994-1998	30.0
Paint	1994-1998	30.0
3790		
Landscaping	1994	20.0
Roof guard rails	1994-1998	12.0
Carpet	1994	8.0
Outside stair cover	1994-1998	24.1
3965		
HVAC/upgrade	1994-1998	100.0
400 AREA - 1994-1998		
4702		
Paint interior	1994-1998	50.0
Asbestos abatement	1994-1998	10.0
4706		
Auto door operation	1994-1998	30.0
4707		
Asbestos abatement	1994-1998	60.0
Lunchroom		7.0
4713A		
Cover existing office	1994-1998	30.0
4722		
Concrete ramp	1994-1998	5.0
4722B		
Vacuum system	1994	27.0
4722C		
Cover fence/sandblast area	1994-1998	40.0
4814		
Repaint building	1994-1998	25.0
4843		
Repaint building	1994-1998	25.0
M0-404		
Back door	1994-1998	6.5
FFTF		
Visitor steps	1994	12.0

STEAM AND WATER UTILITIES

Expense Funded Activities	Fiscal Year Scheduled	Estimated Costs in Thousands
300 Area Powerhouse		
384 Fire System Upgrade	1997	100.0
Project L119 upgrade #2 boiler stack, Lube/oil storage	1995	750.0
100/200 Water		
Paint control room at 182-D and 183-B	1995	100.0
284 E Powerhouse		
Coal reclaim converter system	1995	150.0
#3 steam turbine	1995	58.0

**5.2 ELECTRICAL UTILITIES DIVISION SUMMARY
(SITE AND CONTENT OF BACKLOGGED
ACTIVITIES OR PROJECTS)**

Expense Funded Activities	Fiscal Year Scheduled	Estimated Cost in Thousands
Replace Storage Buildings		
Annual maintenance and repair costs for the 212-P Storage Building are increasing each year. Repairs are required to ensure compliance with federal regulations and various WHC requirements. Because of the age of the building and the fact that it is scheduled for D&D, no upkeep funds are available. Funding has been requested to construct a new storage facility.	1995	250.0
Old Transformers		
Maintenance testing/trending program has identified eight transformers that have exceeded manufacturer's power factor limits. Transformer oil filtration activities need to be completed to reduce the power factor levels to within recommended industry specifications.	1995	15.0

Expense Funded Activities	Fiscal Year Scheduled	Estimated Cost in Thousands
Transformer Rebuild Shop Remodel tunnel into transformer rebuild shop. Present shop has inadequate room for rebuilding transformers, storing parts washer, and storage of oil drums. Temporary ventilation is required to ensure odors from painting, parts cleaning activities, and old oil do not permeate offices and eating areas.	1996	110.0
Covered Parking Additional covered parking area is needed for new equipment. The new equipment is of the type that requires covered parking.	1996	150.0
Bulk Oil Pumping Station A permanent pumping station for bulk oil transfer activities needs to be constructed for greater efficiency.	1996	50.0
Storage Building Storage building for line maintenance material. Presently, material is stored in piles outside and is exposed to the weather. Valuable parts may be ruined from continued outside storage.	1997	70.0
151-KE (substation A-9) Removal of one water pipe (tripping hazard).	1995	4.0
251-W Interior painting.	1995	10.0
252-E Repair double doors.	1994	4.0
351 Interior painting.	1995	10.0
352-F Interior painting.	1996	4.0

Expense Funded Activities	Fiscal Year Scheduled	Estimated Cost in Thousands
Substations		
Inspect electrical grounding at four primary substations against established criteria. Develop a PM program for ground grid inspection and soil resistivity measurements.	1995	30.0
251-W		
Exterior upgrade.	1996	20.0
165-KW (A-7)		
Replace existing 230kV synch check and auto-recloser relays.	1995	20.0
Concrete Pad		
Create 15' x 20' concrete pad and curbing for bulk crushing activities.	1994	8.0

5.3 CHART OF PROJECTED BACKLOG BY FISCAL YEAR

The backlog listing of approximately \$3.0 million expense projects for FY 1994 in Section 5.1 represents the known or documented Site infrastructure/support facilities and utilities work anticipated to be completed this FY. The backlog at the end of FY 1994 will be as shown in Section 5.1.

