# Safeguards and Security

# **Funding Profile by Subprogram**

(dollars in thousands)

|  | FY 2004<br>Comparable<br>Appropriation | FY 2005<br>Original<br>Appropriation | FY 2005<br>Adjustments | FY 2005<br>Comparable<br>Appropriation | FY 2006<br>Request |
|--|--|--------------------------------------|------------------------|--|--------------------|
| Safeguards and Security                    |  |                                      |                        |  |                    |
| Protective Forces                          | 27,235                                 | 28,128                               | -235 <sup>a</sup>      | 27,893                                 | 29,007             |
| Security Systems                           | 5,731                                  | 10,656                               | -57 <sup>a</sup>       | 10,599                                 | 11,636             |
| Information Security                       | 2,601                                  | 2,983                                | 0                      | 2,983                                  | 2,752              |
| Cyber Security                             | 13,283                                 | 15,888                               | -250 <sup>a</sup>      | 15,638                                 | 15,840             |
| Personnel Security                         | 5,173                                  | 5,900                                | 0                      | 5,900                                  | 5,670              |
| Material Control and Accountability        | 2,116                                  | 2,391                                | 0                      | 2,391                                  | 2,365              |
| Program Management                         | 6,189                                  | 7,369                                | 0                      | 7,369                                  | 7,047              |
| Subtotal, Safeguards and Security          | 62,328                                 | 73,315                               | -542                   | 72,773                                 | 74,317             |
| Less Security Charge for Reimbursable Work | -5,598                                 | -5,605                               | 0                      | -5,605                                 | -5,605             |
| Total, Safeguards and Security             | 56,730 <sup>b</sup>                    | 67,710                               | -542                   | 67,168                                 | 68,712             |

### **Public Law Authorizations:**

Public Law 95-91, "Department of Energy Organization Act" Public Law 103-62, "Government Performance and Results Act of 1993"

# **Mission**

The mission of the Office of Science (SC) Safeguards and Security program is to ensure appropriate levels of protection against: unauthorized access, theft, diversion, loss of custody or destruction of Department of Energy (DOE) assets and hostile acts that may cause adverse impacts on fundamental science, national security or the health and safety of DOE and contractor employees, the public or the environment.

The SC Program Goals will be accomplished not only through the efforts of the direct (GPRA unit) programs, but with additional efforts from programs which support the GPRA units in carrying out their mission. The Safeguards and Security program performs the following function in support of the overall SC mission: providing protection of employees, facilities and systems in a manner consistent with the security conditions.

### **Benefits**

The benefit of the Safeguards and Security program is that it provides sufficient protection of DOE assets and resources, thereby allowing the programmatic missions of the Department to be conducted in an environment that is secure based on the unique needs of each site. This Integrated Safeguards and Security Management strategy encompasses a graded approach that enables each facility to design its security protection program to meet the facility-specific threat scenario.

<sup>&</sup>lt;sup>a</sup> Reflects a rescission in accordance with P.L. 108-447, the Consolidated Appropriations Act, 2005.

<sup>&</sup>lt;sup>b</sup> Includes a reduction of \$280,000 rescinded in accordance with the P.L. 108-137, Consolidated Appropriations Act, 2004.

The following is a brief description of the types of activities performed:

# **Protective Forces**

The Protective Forces activity provides for security guards or security police officers and equipment, and training and maintenance needed to effectively carry out the protection tasks during normal and increased or emergency security conditions (SECON). This request is adequate for up to 60 days of heightened security at the SECON 2 level.

# **Security Systems**

The Security Systems activity provides for equipment to protect vital security interests and government property per the local threat. Equipment and hardware include fences, barriers, lighting, sensors, entry control devices, etc.

# **Information Security**

The Information Security activity ensures that materials and documents that may contain classified or "Official Use Only" (OUO) information are accurately and consistently identified; properly reviewed for content; appropriately marked and protected from unauthorized disclosure; and ultimately destroyed in an appropriate manner.

# **Cyber Security**

The Cyber Security activity ensures that OUO information that is electronically processed or transmitted is properly identified and protected, and that all electronic systems have an appropriate level of infrastructure reliability and integrity. This involves perimeter protection, intrusion detection, firewall protection and user authentication. Cyber security also includes enhancements in network traffic logging and monitoring, risk assessments, and improvements in incident response. It provides for the development of virtual private networks and added security for remote login and wireless connections.

