

DEPARTMENT OF HEALTH AND HUMAN SERVICES
NATIONAL INSTITUTES OF HEALTH
Buildings and Facilities

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National Institutes of Health
BUILDINGS AND FACILITIES

For the study of, construction of, demolition of, renovation of, and acquisition of equipment for, facilities of or used by NIH, including the acquisition of real property, \$200,000,000, to remain available through September 30, [2023]2024.

NATIONAL INSTITUTES OF HEALTH
Buildings & Facilities

Amounts Available for Obligation
(Dollars in Thousands)

| Source of Funding | FY 2018 Final | FY 2019 Enacted | FY 2020 President's Budget |
|-------------------------------------|---------------|-----------------|-------------------------------|
| Appropriation | \$128,863 | \$200,000 | \$200,000 |
| Rescission | 0 | 0 | 0 |
| Sequestration | 0 | 0 | 0 |
| Supplemental | 0 | 0 | 0 |
| Subtotal, adjusted appropriation | \$128,863 | \$200,000 | \$200,000 |
| Secretary's Transfer | 0 | 0 | 0 |
| Recovery of prior year obligations | 8,008 | 0 | 0 |
| Unobligated balance, start of year | 29,703 | 27,927 | 0 |
| Subtotal, adjusted budget authority | \$166,574 | \$227,927 | \$200,000 |
| Unobligated balance, end of year | 27,927 | 0 | 0 |
| Unobligated balance lapsing | 0 | 0 | 0 |
| Total obligations | \$138,647 | \$227,927 | \$200,000 |

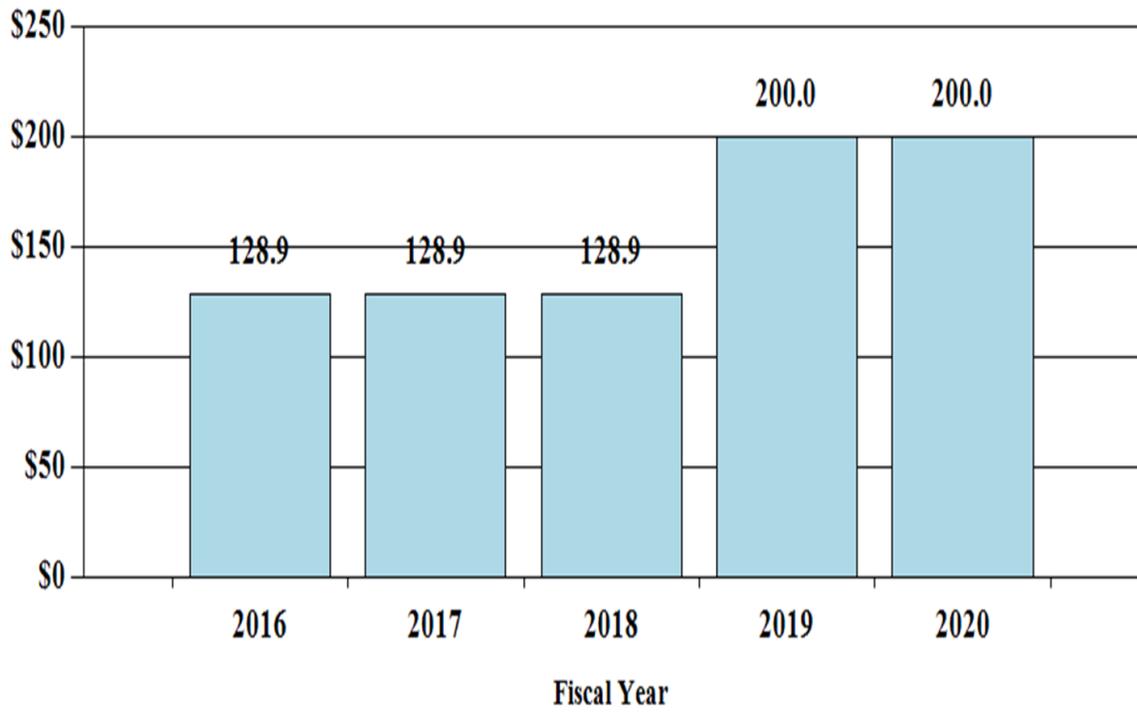
**NATIONAL INSTITUTES OF HEALTH
Buildings & Facilities**