In order to chart out the future backlog costs, the following assumptions are presented.

- The backlog listing in Section 5.1 is understated by approximately \$1.0 million
- Aging of the facilities will add at least \$1 million per year to the backlog
- The condition assessment survey teams will identify added work not previously identified of \$1 million per year over the next 5 years
- The total cost of the backlog will escalate 4% per year or \$0.6 million per year
- The backlog will be reduced at a rate of \$3 million per year at the present funding level

The projected backlog by FY chart, is shown in Figure 28. The chart provides the projected backlog of maintenance work through FY 1998. The projection is based on the above backlog listing in Section 5.1, and the above assumptions.

Figure 28. Projected Backlog of ICF KH Expense Projects or Activities at Present Level of Funding.

5.4 SIGNIFICANT EFFORTS OR ACTIVITIES TO REDUCE BACKLOG

Maintenance organizations constantly monitor and status both the size and age of their maintenance backlogs. Each organization has established goals to keep their backlogged maintenance work at manageable levels. However, without increased funding to upgrade facility systems, this effort is difficult at best. As we implement the condition assessment surveys, the increased findings will undoubtedly increase our backlog. Likewise, as facilities age, maintenance requirements will increase.

Expense activities will be prioritized to ensure that maintenance on higher risk facilities, systems, and equipment is accomplished as funding allows. Consequently, any growth in backlog will reflect low-risk items.

Funding aside, management is taking an aggressive proactive stand in developing initiatives designed to keep the maintenance backlog within manageable limits. These initiatives include:

1. Increase craft productivity

- Improve implementation of work management
- Actively determine and reduce craft delay times
- Implement time standards for estimating maintenance work
- Improve performance through appropriate training
- Procure special-purpose vehicles, such as maintenance vans.

2. Improve PM programs

- Evaluate the need for equipment to be included in the PM program
- Improve PM routing of crafts
- Improve PM procedures.

6.0 SUMMARY FISCAL YEAR MAINTENANCE BUDGET DATA CHARTS

This section is designed to provide summary budget data in the following three categories:

- WHC programmatic facility maintenance
- ICF KH maintenance, utilities, and transportation
- IRM telecommunications, computer systems, and office equipment.

The maintenance totals reflect the total annual maintenance costs for each program or facility, or function, or area.

The Associate Deputy Secretary for Field Management has simplified maintenance reporting starting with the requested FY 1996 budget information. The intent is to collect the total maintenance expenditures (or budget) for each site.

Cost Columns by FY. The following maintenance cost data sheets categorize the costs in each column as follows:

- Column 1: This column should contain actual maintenance dollars spent during FY 1993.
- Column 2: This column should contain proposed expenditures for FY 1994 and the full time equivalent (FTE) maintenance personnel.
- Column 3: This column should contain planned expenditures for FY 1995.
- Column 4: This column should contain dollars budgeted for maintenance for FY 1996 the budget year.
- Column 5: This column should contain total maintenance figures for FY 1996, this means, all required maintenance dollars needed to fully comply with the provisions of DOE Order 4330.4B, Maintenance Management Program, including Chapters 1 and 2 so called programmatic maintenance, and overhead maintenance.
- Column 6: This column should contain dollars required for minimal base maintenance for FY 1996, that includes all maintenance required to support federal, state and local laws, regulations, multi-party agreements, safety and health requirements, and environmental compliance that would otherwise result in statutory or regulatory violations. In short, that level of maintenance required to comply with all laws, regulations, etc., for a Site whether it be an active production site, research library, or a site in an inactive or mothball status.