# **Personnel Security**

The Personnel Security activity includes security clearance programs, employee security education, and visitor control. Employee education and awareness is accomplished through initial, refresher and termination briefings, computer based training, special workshops, publications, signs, and posters.

### **Material Control and Accountability**

The Material Control and Accountability activity provides for the control and accountability of special nuclear materials, including training of personnel for assessing the amounts of material involved in packaged items, process systems, and wastes. Additionally, this activity provides the programmatic mechanism to ensure that theft, diversion, or operational loss of special nuclear material does not occur. Also included is protection for on- and off-site transport of special nuclear materials.

# **Program Management**

The Program Management activity includes policy oversight and development and updating of security plans, assessments, and approvals to determine if assets are at risk. Also encompassed are contractor management and administration, training, planning, and integration of security activities into facility operations.

# **Detailed Justification**

(dollars in thousands)

|   | FY 2004         | FY 2005           | FY 2006        |  |  |  |
|---|-----------------|-------------------|----------------|--|--|--|
| Ames Laboratory   | . 409           | 505               | 505            |  |  |  |
| The Ames Laboratory Safeguards and Security program coordinates planning, policy, implementation, |                 |                   |                |  |  |  |
| and oversight in the areas of security systems, protective for                                    | rces, personnel | security, materia | al control and |  |  |  |

The Ames Laboratory Safeguards and Security program coordinates planning, policy, implementation, and oversight in the areas of security systems, protective forces, personnel security, material control and accountability, and cyber security. A protective force is maintained to provide protection of personnel, equipment, and property from acts of theft, vandalism, and sabotage through facility walk-through, monitoring of electronic alarm systems, and emergency communications. Reimbursable work is included in the numbers above; the amount for FY 2006 is \$26,000.

| Argonne National Laboratory | 7,655 | 8,727 | 8,984 |
|-----------------------------|-------|-------|-------|
|-----------------------------|-------|-------|-------|

The Argonne National Laboratory Safeguards and Security program provides protection of nuclear materials, classified matter, government property, and other vital assets from unauthorized access, theft, diversion, sabotage, espionage, and other hostile acts that may cause risks to national security, the health and safety of DOE and contractor employees, the public, or the environment. Other program activities include security systems, material control and accountability, information security, and personnel security. In addition, a protective force is maintained. These activities ensure that the facility, personnel, and assets remain safe from potential threats. The increase in FY 2006 is due to one-time security systems investments to support requirements of the revised Design Basis Threat (DBT). Reimbursable work is included in the numbers above; the amount for FY 2006 is \$388,000.

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The Brookhaven National Laboratory (BNL) Safeguards and Security program activities are focused on protective forces, cyber security, physical security, and material control and accountability. BNL operates a transportation division to move accountable nuclear materials around the site. Material control and accountability efforts focus on accurately accounting for and protecting the site's special nuclear materials. The increase in funding for FY 2006 is in protective forces and security systems for reconfiguration and improvements of entry points at the Laboratory. Reimbursable work is included in the numbers above; the amount for FY 2006 is \$806,000.

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The Fermi National Accelerator Laboratory Safeguards and Security program efforts are directed at maintaining protective force staffing and operations to protect personnel and the facility, and toward continuing the security systems, and material control and accountability programs to accurately account for and protect the facility's special nuclear materials.

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The Lawrence Berkeley National Laboratory Safeguards and Security program provides physical protection of personnel and laboratory facilities. This is accomplished with protective forces, security systems, personnel security, and material control and accountability of special nuclear material. The decrease in funding for FY 2006 is primarily because funding is provided in FY 2005 for security system upgrades and improvements of entry points at the laboratory. Reimbursable work is included in the numbers above; the amount for FY 2006 is \$830,000.

| FY 2004 FY 2005 FY 2006 |
|-------------------------|
|-------------------------|

#### 1.179 Oak Ridge Institute for Science and Education .....

1.410

1,460

The Oak Ridge Institute for Science and Education (ORISE) Safeguards and Security program provides physical protection/protective force services by employing unarmed security officers. The facilities are designated as property protection areas for the purpose of protecting government-owned assets. In addition to the government-owned facilities and personal property, ORISE possesses small quantities of nuclear materials that must be protected. Reimbursable work is included in the numbers above; the amount for FY 2006 is \$319,000.

