# Science Facilities Maintenance and Repair

The Department's Facilities Maintenance and Repair activities are tied to its programmatic missions, goals, and objectives. The Facilities Maintenance and Repair activities funded by the budget and displayed below and are intended to ensure that the scientific community has the facilities required to conduct cutting edge scientific research now and in the future to meet Department of Energy (DOE) goals and objectives.

## Costs for Direct-Funded Maintenance and Repair (including Deferred Maintenance Reduction)

(dollars in thousands)

|  | FY 2020      | FY 2020            | FY 2021      | FY 2022      |
|--|--------------|--------------------|--------------|--------------|
|  | Planned Cost | <b>Actual Cost</b> | Planned Cost | Planned Cost |
| Brookhaven National Laboratory                 | 4,821        | 5,495              | 4,917        | 5,578        |
| Lawrence Berkeley National Laboratory          | 8,612        | 6,335              | 3,900        | 19,089       |
| Notre Dame Radiation Laboratory                | 124          | 167                | 125          | 127          |
| Oak Ridge National Laboratory                  | 18,994       | 27,774             | 19,564       | 28,886       |
| Oak Ridge Office                               | 6,479        | 2,832              | 6,673        | 6,410        |
| Office of Scientific and Technical Information | 382          | 392                | 421          | 397          |
| SLAC National Accelerator Laboratory           | 3,276        | 3,663              | 3,407        | 3,934        |
| Thomas Jefferson National Accelerator Facility | 195          | 98                 | 198          | 133          |
| Total, Direct-Funded Maintenance and Repair    | 42,883       | 46,756             | 39,205       | 64,554       |

General purpose infrastructure includes multiprogram research laboratories, administrative and support buildings, as well as cafeterias, power plants, fire stations, utilities, roads, and other structures. Together, the Office of Science (SC) laboratories have over 1,400 operational buildings and real property trailers, with nearly 20 million gross square feet of space.

Generally, facilities maintenance and repair expenses are funded through an indirect overhead charge. In some cases, however, a laboratory may charge maintenance directly to a specific program. One example would be when maintenance is performed in a building used only by a single program. Such direct-funded charges are not directly budgeted.

#### Indirect-Funded Maintenance and Repair (including Deferred Maintenance Reduction)

Facilities maintenance and repair activities funded indirectly through overhead charges at SC laboratories are displayed in the table above. Since this funding is allocated to all work done at each laboratory, the cost of these activities is charged to funding from SC and other DOE organizations, as well as other Federal agencies and other entities doing work at SC laboratories. Maintenance reported to SC for non-SC laboratories is also shown. The figures are total projected costs across all SC laboratories.

Science
Costs for Indirect-Funded Maintenance and Repair (including Deferred Maintenance Reduction)

|  | 1            |                    |              |              |
|--|--------------|--------------------|--------------|--------------|
|  | FY 2020      | FY 2020            | FY 2021      | FY 2022      |
|  | Planned Cost | <b>Actual Cost</b> | Planned Cost | Planned Cost |
| Ames Laboratory                                | 2,700        | 2,200              | 2,400        | 2,400        |
| Argonne National Laboratory                    | 45,823       | 45,370             | 46,768       | 51,237       |
| Brookhaven National Laboratory                 | 29,619       | 31,183             | 30,211       | 33,352       |
| Fermi National Accelerator Laboratory          | 20,994       | 15,682             | 21,704       | 23,183       |
| Lawrence Berkeley National Laboratory          | 28,778       | 31,220             | 29,749       | 31,051       |
| Oak Ridge Institute for Science and Education  | 468          | 622                | 480          | 656          |
| Oak Ridge National Laboratory and Y-12         | 71,680       | 59,868             | 73,830       | 55,925       |
| Oak Ridge Office                               | 1,492        | 1,976              | 1,537        | 2,236        |
| Pacific Northwest National Laboratory          | 10,591       | 6,199              | 10,322       | 11,270       |
| Princeton Plasma Physics Laboratory            | 6,644        | 6,029              | 6,843        | 6,280        |
| SLAC National Accelerator Laboratory           | 13,649       | 16,847             | 14,195       | 14,089       |
| Thomas Jefferson National Accelerator Facility | 9,988        | 6,652              | 10,188       | 7,634        |
| Total, Indirect-Funded Maintenance and Repair  | 242,426      | 223,848            | 248,227      | 239,313      |

## Report on FY 2020 Expenditures for Maintenance and Repair

This report responds to the requirements established in Conference Report (H.Rep. 108-10) accompanying Public Law 108-7 (pages 886–887), which requires the DOE to provide an annual year-end report on maintenance expenditures to the Committees on Appropriations. This report compares the actual maintenance expenditures in FY 2020 to the amount planned for FY 2020, including Congressionally directed changes.

