

DEPARTMENT OF ENERGY
FY 1993 CONGRESSIONAL BUDGET REQUEST
ENERGY SUPPLY, RESEARCH AND DEVELOPMENT

OVERVIEW

MULTIPROGRAM ENERGY LABORATORIES - FACILITIES SUPPORT

Attaining the R&D goals articulated in the National Energy Strategy (NES) involves significant use of Energy Research (ER) laboratory facilities. These include: Argonne National Laboratory (ANL), Brookhaven National Laboratory (BNL), Lawrence Berkeley Laboratory (LBL), Oak Ridge National Laboratory (ORNL), Pacific Northwest Laboratory (PNL), and other smaller dedicated ER laboratories. All facilities at these laboratories are government owned and represent a multi-billion dollar investment. Replacement costs in today's dollars of all active facilities at the ER laboratories are estimated to be over \$10 billion dollars. The average age of the laboratories' facilities is 30 years and plans indicate these laboratories will be heavily utilized throughout the 1990s and well into the 21st century.

Resources are required to preserve and maintain these facilities so they can carry out their respective missions in accordance with relevant regulations and DOE Orders. The MEL-FS program is designed to maintain infrastructure integrity at these facilities. The strategy of the MEL-FS program is to select and support projects necessary to: (1) maintain operations of the laboratories in a safe, cost effective, and productive manner; (2) reduce the backlog of facilities deficiencies; and (3) address Tiger Team remediations needs.

The MEL-FS program is composed of two subprograms. The General Purpose Facilities subprogram provides construction support for the rehabilitation and replacement of the general purpose facilities (GPF) at the ER laboratories. These construction projects have a total estimated cost (TEC) exceeding \$1.2 million and are directed at general purpose facilities which include general use, service and support facilities such as administrative space, cafeterias, general office/laboratory space, utility systems, sanitary sewers, roads, etc. This subprogram also begins implementation of an infrastructure replacement and upgrade initiative.

A new Tiger Team Remediations subprogram will provide support necessary to correct deficiencies identified in the Tiger Team reviews that are related to ER responsibilities. The comprehensive Tiger Team assessments, currently being conducted in the Department, examine environment, safety and health performance of its facilities and are conducted by a team of specialists from various DOE offices, contractors, and consultants organized into three subteams: environmental, sitewide safety and health assessment, and management. The subprogram is designed to alleviate increases in laboratory overhead rates and General Purpose Equipment (GPE), General Plant Projects (GPP) and General Purpose Facilities (GPF) funding levels, and to establish a program that will provide headquarters oversight of Tiger Team corrective actions related to ER responsibilities.

The benefits to be gained by supporting MEL-FS are: improved safety, security, and environmental compliance levels; reduced health risks; decreased operating costs and improved productivity; and continuity of operations. The program will help ensure that the general purpose facilities are adequate for the continued effective accomplishment of the Department's R&D mission today and in the future. The program is an appropriate Federal role reflecting the responsible management of the Government's real property.

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LEAD TABLE

Multiprogram Energy Laboratories - Facilities Support

| <u>Activity</u> | <u>FY 1991 Enacted</u> | <u>FY 1992 Enacted</u> | <u>FY 1993 Base</u> | <u>FY 1993 Request</u> | <u>Program Change Request vs Base</u> | |
|--|----------------------------|----------------------------|-------------------------|----------------------------|---|----------------|
| | | | | | <u>Dollar</u> | <u>Percent</u> |
| General Purpose Facilities | | | | | | |
| Construction | <u>\$23,605</u> | <u>\$23,891</u> | <u>\$23,891</u> | <u>\$56,700</u> | <u>\$32,809</u> | <u>137%</u> |
| Subtotal, General Purpose Facilities | <u>\$23,605</u> | <u>\$23,891</u> | <u>\$23,891</u> | <u>\$56,700</u> | <u>\$32,809</u> | <u>137%</u> |
| Tiger Team Remediation | | | | | | |
| Capital Equipment | <u>\$0</u> | <u>\$0</u> | <u>\$0</u> | <u>\$3,000</u> | <u>\$3,000</u> | <u>>999</u> |
| Construction | <u>\$0</u> | <u>\$0</u> | <u>\$0</u> | <u>\$7,000</u> | <u>\$7,000</u> | <u>>999</u> |
| Subtotal, Tiger Team Remediation | <u>\$0</u> | <u>\$0</u> | <u>\$0</u> | <u>\$10,000</u> | <u>\$10,000</u> | <u>>999</u> |
| Summary | | | | | | |
| Capital Equipment | <u>\$0</u> | <u>\$0</u> | <u>\$0</u> | <u>\$3,000</u> | <u>\$3,000</u> | <u>>999</u> |
| Construction | <u>\$23,605</u> | <u>\$23,891</u> | <u>\$23,891</u> | <u>\$63,700</u> | <u>\$39,809</u> | <u>167%</u> |
| Total Program | <u>\$23,605</u> a/ | <u>\$23,891</u> | <u>\$23,891</u> | <u>\$66,700</u> | <u>\$42,809</u> | <u>179%</u> |

Authorization: Section 647, P.L. 95-91.

a/ Total has been reduced by \$297 for FY 1991 sequester and \$130,000 for General Reduction.

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SUMMARY OF CHANGES

Multiprogram Energy Laboratories - Facilities Support

| | |
|---|--------------|
| FY 1992 Appropriation..... | \$ 23,891 |
| FY 1993 Base Adjustments..... | 0 |
| - Initiates 13 new projects and maintains schedules on 11 ongoing projects..... | 32,809 |
| - Initiates 5 line item construction projects required by Tiger Team plans..... | 7,000 |
| - Provides modern health physics equipment as identified in Tiger Team action plans particularly at ORNL..... | <u>3,000</u> |
| FY 1993 Congressional Budget Request..... | \$ 66,700 |

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KEY ACTIVITY SUMMARY

MULTIPROGRAM ENERGY LABORATORIES - FACILITIES SUPPORT

I. Preface: General Purpose Facilities

The program funds line-item construction projects designed to correct deficiencies in general purpose facilities at ER laboratories. This program was established in FY 1981 to support construction activities estimated to cost more than \$1.2M and currently contributes to infrastructure improvements at all Energy Research laboratories.

Facilities at these laboratories are government owned and represent an investment of over \$10 billion in replacement costs in today's dollars. The laboratories facilities are heavily utilized and received more than \$1 billion a year in operating funds to perform research and development and employ over 17,000 scientists, engineers, and other support staff. The ER laboratories range in age from 23 to 42 years. Resources are required to preserve and maintain these facilities so that they can carry out their respective missions in accordance with relevant regulations and DOE orders in a cost effective manner.

Energy Research long range plans indicate that its laboratories will be heavily utilized throughout the 1990s and into the 21st century. No major changes in ER's use of these laboratories are expected in the next ten years that would affect the viability or usefulness of any of the projects supported by MEL-FS.

