Engineering Testing and Technology Projects FY 1996 Site Support Program Plan

WBS 6.3.3 and 6.3.8

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Hanford Company**

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APPROVED FOR PUBLIC RELEASE

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Site Support Program Plan Approval Sheet

6.3.3

(Program WBS)

Engineering Laboratories

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ATTACHMENT 1

ENGINEERING LABORATORIES
SITE SUPPORT PROGRAM PLAN

FY 1996

Consisting of 35 pages,
including cover page

ENGINEERING LABORATORIES
SITE SUPPORT PROGRAM PLAN

1996 FISCAL YEAR

WBS - 6.3.3
SMS - 1.06.00.03.03

Building 377/2703E "Shutdown" Version
September 22, 1995

Prepared by: L. C. Brown, Manager
Engineering Testing & Technology Projects

1.A Vision/Mission	Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 Site Support Program Plan Date: 9/22/95
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(NOTE: If appropriate, the vision/mission statement can be divided into two sections, execution year and out years.)

- To be the supplier of choice for engineering laboratory services for development, assembly, testing, and evaluation to support the resolution of WHC, Hanford, and DOE complex wide engineering issues for which we have a unique experience or capability and are competitively priced.

1.B.1 Internal Assessment Summary	Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 Site Support Program Plan Date: 9/22/95
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PRIMARY CUSTOMERS

- TWRS, Spent Nuclear Fuels, Transition Projects, Liquid Effluent Program, and other Hanford contractors and programs.

PRODUCTS/SERVICES PROVIDED (See pp 3&4 for more detail under "Value-added")

- Fabrication and Assembly Facilities for prototype and test equipment
- Development Testing
- Proof of Principal Testing
- Instrumentation Testing
- Nondestructive Examination Application Development and Testing
- Prototype Equipment Design and Assembly
- Chemical Engineering Unit Operations Testing
- Engineering Test System Disposal
- Safety Issue Resolution

MAJOR ACTIVITIES PERFORMED TO DELIVERY PRODUCTS AND SERVICES

- Rapid response to customer's engineering hardware and chemical engineering/prototype development and testing needs
- One of a kind design and testing
- Unique facilities equipped with state of the art testing, assembly, evaluation/characterization equipment.

EVALUATION OF MAJOR ACTIVITIES (COST, VALUE-ADDED, ETC.)

- Staff experience, expertise and access to engineering test materials and equipment is of high value to support programmatic customer's prototype development and/or testing routine and crisis response needs.
- FY 1995 financial results through August, 1995, indicate the year end business is "right-sized" for the '95 business volume; liquidations were within 0.04% (<\$1K on a base of \$2546K) of total for the YTD.

This liquidation rate performance indicates that the EL's income generated from direct charging to programmatic customers for engineering testing and development services performed was equal to the total cost of operations for the ELs. (The liquidation calculation includes income generated from services valued and purchased by programmatic customers in support of their programmatic objectives. It does not include DOH type charges.)

- Value-added...Technical programmatic customers purchase services from the ELs because these laboratories provide high quality engineering design, development and testing services, are responsive to programmatic schedule and milestone needs, and are cost competitive with other sources of these services. There are no constraints or requirements on Site programmatic customers to use the ELs for their engineering testing needs. As a result, the ELs must operate in such a manner that this customer perceived value is constantly provided at a competitive price or the programmatic customer will take their business elsewhere. Programmatic customers assure that they are getting both the maximum benefit for the financial resources for which they are responsible, and service that meets their committed milestone schedules from the ELs.

Access to the K-Basin mockup in 305 Building (see front page of August 28, 1995 issue of the Hanford REACH) and the support from the ELs in equipment development and testing has high value-added for the Spent Nuclear Fuels (SNF) Program. The 305 facility is key to the program for SNF's continued ability to meet their scheduled milestones, provide hands-on operations experience, training (to conform to ALARA mandates), and trouble-shooting before actual radioactive conditions in K-Basins are encountered. SNF tests out virtually every piece of hardware in the 305 pool mockup before use in K-Basins. Present programmatic plans are to fully utilize this mockup until the year 2000.

Examples of value-added TWRS support from the 306E facility include Tank 101-SY Viscometer (Design, Fabrication, and Acceptance Testing) and Void Fraction Probe (Design, Fabrication and Acceptance Testing) were built for deployment in waste tank 101-SY in support of mitigation of tank safety issues, and have been successfully deployed. The ELs continue to support field testing of upgrades of both instruments for deployment in other 200W and 200E tanks. The Retained Gas Sampler (System Design, Fabrication, and Acceptance Testing) will be utilized to retrieve and analyze samples from Flammable Gas Watch List Tanks to determine the volume and chemistry of gases confined within the waste. The ELs are involved in the project in several areas, providing project management, system design, component fabrication, and acceptance testing services. The Surface Moisture Monitoring System (SMMS) will provide a method for measuring the % by mass of moisture near the tank waste surface. The primary goal of the system is to obtain data which will be useful in assessing the safety of a tank's waste, and in providing general characterization information. The ELs are involved in the system design and will also provide fabrication and system acceptance testing services to the project. The Thermocouple (TC) Tree (Fabrication and Testing) is being used to measure the wall temperature of double shell waste tanks, providing a temperature along the vertical axis of the tank. The ELs fabricated and functionally tested

the TC Tree prototypes, developing and modifying the tree as testing progressed. The TC Trees have been deployed in the field. The Vapor Flow Monitor was developed last year in 306E to measure very low flows for naturally aspirated tanks. These flows are induced by atmospheric pressure changes. Testing is complete on the overall monitoring system, including the flow monitor, blower and stack, and data acquisition system, and the systems are ready for field deployment.

The Nondestructive Examination (NDE) organization's TWRS support provided the engineering, product specification, proof of principal testing, operating procedures, acceptance testing, and qualified operators for the Core Sampler X-ray Cart. NDE support on testing on the SY-101 Pump Strong Back and Trailer, the Multiport Risers, radiography on the Transfer Casks represent major value-added services. NDE certified personnel were key in leak testing each cesium capsule cask return shipment, completing the project ahead of schedule. NDE personnel operate the TRUSAF real time waste drum radiography system which eliminates the need to open the drums and expose personnel to potential hazards.

The Engineering Testing Laboratory organization, Building 305, supported more than 25 discrete TWRS tasks in FY95. The major work areas supported include resolution of waste tank safety issues (H_2 Ignition During Sampling, Reconciling Explosion Mitigation Mechanisms During Sampling, Development and Testing of the C-103 Vapor Mixing System, Demonstrating Safe Operating Limits of the Rotary Mode Core Sampler), 2) Operations Support (Flexible Receiver Testing and Development, In-Tank Sludge Washing, Jumper O-Ring Leak Testing, W-151 Carriage Loading System Testing), 3) Tank Characterization and Sampling (Rotary Mode Core Sampler Testing, Auger bit design modification comparisons), and 4) Training (Liquid Observation Well Borehead ATP, High Pressure Water T/C Installation). Additional detail is available if desired.

The Engineering Process Applications/Chemical Engineering Laboratory (EPA/CEL) organization supported pretreatment and LLW disposal by providing technical planning, analysis, and management was provided to the low level plasma melter demonstration testing supporting the TWRS Low Level Waste Vitrification Program melter selection; staff supporting this area has been called upon continuously by TWRS pretreatment/disposal program and engineering personnel, thus, becoming an integral part of the team. This organization also supported completion of waste propagation and moisture retention studies and tests contributed to the USQ closure and has made major contributions to the pending resolution of the ferrocyanide tank safety issue. Technical initiative and expertise of the EPA/CEL technical personnel contributed to significant cost savings related to tank moisture measurements. Laboratory and personnel availability provided large quantities of chemical simulants required to perform propagation and moisture retention tests critical to the safety resolution.