Science
Total Costs for Maintenance and Repair

|  | FY 2020 Planned Costs | FY 2020 Actual Costs |
|--|-----------------------|----------------------|
| Ames Laboratory                                | 2,700                 | 2,200                |
| Argonne National Laboratory                    | 45,823                | 45,370               |
| Brookhaven National Laboratory                 | 34,440                | 36,678               |
| Fermi National Accelerator Laboratory          | 20,994                | 15,682               |
| Lawrence Berkeley National Laboratory          | 37,390                | 37,555               |
| Oak Ridge Institute for Science and Education  | 468                   | 622                  |
| Notre Dame Radiation Laboratory                | 124                   | 167                  |
| Oak Ridge National Laboratory and Y-12         | 90,674                | 87,642               |
| Oak Ridge Office                               | 7,971                 | 4,808                |
| Office of Scientific and Technical Information | 382                   | 392                  |
| Pacific Northwest National Laboratory          | 10,591                | 6,199                |
| Princeton Plasma Physics Laboratory            | 6,644                 | 6,029                |
| SLAC National Accelerator Laboratory           | 16,925                | 20,510               |
| Thomas Jefferson National Accelerator Facility | 10,183                | 6,750                |
| Total, Maintenance and Repair                  | 285,309               | 270,604              |

## Science Excess Facilities

Excess Facilities are facilities no longer required to support the Department's needs, present or future missions or functions, or the discharge of its responsibilities. The table below reports the funding to deactivate and dispose of excess infrastructure, including stabilization and risk reduction activities at high-risk excess facilities. These activities result in surveillance and maintenance cost avoidance and reduced risk to workers, the public, the environment, and programs. This includes reductions in costs related to maintenance of excess facilities (including high-risk excess facilities) necessary to minimize the risk posed by those facilities prior to disposition. SC has no direct funded excess facilities costs to report.

#### **Costs for Indirect-Funded Excess Facilities**

| Argonne National Laboratory             |
|---|
| Brookhaven National Laboratory          |
| Fermi National Accelerator Laboratory   |
| Lawrence Berkeley National Laboratory   |
| Oak Ridge National Laboratory           |
| SLAC National Accelerator Laboratory    |
| Total Indirect-Funded Excess Facilities |

| FY 2020      | FY 2020            | FY 2021      | FY 2022      |
|--------------|--------------------|--------------|--------------|
| Planned Cost | <b>Actual Cost</b> | Planned Cost | Planned Cost |
| 400          | 400                | 400          | 400          |
| 958          | 595                | 978          | 619          |
| 20           | 20                 | 20           | 20           |
| 16           | 1                  | 16           | 2            |
| 500          | 250                | 500          | 250          |
| 54           | _                  | 56           | _            |
| 1,948        | 1,266              | 1,970        | 1,291        |

Science
Research and Development

|               | FY 2020 Enacted | FY 2021 Enacted | FY 2022 Request | FY 2022 Request vs<br>FY 2021 Enacted |
|---------------|-----------------|-----------------|-----------------|---------------------------------------|
| Basic         | 5,325,327       | 5,335,339       | 5,765,254       | +429,915                              |
| Applied       | _               | _               | _               | _                                     |
| Development   | _               | _               | _               | _                                     |
| Subtotal, R&D | 5,325,327       | 5,335,339       | 5,765,254       | +429,915                              |
| Equipment     | 217,526         | 239,552         | 208,391         | -31,161                               |
| Construction  | 1,380,147       | 1,343,109       | 1,298,355       | -44,754                               |
| Total, R&D    | 6,923,000       | 6,918,000       | 7,272,000       | +354,000                              |