Projects supported by this program are general use, service and support facilities such as administrative space, cafeterias, general office/laboratory space, utility systems, roads, etc. Support is coordinated with ER landlord programs that fund general plant projects (GPP), (i.e., projects with a TEC estimated at \$1.2 million or less) at these laboratories. Facility requirements are identified in laboratory Institutional Plans and Site Development Plans which addresses planned projects over a five to fifteen year planning horizon based on expected programmatic support. The program has prepared a Multi-Year Program Plan (5 year horizon) and in the latest plan has identified projects totalling over \$700 million.

The benefits to be gained by supporting the program are improved safety, security, and environmental compliance levels; reduced health risks; decreased operating costs and improved productivity; and continuity of operations.

II. A. Summary Table: General Purpose Facilities

| Program Activity | FY 1991 Enacted | FY 1992 Enacted | FY 1993 Request | % Change |
|-----------------------------------|--------------------|--------------------|--------------------|----------|
| Construction..... | \$ 23,605 | \$ 23,891 | \$ 56,700 | +137 |
| Total, General Purpose Facilities | \$ 23,605 | \$ 23,891 | \$ 56,700 | +137 |

II. B. Major Laboratory and Facility Funding

| | FY 1991 Enacted | FY 1992 Enacted | FY 1993 Request | % Change |
|--|--------------------|--------------------|--------------------|----------|
| Ames Laboratory | \$ 0 | \$ 1,500 | \$ 1,557 | + 4 |
| Argonne National Laboratory (East) | \$ 4,831 | \$ 4,014 | \$ 12,287 | +206 |
| Brookhaven National Laboratory | \$ 4,649 | \$ 4,539 | \$ 11,432 | +152 |
| Fermi National Accelerator Laboratory | \$ 0 | \$ 0 | \$ 0 | 0 |
| Lawrence Berkeley National Laboratory | \$ 7,653 | \$ 10,989 | \$ 7,709 | - 30 |
| Oak Ridge National Laboratory | \$ 6,476 | \$ 1,080 | \$ 14,495 | >999 |
| Pacific Northwest Laboratory | \$ 0 | \$ 1,700 | \$ 7,500 | +341 |
| Stanford Linear Accelerator Laboratory | \$ 0 | \$ 0 | \$ 2,220 | >999 |

III. Activity Descriptions: (New BA in thousands of dollars)

| Program Activity | FY 1991 | FY 1992 | FY 1993 |
|----------------------------|---|---|--|
| General Purpose Facilities | | | |
| Construction | Provided for the completion/continuation of 18 on-going projects (\$19,927) consistent with planned schedules and initiation of 1 seismic safety project. (\$3,678) | Supports the completion/continuation of 8 ongoing projects (\$11,593) consistent with planned schedules and initiation of 9 projects - 2 buildings rehabs, 1 building replacement, 1 fire safety and 5 utility projects (\$12,298). | Will provide for the completion/continuation of 11 ongoing projects (\$25,906) consistent with planned schedules and initiation of 13 new projects to continue modernization of infrastructure and reduction of the substantial backlog of facilities deficiencies. (\$30,794) |
| | \$ 23,605 | \$ 23,891 | \$ 56,700 |
| General Purpose Facilities | \$ 23,605 | \$ 23,891 | \$ 56,700 |

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KEY ACTIVITY SUMMARY

MULTIPROGRAM ENERGY LABORATORIES - FACILITIES SUPPORT

I. Preface: Tiger Team Remediations

The Department has undertaken a uniform comprehensive process for assessing environment, safety and health performance of its facilities, referred to as the Tiger Team Assessment. Assessments are conducted by a team of specialists from various DOE offices, contractors, and consultants organized into three subteams. The subteams are: environmental, sitewide safety and health assessment, and management. Assessments have been completed at 6 ER laboratories and the balance of ER facilities will be reviewed in the next 2 years. After completion of the Tiger Team's assessment, the laboratory prepares an Action Plan to address corrective actions. The Action Plan identifies all the corrective actions needed to address the deficiencies with a schedule and estimated costs. The Action Plan is approved by the Department. This subprogram has been created to respond to the Secretary's desire to separately budget and manage activities in this area.

This new program has been developed to provide support necessary to help meet many of the one-time general purpose costs to correct deficiencies indicated in Tiger Team Action Plans that relate to ER responsibilities at DOE laboratories and to act in a timely manner. These one-time costs are primarily reflected in capital items. This program will help alleviate increases in GPE and GPF funding levels and provides appropriate Headquarters oversight of Tiger Team corrective actions related to ER responsibilities.

The benefits to be gained by supporting the program are: improved safety and environmental compliance levels and reduced health risks. This new subprogram will be discontinued when the activities called for in the action plans are completed, which is anticipated to be in the next 5 years, if level funding is provided.

II. A. Summary Table: Tiger Team Remediations

| Program Activity | FY 1991 Enacted | FY 1992 Enacted | FY 1993 Request | % Change |
|---------------------------------------|--------------------|--------------------|--------------------|----------------|
| Capital Equipment..... | \$ 0 | \$ 0 | \$ 3,000 | >999 |
| Construction..... | 0 | 0 | 7,000 | >999 |
| Total, Tiger Team Remediations | \$ 0 | \$ 0 | \$ 10,000 | >999 |

II. B. Major Laboratory and Facility Funding

| | | | | |
|---|------|------|----------|------|
| Argonne National Laboratory (East) | \$ 0 | \$ 0 | \$ 1,870 | >999 |
| Brookhaven National Laboratory | \$ 0 | \$ 0 | \$ 1,130 | >999 |
| Lawrence Berkeley National Laboratory | \$ 0 | \$ 0 | \$ 3,000 | >999 |
| Pacific Northwest Laboratory | \$ 0 | \$ 0 | \$ 1,000 | >999 |

III. Activity Descriptions: (New BA in thousands of dollars)

| Program Activity | FY 1991 | FY 1992 | FY 1993 |
|-------------------------|--------------|--------------|---|
| Tiger Team Remediations | | | |
| Capital Equipment | No activity. | No activity. | Provide modern health physics equipment as identified in Action Plans particularly at ORNL. The instruments to be procured include air monitoring instruments, contamination monitoring instruments, ionizing radiation monitoring instruments, and hand and foot monitors. All the instruments are required to comply with findings of the Tiger Team reviews. (\$3,000) |
| | \$ 0 | \$ 0 | \$ 3,000 |
| Construction | No activity. | No activity. | Initiate 5 new line item construction projects. See data sheets for a more detailed description. (\$7,000) |
| | \$ 0 | \$ 0 | \$ 7,000 |
| Tiger Team Remediations | \$ 0 | \$ 0 | \$ 10,000 |