The EPA/CEL organization teamed with the NE legacies Sodium Disposition Project for value-added to successfully plan and initiate disposal of unused sodium test loops; an aggressive plan for progressing through seven facilities over the next six years resulted. The experience gained by EPA/CEL personnel during the successful disposition of the unused, programmatic unfunded legacy lithium test module added significant value to the sodium loop disposal planning.

FACTORS WHICH INFLUENCE RESOURCE CONSUMPTION (CHANGES TO COST AND VOLUME)

- Crises, priority changes and project initiation/completion status significantly affect volume and timing of work requests from customers.
- Backlog...Programmatic customers are responsible to obtain maximum return on the resources for which they are responsible. As a result, if the ELs are fully committed with higher priority work, new customers will go elsewhere at a higher price to obtain the services needed rather than "park" tens-of-thousands of dollars of resources with EL when the ELs are unable to utilize them. Peak demand is met by the EL's by either reprioritizing the work on hand, by overtime operation, or by discussion with the programmatic customer when the work can be done and letting the customer decide whether he can accommodate the delay or whether he needs to go to a higher priced provider. The ELs operate in a competitive service sector business environment that does not lend itself to establishment of a practical backlog since programs will not commit funds that may not get spent or that can not meet their schedule needs.

1.B.2 External Assessment Summary	Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 Site Support Program Plan Date: 9/22/95
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FACTORS THAT INFLUENCE CHANGES IN TYPES OR NATURE OF PRODUCTS and SERVICES

- Mission change from operations to clean-up affects the nature of the work, the oversight, and the customer interface.
- Site priorities, such as relocation of Hanford's deteriorating K-Basin Spent Fuel away from the Columbia River by 1999, significantly impact the technical content of work scope.
- The hourly unit cost of EL operation affects the customer's view as to whether the ELs are cost competitive. Facility costs, a significant fraction of the unit costs, must be tightly controlled to remain competitive.

SUMMARY OF CUSTOMER REQUIREMENTS (NEEDS)

- Increasing requests from customers for support, combined with headcount restrictions and a reduction in labor base, consistently place the engineering laboratories and related engineering staff in a mode of having to utilize and balance internal resources.
- Facility management of Building 337B is necessary for control of safety and conduct of operations of WHC and WHC/PNL testing projects run by non-EL personnel within this facility.
- EL's consolidated customer needs are shown in Table 1 below.

Table 1: ENGINEERING LABORATORIES FY96 IDENTIFIED CUSTOMER NEEDS

- Summary -

Program	FTEs
Tank Waste Remediation System: Engineering Support RGS System operations and sampler fabrication Void Fraction Probe/Viscometer operation Fabrication & testing of surveillance cameras Multi-port risers fabrication and testing DACS trailer support HMTGMS support Universal Waste Tank Sampler electron beam welding Characterization Support Provide engineering and technician support for the Surface Moisture Measurement System design, fabrication, and testing Supernate samplers fabrication and acceptance testing Cone Penetrometer acceptance testing support Rotary Mode Sampler efficiency evaluation Auger Sampler testing Core Sampling X-ray Imaging System operation Operations Support VDTT removal LLCE evaluation East & West Tank Farm NDE support Engineering Support Ferrocyanide/Organic Tank Safety Program support TWRS Privatization support Tank Waste Simulant preparation	25.0

Spent Nuclear Fuels: K-Basin sampler development K-Basin fuel removal equipment testing multiple canister overpack evaluation K-Basin debris removal tool development K-Basin sludge retrieval K-Basin cold mockup upkeep K-Basin operations interface Provide engineering and technician support for development of k-basin fuel and sludge handling tools Sludge shipment leak testing	11.9
Packaging and Transportation: RTG Package engineering and leak testing support SARP NDE input expertise Leak testing support for off-site shipments Provide engineering and technician support for the design, fabrication, and testing of RTG trailer instrumentation	3.7
Transition Projects: Sodium system disposal 105 DR closure preparation Provide engineering and technician support for the 308 facility TRIGA reactor D&D, developing and testing handling tools, and provide technician support for retrieval operations B-Plant, FFTF and PFP NDE support	8.3
EM-50 Technology Development: Cs Ion exchange resin testing Supercritical CO ₂ organic destruction Hydrogen sulfide chromium extraction test skid Light Duty Utility Arm technician support Sonic drilling instrumentation Analytical spectroscopy deployment Waste Dislodging and Conveyance support	7.25

Liquid Effluent Program: Microscale filtration tests Solid/liquid separation tests ETF, TEDF operational filter testing	5.0
Solid Waste: TRUSAF NDE support WRAP1 NDE support	2.1
Other Miscellaneous: Provide welding development and electron beam welding support to various PNL programs. Provide pressurized tube fabrication and gas filling for PNL ICF KH Fab Shop NDE support NDE support to others...PNL, BHI, WPPSS, and Bureau of Reclamation Calibration of radioactively contaminated instruments Testing of BHI's contaminated well/soil samples	2.25
TOTAL	65.5
Income generating staff	58.5
Staff coverage	112.0%

1.C Goals and Objectives	Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 Site Support Program Plan Date: 9/22/95
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CUSTOMER SUPPORT

- Provide products and engineering testing services in a safe, environmentally sound, and cost-effective manner in compliance with applicable procedures, regulations, and laws.
- Provide equipment and testing laboratories for the Hanford site.
- Provide qualified, experienced and skilled engineers, scientists, and technicians to support a wide range of programmatic customer needs.

PRODUCTION

- Full utilization of staff and testing laboratory capacity to meet programmatic customer needs and balance the income from services sold with operating expenses, i.e., liquidation rate, to maintain lowest cost provider position.
- Maintain and enhance safety and effectiveness of equipment and facilities consistent with customer demand.

ORGANIZATION AND MANAGEMENT

- The ELs are organized into 4 technical testing/service organizations and one centralized operating organization. All organizations provide services to all projects on Site requiring technical testing or NDE services. The Engineering Testing Laboratory major customer is the SNF project. This organization's personnel work out of Bldg. 305 where a K-Basin mockup is located for support of SNFs. The Equipment Development's major customer is TWRS. They are one of three groups located in Bldg. 306E. The Nondestructive Examination organization is also located in Bldg. 306E and serve the Site on whole. Most of their work requires travel from the 300 Area. The Process Engineering organization is most affected by the recommended action to close Bldgs. 377 and 2703E. They previously were the principal users of these facilities. Engineering Laboratory Operations provides centralized COO and facility management services to these four technical organizations.

1.D Strategies	Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 Site Support Program Plan Date: 9/22/95
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CUSTOMER SUPPORT STRATEGIES

- Communicate with programmatic customer and invite customer to laboratories for active participation.
- Unite customer needs with EL experience to transform ideas and concepts into working solutions.
- Measure our success by return customers, on-time milestone completion, and customer feedback.
- Provide engineering testing facilities for commercial supplier use in support of programmatic customer need to have equipment tested before moving into a contaminated area.

PRODUCTION STRATEGIES

- Utilize an applicable, disciplined Conduct of Operations (COO) approach to safe and efficient laboratory operations.
- Track organizational "right-size" via monthly over/under liquidation amounts. The over/under liquidation amount represents the difference between the value of direct charge services sold (DOH type activities are excluded from liquidation rate calculations) and incurred operating expenses. When the over/under liquidation amount is near zero, it indicates that the EL organization is competitively priced and "right-sized" because its total costs are being covered by its sale of services via direct charging to Site programmatic customers.
- Encourage and support customers in outsourcing appropriate work during "overload" peaks to meet their programmatic milestones.