### Oak Ridge National Laboratory.....

7,004

11,997

12,485

The Oak Ridge National Laboratory (ORNL) Safeguards and Security program includes security systems, information security, cyber security, personnel security, material control and accountability, and program management. Primary security interest is in the National U 233 vault at Building 3019 which requires significant physical security (\$3,722,000) and protective force resources that are funded at Oak Ridge Office to meet the DOE DBT. Program planning functions at the Laboratory provide for shortand long-range strategic planning, and site safeguards and security plans associated with both the protection of security interests and preparations for contingency operations. Additionally, ORNL is responsible for providing overall laboratory policy direction and oversight in the security arena. Reimbursable work is included in the numbers above; the amount for FY 2006 is \$1,945,000.

# Oak Ridge Office.....

11,658

12,418

13,445

The Oak Ridge Office Safeguards and Security program provides for contractor protective forces for ORNL. This includes protection of a Category I special nuclear material facility, Building 3019 (\$8,448,000), the Spallation Neutron Source (\$550,000) facility, and the Federal Office Building complex (\$3,808,000). Other small activities include security systems, information security, and personnel security (\$639,000). The increase in funding for FY 2006 is provided for the revised DBT needs.

# Office of Scientific and Technical Information .....

60

440

260

The Office of Scientific and Technical Information's (OSTI) mission is to collect, preserve, disseminate, and leverage the scientific and technical information resources of DOE to expand the knowledge base of science and technology and facilitate scientific discovery and application. A decrease in FY 2006 is due to one-time costs to support requirements of the revised DBT in FY 2005.

# Pacific Northwest National Laboratory.....

10,721

10,985

11,070

The Pacific Northwest National Laboratory (PNNL) Safeguards and Security program consists of program management, physical security systems, information security, cyber security, personnel security, and material control and accountability. These program elements work together in conjunction with a counterintelligence program and an export control program to ensure appropriate protection and control of laboratory assets while ensuring that PNNL remains appropriately accessible to visitors for technical collaboration. Funding for protective force operations remains the responsibility of the Office of Environmental Management. Reimbursable work is included in the numbers above; the amount for FY 2006 is \$1,222,000.

|                                     | FY 2004 | FY 2005 | FY 2006 |
|-------------------------------------|---------|---------|---------|
| Princeton Plasma Physics Laboratory | 1,855   | 1,945   | 1,945   |

The Princeton Plasma Physics Laboratory Safeguards and Security program provides for protection of government property and other vital assets from unauthorized access, theft, diversion, sabotage, or other hostile acts. These activities result in reduced risk to national security and the health and safety of DOE and contractor employees, the public, and the environment. Reimbursable work is included in the numbers above; the amount for FY 2006 is \$54,000.

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The Stanford Linear Accelerator Center Safeguards and Security program focuses on reducing the risk to DOE national facilities and assets. The program consists primarily of protective forces and cyber security program elements. The FY 2006 increase is mainly in security systems for reconfiguration and improvements of entry points at the Laboratory and in cyber security to enhance intrusion detection and system accreditation. Reimbursable work is included in the numbers above; the amount for FY 2006 is \$15,000.

# Thomas Jefferson National Accelerator Facility............... 972 1,474 1,224

The Thomas Jefferson National Accelerator Facility has a guard force that provides 24-hour services for the accelerator site and after-hours property protection security for the entire site. Other security programs include cyber security, program management, and security systems. The decrease in funding for FY 2006 is primarily because funding is provided in FY 2005 for security system upgrades and improvements of entry points at the laboratory.

| All Other   | 315             | 344             | 380        |
|---|-----------------|-----------------|------------|
| This funding provides for program management needs for SC of SAFECOM. | and for the Pre | sidential E-Gov | initiative |
| Subtotal, Safeguards and Security                                     | 62,328          | 72,773          | 74,317     |
| Less Security Charge for Reimbursable Work                            | -5,598          | -5,605          | -5,605     |

56,730

67,168

68,712

Total, Safeguards and Security.....