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KEY ACTIVITY SUMMARY

CONSTRUCTION PROJECTS

Multiprogram Energy Laboratories - Facilities Support

IV. A. Construction Project Summary

| Project No. | Project Title | Total Prior Year Obligations | FY 1992 Appropriated | FY 1993 Request | Unappropriated Balance | TEC |
|--|--|------------------------------------|-------------------------|--------------------|---------------------------|---------|
| <u>Multiprogram Energy Laboratories - General Purpose Facilities</u> | | | | | | |
| 93-E-336 | HVAC Controls & Mechanical Systems Upgrade - Phase I (PNL) | \$0 | \$0 | \$1,000 | \$2,000 | \$3,000 |
| 93-E-333 | Applied Science Center - Phase I (BNL) | 0 | 0 | 500 | 3,000 | 3,500 |
| 93-E-332 | Materials Handling Center (BNL) | 0 | 0 | 3,270 | 0 | 3,270 |
| 93-E-329 | Roofing Improvements (ORNL) | 0 | 0 | 4,024 | 10,976 | 15,000 |
| 93-E-328 | Central Research and Support Building (ORNL) | 0 | 0 | 4,400 | 8,000 | 12,400 |
| 93-E-327 | Safety and Support Services Facility (LBL) | 0 | 0 | 2,980 | 6,920 | 9,900 |
| 93-E-326 | Laboratory Addition - Building 205 (ANL) | 0 | 0 | 620 | 5,130 | 5,750 |
| 93-E-325 | Potable Water System Upgrade - Phase I (BNL) | 0 | 0 | 3,500 | 1,750 | 5,250 |
| 93-E-316 | Underground Power and Communication System Upgrade - Phase I (BNL) | 0 | 0 | 1,400 | 2,200 | 3,600 |
| 93-E-314 | Sitewide Conventional Substation Feeder Improvement (SLAC) | 0 | 0 | 2,220 | 0 | 2,220 |
| 93-E-313 | Electrical System Upgrade - Phase II (ANL) | 0 | 0 | 3,000 | 2,100 | 5,100 |
| 93-E-311 | Upgrade Laboratory Space Support Systems (ANL) | 0 | 0 | 3,080 | 3,250 | 6,330 |

| Project No. | Project Title | Total Prior Year Obligations | FY 1992 Appropriated | FY 1993 Request | Unappropriated Balance | TEC |
|--|--|------------------------------------|-------------------------|--------------------|---------------------------|-----------|
| 93-E-310 | Upgrade of Site Mechanical Utilities, Phase II Sewer Monitoring (LBL) | 0 | 0 | 800 | 6,300 | 7,100 |
| 92-E-329 | Electrical Substation Upgrade (ANL) | 0 | 500 | 4,470 | 0 | 4,970 |
| 92-E-328 | Technical and Administrative Services Facility Ames | 0 a/ | 1,500 | 1,557 | 0 | 6,040 |
| 92-E-324 | Safety Compliance Modifications, 326 Bldg. (PNL) | 0 | 1,700 | 6,000 | 700 | 8,400 |
| 92-E-323 | Upgrade Steam Distribution System - West End (ORNL) | 0 | 1,080 | 5,607 | 2,313 | 9,000 |
| 92-E-322 | East Canyon Electrical Safety Project (LBL) | 0 | 377 | 1,507 | 2,016 | 3,900 |
| 92-E-321 | Fire Safety Improvements (ANL) | 0 | 603 | 1,117 | 0 | 1,720 |
| 92-E-312 | Roof Replacements - Phase I | 0 | 2,000 | 500 | 0 | 2,500 |
| 92-E-309 | Sanitary Systems Modification - Phase I (BNL) | 0 | 1,238 | 2,762 | 0 | 4,000 |
| 91-E-323 | Building 90 Seismic Rehabilitation (LBL) | 3,678 | 2,700 | 422 | 0 | 6,800 |
| 90-R-112 | Measurements and Controls Support Facility (ORNL) | 3,966 | 0 | 464 | 300 | 4,730 |
| 88-R-806 | Environmental Health and Safety Project (LBL) | 9,163 | 500 | 1,500 | 2,000 | 13,163 |
| Subtotal Multiprogram Energy Laboratories - General Purpose Facilities Construction | | \$16,807 | \$12,198 | \$56,700 | \$58,955 | \$147,643 |

a/ \$2,982,600 provided by Congress in Basic Energy Sciences program to initiate construction of this facility. These funds are part of the current cost estimate.

| <u>Project No.</u> | <u>Project Title</u> | <u>Total Prior Year Obligations</u> | <u>FY 1992 Appropriated</u> | <u>FY 1993 Request</u> | <u>Unappropriated Balance</u> | <u>TEC</u> |
|---|--|---|---------------------------------|----------------------------|-----------------------------------|------------------|
| <u>Multiprogram Energy Laboratories - Tiger Team Remediations</u> | | | | | | |
| 93-E-324 | Hazardous Materials Safeguards, Phase I (LBL) | 0 | 0 | 1,500 | 3,600 | 5,100 |
| 93-E-323 | Fire and Safety Systems Upgrade, Phase I (LBL) | 0 | 0 | 1,500 | 3,100 | 4,600 |
| 93-E-320 | Fire and Safety Improvements, Phase II (ANL) | 0 | 0 | 1,870 | 3,480 | 5,350 |
| 93-E-317 | Life Safe Code Compliance (PNL) | 0 | 0 | 1,000 | 1,300 | 2,300 |
| 93-E-315 | Roof Replacement, Phase I (BNL) | 0 | 0 | 1,130 | 2,000 | 3,130 |
| Subtotal, Multiprogram Energy Laboratories - Tiger Team Remediation Construction | | \$0 | \$0 | \$7,000 | \$13,480 | \$20,480 |
| Total Multiprogram Energy Laboratories - Facilities Support Construction | | \$16,807 | \$12,198 | \$63,700 | \$72,435 | \$168,123 |

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-336 HVAC Controls & Mechanical Systems Upgrade - Phase I
 Pacific Northwest Laboratory
 Richland, Washington

Project TEC: \$ 3,000
 Start Date: FY 1993
 Completion Date: FY 1995

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated a/</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|------------------------|--------------------|--------------|
| 1993 | \$1,000 | \$1,000 | \$ 500 |
| 1994 | 2,000 | 2,000 | 1,500 |
| 1995 | 0 | 0 | 1,000 |

3. Narrative:

- (a) This project will provide for the renovation of the Heating, Ventilation and Air Conditioning Controls and Mechanical Systems in ER facilities in the 300 area to ensure safe facility operations.
- (b) The restoration of the mechanical systems will ensure that PNL multiprogram laboratory facilities can effectively support assigned activities. Various portions of the renovation work are intended to ensure environmental control of the facilities and ensure the safety of the lab personnel.
- (c) \$1,000,000 is requested in FY 1993 funding for design and to begin construction.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 1,000 | \$ 2,000 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

a/ Outyear amounts reflect funding levels higher than amounts contained in the OMB passback. The funding of these outyear requirements will be addressed in the next budget cycle.

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-333 Applied Science Center - Phase I
 Brookhaven National Laboratory
 Upton, New York

Project TEC: \$ 3,500
 Start Date: FY 1993
 Completion Date: FY 1995

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated a/</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|------------------------|--------------------|--------------|
| 1993 | \$ 500 | \$ 500 | \$ 200 |
| 1994 | 3,000 | 3,000 | 1,830 |
| 1995 | 0 | 0 | 1,470 |

3. Narrative:

- (a) The proposed addition to the Department of Applied Science (DAS) building will provide approximately 12,000 sq. ft. of laboratory, office and support space.
- (b) The addition will be a two-story structure with an underground passageway. The first floor will be devoted principally to laboratory space with some space for offices, darkroom and bathrooms. The second floor will principally be office space with some space dedicated for a library, lunch room, etc.
- (c) \$1,180,000 is requested in FY 1993 funding to initiate project design and related activities.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 500 | \$ 3,000 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

a/ Outyear amounts reflect funding levels higher than amounts contained in the OBM passback. The funding of these outyear requirements will be addressed in the next budget cycle.