Definitions: Maintenance costs include preventive maintenance, predictive maintenance, and corrective maintenance on all building structures, utilities, and equipment, general purpose common design equipment, site infrastructure components, roads, and grounds. The following definitions of the various

types of maintenance are included for use in determining what information is being asked for in the cost data sheet:

- a) **Preventive maintenance:** Includes all systematically planned and scheduled actions performed for the purpose of preventing equipment, system, or facility failure.
- b) **Predictive maintenance:** Includes actions necessary to monitor, find trends, analyze parameters, performance characteristics, properties, and signatures associated with equipment, systems, or facilities that are indicative of decreasing performance or impending failure.
- c) **Corrective maintenance:** Is the repair of failed or malfunctioning equipment, system, or facility to restore the intended function or design condition. This type maintenance does not result in a significant extension of the expected useful life of the facility or component.
- d) **Maintenance functions:** Includes supervising, planning and scheduling, storage and staging of materials and supplies, calibration, care, repair, and storage of equipment used in monitoring, or for the performance of maintenance work and similar activities.

For the purpose of this data request, maintenance expenditures are defined as the sum of the four categories above.

6.1 PROGRAMMATIC PLANT, REACTOR, AND LABORATORY MAINTENANCE TOTALS

Activity/function	Dollars in thousands						
	FY 1993 \$s	FY 1994		FY 1995 \$s	FY 1996 \$s	Total maint. FY 1996 \$s	Minimum base maint. FY 1996 \$s
		FTE ^a	\$s				
Tank Waste Remediation System							
1. TWRS	23,535	234	24,561	25,789	27,078	27,078	27,078
Solid Waste Disposal							
2. Solid Waste	2,058	28	3,008	3,417 ^c	3,516	3,895	3,895
3. Waste and Decontamination Services	5,438	55	7,637	8,291 ^d	8,531	9,089	9,089
Liquid Waste Disposal							
4. Liquid Effluents	4	11	1,282	4,614	4,658	4,658	4,658
Former DP Program Facilities							
5. PUREX/UO3	14,280	129	13,360	12,670	12,948	12,948	12,948
6. PFP	20,960	177	19,456	20,002	13,394	13,394	13,394
7. B Plant	5,630	52	4,392	5,815	5,945	5,945	5,945
8. K Basins	7,053	61	6,323	8,654	8,033	10,015	9,997
9. 300 Area Fuel Storage	1,221	7	1,129	1,215	1,092	602	1,092
Analytical Services							
10. 222S Laboratories	4,012	36	4,695	5,190	5,485	5,485	5,485
Advanced Reactors							
11. Fast Flux Test Facility	8,385	81	8,866	8,900	9,070	9,070	8,500
Environmental Restoration							
12. Decontamination and Decommissioning	5,575	60	6,231 ^e	0	0	0	0
Standards Laboratory							
13. Standards Laboratory	1,163	15	993	1,021	1,050	1,050	1,050
Total	\$99,314	945	\$101,969	\$105,578	\$100,800	\$103,229	\$103,131

^aFull-time equivalent personnel listing.

^bThis column assumes 10 CFR 830.340, Maintenance Management, has been issued.

^cNew Mixed Waste Disposal Facility.

^dT Plant, 2706T and 221T become operational.

^eContract awarded to Bechtel Hanford.

Estimated costs through June 30, 1994.