# **Detailed Funding Schedule**

|  | FY 2004 | FY 2005 | FY 2006 | \$ Change | % Change |
|--|---------|---------|---------|-----------|----------|
| Ames Laboratory                              |         |         |         |           |          |
| Protective Forces                            | 143     | 157     | 152     | -5        | -3.2%    |
| Security Systems                             | 38      | 34      | 40      | +6        | +17.6%   |
| Cyber Security                               | 150     | 227     | 235     | +8        | +3.5%    |
| Personnel Security                           | 33      | 35      | 33      | -2        | -5.7%    |
| Material Control and Accountability          | 5       | 8       | 5       | -3        | -37.5%   |
| Program Management                           | 40      | 44      | 40      | -4        | -9.1%    |
| Total, Ames Laboratory                       | 409     | 505     | 505     | 0         | 0.0%     |
| Argonne National Laboratory                  |         |         |         |           |          |
| Protective Forces                            | 3,202   | 2,700   | 2,700   | 0         | 0.0%     |
| Security Systems                             | 398     | 1,098   | 1,455   | +357      | +32.5%   |
| Information Security                         | 261     | 294     | 294     | 0         | 0.0%     |
| Cyber Security                               | 1,666   | 2,012   | 2,012   | 0         | 0.0%     |
| Personnel Security                           | 1,030   | 1,067   | 1,067   | 0         | 0.0%     |
| Material Control and Accountability          | 764     | 940     | 940     | 0         | 0.0%     |
| Program Management                           | 334     | 616     | 516     | -100      | -16.2%   |
| Total, Argonne National Laboratory           | 7,655   | 8,727   | 8,984   | +257      | +2.9%    |
| Brookhaven National Laboratory               |         |         |         |           |          |
| Protective Forces                            | 6,412   | 5,883   | 6,544   | +661      | +11.2%   |
| Security Systems                             | 902     | 889     | 1,268   | +379      | +42.6%   |
| Information Security                         | 118     | 305     | 133     | -172      | -56.4%   |
| Cyber Security                               | 2,251   | 2,729   | 2,656   | -73       | -2.7%    |
| Personnel Security                           | 98      | 490     | 114     | -376      | -76.7%   |
| Material Control and Accountability          | 394     | 392     | 392     | 0         | 0.0%     |
| Program Management                           | 585     | 647     | 669     | +22       | +3.4%    |
| Total, Brookhaven National Laboratory        | 10,760  | 11,335  | 11,776  | +441      | +3.9%    |
| Fermi National Accelerator Laboratory        |         |         |         |           |          |
| Protective Forces                            | 1,465   | 1,656   | 1,630   | -26       | -1.6%    |
| Security Systems                             | 461     | 320     | 442     | +122      | +38.1%   |
| Cyber Security                               | 780     | 910     | 846     | -64       | -7.0%    |
| Material Control and Accountability          | 31      | 70      | 36      | -34       | -48.6%   |
| Program Management                           | 100     | 111     | 113     | +2        | +1.8%    |
| Total, Fermi National Accelerator Laboratory | 2,837   | 3,067   | 3,067   | 0         | 0.0%     |