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-332 Materials Handling Center
 Brookhaven National Laboratory
 Upton, New York

Project TEC: \$ 3,270
 Start Date: FY 1993
 Completion Date: FY 1994

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|---------------------|--------------------|--------------|
| 1993 | \$3,270 | \$3,270 | \$1,670 |
| 1994 | 0 | 0 | 1,600 |

3. Narrative:

- (a) This project supports construction of a building to centralize the functions of Brookhaven's Laboratory Supply and Material Division. The functions are currently housed in four 40 year old buildings and four trailers.
- (b) Construction will consolidate stock items, chemicals, shipping, receiving and certain bulk storage into one model facility. This will be BNL's first effort to begin consolidation and relocation of its warehousing stockroom facilities into an efficient cost effective operation.
- (c) \$3,270,000 in funding is requested in FY 1993.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 3,270 | \$ 0 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-329 Roofing Improvements
 Oak Ridge National Laboratory
 Oak Ridge, Tennessee

Project TEC: \$ 15,000
 Start Date: FY 1993
 Completion Date: FY 1996

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated a/</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|------------------------|--------------------|--------------|
| 1993 | \$4,024 | \$4,024 | \$ 600 |
| 1994 | 6,000 | 6,000 | 5,600 |
| 1995 | 4,976 | 4,976 | 4,800 |
| 1996 | 0 | 0 | 4,000 |

3. Narrative:

- (a) This project supports replacement of deteriorated roofing on buildings and facilities throughout ORNL. It will replace roofs that are in the worst condition housing the most important facilities.
- (b) The purpose of this project is to replace deteriorated roofing on buildings and facilities at ORNL. Seventy percent of the roofs have been in place for more than 20 years. Because of age and deterioration, many of the roofs have developed leaks and require extensive maintenance. This project is needed before leakage problems reach the point that they affect equipment, records and research activities as well as the health and safety of personnel working in the facilities.
- (c) \$4,024,000 is requested to perform design and begin replacement of the most critical roofs.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 4,024 | \$ 10,976 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

a/ Outyear amounts reflect funding levels higher than amounts contained in the OMB passback. The funding of these outyear requirements will be addressed in the next budget cycle.

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

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IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-328 Central Research and Support Building Project TEC: \$ 12,400
 Oak Ridge National Laboratory Start Date: FY 1993
 Oak Ridge, Tennessee Completion Date: FY 1996

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated ^{a/}</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|-----------------------------------|--------------------|--------------|
| 1993 | \$4,400 | \$4,400 | \$1,100 |
| 1994 | 5,000 | 5,000 | 4,000 |
| 1995 | 3,000 | 3,000 | 4,200 |
| 1996 | 0 | 0 | 3,100 |

3. Narrative:

- (a) This project will construct a new multistory office building as a replacement for a similar amount of obsolete temporary space. It will house a broad spectrum of research and support staff. In addition, the building will contain conference, training, storage, work rooms and reception areas. The project will also provide support for the costs of demolishing obsolete temporary buildings.
- (b) A large portion of the office space at ORNL is deteriorated, overcrowded, and in some cases doesn't comply with current OSHA standards. The project is required to provide adequate replacement space for approximately 250 people housed in inadequate facilities and supports an important first step in bringing ORNL into full compliance with all health and safety standards.
- (c) \$4,400,000 is requested in FY 1993 funding to initiate the design/build construction contract and related activities.

4. Total Project Funding (BA):

| | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|-------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 4,400 | \$ 8,000 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

^{a/} Outyear amounts reflect funding levels higher than amounts contained in the OMB passback. The funding of these outyear requirements will be addressed in the next budget cycle.

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

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 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-327 Safety and Support Services Facility
 Lawrence Berkeley Laboratory
 Berkeley, California

Project TEC: \$ 9,900
 Start Date: FY 1993
 Completion Date: FY 1995

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated a/</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|------------------------|--------------------|--------------|
| 1993 | \$2,980 | \$2,980 | \$ 950 |
| 1994 | 4,470 | 4,470 | 2,900 |
| 1995 | 2,450 | 2,450 | 4,450 |
| 1996 | 0 | 0 | 1,600 |

3. Narrative:

- (a) This project supports construction of a three story building which will serve as the Safety and Support Services Facility to replace substandard space currently in use.
- (b) When construction of the Safety and Support Services Facility is complete, Central Stores and other Material Management Operations will be combined in the new building in close proximity to other allied administration operations including Purchasing, Business Services, Receiving, Shipping and Transportation. Removal of older temporary buildings and trailers will significantly enhance personnel safety and eliminate costly maintenance of substandard facilities.
- (c) \$3,800,000 is requested in FY 1993 funding to complete design and initiate construction.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 2,980 | \$ 6,920 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

a/ Outyear amounts reflect levels higher than amounts contained in the OMB passback. The funding of these outyear requirements will be addressed in the next budget cycle.

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 ENERGY SUPPLY, RESEARCH AND DEVELOPMENT
 (dollars in thousands)

KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-326 Laboratory Addition - Building 205
 Argonne National Laboratory
 Argonne, Illinois

Project TEC: \$ 5,750
 Start Date: FY 1993
 Completion Date: FY 1996

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated ^{a/}</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|-----------------------------------|--------------------|--------------|
| 1993 | \$ 620 | \$ 620 | \$ 360 |
| 1994 | 2,770 | 2,770 | 1,000 |
| 1995 | 2,360 | 2,360 | 3,360 |
| 1996 | 0 | 0 | 1,030 |

3. Narrative:

- (a) This project supports a 21,880 sq. ft. laboratory and office building addition, east of "D" Wing of Building 205. It is designed for a 25 year life and includes support such as roadways, loading dock and landscaping.
- (b) Argonne's Analytical Chemistry Laboratory (ACL) expanded its activities in several areas, notably environmental analysis. This expansion has included the addition of 15 FTEs who could not be adequately housed. In addition to housing the additional staff, the building will allow consolidation of ACL staff currently located at various sites across the laboratory.
- (c) \$620,000 is requested in FY 1993 to initiate engineering and design.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|------------------------|----------------|----------------|----------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 620 | \$ 5,130 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

^{a/} Outyear amounts reflect funding levels higher than amounts contained in the OMB passback. The funding of these outyear requirements will be addressed in the next budget cycle.