DP = Defense production

FFTF = Fast Flux Test Facility

FY = Fiscal year

PUREX = Plutonium-Uranium Extraction

TWRS = Tank Waste Remediation System

UO3 = Uranium-trioxide

**MAINTENANCE COSTS FOR ICF KH MAINTENANCE, UTILITIES,
AND TRANSPORTATION ORGANIZATIONS**

Activity/function	Dollars in thousands						
	FY 1993 \$s	FY 1994		FY 1995 \$s	FY 1996 \$s	Increase to total program FY 1996 \$s	Minimum basis FY 1996 \$s
		FTE ^a	\$s				
Maintenance							
1. Fabrication Services	560	7	632	650	669	669	669
2. North General Area Services	5,631	68	5,805	5,968	6,141	7,766	5,834
3. South General Area Services	5,944	70	6,128	6,300	6,482	8,007	6,158
Utilities							
4. Electrical	3,001	32	2,743	2,820	2,901	3,364	2,665
5. 200 Steam Plant	4,363	40	2,694	2,554	2,626	3,021	2,364
6. 200 Water and Sanitary Systems	593	5	1,607	1,652	1,700	1,955	1,530
7. 300 Area Steam Plant	2,631	26	2,305	2,316	2,385	2,770	2,145
8. 300 Area Water and Sanitary Systems	587	6	1,259	1,627	1,674	1,952	1,507
9. Laundry (Protective Equipment)	638	7	236	b			
Transportation							
10. Solid Waste Disposal	240	3	239	246	253	253	253
11. Track Maintenance	1,080	16	1,168	1,231	1,267	1,267	1,267
12. Road Maintenance	679	8	719	739	761	761	761
13. Transportation Equipment	6,130	81	6,253	6,428	6,614	6,614	6,614
Total	\$32,077	369	\$31,788	\$32,531	\$33,473	\$38,399	\$31,767

^aFull-time equivalent personnel listing

bLaundry will be demolished.

FY = Fiscal year

MAINTENANCE COSTS FOR INFORMATION RESOURCE MANAGEMENT

Activity/function	Dollars in thousands						
	FY 1993 \$s	FY 1994		FY 1995 \$s	FY 1996 \$s	Total maint. FY 1996 \$s	Minimum base maint. FY 1996 \$s
		FTE*	\$s				
Information Resource Management							
1. Telecommunications	10,945	65	13,923	16,011	18,412	24,360	18,412
2. Computer Systems	2,806	17	3,481	3,899	4,366	6,650	4,366
3. Office Equipment	280	2	350	350	200	200	200
Total	\$14,031	84	\$17,754	\$20,260	\$22,978	\$31,210	\$22,978

*Full-time equivalent personnel listing.

FY = Fiscal year

7.0 SITE INFRASTRUCTURE CAPITAL FUNDED PROJECTS

7.1 PLANNED LINE ITEM PROJECTS

(Dollars in Thousands)

SITE NAME: Hanford
 SUBMISSION YEAR: 1994
 HQ PROGRAM SPONSOR: Landlord
 OPERATIONS OFFICE: RL
 PROGRAM (B&R CODE): 39EW70300

Project Number	Project Title	Estimated Cost (\$000)	Fund Source
94-L-070	300 Area Process Sewer Piping System Upgrades	9,900	EM
95-D-424	324 Facility Compliance/Renovation	6,000	EM
95-L-102	Primary Highway Route - North of the Wye Barricade	19,100	EM
96-L-116	200 Area Sanitary Sewer System	33,400	EM
96-L-094	Hanford Fire Department Facilities	30,000	EM
96-D-420	Buildings Utility Replacement, 300 Area	4,200	EM
97-L-186	Hanford Entry Control Center	7,000	EM
97-L-113	Electrical Distribution & Lighting Conversion, 200 Area	6,600	EM
97-L-196	Hanford Infrastructure Fiber Optic Loop	6,200	EM
97-D-457	Hanford Personnel Dosimetry Facility	8,250	EM

7.2 Planned General Plant Projects (GPP)

(Dollars in Thousands)

SITE NAME: Hanford SUBMISSION YEAR: 1994
 HQ PROGRAM SPONSOR: Landlord SITE BY FY 1994 GPP TOTAL: \$7,113
 OPERATIONS OFFICE: RL
 PROGRAM (B&R CODE): 39EW70300

Project Number	Project Title	Estimated Cost (\$000)	Fund Source
94G-EWL-119	384 Powerhouse Upgrades	1,000	EM
94G-EWL-100	2711E Shop Upgrade	1,100	EM
94G-EWD-431	324 Office Addition	1,100	EM
94G-EWD-439	318 Office Addition	1,200	EM
	Small Projects/GPP Reserve	2,713	EM