ORGANIZATION and MANAGEMENT STRATEGIES

- Centralize facility management responsibility for improved COO control, standardization between laboratory operations, and economies of scale savings to contain cost escalation due to the high fixed cost vector in laboratory operation.
- Continue focus on management involvement in safe and efficient operations by management presence on the floor and Level 2 management involvement in group safety meetings and in self-assessment walk throughs.

1.E Assumptions	Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 Site Support Program Plan Date: 9/22/95
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- The recommended option in this version of the SSPP is to "SHUTDOWN" Buildings 377 and 2703E, and to relocate the work planned for those facilities into 306E with no reduction in personnel since the work content would remain the same. [NOTE: The budgetary numbers associated with this SSPP do not include monies for personnel termination costs, i.e., ~\$15K/individual.] The SID/RL considered 20% reduction of the originally proposed EL Pool '96 Baseline Budget authorization level (Rev 0) (which was based on '95 expense experience) would result in "SHUTDOWN" vis-a-vis EL's use and/or facility management responsibility for Buildings 337B, 377 and 2703E, and in a 10.5 person reduction in EL staff.
- "SHUTDOWN" of buildings 377 and 2703E will be initiated upon approval of this SSPP. Building 377 "SHUTDOWN" will turn the facility over to the EM-60 Program as a past radioactive facility and will require minimal additional action before said transfer can occur.
- Reintroduction of low-level radioactive work into 306E will be approved by the Landlord Program.
- "SHUTDOWN" costs are ROM estimated at \$260K and are included in budgetary numbers upon which this SSPP is based.
- The Engineering Laboratories will continue to earn Hanford business based on our unique capabilities, staff experience, performance, and competitive cost structure.
- DOE and WHC will continue to support facility upgrades and the elimination of "legacy" liabilities to improve facility operational safety and cost effectiveness.
- Loss of key personnel and skills can be replaced consistent with headcount allocations and business demand.
- Engineering Laboratories accounting methodology will convert from the Departmental Overhead pool used in FY-1995 to a self-liquidating pool (SLP) in FY-1996.
- Programmatic customers will use their existing BOAs to purchase engineering development and testing services that are not available from EL.
- Organizational headcount has been updated from 7/14/95 to 9/1/95 force reports.

1.F Issues and Constraints	Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 Site Support Program Plan Date: 9/22/95
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- SID/RL considered 20% reduction from the year-end '95 level of EL support would impact 337B, 377 (radiological engineering testing laboratory) and 2703E (Chemical Engineering Laboratory). The recommended action in this SSPP only affects 377 and 2703E.
- The considered 20% budgetary authorization reduction would impact customer responsiveness, and would result in loss of non-exempt staff critical skills due to the seniority "bumping" process. Staff reductions will impact the capability to perform technical testing activities, effectively control shop stock, property management, internal self-assessment and prudent Conduct-of-Operations focus. Crowding of technical staff into less space doing high hazard work has the potential for increased accident occurrences.
- EL's facility management of 337B provides the necessary laboratory conduct-of-operation control system for safe and effective operation of three major projects, two of which are joint with PNL, within the facility. The ELs was assigned facility management responsibility due to the fact the facility still contains metallic sodium and liquid NaK which is FFTF's responsibility. PNL, which has been the lead on the major part of the work in the facility, will not take building responsibility until these materials are removed. Removal of these materials is not a high priority at this time. Discontinuance of EL's service would save <\$100K in pool costs, but similar costs would have to be incurred somewhere else for control of work within the building. Relocation of the installed projects is estimated to be \$450-700K with unacceptable customer milestone schedule impacts.
- Closure of 377 and 2703E will require relocation and result in reduced capabilities.
- Staff reductions could jeopardize the NE Legacy Program commitments to WSDOE and USEPA for sodium system removal. In addition, fulfillment of technology transfer commitments associated with the sodium loop (DOE/WHC/LM Manufacturing) CRADA could be threatened.
- Staff reductions could threaten project and/or laboratory teams supporting TWRS Tank Safety Programs and Effluent Treatment Programs.
- Budgetary data has been recalculated to reflect significantly higher new laboratory/shop occupancy rates and slightly lower office occupancy rates. The impact of these new rates is to increase the budget by \$351K versus preliminary estimates based on 1995 rates.

1.G Performance Measures	Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 Site Support Program Plan Date: 9/22/95
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- Customer satisfaction maintained by delivering products and services that meet customer needs and are delivered on time, within budget and cost effectively.
- Financial: Annual labor rate control, cost liquidation and facility utilization.
 - Report EL liquidation amounts to SID/RL monthly as part of SMS package...start w/ Jan '96 SMS report. Track liquidation rate as performance indicator that programmatic customer demand is properly balanced with organizational and facility operating expenses.
- Operational/safety: Management time on floor, self-assessment activity, and safety statistics (e.g., first aid case rate and injury type).

2.A.1 Work Breakdown Structure and Responsibility Assignment Matrix		Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 Site Support Program Plan Date: 9/22/95	
RL WBS	Activity (See 2.A.2)	Title (RL WBS or Activity)	Responsible Manager	Responsible Org. & Org. Number
6.3.3	1.06.00.03.03	Engineering Laboratories	LC Brown	Engineering Testing & Technology Projects 8A000
	1.06.00.03.03.00	Engineering Testing and Technology Projects	LC Brown	Engineering Testing & Technology Projects 8A000
	1.06.00.03.03.01	Engineering Testing	MJ Schliebe	Engineering testing 8A100
	1.06.00.03.03.02	Equipment Development	JR Thielges	Equipment Development 8A200
	1.06.00.03.03.03	Nondestructive Examination	JC Krogness	Nondestructive Examination 8A300
	1.06.00.03.03.04	Process Engineering	JA Hunter	Process Engineering 8A400
	1.06.00.03.03.06	Engineering Laboratory Operations	DG Panther	Engineering Laboratory Operations 8A600

2.A.2 Description of Activities	Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 Site Support Program Plan Date: 9/22/95
ACTIVITY NUMBER & TITLE	DESCRIPTION	
1.06.00.03.03 Engineering Laboratories	Provide mechanical and electrical equipment and chemical process development and prototype fabrication services to WHC and Site project customers.	
1.06.00.03.03.00 Engineering Testing and Technology Projects	Provide management, oversight, training, and resources to operate and manage WHC Engineering Laboratories in a safe, cost effective, and compliant manner (overhead funded).	
1.06.00.03.03.01 Engineering Testing	Provide engineering, technician, and fabrication support to all organizations at Hanford for the development, qualification, and proof of principle testing of equipment/systems (direct funded).	
1.06.00.03.03.02 Equipment Development	Provide engineering, technician, and fabrication support for design, development, and testing for equipment and instrumentation for Hanford site missions (direct funded).	
1.06.00.03.03.03 Nondestructive Examination	Provide certified staff to perform nondestructive examinations for information and acceptance on materials, components, and systems (direct funded).	
1.06.00.03.03.04 Process Engineering	Provide chemical process and technical engineering analysis, design, and testing support for engineered systems and waste clean up for the Hanford site (direct funded).	
1.06.00.03.03.06 Engineering Laboratory Operations	Provide services, materials, supplies, and utilities to operate and maintain the 305, 306E, and 337B facilities (direct funded).	

2.B.1 Milestone List			Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3			FY 1996 Site Support Program Plan Date: 9/22/95	
Milestone		WBS Number	Milestone Description				Due Date
Type	Number						
			Not applicable to service organizations with many projects in support of Hanford programs.				