Summary of Changes

(Dollars in Thousands)

| FY 2019 Enacted | \$200,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|-------------------|------------------------|---------|------------------------|------------------|--|--|--|--------------------|--|--|--|---------------------------|---------|---------|--------|---|---|--------|--------|-------------------------------|---|-------|-------|------------------------|-------------------|-------------------|------------------|--|--|--|--|------------------|--|--|--|--------------------|--|--|--|--|--------|---|----------|-----------------------|--------|---|----------|--------------------------|--------|---|----------|------------------------|------------------|------------|--------------------|----------------------|------------|--|--|
| FY 2020 President's Budget | \$200,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Net change | \$0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="width: 10%;">FY 2019</th> <th style="width: 10%;">FY 2020</th> <th style="width: 10%;">FY 2019 +/- FY 2020</th> </tr> </thead> <tbody> <tr> <td><u>Increases</u></td> <td></td> <td></td> <td></td> </tr> <tr> <td><u>A. Program:</u></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1. Repairs & Improvements</td> <td style="text-align: right;">137,250</td> <td style="text-align: right;">167,628</td> <td style="text-align: right;">30,378</td> </tr> <tr> <td>2. Electrical Power Reliability for the Clinical Center</td> <td style="text-align: right;">0</td> <td style="text-align: right;">23,500</td> <td style="text-align: right;">23,500</td> </tr> <tr> <td>3. NIH Fire Station Expansion</td> <td style="text-align: right;">0</td> <td style="text-align: right;">1,872</td> <td style="text-align: right;">1,872</td> </tr> <tr> <td>Total Increases</td> <td style="text-align: right;">\$ 137,250</td> <td style="text-align: right;">\$ 193,000</td> <td style="text-align: right;">\$ 55,750</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td><u>Decreases</u></td> <td></td> <td></td> <td></td> </tr> <tr> <td><u>A. Program:</u></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1. Renovation Building 10 Clinical Center Complex E-Wing</td> <td style="text-align: right;">15,000</td> <td style="text-align: right;">0</td> <td style="text-align: right;">(15,000)</td> </tr> <tr> <td>2. Permanent IVAU CRC</td> <td style="text-align: right;">26,075</td> <td style="text-align: right;">0</td> <td style="text-align: right;">(26,075)</td> </tr> <tr> <td>3. Substation 17 Upgrade</td> <td style="text-align: right;">14,675</td> <td style="text-align: right;">0</td> <td style="text-align: right;">(14,675)</td> </tr> <tr> <td>Total Decreases</td> <td style="text-align: right;">\$ 55,750</td> <td style="text-align: right;">\$0</td> <td style="text-align: right;">\$ (55,750)</td> </tr> <tr> <td>Total Changes</td> <td colspan="3" style="text-align: right;">\$0</td> </tr> </tbody> </table> | | FY 2019 | FY 2020 | FY 2019 +/- FY 2020 | <u>Increases</u> | | | | <u>A. Program:</u> | | | | 1. Repairs & Improvements | 137,250 | 167,628 | 30,378 | 2. Electrical Power Reliability for the Clinical Center | 0 | 23,500 | 23,500 | 3. NIH Fire Station Expansion | 0 | 1,872 | 1,872 | Total Increases | \$ 137,250 | \$ 193,000 | \$ 55,750 | | | | | <u>Decreases</u> | | | | <u>A. Program:</u> | | | | 1. Renovation Building 10 Clinical Center Complex E-Wing | 15,000 | 0 | (15,000) | 2. Permanent IVAU CRC | 26,075 | 0 | (26,075) | 3. Substation 17 Upgrade | 14,675 | 0 | (14,675) | Total Decreases | \$ 55,750 | \$0 | \$ (55,750) | Total Changes | \$0 | | |
| | FY 2019 | FY 2020 | FY 2019 +/- FY 2020 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Increases</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>A. Program:</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Repairs & Improvements | 137,250 | 167,628 | 30,378 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. Electrical Power Reliability for the Clinical Center | 0 | 23,500 | 23,500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. NIH Fire Station Expansion | 0 | 1,872 | 1,872 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Increases | \$ 137,250 | \$ 193,000 | \$ 55,750 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Decreases</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>A. Program:</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Renovation Building 10 Clinical Center Complex E-Wing | 15,000 | 0 | (15,000) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. Permanent IVAU CRC | 26,075 | 0 | (26,075) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. Substation 17 Upgrade | 14,675 | 0 | (14,675) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Decreases | \$ 55,750 | \$0 | \$ (55,750) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Changes | \$0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Funding Levels by Fiscal Year
(Dollars in Millions)