| [   | FY 2004  | FY 2005 | FY 2006  | \$ Change   | % Change        |
|---|----------|---------|----------|-------------|-----------------|
| Lawrence Berkeley National Laboratory                 | 1 1 2004 | 11 2003 | 1 1 2000 | \$ Change   | 70 Change       |
| Protective Forces                                     | 1,517    | 1,578   | 1,578    | 0           | 0.0%            |
|   | 815      | 1,490   | 790      | -700        | -47.0%          |
| Security Systems                                      | 1,955    | 2,259   | 2,339    | -700<br>+80 | -47.0%<br>+3.5% |
| Cyber Security  |          | 2,239   | 2,339    | +60         | 0.0%            |
| Personnel Security                                    | 11       |         |          | •           |                 |
| Material Control and Accountability                   | 16       | 14      | 14       | 0           | 0.0%            |
| Program Management                                    | 375      | 435     | 475      | +40         | +9.2%           |
| Total, Lawrence Berkeley National Laboratory          | 4,689    | 5,785   | 5,205    | -580        | -10.0%          |
| Oak Ridge Institute for Science and Education         |          |         |          |             |                 |
| Protective Forces                                     | 282      | 297     | 322      | +25         | +8.4%           |
| Security Systems                                      | 106      | 71      | 103      | +32         | +45.1%          |
| Information Security                                  | 122      | 108     | 108      | 0           | 0.0%            |
| Cyber Security  | 418      | 541     | 491      | -50         | -9.2%           |
| Personnel Security                                    | 81       | 112     | 118      | +6          | +5.4%           |
| Program Management                                    | 170      | 281     | 318      | +37         | +13.2%          |
| Total, Oak Ridge Institute for Science and Education  | 1,179    | 1,410   | 1,460    | +50         | +3.5%           |
| Oak Ridge National Laboratory                         |          |         |          |             |                 |
| Security Systems                                      | 1,870    | 5,055   | 6,188    | +1,133      | +22.4%          |
| Information Security                                  | 332      | 411     | 346      | -65         | -15.8%          |
| Cyber Security  | 1,978    | 2,572   | 2,657    | +85         | +3.3%           |
| Personnel Security                                    | 1,022    | 1,095   | 1,145    | +50         | +4.6%           |
| Material Control and Accountability                   | 428      | 458     | 458      | 0           | 0.0%            |
| Program Management                                    | 1,374    | 2,406   | 1,691    | -715        | -29.7%          |
| Total, Oak Ridge National Laboratory                  | 7,004    | 11,997  | 12,485   | +488        | +4.1%           |
| Oak Bidge Office                                      |          |         |          |             |                 |
| Oak Ridge Office Protective Forces                    | 11,144   | 11,964  | 12,804   | +840        | +7.0%           |
| Security Systems                                      | 134      | 11,904  | 12,804   | +89         | +130.9%         |
| Information Security                                  | 97       | 99      | 105      | +69         | +130.9%         |
| Personnel Security                                    |          | 287     | 379      | +92         | +32.1%          |
|   |          |         |          |             | _               |
| Total, Oak Ridge Office                               | 11,658   | 12,418  | 13,445   | +1,027      | +8.3%           |
| Office of Scientific and Technical Information        |          |         |          |             |                 |
| Protective Forces                                     | 25       | 25      | 15       | -10         | -40.0%          |
| Security Systems                                      | 35       | 215     | 30       | -185        | -86.0%          |
| Cyber Security  | 0        | 200     | 190      | -10         | -5.0%           |
| Program Management                                    | 0        | 0       | 25       | +25         |                 |
| Total, Office of Scientific and Technical Information | 60       | 440     | 260      | -180        | -40.9%          |

|   | FY 2004 | FY 2005 | FY 2006 | \$ Change | % Change |
|---|---------|---------|---------|-----------|----------|
|   |         |         |         |           |          |
| Pacific Northwest National Laboratory                 |         |         |         |           |          |
| Security Systems                                      | 809     | 886     | 886     | 0         | 0.0%     |
| Information Security                                  | 1,671   | 1,766   | 1,766   | 0         | 0.0%     |
| Cyber Security  | 2,346   | 2,319   | 2,404   | +85       | +3.7%    |
| Personnel Security                                    | 2,615   | 2,805   | 2,805   | 0         | 0.0%     |
| Material Control and Accountability                   | 478     | 509     | 509     | 0         | 0.0%     |
| Program Management                                    | 2,802   | 2,700   | 2,700   | 0         | 0.0%     |
| Total, Pacific Northwest National Laboratory          | 10,721  | 10,985  | 11,070  | +85       | +0.8%    |
| Princeton Plasma Physics Laboratory                   |         |         |         |           |          |
| Protective Forces                                     | 985     | 1,260   | 975     | -285      | -22.6%   |
| Security Systems                                      | 33      | 33      | 33      | 0         | 0.0%     |
| Cyber Security  | 545     | 612     | 612     | 0         | 0.0%     |
| Program Management                                    | 292     | 40      | 325     | +285      | +712.5%  |
| Total, Princeton Plasma Physics Laboratory            | 1,855   | 1,945   | 1,945   | 0         | +0.0%    |
| Stanford Linear Accelerator Center                    |         |         |         |           |          |
| Protective Forces                                     | 1,606   | 1,829   | 1,797   | -32       | -1.7%    |
| Security Systems                                      | 0       | 0       | 64      | +64       |          |
| Cyber Security  | 601     | 512     | 650     | +138      | +27.0%   |
| Program Management                                    | 7       | 0       | 0       | 0         |          |
| Total, Stanford Linear Accelerator Center             | 2,214   | 2,341   | 2,511   | +170      | +7.3%    |
| Thomas Jefferson National Accelerator Facility        |         |         |         |           |          |
| Protective Forces                                     | 454     | 544     | 490     | -54       | -9.9%    |
| Security Systems                                      | 130     | 440     | 180     | -260      | -59.1%   |
| Cyber Security  | 308     | 453     | 453     | 0         | 0.0%     |
| Material Control and Accountability                   | 0       | 0       | 11      | +11       |          |
| Program Management                                    | 80      | 37      | 90      | +53       | +143.2%  |
| Total, Thomas Jefferson National Accelerator Facility | 972     | 1,474   | 1,224   | -250      | -17.0%   |
| All Other   |         |         |         |           |          |
| Cyber Security  | 285     | 292     | 295     | +3        | +1.0%    |
| Program Management                                    | 30      | 52      | 85      | +33       | +63.5%   |
| Total, All Other                                      | 315     | 344     | 380     | +36       | +10.5%   |
| Subtotal, Safeguards and Security                     | 62,328  | 72,773  | 74,317  | +1,544    | +2.1%    |
| Less Security Charge for Reimbursable Work            | -5,598  | -5,605  | -5,605  | 0         | 0.0%     |
| Total, Safeguards and Security                        | 56,730  | 67,168  | 68,712  | +1,544    | +2.3%    |