2.C.1 Cost Baseline by Program Element	Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 SSPP Date: 9/22/95
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FY 1995 Cost Baseline (Dollars in Thousands)

WBS #	Title	Total \$
6.3.3	Engineering Laboratories	\$3,770
	These laboratories were both a DOH pool and direct funded in FY 1995. The dollar amount only reflects the DOH portion of the budget.	
[Excludes company adders (G&A and CSP/Oversight)] FY 1995 Total for 6.3.3		

FY 1996 Cost Baseline (Dollars in Thousands)

6.3.3	Engineering Laboratories Request with Building 377 and 2703E	\$7,085¹
	Reduction from Building 377 & 2703 shutdown	(545)
	Facility Shutdown and Relocation Costs (1X cost)	260
	Revised FY 1996 Cost Baseline	6,800
	In FY 1996 these laboratories have been consolidated into a self-liquidating pool. The dollar amount represents the total amount of the pool that will be charged directly to other programs or fund sources.	
[Excludes company adders (G&A and CSP/Oversight)] FY 1996 Total for 6.3.3		

¹Budgetary data has been recalculated to reflect significantly higher new laboratory/shop occupancy rates and slightly lower office occupancy rates. The impact of these new rates is to increase the budget by \$444K versus preliminary estimates based on 1995 rates.

2.C.1 Cost Baseline by Program Element	Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 SSPP Date: 9/22/95
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FY 1997 Cost Baseline (Dollars in Thousands)

WBS #	Title	Total \$
6.3.3	Engineering Laboratories	\$6,736 ²
[Excludes company adders (G&A and CSP/Oversight)] FY 1997 Total for 6.3.3		

FY 1998 Cost Baseline (Dollars in Thousands)

6.3.3	Engineering Laboratories	\$6,945 ¹
[Excludes company adders (G&A and CSP/Oversight)] FY 1998 Total for 6.3.3		

²

Escalation rates for Environmental Restoration were used for FY 1997 (3.0%) and FY 1998 (3.1%). These rates are directed by RL letter, "Economic Escalation Indices for the U.S. Department of Energy (DOE) Construction and Environmental Management Projects," #9503832, dated August 10, 1995.

2.C.1.1 Cost Baseline by Activity	Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 SSPP Date: 9/22/95
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FY 1995 Cost Baseline (Dollars in Thousands)

Activity	Description	Total \$
1.06.00.03.03	Engineering Laboratories	
1.06.00.03.03.00	Engineering Testing and Technology Projects ³	
1.06.00.03.03.01	305 Facility maintenance, materials, and services & engineering, technician, and fabrication support for Engineering testing	\$ 699
1.06.00.03.03.02	Engineering, technician, and fabrication support for Equipment Development	257
1.06.00.03.03.03	Engineering and technician support for NDE	1,504
1.06.00.03.03.04	Engineering and technician support for Process Applications & Chemical Engineering Laboratory	971
1.06.00.03.03.06	306E/337B Facility maintenance, materials, and services	339
	Excludes company adders (G&A and CSP/Oversight) FY 1995 Total for (6.3.8)	\$ 3,770

³ Organizational restructuring due to "down-sizing" and formation of a centralized facility operations organization during FY-1995 prevent "one-for-one" traceability of baseline costs for subordinate activities.

2.C.1.1 Cost Baseline by Activity	Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 SSPP Date: 9/22/95
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FY 1996 Cost Baseline (Dollars in Thousands)

Activity	Description	Total \$
1.06.00.03.03	Engineering Laboratories	
1.06.00.03.03.00	Engineering Testing and Technology Projects	
1.06.00.03.03.01	Engineering, technician, and fabrication support for Engineering testing	\$1,011
1.06.00.03.03.02	Engineering, technician, and fabrication support for Equipment Development	1,130
1.06.00.03.03.03	Engineering and technician support for NDE	933
1.06.00.03.03.04	Engineering and technician support for Process Engineering (previously Engineered Process Applications & Chemical Engineering Laboratory)	1,579
1.06.00.03.03.06	305, 306E, 337B, 377 and 2703E Facility maintenance, materials, and services	2,147
	Excludes company adders (G&A and CSP/Oversight)--Total for (6.3.8) FY 1996	\$6,800

Note: Cost estimating is based on labor and DOH rates in FDS on 9/22/95. Cost elements 4, 5, and 6 are still not finalized as of 9/22/95. Should final 4, 5, and 6 cost elements create a significant budget delta (plus or minus), budget modification will be via normal change control.

2.C.1.1	Cost Baseline by Activity	Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 SSPP Date: 9/22/95
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FY 1997 Cost Baseline (Dollars in Thousands)

Activity	Description	Total \$
1.06.00.03.03	Engineering Laboratories	
1.06.00.03.03.00	Engineering Testing and Technology Projects	
1.06.00.03.03.01	Engineering, technician, and fabrication support for Engineering testing	\$1,001
1.06.00.03.03.02	Engineering, technician, and fabrication support for Equipment Development	1,119
1.06.00.03.03.03	Engineering and technician support for NDE	924
1.06.00.03.03.04	Engineering and technician support for Process Engineering (previously Engineered Process Applications & Chemical Engineering Laboratory)	1,564
1.06.00.03.03.06	305, 306E, and 337B facility maintenance, materials, and services	2,128
	Excludes company adders (G&A and CSP/Oversight)--Total for (6.3.8) FY 1997	\$6,736

2.C.1.1	Cost Baseline by Activity	Westinghouse Hanford Company Engineering Laboratories WBS No. 6.3.3	FY 1996 SSPP Date: 9/22/95
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FY 1998 Cost Baseline (Dollars in Thousands)

Activity	Description	Total \$
1.06.00.03.03	Engineering Laboratories	
1.06.00.03.03.00	Engineering Testing and Technology Projects	
1.06.00.03.03.01	Engineering, technician, and fabrication support for Engineering testing	\$1,032
1.06.00.03.03.02	Engineering, technician, and fabrication support for Equipment Development	1,154
1.06.00.03.03.03	Engineering and technician support for NDE	953
1.06.00.03.03.04	Engineering and technician support for Process Engineering (previously Engineered Process Applications & Chemical Engineering Laboratory)	1,612
1.06.00.03.03.06	305, 306E, 337B, 377 and 2703E Facility maintenance, materials, and services	2,194
	Excludes company adders (G&A and CSP/Oversight)--Total for (6.3.8) FY 1998	\$6,945

2.C.1.2 Cost Baseline by Funding Source	Westinghouse Hanford Company Program Title WBS No. 6.3.3	FY 1996 SSPP Date: 9/22/95
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FY 1995 COST BASELINE (Dollars in Thousands)

WBS #	Activity	Dept. OH	CSP/Oversight	SLP	G & A	Direct \$	TOTAL \$
6.3.3	1.06.00.03.03 Engineering Laboratories						
	1.06.00.03.03.00 Engineering Testing and Technology Projects ⁴	\$ 0					\$ 0
	1.06.00.03.03.01 Engineering testing	699					699
	1.06.00.03.03.02 Equipment Development	257					257
	1.06.00.03.03.03 Nondestructive Examination	1,504					1,504
	1.06.00.03.03.04 Process Engineering	971					971
	1.06.00.03.03.06 Engineering Laboratory Operations	339					339
	Total	\$ 3,770					\$ 3,770

⁴ Organizational restructuring due to "down-sizing" and formation of a centralized facility operations organization during FY-1995 prevent "one-for-one" traceability of baseline costs for subordinate activities.

2.C.1.2 Cost Baseline by Funding Source	Westinghouse Hanford Company Program Title WBS No. 6.3.3	FY 1996 SSPP Date: 9/22/95
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FY 1996 COST BASELINE (Dollars in Thousands)

WBS #	Activity	Dept. OH	CSP/Oversight	SLP	G & A	Direct \$	TOTAL \$
6.3.3	1.06.00.03.03 Engineering Laboratories ⁵						
	1.06.00.03.03.00 Engineering Testing and Technology Projects						
	1.06.00.03.03.01 Engineering testing			\$1,011			\$1,011
	1.06.00.03.03.02 Equipment Development			1,130			1,130
	1.06.00.03.03.03 Nondestructive Examination			933			933
	1.06.00.03.03.04 Process Engineering			1,579			1,579
	1.06.00.03.03.06 Engineering Laboratory Operations			2,147			2,147
	Total			\$6,800			\$6,800

⁵

Accounting methodology to be changed from DOH to SLP in FY-1996.