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY
 Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-325 Potable Water System Upgrade - Phase I
 Brookhaven National Laboratory
 Upton, New York

Project TEC: \$ 5,250
 Start Date: FY 1993
 Completion Date: FY 1994

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|---------------------|--------------------|--------------|
| 1993 | \$3,500 | \$3,500 | \$ 875 |
| 1994 | 1,750 | 1,750 | 2,375 |
| 1995 | 0 | 0 | 2,000 |

3. Narrative:

- (a) This project starts necessary upgrades of the potable water system at Brookhaven National Laboratory. It supports the first of several phases of an overall planned program to rehabilitate and improve the water supply and insure that an adequate supply of good quality water is available beyond the year 2000.
- (b) The existing nine potable water wells date back to 1941. The three oldest wells have been decommissioned because of volatile organic contamination. Only one does not show signs of contamination. The remaining well is capable of producing only half of the water requirements for the laboratory. Steps must be taken to insure a safe, adequate supply of water into the future. Five carbon absorption filtration units will be installed on wells 4, 6, 7, 10 and 12. Four thousand feet of cast iron piping and 1,750 feet of transite pipe will be replaced.
- (c) \$3,500,000 is requested in FY 1993 to begin Phase I.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 3,500 | \$ 1,750 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-316 Underground Power and Communication System Upgrade - Phase I
 Brookhaven National Laboratory
 Upton, New York

Project TEC: \$ 3,600
 Start Date: FY 1993
 Completion Date: FY 1995

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated g/</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|------------------------|--------------------|--------------|
| 1993 | \$1,400 | \$1,400 | \$ 200 |
| 1994 | 2,200 | 2,200 | 2,200 |
| 1995 | 0 | 0 | 1,200 |

3. Narrative:

- (a) This project supports the first phase of replacement of old and deteriorating underground electrical cables. The activities include the addition of underground ductbanks, new cables, a new substation and retrofitting of switchgear power circuit breakers.
- (b) Numerous failures have occurred in existing underground cables resulting in extensive electric service interruptions affecting both programmatic and non-programmatic facilities. Cable failures occur on an average of 2 to 3 times per year; emergency repairs require 48 to 72 hours. The average life of the cables is 30-40 years and several cables are now 40 years old.
- (c) \$1,400,00 is requested in FY 1993 to initiate the project.

4. Total Project Funding (BA):

| | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|-------------------------|------------------------|----------------|----------------|----------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 1,400 | \$ 2,200 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

g/ Outyear amounts reflect funding levels higher than amounts contained in the OMB passback. The funding of these outyear requirements will be addressed in the next budget cycle.

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-314 Sitewide Conventional Substation Feeder Improvement Project TEC: \$ 2,220
 Stanford Linear Accelerator Center Start Date: FY 1993
 Stanford, California Completion Date: FY 1994

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|---------------------|--------------------|--------------|
| 1993 | \$2,220 | \$2,220 | \$1,340 |
| 1994 | 0 | 0 | 880 |

3. Narrative:

- (a) This project will provide support to replace cables which run from the master substation to the linac's conventional substations and other related substations.
- (b) The current situation will result in a major failure of conventional feeders unless the feeder system is replaced; failure will result in unplanned operations shutdowns. The project will improve reliability and bring the feeders into code compliance.
- (c) \$2,220,000 is requested in FY 1993 to support the entire project.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|------------------------|----------------|----------------|----------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 2,220 | \$ 0 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-313 Electrical System Upgrade - Phase II
 Argonne National Laboratory
 Argonne, Illinois

Project TEC: \$ 5,100
 Start Date: FY 1993
 Completion Date: FY 1995

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|---------------------|--------------------|--------------|
| 1993 | \$3,000 | \$3,000 | \$ 750 |
| 1994 | 1,500 | 1,500 | 1,700 |
| 1995 | 600 | 600 | 1,375 |
| 1996 | 0 | 0 | 1,275 |

3. Narrative:

- (a) The project supports the upgrade of the main electrical distribution system and major components in the 200 area.
- (b) Due to the age of the electrical system, malfunctions have occurred. As maintenance of the switches is becoming increasingly difficult due to a scarcity of spare parts, a complete replacement is recommended to ensure safe, reliable and continuous operation of ongoing research. The new system will employ state of the art technology.
- (c) \$3,000,000 is requested in FY 1993 to initiate replacement.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 3,000 | \$ 2,100 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-311 Upgrade Laboratory Space Support Systems
 Argonne National Laboratory
 Argonne, Illinois

Project TEC: \$ 6,330
 Start Date: FY 1993
 Completion Date: FY 1995

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|---------------------|--------------------|--------------|
| 1993 | \$3,080 | \$3,080 | \$ 770 |
| 1994 | 2,220 | 2,220 | 2,385 |
| 1995 | 1,030 | 1,030 | 1,600 |
| 1996 | 0 | 0 | 1,575 |

3. Narrative:

- (a) This project supports upgrade of laboratory space support systems that are no longer adequate, reliable, efficient or in compliance with health and safety standards.
- (b) The systems requiring replacement (air compressor systems, emergency generators, and electric switchgear) are generally 30 to 40 years old and have many moving parts that have nearly worn out and need frequent replacement. Most replacements are difficult to obtain.
- (c) \$3,080,000 in FY 1993 funds are requested to initiate this project.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 3,080 | \$ 3,250 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-310 Upgrade of Site Mechanical Utilities, Phase II
 Sewer Monitoring
 Lawrence Berkeley Laboratory
 Berkeley, California

Project TEC: \$ 7,100
 Start Date: FY 1993
 Completion Date: FY 1996

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated a/</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|------------------------|--------------------|--------------|
| 1993 | \$ 800 | \$ 800 | \$ 200 |
| 1994 | 3,350 | 3,350 | 1,775 |
| 1995 | 2,950 | 2,950 | 3,075 |
| 1996 | 0 | 0 | 2,050 |

3. Narrative:

- (a) This project includes additions and modifications to the sewer system at LBL including:
 - 1) the East Canyon Utility Center;
 - 2) the East Canyon Sewer Modifications;
 - 3) East and West Canyon Sanitary Sewer Monitoring Facilities; and
 - 4) Miscellaneous Site Utilities.
- (b) The East Canyon Utility Center will provide cooling water and compressed air to the Building 74/83 area and compressed air to other building areas in East Canyon. The facility is needed in order to remove two aged and obsolete cooling towers, allow expanded cooling, provide a central cooling system and provide a central compressed air facility in the East Canyon.
- (c) The Sanitary Sewer modifications are needed to separate LBL sanitary waste from that of UC Berkeley and gather LBL sanitary waste into one outfall.
- (d) New waste monitoring facilities will be constructed at West Canyon and East Canyon sanitary sewer outfalls. The West Canyon Monitoring Station is substandard and upgrades are not feasible. The East Canyon monitoring system is also substandard, located outside LBL boundaries and remote from the new site. Both existing monitoring stations must be replaced and removed.
- (e) \$800,000 is requested in FY 1993 funds to support architect/engineer contract.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 800 | \$ 6,300 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

a/ Outyear amounts reflect funding levels higher than amounts contained in the OMB passback. The funding of these outyear requirements will be addressed in the next budget cycle.