NATIONAL INSTITUTES OF HEALTH
Buildings & Facilities

Budget Authority by Activity
(Dollars in Thousands)

| | FY 2018 Final | | FY 2019 Enacted | | FY 2020 President's Budget | | FY 2020 +/- FY 2019 Enacted | |
|--|---------------|------------------|-----------------|------------------|----------------------------|------------------|-----------------------------|------------|
| | FTE | Amount | FTE | Amount | FTE | Amount | FTE | Amount |
| <u>Detail</u> | | | | | | | | |
| Substation 17 Upgrade | | | | 14,675 | | 0 | | (14,675) |
| Permanent IVAU CRC | | | | 26,075 | | 0 | | (26,075) |
| Clinical Center E Wing Renovation | | | | 15,000 | | 0 | | (15,000) |
| Electrical Power Reliability for the Clinical Center Complex | | | | | | 23,500 | | 23,500 |
| NIH Fire Station Expansion | | | | | | 1,872 | | 1,872 |
| Decommissioning | | 7,000 | | 7,000 | | 7,000 | | 0 |
| Repairs & Improvements | | 121,863 | | 137,250 | | 167,628 | | 30,378 |
| TOTAL | | \$128,863 | | \$200,000 | | \$200,000 | | \$0 |

**NATIONAL INSTITUTES OF HEALTH
Buildings & Facilities**

Authorizing Legislation

| | PHS Act/ Other Citation | U.S. Code Citation | 2019 Amount Authorized | FY 2019 Enacted | 2020 Amount Authorized | FY 2020 President's Budget |
|--------------------------------|------------------------------------|-------------------------------|-----------------------------------|------------------------|-----------------------------------|-----------------------------------|
| Research and Investigation | Section 301 | 42§241 | Indefinite | \$200,000,000 | Indefinite | \$200,000,000 |
| Buildings & Facilities | Section 401(a) | 42§281 | Indefinite | | Indefinite | |
| Total, Budget Authority | | | | \$200,000,000 | | \$200,000,000 |

**NATIONAL INSTITUTES OF HEALTH
Buildings & Facilities**

Appropriations History

| Fiscal Year | Budget Estimate to Congress | House Allowance | Senate Allowance | Appropriation |
|--------------------|------------------------------------|------------------------|-------------------------|----------------------|
| 2011 | \$125,581,000 | | \$125,420,000 | \$50,000,000 |
| Rescission | | | | \$100,000 |
| 2012 | \$125,581,000 | \$125,581,000 | \$125,581,000 | \$125,581,000 |
| Rescission | | | | \$237,348 |
| 2013 | \$125,308,000 | | \$125,308,000 | \$125,343,652 |
| Rescission | | | | \$250,687 |
| Sequestration | | | | (\$6,291,389) |
| 2014 | \$126,111,000 | | \$125,308,000 | \$128,663,000 |
| Rescission | | | | \$0 |
| 2015 | \$128,663,000 | | | \$128,863,000 |
| Rescission | | | | \$0 |
| 2016 | \$128,863,000 | \$132,640,000 | \$128,863,000 | \$128,863,000 |
| Rescission | | | | \$0 |
| 2017 | \$128,863,000 | | | \$128,863,000 |
| Rescission | | | | \$0 |
| 2018 | \$98,615,000 | \$128,863,000 | \$128,863,000 | \$128,863,000 |
| Rescission | | | | \$0 |
| 2019 | \$200,000,000 | \$200,000,000 | \$200,000,000 | \$200,000,000 |
| Rescission | | | | \$0 |
| 2020 | \$200,000,000 | | | |