2.C.1.2 Cost Baseline by Funding Source	Westinghouse Hanford Company Program Title WBS No. 6.3.3	FY 1996 SSPP Date: 9/22/95
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FY 1997 COST BASELINE (Dollars in Thousands)

WBS #	Activity	Dept. OH	CSP/Oversight	SLP	G & A	Direct \$	TOTAL \$
6.3.3	1.06.00.03.03 Engineering Laboratories						
	1.06.00.03.03.00 Engineering Testing and Technology Projects						
	1.06.00.03.03.01 Engineering testing			\$1,001			\$1,001
	1.06.00.03.03.02 Equipment Development			1,119			1,119
	1.06.00.03.03.03 Nondestructive Examination			924			924
	1.06.00.03.03.04 Process Engineering			1,564			1,564
	1.06.00.03.03.06 Engineering Laboratory Operations			2,128			2,128
	Total			\$6,736			\$6,736

2.C.1.2 Cost Baseline by Funding Source	Westinghouse Hanford Company Program Title WBS No. 6.3.3	FY 1996 SSPP Date: 9/22/95
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FY 1998 COST BASELINE (Dollars in Thousands)

WBS #	Activity	Dept. OH	CSP/Oversight	SLP	G & A	Direct \$	TOTAL \$
6.3.3	1.06.00.03.03 Engineering Laboratories						
	1.06.00.03.03.00 Engineering Testing and Technology Projects						
	1.06.00.03.03.01 Engineering testing			\$1,032			\$1,032
	1.06.00.03.03.02 Equipment Development			1,154			1,154
	1.06.00.03.03.03 Nondestructive Examination			953			953
	1.06.00.03.03.04 Process Engineering			1,612			1,612
	1.06.00.03.03.06 Engineering Laboratory Operations			2,194			2,194
	Total			\$6,945			\$6,945

2.C.2 Cost Basis	Westinghouse Hanford Company Program Title WBS No. 6-3-3	FY 1996 Site Support Program Plan Date: 9/22/95
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(Provide a narrative describing cost estimating assumptions and methodology. See WHC Budget Formulation Manual, WHC-CM-2-17, for guidance.)

Budget Analysts to provide.

Costs are based on FDS rates dated 9/22/95.

FORM 2.C.3 FTEs

ENGINEERING LABORATORIES

WBS Number

6.3.3

FY 1996 SSPP

Full-Time Equivalent Staff by Job Description				NOTE: Job Family Only After 1996				
JOB FAMILY								
Job category	1994 N/A Major Reorgani- zation	1995	1996	1997	1998	1999	2000	2001
MANAGERS				5	5	5	5	5
First line		6	5					
General/executive								
Project/Program								
Other								
ENGINEERS		39	22	22	22	22	22	22
Chemical			10					
Civil								
Computer								
Electrical			2					
Environmental								
Industrial								
Mechanical			5					
Nuclear								
Petroleum/Mining								
Plant			2					
Quality Control								
Safety								
Other			3					
SCIENTISTS		4	2	2	2	2	2	2
Chemists			1					

ENGINEERING LABORATORIES

FORM 2.C.3 FTEs

WBS Number
6.3.3

FY 1996 SSPP

Full-Time Equivalent Staff by Job Description				NOTE: Job Family Only After 1996				
Environmental								
Geologists								
Life								
Material			1					
Mathematicians								
Physicists								
Social								
Other								
ADMIN/OTHER PROFESSIONALS			9	8	8	8	8	8
Accountant/auditor			1					
Architect								
Buyers/procurement								
Communications								
Compliance inspectors			3					
Computer System Anal								
Cost Est/planner/sch			1					
Health Physics								
Industrial Hygiene								
Lawyers								
Personnel/Labor Rela								
Physicians								
Physician Assis/Nurs								
Safeguard & Security			2					
Tech Writers & Edit								
Trainers								
Other			2					

ENGINEERING LABORATORIES

FORM 2.C.3 FTEs

WBS Number
6.3.3

FY 1996 SSPP

Full-Time Equivalent Staff by Job Description				NOTE: Job Family Only After 1996				
JOB FAMILY								
Job category								
GEN ADM/SECRETARY/CLERK				2.5	2.5	2.5	2.5	2.5
Admin Assistants								
Office Clerks (Gen)	2	2	1					
Office Clerks (Special)		1						
Secretaries		4	1.5					
Typist/Word Process								
Other								
TECHNICIANS				27	27	27	27	27
Computer Oper/Coder								
Drafters								
Engrs/Tech		37	27					
Envir. Sci Technicians								
Health Phys. Technic.								
Indus. Saf/Health Tech								
Instru/Control Tech								
Lab. Technicians								
Media Technicians								
Survey/Map Tech								
Other								
CRAFTS								
Carpenters								
Electricians								
HVAC								
Machinists	0	2	1					

ENGINEERING LABORATORIES

FORM 2.C.3 FTEs

WBS Number

6.3.3

FY 1996 SSPP

Full-Time Equivalent Staff by Job Description				NOTE: Job Family Only After 1996				
Masons								
Millwrights								
Painters								
Plumbers/Pipefitters								
Struct/Metal Workers								
Vehic./Mob Equip Mech								
Welders								
Other								
OPERATORS								
Chemical System								
Drillers								
Lt. Vehicle Drivers								
Material Moving Equip								
Nuclear Plant								
Utilities Waste Proces								
Other								
LABOR & GEN WORKERS								
Firefighters								
Food Service								
Hand/Help Lab Gen								
Hand/Help Lab Spec								
Janitors/Cleaners								
Laundry Workers								
Security Guards								
Other								

Site Support Program Plan Approval Sheet

6.3.8

(Program WBS)

Site Physical & Electrical Calibration Services

(Title)

Assistant Manager-Contracting Officer's Representative

(Signature)

9/26/95
(Date)

L. L. Piper

WHC Director or VP

(Signature)

9/27/95
(Date)

R. E. Traister

WHC Program Manager

(Signature)

9/22/95

(Date)

L. C. Brown

9555148

ATTACHMENT 2

SITE PHYSICAL AND ELECTRICAL
CALIBRATION SERVICES
SITE SUPPORT PROGRAM PLAN

FY 1996

Consisting of 31 pages,
including cover page

**SITE PHYSICAL AND ELECTRICAL
CALIBRATION SERVICES
SITE SUPPORT PROGRAM PLAN**

1996 FISCAL YEAR

**WBS No. 6.3.8
SMS - 1.06.00.03.08**

**Prepared by: L. C. Brown, Manager
Engineering Testing & Technology Projects**

1.A Vision/Mission	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
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(NOTE: If appropriate, the vision/mission statement can be divided into two sections, execution year and out years.)

Manage a Calibration and Repair Program to ensure safe, efficient and responsive services in support of all Hanford mission areas. To operate, maintain and project future needs of the Hanford site.

1.B.1 Internal Assessment Summary	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
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PRIMARY CUSTOMERS

Standards Laboratory operates using Westinghouse Self-Liquidating Pool concept. Funding sources are provided through users of our calibration program. Approximately 500 plus customers annually. Calibration services also extends to all DOE-RL contractors and a few DOE approved outside groups.

PRODUCTS/SERVICES PROVIDED

Standards Laboratory provides physical and electrical calibration services directly traceable to the National Institute of Standards and Technology (NIST). The laboratory also provides pick-up and delivery, recall and records services.