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 92-E-329 Electrical Substation Upgrade
 Argonne National Laboratory
 Argonne, Illinois

Project TEC: \$ 4,970
 Start Date: FY 1992
 Completion Date: FY 1994

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|---------------------|--------------------|--------------|
| 1992 | \$ 500 | \$ 500 | \$ 400 |
| 1993 | 4,470 | 4,470 | 3,200 |
| 1994 | 0 | 0 | 1,370 |

3. Narrative:

- (a) The project provides for the upgrade of the main electrical substation at Facility 549.
- (b) The existing electrical system at Facility 549 has the capacity to service existing programmatic experiments and utilities. The system's reliability is questionable. The present load conditions are such that any transformer failure would result in the remaining transformers assuming a proportionate load and going into fan cooling capacity for a prolonged period of time until transformer repairs (6 to 9 months) or transformer replacement (12 months or longer) could be made. During this period of time it might be necessary to cut back on scientific program loads.
- (c) \$4,470,000 is requested in FY 1993 funding to support construction cost.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 500 | \$ 4,470 | \$ 0 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY
 Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 92-E-328 Technical and Administrative Services Facility
 Ames Laboratory
 Ames, Iowa

Project TEC: \$ 6,040
 Start Date: FY 1991^{a/}
 Completion Date: FY 1993

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|---------------------|--------------------|--------------|
| 1991 | \$ 0 ^{a/} | \$ 0 ^{a/} | \$ 0 |
| 1992 | 1,500 | 1,500 | 400 |
| 1993 | 1,557 | 1,557 | 1,800 |
| 1994 | 0 | 0 | 857 |

3. Narrative:

- (a) This project supports construction of a four-story building which will house the programmatic support activities and the central administrative offices of the Ames Laboratory.
- (b) The Occupational Medicine program at Ames is currently located in space that is inadequate for its mission. The administrative support personnel, who perform the functions of accounting, budgeting, procurement, property management, personnel, graphics and printing, and data systems are located in a building designed for research facilities. Usage of facilities by personnel other than researchers does not represent efficient use of research space. Presently, administrative computer facilities are located in a renovated vehicle garage built in 1950, which is remotely located from the organizational elements these facilities support. The scientific computer facilities are located in other laboratory areas and rented space. The movement of these facilities to the new structure will allow Ames Laboratory to satisfy both ADP environmental and ADP security requirements while becoming readily accessible to those primary users of the system which include top management personnel, administrative staff and operations and facilities organizational elements. Ames Laboratory management is currently located in offices rented from Iowa State University which are remotely located from the majority of other organizational elements of the Ames Laboratory, such as the offices of budget, personnel and accounting.
- (c) \$1,557,000 is requested in FY 1993 funding. Architectural/engineering efforts began in FY 1991, physical construction to begin 3rd quarter of FY 1992.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 1,500 | \$ 1,557 | \$ 0 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 25 | 0 | 0 | 0 | 0 |

^{a/} \$2,982,600 provided by Congress in Basic Energy Sciences program to initiate construction of this facility. These funds are part of the current cost estimate.

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 92-E-324 Safety Compliance Modifications, 326 Building
 Pacific Northwest Laboratory
 Richland, Washington

Project TEC: \$ 8,400
 Start Date: FY 1992
 Completion Date: FY 1994

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|---------------------|--------------------|--------------|
| 1992 | \$1,700 | \$1,700 | \$ 400 |
| 1993 | 6,000 | 6,000 | 3,054 |
| 1994 | 700 | 700 | 3,746 |
| 1995 | 0 | 0 | 1,200 |

3. Narrative:

- (a) The project will bring the 326 Building, which is an aged but strategically important laboratory, into compliance with National Fire Protection Association (NFPA) Requirements, National Electric Code Requirements, and State of Washington Requirements. Since its construction in 1952, the building has been in continuous use. Although the building is structurally sound, it does not meet today's building codes and standards of acceptability for health and safety.
- (b) The project will clearly define the egress pathways from the facility, provide fire resistant stairwells and exit corridors, extensively upgrade the building electrical system to comply with the National Electric code including replacement of most of the electrical distribution system, installation of a new motor control center, installation of backflow prevention on the fire main to meet State of Washington Requirements, installation of handicap facilities, installation of full wet-pipe sprinklers to comply with NFPA Requirements, and other modifications to meet code requirements.
- (c) \$6,500,000 is requested in FY 1993 to support construction.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 1,700 | \$ 6,500 | \$ 200 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 120 | 0 | 0 | 0 | 0 |

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 92-E-323 Upgrade Steam Distribution System - West End
 Oak Ridge National Laboratory
 Oak Ridge, Tennessee

Project TEC: \$ 9,000
 Start Date: FY 1992
 Completion Date: FY 1995

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|---------------------|--------------------|--------------|
| 1992 | \$1,080 | \$1,080 | \$ 300 |
| 1993 | 5,607 | 5,607 | 3,000 |
| 1994 | 2,313 | 2,313 | 3,200 |
| 1995 | 0 | 0 | 2,500 |

3. Narrative:

- (a) This project is needed to replace deteriorated portions of the central steam distribution system at the Oak Ridge National Laboratory (ORNL), predominately in the western end of the plant. New isolation valves will be installed to improve efficiency, reliability, and maintainability.
- (b) This project will replace sections of the central steam and air supply systems, predominately in the west end of ORNL, that have been in service for as long as 30 years and are approaching the end of their useful life. The system contains twelve bellows-type expansion joints identical to those that have failed catastrophically in other areas at the laboratory. System failure in any of several areas could result in the interruption of experiments which have been ongoing for several years and could impact research and related activity involving multimillion dollar budgets.
- (c) \$5,607,000 is requested in FY 1993 to support construction.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 1,080 | \$ 5,607 | \$ 2,313 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 130 | 0 | 0 | 0 | 0 |

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 92-E-322 East Canyon Electrical Safety Project
 Lawrence Berkeley Laboratory
 Berkeley, California

Project TEC: \$ 3,900
 Start Date: FY 1992
 Completion Date: FY 1995

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated a/</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|------------------------|--------------------|--------------|
| 1992 | \$ 377 | \$ 377 | \$ 100 |
| 1993 | 1,507 | 1,507 | 800 |
| 1994 | 2,016 | 2,016 | 2,000 |
| 1995 | 0 | 0 | 1,000 |

3. Narrative:

- (a) The project is the third of several rehabilitation elements that are part of a master plan to improve the reliability of the electrical distribution system of the entire laboratory. The project will utilize the new circuit breakers provided in FY 1987 by the improvements to the main substation. A new 12kV switching station and new 12kV distribution circuits to laboratory facilities in the East site area will be installed, as will a new 500 kVA substation with standby generation at the National Center for Electron Microscopy.
- (b) The existing 12kV power system has major deficiencies. There is no redundancy, so that a cable fault will cause extended power outage. There is no ground fault protection, which would result in a loss of power to the entire East Site. Since there is no redundancy, preventive maintenance operations can only be accomplished during scheduled shutdowns of the entire East Site. The power cable is reaching the end of its useful life (21 years of a 25 years maximum) and should be replaced. A new substation at the National Center for Electron Microscopy is required to provide an independent power supply system to this major research facility. Power outages adversely affect the operation of the electron microscopes, requiring long time periods for adjustment and re-calibration of these major scientific instruments.
- (c) \$1,507,000 is requested in FY 1993 to support construction.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 377 | \$ 1,507 | \$ 2,016 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

a/ Outyear amounts reflect funding levels higher than amounts contained in the OMB passback. The funding of these outyear requirements will be addressed in the next budget cycle.