Justification of Budget Request

Buildings and Facilities

Authorizing Legislation: Section 301 and title IV of the Public Health Services Act, as amended.

Budget Authority:

| | FY 2018 Actual | FY 2019 Enacted | FY 2020 President's Budget | FY 2020 +/- FY 2019 |
|----------------------|----------------|-----------------|----------------------------------|------------------------|
| BA | \$128,863,000 | \$200,000,000 | \$200,000,000 | \$0 |
| Total Obligations | \$138,646,785 | \$227,926,671 | \$200,000,000 | -\$27,926,671 |

Director's Overview

America's continuing leadership in biomedical research requires infrastructure and facilities capable of housing safe, reproducible research in compliance with all laws and regulations. These buildings include the Clinical Research Center (CRC), which includes 240 inpatient beds and 82 day-hospital stations; Biosafety Level 3 and 4 high containment facilities; a world-class Central Utility Plant; biomedical research laboratories; animal holding facilities, and buildings housing research support activities.

A major component of the B&F appropriation is the Repair & Improvement (R&I) program, which enables NIH to maintain and improve the performance of existing facilities throughout their life cycle. As a responsible steward of its 281 facilities, a key aspect of NIH's strategy is to sustain the condition of existing facilities to prevent premature deterioration and the curtailment of research. These investments help reduce the likelihood and consequences of building emergencies associated with NIH's Backlog of Maintenance and Repairs (BMAR), estimated at \$1.8 billion.

To achieve these priorities, NIH plans to execute various modernization and repair projects to NIH's research hospital; replace research animal facilities with a centralized and more efficient facility; improve facilities that advance computational and data science; replace temporary and obsolete administrative support facilities with permanent buildings, improve the energy and water efficiency of buildings; and support the co-evolution of science and buildings.

To illustrate the capabilities, NIH recently completed the renovation of Building 29B on the NIH Bethesda campus to house research programs of the National Institute of Allergy and Infectious Diseases (NIAID) and the National Institute of Child Health and Human Development (NICHD) research programs. The NIAID's Global Neglected Infectious Diseases (GNID) laboratories, which currently conduct laboratory and comparative medicine research at two leased facilities in

Rockville, MD, will be the primary occupant. This renovation project will enhance NIAID's ability to provide sustained commitment to investigate the basic pathogenesis of GNID and to develop and evaluate countermeasures. Furthermore, the NIAID program will move from leased labs to owned facilities, eliminating two costly leases. The NICHD program centers on the use of microscopy and computer analysis for membrane and Cellular biophysics, Membrane Biology and Intercellular Interactions. Global Neglected and Infectious Diseases (Building 29B Renovation, Bethesda Campus).

A second illustration is the completion of the Assure and Expand Chilled Water Capacity project at the Bethesda Campus, a project that has dramatically improved the safety, reliability, resiliency, and efficiency of the Central Utility Plant (CUP), which serves nearly every building on the campus. The CUP leverages Artificial Intelligence and Machine Learning to improve performance and reduce costs. In FY 2014, NIH spent \$83.4 million on utilities for its Bethesda campus; due largely to the improved efficiency of the CUP, the FY 2018 costs were \$63.0 million, representing a 24% decrease, despite the increases in utility rates and an exceptionally harsh 2017/2018 winter.