MAJOR ACTIVITIES PERFORMED TO DELIVERY PRODUCTS AND SERVICES

Calibrations provided in the following disciplines: voltage, resistance, current frequency, pressure, temperature, humidity, mass, dimensional, vibration, sound, vacuum, force, torque and gas flow.

EVALUATION OF MAJOR ACTIVITIES (COST, VALUE-ADDED, ETC.)

All the above activities are services requested through project requirements. Off-site calibration services are used if it is cost effective.

FACTORS WHICH INFLUENCE RESOURCE CONSUMPTION (CHANGES TO COST AND VOLUME

Factors which influence our cost and resource consumption are calibration, labor, administration of the Recall Program, direct traceability to National Standards and maintenance of management procedures.

1.B.1 Internal Assessment Summary	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
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FACTORS THAT INFLUENCE CHANGES IN TYPES OR NATURE OF PRODUCTS and SERVICES

- New missions and changes in regulations which require the purchase of new standards, additional procedures and staff retraining.
- SID/RL considered 20% reduction of our originally proposed 96 baseline budget would 1) impact our ability to keep the laboratory capabilities current with Hanford Contractor requirements, 2) increase our average turn around time, 3) impact our emergency response on high priority projects, 4) reduce our technical competency where further reductions would increase our potential for work stoppage due to quality audit findings, 5) Curtail developing plans for bringing the laboratory into compliance with nationally emerging standards for calibration facility operations (NCSL Z540 and ISO 9002 replacing MILSTD 45662A and NQA1).
 - 1) A 20% budget decrease would force reductions in the purchase of new standards and technical support. The effect will be manageable the first year but sustained cuts in this area will have technical and cost impacts in future years.
 - 2) The average turnaround time in the laboratory would increase from its current 14 days to 17 days. This is expected to further increase customers impacts already affected by long turn around times.
 - 3) Emergency response would be impacted because of personnel and overtime reductions. Work will be done on normal work shifts and priority projects with high cost and schedule impacts will no longer have the ability to get work done overnight on overtime. Priority work requiring high level of efforts for extended periods of time will be experience even longer delays with associated Program cost and schedule impacts.
 - 4) Loss of laboratory personnel would further reduce trained personnel required to run the laboratory. The area most affected is calibrations activities. This reduction is manageable, however, it would bring the laboratory to a critical manpower level where further reductions would seriously affect all

1.B.1 Internal Assessment Summary	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
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areas including calibration activities, engineering support, quality and technical auditing, procedure development, and new business development activities. Annual quality audits of the laboratory would specifically address these areas and may report findings which would have to be addressed via the audit process. Should this happen the laboratory may have to correct these findings before doing further work (i.e., shut down until corrective action is taken). Shutdown of the laboratory would result in work stoppage in all projects and programs using Measuring and Test Equipment (M&TE). The impact on costs and schedules for the entire Hanford Site would be enormous.

5) DOE is moving towards replacing DOE standards with national standards where they exist. National standards for Calibration laboratory management are NCSL Z540 and ISO 9002. The laboratory should be doing some implementation planning so that we are prepared to go forward when this change occurs. Implementation of these national standards will be a major laboratory expense (\$120K est.) and require considerable effort by our staff (both of which will not be available). There is no funding or personnel available to do this planning which may result in significant increases in implementation costs later on because we were not prepared.

1.B.2 External Assessment Summary	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
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SUMMARY OF CUSTOMER REQUIREMENTS (NEEDS)

Our customers require calibrations traceable to the NIST, a Recall Program, Calibration and Repair Services, and a Calibration program which is operated according to the requirements of WHC-CM-4-2 Quality Assurance manual with emphasis on Section 12 and 10 CFR 21 (requirement for Nuclear Facilities).

OTHER EXTERNAL CHALLENGES

To structure the operation of the laboratory in such a way as to make it cost competitive and responsive to all customers new and old.

1.C Goals and Objectives	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
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(If appropriate, goals and objectives can be divided into two sections, execution year and out years.)

Goals:

Safety - Maintain lost work days and recordable injuries at a zero level

Productivity - Maintain turn-around time average <17 days.

Objectives:

Continue to improve safety involvement through our Voluntary Protection Program (VPP).

Develop working environment that places a high value on resolving staff problems and concerns.

Modify operations to meet changing equipment calibration and service requirements. (Operation Procedures and Self-Assessment)

Improve the quality and productivity of calibration procedures.

Establish a field calibration function to support all contractors.

1.D Strategies	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
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CUSTOMER SUPPORT STRATEGIES

Improve the Engineering Consultation services through improved field exposure.

Provide improved services to our customers with zero increase in charge out rate.

Increase our productivity, reducing cost per calibration by 2%.

PRODUCTION STRATEGIES

Improve Environmental controls in laboratory.

Provide cross training of Calibration Technicians.

Improve calibration procedure process.

Improve our calibration data system (less operational cost in future years).

ORGANIZATION and MANAGEMENT STRATEGIES

Continue to benchmark our laboratory with outside laboratories and implement a productivity improvement plan based on findings.

Improve our Calibration Recall and Procedure operation.

1.E Assumptions	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
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ASSUMPTIONS

M&TE and Nondestructive Testing Equipment (NDTE) will continue to be required on the Hanford Site to support all programs.

The laboratory newly completed addition will continue to improve efficiency and capabilities.

New Environmental Regulations and Mission may require new procedures and standards.

Requests for calibrations will continue to slightly increase in the areas of 100K Basins, Tank Farms, and Instrumentation related to environment measurements.

FFTF, PFP, and PUREX will slightly decrease in calibration activity.

Any staff and equipment budget reductions would impact the laboratories.

Technical base as it relates to improved development of staff competence levels and purchasing of new reference standards.

1.F Issues and Constraints	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
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- SID/RL considered 20% reduction from the year end 1995 level would impact customer responsiveness, would result in loss of one critical skilled calibration specialist and apprentice in training.

In addition, a reduced budget would limit Quality Assurance oversight and funds required to upgrade our reference standards. These reductions would impact the capability to effectively maintain skilled craft, property management, internal self-assessment, and prudent Quality assessments.

- Planned capability for contaminated instrumentation calibration would be lost with closure of 377 Building unless the work can be relocated to another radiological area. Loss of this capability would impact the site Air Sampling Program.
- Our laboratory provides calibration services to all RL site contractors and RL approved outside customers (WPPSS, SEIMENS). The lack of a Use Permit inhibits the laboratory in development of private sector customers.
- All Hanford contractors' measuring and test equipment is calibrated by the Standards Laboratory. A considered 20% budget cut should be reviewed and approved by all DOE programs and project managers and their respective contractor managers. These programs and project managers should clearly understand the issues involved and the impact to their programs prior to this action being taken.
- Budgetary data has been recalculated to reflect significantly higher new laboratory/shop occupancy rates and slightly lower office occupancy rates. The impact of these new rates is to increase the budget by \$93K versus preliminary estimates based on 1995 rates.

1.6 Performance Measures	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
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Accountability - Measure and record staff accountability; accountability is calculated by dividing working hours available into the actual calibration hours performed.

Productivity - Measure and record staff productivity improvement; productivity equals the hours saved related to average past hours to calibrate the same device.

Safety - Record and track lost work days and recordables.