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 92-E-321 Fire Safety Improvements
 Argonne National Laboratory
 Argonne, Illinois

Project TEC: \$ 1,720
 Start Date: FY 1992
 Completion Date: FY 1994

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|---------------------|--------------------|--------------|
| 1992 | \$ 603 | \$ 603 | \$ 546 |
| 1993 | 1,117 | 1,117 | 620 |
| 1994 | 0 | 0 | 554 |

3. Narrative:

- (a) This project will encompass fire protection system extensions, new installations, and replacements in 29 ANL-E buildings. The project can be grouped into three sub-projects which will include: extensions or new installations of wet-pipe sprinkler systems, replacement of existing fire alarm panel and detection devices, and extending the fire separation walls around a large computer room.
- (b) In the sprinkler system subproject, 9 buildings will have sprinkler systems extended to unprotected areas and 8 buildings will have new systems installed throughout. For the fire detection systems subproject, the systems in 20 buildings are 25 to 35 years old and have numerous shortcomings. Recent occupancy changes and existing wall deficiencies necessitate the upgrading of the separation walls around the computer room in the computer room wall modifications subproject.
- (c) \$1,117,000 is requested in FY 1993 to support construction.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 603 | \$ 1,117 | \$ 0 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

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 (dollars in thousands)

KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 92-E-312 Roof Replacements - Phase I
 Lawrence Berkeley Laboratory
 Berkeley, California

Project TEC: \$ 2,500
 Start Date: FY 1992
 Completion Date: FY 1995

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|---------------------|--------------------|--------------|
| 1992 | \$ 2,000 | \$ 2,000 | \$ 800 |
| 1993 | 500 | 500 | 1,300 |
| 1994 | 0 | 0 | 900 |

3. Narrative:

- (a) The project will replace over 143,000 sq ft. of high maintenance roofs in critical need of repair/replacement. The roofing system is a 3-ply modified bitumen membrane with mineral surface, which provides water resistance, elasticity for thermal expansion/contraction and vibration from mechanical sources, strengths and durability for foot traffic and ease of maintenance and repair. New roof insulation will be installed, which will decrease energy use and save an estimated \$66K/year in energy costs. Equipment on platforms will be braced to conform with the latest seismic codes.
- (b) The roofs which will be replaced are characterized by old age, deterioration, high maintenance and have long outlived their recommended service life of 20 years. The average age is 34 years old. These roofs are characterized by widespread leakage and are no longer cost effective to maintain. Replacement of these roofs will reduce associated maintenance cost by about 20 percent.
- (c) \$500,000 is requested in FY 1993.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 2,000 | \$ 500 | \$ 0 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 92-E-309 Sanitary Systems Modification - Phase I
 Brookhaven National Laboratory
 Upton, New York

Project TEC: \$ 4,000
 Start Date: FY 1992
 Completion Date: FY 1994

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|---------------------|--------------------|--------------|
| 1992 | \$1,238 | \$1,238 | \$ 620 |
| 1993 | 2,762 | 2,762 | 1,700 |
| 1994 | 0 | 0 | 1,680 |

3. Narrative:

- (a) This project provides the first phase of implementing the rehabilitation projects which affect the ability of the existing system to properly collect and treat the sanitary wastes generated by the Brookhaven facility.
- (b) As a result of recent growth and the need to upgrade the various sanitary facilities to current day standards, improvements need to be made to the waste water treatment plant and the sewage collection system.
- (c) \$2,762,000 is requested in FY 1993.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 1,238 | \$ 2,762 | \$ 0 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 91-E-323 Building 90 Seismic Rehabilitation
 Lawrence Berkeley Laboratory
 Berkeley, California

Project TEC: \$ 6,800
 Start Date: FY 1992
 Completion Date: FY 1994

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|---------------------|--------------------|--------------|
| 1991 | \$3,678 | \$3,678 | \$ 36 |
| 1992 | 2,700 | 2,700 | 3,000 |
| 1993 | 422 | 422 | 2,364 |
| 1994 | 0 | 0 | 1,400 |

3. Narrative:

- (a) Building 90 is a four-story structural steel office building which was designed to the 1955 Uniform Building Code which did not reflect the maximum design earthquake now anticipated on the nearby Hayward Fault. The structure is much too flexible and would experience extreme stresses and inelastic lateral deflections in the event of a major earthquake, rendering the building uninhabitable for a minimum period of three years, provided capital funding for replacement of the building were immediately available. The existing Building 90 would have to be demolished and replaced.
- (b) The proposed project will brace the building to withstand the maximum design earthquake on the Hayward Fault and eliminate stresses induced by long term differential settlement. The use of the strengthened building will not change. No new floor space will be added.
- (c) \$422,000 is requested in FY 1993 to complete the project.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 3,678 | \$ 2,700 | \$ 422 | \$ 0 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 100 | 0 | 0 | 0 |

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories -- Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 90-R-112 Measurements and Controls Support Facility
 Oak Ridge National Laboratory (ORNL)
 Oak Ridge, Tennessee

Project TEC: \$ 4,730
 Start Date: FY 1991
 Completion Date: FY 1994

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|---------------------|--------------------|--------------|
| 1990 | \$ 884 | \$ 884 | \$ 0 |
| 1991 | 3,082 | 3,082 | 5 |
| 1992 | 0 | 300 <u>a/</u> | 2,609 |
| 1993 | 464 | 464 | 1,820 |
| 1994 | 0 | 0 | 296 |

3. Narrative:

- (a) This project will construct a two-story building providing approximately 20,000 square feet in the Instruments and Controls complex area.
- (b) The purpose of this project is to provide adequate space and facilities for essential support personnel and functions presently located in a deteriorated wooden building and in converted laboratories and storage rooms in the ORNL complex.
- (c) \$464,000 is requested in FY 1993 funding to complete support.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 884 | \$ 3,082 | \$ 0 <u>a/</u> | \$ 464 | \$ 0 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 220 | 0 | 0 | 0 | 0 |

a/ \$300,000 reprogrammed from completed prior year project (87-R-752).

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 General Purpose Facilities

IV. B. Plant Funded Construction Project

1. Project title and location: 88-R-806 Environmental Health and Safety Project
 Lawrence Berkeley Laboratory
 Berkeley, California

Project TEC: \$ 13,163
 Start Date: FY 1988
 Completion Date: FY 1995

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated a/</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|------------------------|--------------------|--------------|
| 1988 | \$ 850 | \$ 850 | \$ 59 |
| 1989 | 2,429 | 2,429 | 1,090 |
| 1990 | 4,310 | 4,310 | 172 |
| 1991 | 1,574 | 1,574 | 891 |
| 1992 | 500 | 500 | 4,500 |
| 1993 | 1,500 | 1,500 | 4,000 |
| 1994 | 2,000 | 2,000 | 1,500 |
| 1995 | 0 | 0 | 951 |

3. Narrative:

- (a) This project includes nine subprojects necessary to improve and protect the environment and the safety and health of LBL employees and the general public. The changes will correct the more urgent and serious deficiencies which pose the greatest threat of pollution, contamination, accident or disruption of program activities.
- (b) Equipment, controls and facilities are old, deteriorated and in need of upgrading or replacement in order to comply with applicable standards.
- (c) \$1,500,000 is requested in FY 1993.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 7,589 | \$ 1,574 | \$ 500 | \$ 1,500 | \$ 2,000 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

a/ Outyear amounts reflect funding levels higher than amounts contained in the OMB passback. The funding of these outyear requirements will be addressed in the next budget cycle.