Summary of B&F Funding by Program Activity

| FY | Construction | Essential Safety and Regulatory Compliance | Physical Security | Repairs and Improvements | Renovations | Equipment/Systems/Enabling | Total |
|------|--------------|--|-------------------|--------------------------|-------------|----------------------------|-------------|
| 2011 | - | 1,127,000 | - | 48,773,000 | - | - | 49,900,000 |
| 2012 | 10,400,000 | 16,000,000 | - | 98,908,000 | - | - | 125,308,000 |
| 2013 | 7,350,000 | 16,250,000 | - | 94,509,000 | - | - | 118,109,000 |
| 2014 | 28,630,000 | - | - | 100,033,000 | - | - | 128,663,000 |
| 2015 | 78,210,000 | - | - | 50,653,000 | - | - | 128,863,000 |
| 2016 | 85,467,000 | - | - | 43,396,000 | - | - | 128,863,000 |
| 2017 | 3,200,000 | - | - | 125,663,000 | - | - | 128,863,000 |
| 2018 | 7,000,000 | - | - | 121,863,000 | - | - | 128,863,000 |
| 2019 | 62,750,000 | - | - | 137,250,000 | - | - | 200,000,000 |
| 2020 | 32,372,000 | - | - | 167,628,000 | - | - | 200,000,000 |

Overall Budget Policy

The FY 2020 President’s Budget request is \$200 million, the same as the FY 2019 enacted level. This funding request provides \$23.5 million for the Electrical Power Reliability for the Clinical Center Project, \$1.872 million for the expansion of the NIH Fire Station, \$167.628 million for repairs and improvements to existing facilities, and \$7 million for decommissioning activities. The Budget also increases the cap contained in the Title II General Provisions on the use of institute or center appropriations for alteration, repair, or improvement of facilities to \$100 million and permits individual projects to exceed \$3.5 million. This policy would provide NIH with increased flexibility in investing in its facilities and make progress on reducing the \$1.8 billion Backlog of Maintenance and Repairs.

Programs and Projects

The FY 2020 B&F will focus heavily on reducing risks to patient safety. The first project below will significantly improve the reliability of the electrical systems in the Building 10 Complex.

Electrical Power Reliability for the Clinical Center Complex (CCC)

This project involves infrastructure repairs and improvements due to failing and unreliable electrical power systems in two areas of the Building 10 Complex. This project includes new electrical risers and associated equipment and electrical vault decommissioning and upgrades. First, the project will provide eight new normal and thirteen new emergency electrical distribution risers (total of 21) of varying ampacity. Second, the project will replace and upgrade three electrical vaults one vault at a time to maintain a fully functional service to the CCC facility. These upgrades are critical in order to assure the safe and timely transfer of electrical

power during failure scenarios.

NIH Fire Station Expansion

This project will expand the NIH Fire Station emergency vehicle storage capacity from five bays to ten bays to accommodate up to four additional emergency vehicles. This expansion is necessary for the NIH Fire Station to support the growth of the NIH and surrounding communities in recent years, including the expansion of the National Naval Medical Center in Bethesda, for which the NIH Fire Station responds in accordance with current mutual aid agreements. This project will ensure the continuing safety of the 3,500 research laboratories, a research hospital, animal facilities; computer facilities; high hazard bio-containment laboratories; day care and infant care facilities, dormitory and apartment facilities, and an underground mass transit train station

Repairs & Improvements (R&I)

The requested resources will support repairs and improvements to the physical plant, building structures, utility systems, roads, and grounds at all NIH-owned sites. These funds will be used to sustain efficient and effective performance of NIH's real property assets to meet ongoing and projected research requirements and to offset the deterioration and obsolescence caused by age and use.

Projects for the R&I program are identified using NIH facilities and program staff recommendations, various facilities studies, and ongoing facilities assessments performed on each building on a three-year cycle by a firm experienced in facility assessment methodology. Once NIH identifies potential B&F projects, the projects are ranked using a decision model with input from program officials and Subject Matter Experts to ensure the focus is on the most critical projects within available resources. The R&I Board, comprised of senior facilities personnel, makes final project selections. Facilities infrastructure improvements are necessary to meet shifting research priorities and to meet HHS and NIH goals for improving the condition of NIH buildings. Such efforts include upgrading building systems, extending utility infrastructure, and implementing other capital repairs to the buildings and infrastructures to extend their useful life and to meet standards and codes associated with the Joint Commission for Accreditation of Healthcare Facilities; the Association for Assessment and Accreditation of Laboratory Animals; the Food and Drug Administration; the Centers for Disease Control; the Nuclear Regulatory Commission; the National Fire Protection Association; the Occupational Safety and Health Organization; and more.