(Dollars in Thousands)

SITE NAME: Hanford SUBMISSION YEAR: 1994
 HQ PROGRAM SPONSOR: Landlord SITE BY FY 1995 GPP TOTAL: \$7,300
 OPERATIONS OFFICE: RL
 PROGRAM (B&R CODE): 39EW70300

Project Number	Project Title	Estimated Cost (\$000)	Fund Source
95G-EWL-234	400 Area Sanitary Sewer System	1,300	EM
94G-EWD-446	324 High Bay Addition	1,100	EM
94G-EWL-221	200 Area Interior Roads & Sidewalks	1,000	EM
95G-EWL-224	KEH Office Replacement	1,000	EM
	Small Projects/GPP Reserve	2,900	EM

(Dollars in Thousands)

SITE NAME: Hanford SUBMISSION YEAR: 1994
HQ PROGRAM SPONSOR: Landlord SITE BY FY 1996 GPP TOTAL: \$7,300
OPERATIONS OFFICE: RL
PROGRAM (B&R CODE): 39EW70300

Project Number	Project Title	Estimated Cost (\$000)	Fund Source
96G-TBD	Proposed GPPs	5,200	EM
	Small Projects/GPP Reserve	2,100	EM

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8.0 REFERENCES

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- DOE-5483.1A, 1983, OCCUPATIONAL SAFETY AND HEALTH PROGRAM FOR DOE CONTRACTOR EMPLOYEES AT GOVERNMENT-OWNED CONTRACTOR-OPERATED FACILITIES, Chapter II cancelled by DOE 5480.29, 06/22/83.
- WHC-4-40, ATMOSPHERIC TESTING, *Confined Space Entry Procedure*, Section 3.1, Westinghouse Hanford Company, Richland, Washington.
- WHC-CM-7-5, ENVIRONMENTAL COMPLIANCE MANUAL, Westinghouse Hanford Company, Richland, Washington.

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GLOSSARY

ABBREVIATIONS AND ACRONYMS

A/C	air conditioning
ADP	Automated Data Processing
BCS	Boeing Computer Services
BHI	Bechtel Hanford Inc.
BPA	Bonneville Power Administration
CAS	Condition assessment survey
CM	corrective maintenance
CSP	Cleanout and Stabilization Plan
D&D	decontamination and decommissioning
DOE	U.S. Department of Energy
DORITE	Define, Observe, Record, Intervene, and Evaluate
DP	defense production
EIS	environmental impact statement
EM	Environmental Management
ER	environmental restoration
FFTF	Fast Flux Test Facility
FMEF	Fuels and Materials Examination Facility
FTE	Full time equivalent
FY	fiscal year
GPF	General Purpose Facilities
GPP	General Plant Project
GSA	General Services Administration
HLAN	Hanford Local Area Network
HVAC	heating, ventilating, and air conditioning
ICF KH	ICF Kaiser Hanford Company
IRM	Information Resource Management
JCS	job control system
MSA	Major System Acquisition
NAVFAC	Naval Facilities
OSHA	U.S. Department of Labor Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PFP	Plutonium Finishing Plant
PM	preventive maintenance
PNL	Pacific Northwest Laboratory
PUREX	Plutonium-Uranium Extraction
RL	U.S. Department of Energy, Richland Operations Office
SMAP	Site Maintenance Action Plan
SMS	Site Management System
SNM	special nuclear fuel
TPA	Tri-Party Agreement
TRIGA	Test Reactor and Isotope Production, General Atomics
TWRS	Tank Waste Remediation System
UO ³	Uranium-Trioxide
UPS	uninterruptible power system
USACE	U.S. Army Corps of Engineers
WAC	Washington Administrative Code
WHC	Westinghouse Hanford Company
WRAP	Waste Receiving and Processing Facility

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