# **Explanation of Funding Changes**

FY 2006 vs. FY 2005 (\$000)**Ames Laboratory** Minor adjustments within the elements 0 **Argonne National Laboratory** An increase in FY 2006 is primarily due to one-time investments in security systems to support requirements of the revised DBT. The one-time costs include acquisition of surveillance cameras, badge/card readers, and intrusion detection systems, e.g., alarms ..... +257**Brookhaven National Laboratory** The increase is primarily associated with security systems-entry points to facilitate more effective and efficient operation to the verification of identification. These entry points will also ease traffic congestion and reduce hazardous conditions during entry. Other adjustments are made to realign funding to FY 2004 level of efforts. One-time adjustments were made in FY 2005 due to findings during a security review...... +441Fermi National Accelerator Laboratory Increase primarily in security systems (\$122,000) for operation and maintenance of intrusion detection and alarm systems is offset by adjustments to other elements..... 0 **Lawrence Berkeley National Laboratory** A decrease in FY 2006 is primarily because funding is provided in FY 2005 for security system upgrades and improvements of entry points..... -580 Oak Ridge Institute for Science and Education Minor adjustments within the elements. +50Oak Ridge National Laboratory The funding increase is primarily to enhance physical security at the National U 233 vault in Building 3019. +488Oak Ridge Office The funding increase is primarily to support additional protective force needs at the National U 233 vault in Building 3019 in order to comply with the revised DBT ..... +1.027Office of Scientific and Technical Information A decrease in FY 2006 is due to one time investments to support requirements of the revised DBT in FY 2005 ..... -180

| FY 2006 vs. |
|-------------|
| FY 2005     |
| (\$000)     |

| Pacific Northwest National Laboratory   |        |
|---|--------|
| The funding increase in FY 2006 is to meet cyber security requirements  | +85    |
| Princeton Plasma Physics Laboratory   |        |
| Increase in program management (\$285,000) for planning analysis is offset by a decrease in protective force costs resulting from a change in overhead charges against the security funding account   | 0      |
| Stanford Linear Accelerator Center  |        |
| Increases for security systems-entry points to facilitate more effective and efficient operation to the verification of identification, and to ease traffic congestion and reduce hazardous conditions during entry and for cyber security to enhance intrusion detection and system accreditation are offset by a slight decrease in protective forces | +170   |
| Thomas Jefferson National Accelerator Facility  |        |
| A decrease in FY 2006 is primarily because funding is provided in FY 2005 for security system upgrades and improvements of entry points at the laboratory   | -250   |
| All Other   |        |
| Minor adjustment for program management needs   | +36    |
| Total Funding Change, Safeguards and Security   | +1,544 |

# **Capital Operating Expenses and Construction Summary**

# **Capital Operating Expenses**

|                                   | FY 2004 | FY 2005 | FY 2006 | \$ Change | % Change |
|-----------------------------------|---------|---------|---------|-----------|----------|
| General Plant Projects            | 0       | 0       | 470     | +470      |          |
| Capital Equipment                 | 102     | 1,754   | 2,252   | +498      | +28.4%   |
| Total, Capital Operating Expenses | 102     | 1,754   | 2,722   | +968      | +55.2%   |