

Infrastructure Funding Profile by Subprogram

(dollars in thousands)

	FY 2003 Comparable Appropriation	FY 2004 Original Appropriation	FY 2004 Adjustments	FY 2004 Comparable Appropriation	FY 2005 Request
Infrastructure					
Radiological Facilities Management	62,928	64,655	-1,224	63,431	69,110
Idaho Facilities Management	62,983	76,560	-1,145	75,415	108,050
Idaho Sitewide Safeguards and Security	52,560	56,654	-311	56,343	58,103
Total, Infrastructure	178,471	197,869	-2,680	195,189^a	235,263

Funding Profile – Energy Supply

	FY 2003 Comparable Appropriation	FY 2004 Original Appropriation	FY 2004 Adjustments	FY 2004 Comparable Appropriation	FY 2005 Request
Infrastructure					
Radiological Facilities Management	62,928	64,655	-1,224	63,431	69,110
Idaho Facilities Management	42,341	55,145	-1,026	54,119	87,164
Total, Infrastructure	105,269	119,800	-2,250	117,550	156,274

Funding Profile – Other Defense Activities

	FY 2003 Comparable Appropriation	FY 2004 Original Appropriation	FY 2004 Adjustments	FY 2004 Comparable Appropriation	FY 2005 Request
Infrastructure					
Idaho Facilities Management	20,642	21,415	-119	21,296	20,886
Idaho Sitewide Safeguards and Security	52,560	56,654	-311	56,343	58,103
Total, Infrastructure	73,202	78,069	-430	77,639	78,989

^a Includes \$3.17M identified as use of prior year balances to fund the Environmental Management liability for OVEC in FY 2004.

**Energy Supply/Other Defense Activities/Nuclear Energy/
Infrastructure**

Mission

The Infrastructure program provides for the stewardship of the vital field infrastructure maintained by the Office of Nuclear Energy, Science and Technology (NE). This infrastructure is required to accomplish the assigned missions in areas such as Generation IV nuclear energy research and development, Advanced Fuel Cycle Initiative, space nuclear power applications, production of isotopes for medicine and industry, and Naval nuclear propulsion research and development.

Benefits

The Infrastructure program keeps unique DOE facilities and supporting infrastructure in a user-ready status. Facilities supported by this program include reactors, hot cells, and other vital infrastructure needed to carry out advanced nuclear energy technology research and development, construct power systems essential for important national security missions and space exploration, produce, package and ship radioisotopes for medical and scientific applications, and test new fuels and core components for the Naval Nuclear Propulsion Program. DOE stimulates great advances in science by making its nuclear facilities available to a large user base. The Department does not subsidize direct operational costs related to users but it does maintain unique radiological facilities and capabilities in a manner that supports their application to missions from various governmental and scientific users.

On May 19, 2003, oversight of and landlord responsibilities for the INEEL transferred from the Office of Environmental Management (EM) to NE. Beginning in the second quarter of FY 2005, the INEEL will be merged with Argonne National Laboratory-West (ANL-W) to create the Idaho National Laboratory (INL). The Secretary of Energy has designated INL as the center for the Department's strategic nuclear energy research and development efforts. The INL will play a lead role in Generation IV nuclear energy systems development, Advanced Fuel Cycle development, testing of naval reactor fuels and reactor core components, and space nuclear power applications. While the laboratory has transitioned its research and development focus to nuclear energy programs, it is also maintaining its multi-program national laboratory status to serve a variety of current and planned Department and national research and development missions.

Two important research reactors currently operating at this site are the Advanced Test Reactor (ATR) and its supporting ATR Critical Facility. ATR is one of the world's largest and most sophisticated test reactors. It will be a crucial facility in the development of the Generations IV reactor, the Advanced Fuel Cycle Initiative, and the Space Nuclear Propulsion development program. In addition, ATR currently conducts virtually all irradiation testing of Navy reactor fuels and core components and is vital to achieving the Department's goal of providing the U.S. Navy with safe, militarily effective nuclear propulsion plants and ensuring their continued safe and reliable operation. The Navy mission is projected to continue until at least mid-century.

The Idaho Facilities Management program supports *National Energy Policy* goals by maintaining and operating important landlord infrastructure required for the support of facilities dedicated both to advanced nuclear energy technology research and development and multi-program use. The Landlord manages common-use equipment, facilities, land, and support services that are not directly funded by programs. Key activities conducted under these programs include assuring that all landlord facilities meet essential safety and environmental requirements and are maintained at user ready levels. Other key activities include managing all special nuclear materials contained in these facilities and the disposition of DOE legacy waste materials under NE ownership.