2.A.1 Work Breakdown Structure and Responsibility Assignment Matrix		Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8		FY 1996 Site Support Program Plan Date 9/22/95	
Program Element	Activity/Program Sub-Element	Cost Account	Title	Responsible Manager	Responsible Organization
6.3.8	1.06.00.03.08.00	1MDCON	Administration of Recall Program	KL Chubb	8A500
	1.06.00.03.08.01	1MDCON	Direct Traceability to NIST	KL Chubb	8A500
	1.06.00.03.08.02	1MDCON	Test Equipment Services	KL Chubb	8A500
	1.06.00.03.08.03	1MDCON	Calibration of Primary Standard	KL Chubb	8A500
	1.06.00.03.08.04	1MDCON	Facility Occupancy	KL Chubb	8A500
	1.06.00.03.08.05	1MDCON	Laboratory Management	KL Chubb	8A500
	1.06.00.03.08.06	1MDCON	Calibration and Repair of Test Equipment	KL Chubb	8A500

2.A.2 Description of Activities	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
ACTIVITY	DESCRIPTION	
1.06.00.03.08.00 Administration of Recall Program	The administration of an M&TE calibration and recall control system for 20,000 items of M&TE meeting NQA-1 and other DOE and regulatory requirements is a complex task requiring both exempt and non-exempt personnel, plus occasional computer software and hardware support from IRM. Tasks include the shipping and receiving of 40-50 items of M&TE daily, work package preparation, accountability, procedure development and control, report auditing, entering calibration data into the recall database, generating management reports and recall notifications in DOE record repositories.	
1.06.00.03.08.01 Direct Traceability to the National Institute of Standards and Technology	Establishing and maintaining traceability for the Standards Lab primary standards directly to the NIST requires engineering support. NIST certifies only limited types and numbers of standards. These standards must be scheduled months in advance and must be carefully selected to provide sufficient numbers, thereby providing reasonable confidence level in the accuracy and traceability of measurements. The laboratory must ensure cost effectiveness due to the high cost of NIST, scheduling time, special shipping requirements, close consultation with NIST scientists and changing measurement requirements are a continuing challenge.	
1.06.00.03.08.02 Test Equipment Services	Provides plant wide M&TE services which includes Field Calibration Services, Engineering Services, Equipment Pooling Services, purchasing recommendations and related field training. Technicians to perform calibration activities. Plant Engineering Services.	

1.06.00.03.08.03 Calibration of Primary Standard	Intercomparison of our reference and working level standards with the primary standards from NIST, or with natural physical constraints defined by NIST requires both craftsman and engineering support. To meet the wide range of measurement disciplines and the increasing accuracy of customer equipment requires more frequent and precise calibration of our laboratory standards and equipment. Continuous cross checks and monitoring are required to assure consistent measurements.
1.06.00.03.08.04 Facility Maintenance / Occupancy	Includes occupancy and Q.A. support costs.
1.06.00.03.08.05 Laboratory Management	The laboratory is staffed with one resident manager who provides long range planning, customer interfacing, work planning and scheduling, general oversight of all Standards Laboratory operations, activities and staffing needs.
1.06.00.03.08.06 Calibration and Repair of Test Equipment	Of the approximately 20,000 items of Measuring and Test Equipment (M&TE) maintained on the Standards Laboratory Recall Program, approximately 7,000 are on active status requiring 8,000 calibrations to be performed each year. The calibrations of customer owned M&TE are performed by metrology trained bargaining unit craftsmen experienced in precision measurements. These calibrations require both craftsman and engineering support. The craftsman compare the customer's working level M&TE to the more accurate reference standards maintained by the laboratory to determine conformance to the required tolerances and specifications. Items found to be out of tolerance must be repaired and readjusted to specification or acceptable tolerances, or rejected and removed from the program. In addition, the craftsmen must help develop new methods and special measurement techniques to meet new requirements and uses.

2.B.1 Milestone List			Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8			FY 1996 Site Support Program Plan Date 9/22/95	
Milestone		WBS Number	Milestone Description				Due Date
Type	Number						
			None				

2.C.1 Cost Baseline by Program Element	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
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FY 1995 Cost Baseline (Dollars in Thousands)

WBS #	Title	Total \$
1MDCON	Site Physical and Electrical Calibration Services	\$1,988
[Excludes company adders (G&A and CSP/Oversight)] FY 1995 Total for (6.3.8)		

FY 1996 Cost Baseline (Dollars in Thousands)

1MDCON	Site Physical and Electrical Calibration Services Request	\$1,660
[Excludes company adders (G&A and CSP/Oversight)] FY 1996 Total for (6.3.8)		

2.C.1 Cost Baseline by Program Element	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
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FY 1997 Cost Baseline (Dollars in Thousands)

WBS #	Title	Total \$
1MDCON	Site Physical and Electrical Calibration Services	\$1,710 ⁽¹⁾
[Excludes company adders (G&A and CSP/Oversight)] FY 1997 Total for (6.3.8)		

FY 1998 Cost Baseline (Dollars in Thousands)

1MDCON	Site Physical and Electrical Calibration Services	\$1,763 ⁽¹⁾
[Excludes company adders (G&A and CSP/Oversight)] FY 1998 Total for (6.3.8)		

(1) Escalation rates for Environmental Restoration were used for FY 1997 (3.0%) and FY 1998 (3.1%). These rates are directed by DOE-RL letter, "Economic Escalation Indices for the U.S. Department of Energy (DOE) Construction and Environmental Management Projects," dated August 10, 1995, WHC #9503832.

2.C.1.1	Cost Baseline by Activity	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
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FY 1995 Cost Baseline (Dollars in Thousands)

Activity	Description	Total \$
6.3.8.0	Administration and Recall Program	\$ 384.1
6.3.8.1	Direct Traceability to NIST	\$ 53.3
6.3.8.2	Test Equipment Services	\$ 144.6
6.3.8.3	Calibration of Primary Standard	\$ 124.5
6.3.8.4	Facility Maintenance and Occupancy	\$ 356.6
6.3.8.5	Laboratory Management	\$ 144.6
6.3.8.6	Calibration and Repair of Test Equipment	\$ 780.6
[Excludes company adders (G&A and CSP/Oversight)] FY 1995 Total for (6.3.8)		\$ 1988.3

FY 1996 Cost Baseline (Dollars in Thousands)

6.3.8.0	Administration and Recall Program	\$ 321
6.3.8.1	Direct Traceability to NIST	\$ 44
6.3.8.2	Test Equipment Services	\$ 121
6.3.8.3	Calibration of Primary Standard	\$ 104
6.3.8.4	Facility Maintenance and Occupancy	\$ 298
6.3.8.5	Laboratory Management	\$ 121
6.3.8.6	Calibration and Repair of Test Equipment	\$ 651
[Excludes company adders (G&A and CSP/Oversight)] FY 1996 Total for (6.3.8)		\$ 1,660
Note: See page 15 for escalation rates.		

2.C.1.1	Cost Baseline by Activity	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
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FY 1997 Cost Baseline (Dollars in Thousands)

Activity	Description	Total \$
6.3.8.0	Administration and Recall Program	\$ 330
6.3.8.1	Direct Traceability to NIST	\$ 46
6.3.8.2	Test Equipment Services	\$ 124
6.3.8.3	Calibration of Primary Standard	\$ 107
6.3.8.4	Facility Maintenance and Occupancy	\$ 307
6.3.8.5	Laboratory Management	\$ 124
6.3.8.6	Calibration and Repair of Test Equipment	\$ 672
[Excludes company adders (G&A and CSP/Oversight)] FY 1997 Total for (6.3.8)		\$1,710

FY 1998 Cost Baseline (Dollars in Thousands)

6.3.8.0	Administration and Recall Program	\$ 341
6.3.8.1	Direct Traceability to NIST	\$ 48
6.3.8.2	Test Equipment Services	\$ 128
6.3.8.3	Calibration of Primary Standard	\$ 111
6.3.8.4	Facility Maintenance and Occupancy	\$ 316
6.3.8.5	Laboratory Management	\$ 128
6.3.8.6	Calibration and Repair of Test Equipment	\$ 691
[Excludes company adders (G&A and CSP/Oversight)] FY 1998 Total for (6.3.8)		\$1,763

Note: See page 15 for escalation rates.