This program supports a comprehensive program of repairs and improvements to ensure compliance with stringent Association for the Assessment and Accreditation of Laboratory Animal Care standards.

The B&F program also supports decommissioning, demolition, and related design or construction management services typically associated with R&I projects.

In summary, the FY 2020 request for Buildings & Facilities represents an important investment

in reducing the \$1.8 billion Backlog of Maintenance and Repairs and thus ensuring the conduct of safe, reproducible science to support the discovery of novel diagnostics, therapeutics, and cures.

NATIONAL INSTITUTES OF HEALTH
Buildings & Facilities

Budget Authority by Object Class
(Dollars in Thousands)

| OBJECT CLASSES | FY 2019 Enacted | FY 2020 President's Budget | FY 2020 +/- FY 2019 |
|---|------------------|-------------------------------|---------------------------|
| Personnel Compensation | | | |
| 11.1 Full-Time Permanent | 0 | 0 | 0 |
| 11.3 Other Than Full-Time Permanent | 0 | 0 | 0 |
| 11.5 Other Personnel Compensation | 0 | 0 | 0 |
| 11.7 Military Personnel | 0 | 0 | 0 |
| 11.8 Special Personnel Services Payments | 0 | 0 | 0 |
| 11.9 Subtotal Personnel Compensation | \$0 | \$0 | \$0 |
| 12.1 Civilian Personnel Benefits | 0 | 0 | 0 |
| 12.2 Military Personnel Benefits | 0 | 0 | 0 |
| 13.0 Benefits to Former Personnel | 0 | 0 | 0 |
| Subtotal Pay Costs | \$0 | \$0 | \$0 |
| 21.0 Travel & Transportation of Persons | 0 | 0 | 0 |
| 22.0 Transportation of Things | 0 | 0 | 0 |
| 23.1 Rental Payments to GSA | 0 | 0 | 0 |
| 23.2 Rental Payments to Others | 0 | 0 | 0 |
| 23.3 Communications, Utilities & Misc. Charges | 0 | 0 | 0 |
| 24.0 Printing & Reproduction | 0 | 0 | 0 |
| 25.1 Consulting Services | 0 | 0 | 0 |
| 25.2 Other Services | 0 | 0 | 0 |
| 25.3 Purchase of goods and services from government accounts | 0 | 0 | 0 |
| 25.4 Operation & Maintenance of Facilities | 200,000 | 200,000 | 0 |
| 25.5 R&D Contracts | 0 | 0 | 0 |
| 25.6 Medical Care | 0 | 0 | 0 |
| 25.7 Operation & Maintenance of Equipment | 0 | 0 | 0 |
| 25.8 Subsistence & Support of Persons | 0 | 0 | 0 |
| 25.0 Subtotal Other Contractual Services | \$200,000 | \$200,000 | \$0 |
| 26.0 Supplies & Materials | 0 | 0 | 0 |
| 31.0 Equipment | 0 | 0 | 0 |
| 32.0 Land and Structures | 0 | 0 | 0 |
| 33.0 Investments & Loans | 0 | 0 | 0 |
| 41.0 Grants, Subsidies & Contributions | 0 | 0 | 0 |
| 42.0 Insurance Claims & Indemnities | 0 | 0 | 0 |
| 43.0 Interest & Dividends | 0 | 0 | 0 |
| 44.0 Refunds | 0 | 0 | 0 |
| Subtotal Non-Pay Costs | \$200,000 | \$200,000 | \$0 |
| Total Budget Authority by Object Class | \$200,000 | \$200,000 | \$0 |