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 Tiger Team Remediations

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-324 Hazardous Materials Safeguards, Phase I
 Lawrence Berkeley Laboratory
 Berkeley, California

Project TEC: \$ 5,100
 Start Date: FY 1993
 Completion Date: FY 1995

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated a/</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|------------------------|--------------------|--------------|
| 1993 | \$1,500 | \$1,500 | \$ 500 |
| 1994 | 3,600 | 3,600 | 2,300 |
| 1995 | 0 | 0 | 2,300 |

3. Narrative:

- (a) This project will upgrade Building 70 to add safety, health and environmental protection safeguards to meet or exceed current standards for public health and safety.
- (b) The existing Building 70 is an aged laboratory facility used for materials sciences and semi-conductor research. These operations employ a wide variety of chemicals which are highly flammable and/or toxic. If this project is not supported, research operations must be restricted, resulting in curtailing or eliminating fields of research at LBL.
- (c) \$1,500,000 in funding is requested in FY 1993 to initiate construction.

4. Total Project Funding (BA):

| | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|-------------------------|------------------------|----------------|----------------|----------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 1,500 | \$ 3,600 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

a/ Outyear amounts reflect funding levels higher than amounts contained in the OMB passback. The funding of these outyear requirements will be addressed in the next budget cycle.

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 Tiger Team Remediations

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-323 Fire and Safety Systems Upgrade, Phase I
 Lawrence Berkeley Laboratory
 Berkeley, California

Project TEC: \$ 4,600
 Start Date: FY 1993
 Completion Date: FY 1996

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated ^{a/}</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|-----------------------------------|--------------------|--------------|
| 1993 | \$1,500 | \$1,500 | \$ 500 |
| 1994 | 2,000 | 2,000 | 1,200 |
| 1995 | 1,100 | 1,100 | 1,600 |
| 1996 | 0 | 0 | 1,300 |

3. Narrative:

- (a) This project is the first of several which will bring LBL facilities into compliance with building, fire and life safety codes.
- (b) A majority of facilities at LBL were constructed from the 1940s to the mid 1960s. The facilities provided national scientific leadership during a historically significant time. Since this period, major changes have occurred in building, fire and life safety codes. This project will support modifications required to meet new codes and correct noncompliance conditions.
- (c) \$1,500,000 in funding is requested in FY 1993 to initiate this project.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 1,500 | \$ 3,100 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

^{a/} Outyear amounts reflect funding levels higher than amounts contained in the OMB passback. The funding of these outyear requirements will be addressed in the next budget cycle.

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 Tiger Team Remediations

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-320 Fire and Safety Improvements - Phase II
 Argonne National Laboratory
 Argonne, Illinois

Project TEC: \$ 5,350
 Start Date: FY 1993
 Completion Date: FY 1996

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated a/</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|------------------------|--------------------|--------------|
| 1993 | \$1,870 | \$1,870 | \$ 470 |
| 1994 | 2,000 | 2,000 | 1,700 |
| 1995 | 1,480 | 1,480 | 1,870 |
| 1996 | 0 | 0 | 1,310 |

3. Narrative:

(a) This project supports Phase II of required fire safety improvements at ANL.

(b) Phase II will complete upgrading of existing fire alarm and suppression systems and expand fire suppression systems to cover areas requiring protection.

(c) \$1,870,000 in funding is requested in FY 1993 to initiate this project.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 1,870 | \$ 3,480 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

a/ Outyear amounts reflect funding levels higher than amounts contained in the OMB passback. The funding of these outyear requirements will be addressed in the next budget cycle.

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 Tiger Team Remediations

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-317 Life Safety Code Compliance
 Pacific Northwest Laboratory
 Richland, Washington

Project TEC: \$ 2,300
 Start Date: FY 1993
 Completion Date: FY 1995

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated ^{a/}</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|-----------------------------------|--------------------|--------------|
| 1993 | \$1,000 | \$1,000 | \$ 500 |
| 1994 | 1,300 | 1,300 | 1,050 |
| 1995 | 0 | 0 | 750 |

3. Narrative:

- (a) This project supports upgrades to selected 300 area PNL multiprogram facilities. These upgrades will correct deficiencies in fire and life safety codes.
- (b) The project will ensure continuity of operations in vital multiprogram laboratories at PNL. The current conditions of the buildings have raised many concerns about their adequacy for continuing operations. PNL's research missions can be continued by completing the work proposed in this project.
- (c) \$1,000,000 in funding is requested in FY 1993 to initiate this project.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 1,000 | \$ 1,300 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

^{a/} Outyear amounts reflect funding levels higher than amounts contained in the OMB passback. The funding of these outyear requirements will be addressed in the next budget cycle.

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KEY ACTIVITY CONSTRUCTION PROJECT SUMMARY

Multiprogram Energy Laboratories - Facilities Support
 Tiger Team Remediations

IV. B. Plant Funded Construction Project

1. Project title and location: 93-E-315 Roof Replacement - Phase I
 Brookhaven National Laboratory
 Upton, New York

Project TEC: \$ 3,130
 Start Date: FY 1993
 Completion Date: FY 1995

2. Financial schedule:

| <u>Fiscal Year</u> | <u>Appropriated a/</u> | <u>Obligations</u> | <u>Costs</u> |
|--------------------|------------------------|--------------------|--------------|
| 1993 | \$1,130 | \$1,130 | \$ 850 |
| 1994 | 2,000 | 2,000 | 1,280 |
| 1995 | 0 | 0 | 1,000 |

3. Narrative:

- (a) This project supports roof replacement on 13 buildings at BNL. Approximately 385,000 sq. ft. of re-roofing will be accomplished during this phase.
- (b) Roof surveys conducted in 1989 have indicated that approximately 718,000 sq. ft. of roofing on 46 buildings will have to be replaced. This project represents Phase I.
- (c) \$1,130,000 is requested in FY 1993 to initiate this project.

| 4. Total Project Funding (BA): | <u>Prior Years</u> | <u>FY 1991</u> | <u>FY 1992</u> | <u>FY 1993 Request</u> | <u>To Complete</u> |
|--------------------------------|--------------------|----------------|----------------|------------------------|--------------------|
| Construction..... | \$ 0 | \$ 0 | \$ 0 | \$ 1,130 | \$ 2,000 |
| Capital Equipment..... | 0 | 0 | 0 | 0 | 0 |
| Operating Expenses..... | 0 | 0 | 0 | 0 | 0 |

a/ Outyear amounts reflect funding levels higher than amounts contained in the OMB passback. The funding of these outyear requirements will be addressed in the next budget cycle.