2.C.1.2 Cost Baseline by Funding Source	Westinghouse Hanford Company Program Title WBS No. 6.3.8	FY 1996 SSPP Date 9/22/95
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FY 1995 COST BASELINE (Dollars in Thousands)

WBS #	Activity	Dept. OH	CSP/Oversight	SLP	G & A	Direct \$	TOTAL \$
6.3.8	1.06.00.03.08 Standard Laboratories						
	1.06.00.03.08.00 Administration & Recall Technology Projects			384.1			384.1
	1.06.00.03.08.01 Direct Traceability to NIST			53.3			53.3
	1.06.00.03.08.02 Test Equipment Services			144.6			144.6
	1.06.00.03.08.03 Calibration of Primary Standard			124.5			124.5
	1.06.00.03.08.04 Facility Maintenance & Occupancy			356.6			356.6
	1.06.00.03.08.05 Laboratory Management			144.6			144.6
	1.06.00.03.08.06 Calibration & Repair of Test Equipment			780.6			780.6
	Total			1,988.3			1,988.3

2.C.1.2 Cost Baseline by Funding Source	Westinghouse Hanford Company Program Title WBS No. 6.3.8	FY 1996 SSPP Date 9/22/95
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FY 1996 COST BASELINE (Dollars in Thousands)

WBS #	Activity	Dept. OH	CSP/Oversight	SLP	G & A	Direct \$	TOTAL \$
6.3.8	1.06.00.03.08 Standard Laboratories						
	1.06.00.03.08.00 Administration & Recall Technology Projects			321			321
	1.06.00.03.08.01 Direct Traceability to NIST			44			44
	1.06.00.03.08.02 Test Equipment Services			121			121
	1.06.00.03.08.03 Calibration of Primary Standard			104			104
	1.06.00.03.08.04 Facility Maintenance & Occupancy			298			298
	1.06.00.03.08.05 Laboratory Management			121			121
	1.06.00.03.08.06 Calibration & Repair of Test Equipment			651			651
	Total			1,660			1,660

See FY 1995 Sheet

2.C.1.2 Cost Baseline by Funding Source	Westinghouse Hanford Company Program Title WBS No. 6.3.8	FY 1996 SSPP Date 9/22/95
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FY 1997 COST BASELINE (Dollars in Thousands)

WBS #	Activity	Dept. OH	CSP/Oversight	SLP	G & A	Direct \$	TOTAL \$
6.3.8	1.06.00.03.08 Standard Laboratories						
	1.06.00.03.08.00 Administration & Recall Technology Projects			330			330
	1.06.00.03.08.01 Direct Traceability to NIST			46			46
	1.06.00.03.08.02 Test Equipment Services			124			124
	1.06.00.03.08.03 Calibration of Primary Standard			107			107
	1.06.00.03.08.04 Facility Maintenance & Occupancy			307			307
	1.06.00.03.08.05 Laboratory Management			124			124
	1.06.00.03.08.06 Calibration & Repair of Test Equipment			672			672
	Total			1,710			1,710

2.C.1.2 Cost Baseline by Funding Source	Westinghouse Hanford Company Program Title WBS No. 6.3.8	FY 1996 SSPP Date 9/22/95
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FY 1998 COST BASELINE (Dollars in Thousands)

WBS #	Activity	Dept. OH	CSP/Oversight	SLP	G & A	Direct \$	TOTAL \$
6.3.8	1.06.00.03.08 Standard Laboratories						
	1.06.00.03.08.00 Administration & Recall Technology Projects			341			341
	1.06.00.03.08.01 Direct Traceability to NIST			48			48
	1.06.00.03.08.02 Test Equipment Services			128			128
	1.06.00.03.08.03 Calibration of Primary Standard			111			111
	1.06.00.03.08.04 Facility Maintenance & Occupancy			316			316
	1.06.00.03.08.05 Laboratory Management			128			128
	1.06.00.03.08.06 Calibration & Repair of Test Equipment			691			691
	Total			1,763			1,763

2.C.2 Cost Basis	Westinghouse Hanford Company Site Physical and Electrical Calibration Services WBS No. 6.3.8	FY 1996 Site Support Program Plan Date 9/22/95
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(Provide a narrative describing cost estimating assumptions and methodology. See WHC Budget Formulation Manual, WHC-CM-2-17, for guidance.)

- Fiscal Year 1996 Site Support Program Plan developed in accordance with WHC-CM-2-17 and Overhead Planning guidance.

SUPPORT ORGANIZATION TITLE

6.3.8

FY 1996 SSPP

Full-Time Equivalent Staff by Job Description				NOTE: Job Family Only After 1996				
JOB FAMILY								
Job category	1994	1995	1996	1997	1998	1999	2000	2001
MANAGERS				1	1	1	1	1
First line	1	1	1					
General/executive								
Project/Program								
Other								
ENGINEERS	5	5	3	3	3	3	3	3
Chemical								
Civil								
Computer								
Electrical								
Environmental								
Industrial								
Mechanical								
Nuclear								
Petroleum/Mining								
Plant			2					
Quality Control			1					
Safety								
Other								
SCIENTISTS								
Chemists								

SUPPORT ORGANIZATION TITLE

FORM 2.C.3 FTEs

6.3.8

FY 1996 SSPP

Full-Time Equivalent Staff by Job Description				NOTE: Job Family Only After 1996				
Environmental								
Geologists								
Life								
Material								
Mathematicians								
Physicists								
Social								
Other								
ADMIN/OTHER PROFESSIONALS								
Accountant/auditor								
Architect								
Buyers/procurement								
Communications								
Compliance inspectors								
Computer System Anal								
Cost Est/planner/sch								
Health Physics								
Industrial Hygiene								
Lawyers								
Personnel/Labor Rela								
Physicians								
Physician Assis/Nurs								
Safeguard & Security								
Tech Writers & Edit								
Trainers								

SUPPORT ORGANIZATION TITLE

FORM 2.C.3 FTEs

6.3.8

FY 1996 SSPP

Full-Time Equivalent Staff by Job Description				NOTE: Job Family Only After 1996				
Other								
JOB FAMILY								
Job category								
GEN ADM/SECRETARY/CLERK				1.5	1.5	1.5	1.5	1.5
Admin Assistants								
Office Clerks (Gen)	2	2	1.5					
Office Clerks (Special)								
Secretaries								
Typist/Word Process								
Other								
TECHNICIANS				9	9	9	9	9
Computer Oper/Coder								
Drafters								
Engrs/Tech								
Envir. Sci Technicians								
Health Phys. Technic.								
Indus. Saf/Health Tech								
Instru/Control Tech	10	10	9					
Lab. Technicians								
Media Technicians								
Survey/Map Tech								
Other								
CRAFTS								
Carpenters								
Electricians								

SUPPORT ORGANIZATION TITLE

FORM 2.C.3 FTEs

6.3.8

FY 1996 SSPP

Full-Time Equivalent Staff by Job Description				NOTE: Job Family Only After 1996				
HVAC								
Machinists								
Masons								
Millwrights								
Painters								
Plumbers/Pipefitters								
Struct/Metal Workers								
Vehic./Mob Equip Mech								
Welders								
Other								
OPERATORS								
Chemical System								
Drillers								
Lt. Vehicle Drivers								
Material Moving Equip								
Nuclear Plant								
Utilities Waste Proces								
Other								
LABOR & GEN WORKERS								
Firefighters								
Food Service								
Hand/Help Lab Gen								
Hand/Help Lab Spec								
Janitors/Cleaners								
Laundry Workers								

SUPPORT ORGANIZATION TITLE

FORM 2.C.3 FTEs

6.3.8

FY 1996 SSPP

Full-Time Equivalent Staff by Job Description				NOTE: Job Family Only After 1996				
Security Guards								
Other								