Science
Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR)

|  |                 | (dollars in thousands) |                 |                                       |  |
|--|-----------------|------------------------|-----------------|---------------------------------------|--|
|  | FY 2020 Enacted | FY 2021 Enacted        | FY 2022 Request | FY 2022 Request vs<br>FY 2021 Enacted |  |
| Office of Science                          |                 |                        |                 |                                       |  |
| Advanced Scientific Computing Research     |                 |                        |                 |                                       |  |
| SBIR                                       | 25,160          | 25,736                 | 28,354          | +2,618                                |  |
| STTR                                       | 3,538           | 3,620                  | 3,989           | +369                                  |  |
| Basic Energy Sciences                      |                 |                        |                 |                                       |  |
| SBIR                                       | 57,423          | 56,592                 | 59,865          | +3,273                                |  |
| STTR                                       | 8,075           | 7,963                  | 8,432           | +469                                  |  |
| Biological and Environmental Research      |                 |                        |                 |                                       |  |
| SBIR                                       | 23,687          | 23,851                 | 25,504          | +1,653                                |  |
| STTR                                       | 3,330           | 3,352                  | 3,589           | +237                                  |  |
| Fusion Energy Sciences                     |                 |                        |                 |                                       |  |
| SBIR                                       | 12,348          | 12,352                 | 13,360          | +1,008                                |  |
| STTR                                       | 1,737           | 1,740                  | 1,885           | +145                                  |  |
| High Energy Physics                        |                 |                        |                 |                                       |  |
| SBIR                                       | 22,265          | 22,325                 | 22,618          | +293                                  |  |
| STTR                                       | 3,131           | 3,140                  | 3,181           | +41                                   |  |
| Nuclear Physics                            |                 |                        |                 |                                       |  |
| SBIR                                       | 18,257          | 18,685                 | 21,005          | +2,320                                |  |
| STTR                                       | 2,468           | 2,625                  | 2,955           | +330                                  |  |
| Accelerator R&D and Production             |                 |                        |                 |                                       |  |
| SBIR                                       | _               | _                      | 768             | +768                                  |  |
| STTR                                       |                 | _                      | 108             | +108                                  |  |
| Total, Office of Science SBIR <sup>a</sup> | 159,140         | 159,541                | 171,474         | +11,933                               |  |
| Total, Office of Science STTR              | 22,279          | 22,440                 | 24,139          | +1,699                                |  |

<sup>&</sup>lt;sup>a</sup> The other DOE programs SBIR/STTR funding amounts are listed in the other DOE budget volumes.

Science Safeguards and Security Crosscut

|                                     | FY 2020 Enacted | FY 2021 Enacted | FY 2022 Request | FY 2022 Request<br>vs FY 2021<br>Enacted |
|-------------------------------------|-----------------|-----------------|-----------------|--|
| Safeguards and Security             |                 |                 |                 |  |
| Protective Forces                   | 43,545          | 44,200          | 46,710          | +2,510                                   |
| Security Systems                    | 16,960          | 20,180          | 22,490          | +2,310                                   |
| Information Security                | 4,356           | 4,420           | 4,490           | +70                                      |
| Cyber Security                      | 33,346          | 37,520          | 81,260          | +43,740                                  |
| Personnel Security                  | 5,444           | 5,500           | 5,750           | +250                                     |
| Material Control and Accountability | 2,431           | 2,465           | 2,500           | +35                                      |
| Program Management                  | 6,618           | 6,715           | 6,800           | +85                                      |
| Total, Safeguards and Security      | 112,700         | 121,000         | 170,000         | +49,000                                  |

The FY 2022 Request supports sustained levels of operations in S&S program elements including Protective Forces, Security Systems, Information Security, Cyber Security, Personnel Security, Material Control and Accountability, and Program Management, while also addressing the program's highest priority of providing adequate security for the special nuclear material housed in Building 3019 at the Oak Ridge National Laboratory (ORNL).

The Request also includes an additional \$43.74 million in Cyber Security to address long standing gaps in infrastructure, operations, and compliance to ensure adequate detection, mitigation, and recovery from cyber intrusions and attacks against DOE laboratories.