**Energy Supply/Other Defense Activities/Nuclear Energy/
Infrastructure**

In March 2000, the Nuclear Energy Research Advisory Committee (NERAC) led the creation of the *Nuclear Science and Technology Infrastructure Roadmap* for the entire Department. This study examined the capabilities of the DOE's accelerators, reactors, and hot cells. It also evaluated current nuclear technology missions and facility staffing levels. Finally, the Roadmap estimated future mission requirements and compared them to available and planned facility capabilities, highlighting capability gaps. The Department is refining this analysis with a series of more detailed, site-specific assessments that will not only highlight infrastructure gaps, but also identify requirements for maintenance and upgrade of existing facilities. As a first step, a NERAC task force examined the nuclear R&D infrastructure at the INL to identify the maintenance and upgrades required to meet the Department's nuclear R&D activities planned at Idaho. This assessment was completed in November 2003. Building on this assessment, NERAC is creating a Subcommittee on Nuclear Laboratory Requirements to identify what characteristics, capabilities and attributes a world-class nuclear laboratory would possess. This Subcommittee will become familiar with the practices, culture and facilities of other world-class laboratories and will use this knowledge to recommend by the end of FY 2004 what needs to be implemented at Idaho. The objective of this activity is to help make Idaho National Laboratory the leading nuclear energy research laboratory in the world within ten years of its inception.

Strategic and Program Goals

The Department's Strategic Plan identifies four strategic goals (one each for defense, energy, science, and environmental aspects of the mission) plus seven general goals that tie to the strategic goals. The Infrastructure program supports the following goal:

Energy Strategic Goal

General Goal 4, Energy Security: Improve energy security by developing technologies that foster a diverse supply of reliable, affordable and environmentally sound energy by providing for reliable delivery of energy, guarding against energy emergencies, exploring advanced technologies that make a fundamental improvement in our mix of energy options, and improving energy efficiency.

The Infrastructure program has one program goal that contributes to General Goal 4 in the "goal cascade":

Program Goal 04.17.00.00: Maintain and enhance the national nuclear infrastructure to support the requirements of the Department's energy security technology development/demonstration programs, and to meet the Nation's energy, environmental, health care, and national security needs.

Contribution to Program Goal 04.17.00.00 (Energy Security) (Maintain and enhance the national nuclear infrastructure)

The Infrastructure program contributes to this goal by ensuring that the Department's unique facilities, required for advanced nuclear energy technology research and development, are maintained and operated such that they are available to support national priorities. The program manages site equipment, facilities, land, and supporting services that are not directly supported by other programs. Key activities conducted under this program include assuring that all NE facilities meet essential safety and environmental requirements and are maintained at user ready levels. Other key activities include managing all special nuclear materials contained in these facilities and the disposition of DOE legacy materials under NE ownership.

Annual Performance Results and Targets

FY 2000 Results	FY 2001 Results	FY 2002 Results	FY 2003 Results	FY 2004 Targets	FY 2005 Targets
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Program Goal 04.17.00.00 (Energy Security)

Radiological Facilities Management

Complete 80 percent of the construction of the Los Alamos Isotope Production Facility, which is needed for the production of short-lived radioisotopes essential for U.S. medical research. (MET GOAL)

Keep cost and schedule milestones for upgrades and construction of key nuclear facilities within 10 percent of approved baselines (MET GOAL)

Keep cost and schedule milestones for upgrades and construction of key nuclear facilities within 10 percent of approved baselines, using the cost-weighted mean percent variance (+/-10 percent) approach.

Keep cost and schedule milestones for upgrades and construction of key nuclear facilities within 10 percent of approved baselines, using the cost-weighted mean percent variance (+/-10 percent) approach.

Safely operate each key nuclear facility within 10 percent of the approved plan, shutting down reactors if they are not operated within their safety envelope and expediting remedial action. (MET GOAL)

Consistent with safe operations, maintain and operate key nuclear facilities so the unscheduled operational downtime will be kept to less than 10 percent, on average, of total scheduled operating time.

Consistent with safe operations, maintain and operate key nuclear facilities so the unscheduled operational downtime will be kept to less than 10 percent, on average, of total scheduled operating time.

Demonstrate the operational capability of radioisotope power systems infrastructure by fabricating quality products at each of the major facilities (i.e., at least eight iridium clad vent sets at ORNL and at least eight encapsulated Pu-238 fuel pellets at LANL). (MET GOAL)

Demonstrate the operational capability of radioisotope power systems infrastructure by fabricating flight quality products at each of the major facilities (i.e., at least eight iridium clad vent sets at ORNL and at least eight encapsulated Pu-238 fuel pellets at LANL), and by processing at least 2 kilograms of scrap Pu-238 at LANL. (MET GOAL)

Maintain and operate radioisotope power systems facilities with less than 10 percent unscheduled downtime from approved baseline.

Maintain and operate radioisotope power systems facilities with less than 10 percent unscheduled downtime from approved baseline.

FY 2000 Results	FY 2001 Results	FY 2002 Results	FY 2003 Results	FY 2004 Targets	FY 2005 Targets
		<p>Bring the full-scale scrap recovery line to full operation and begin processing Pu-238 scrap for reuse in ongoing and future missions requiring use of radioisotope power systems. (MIXED RESULTS)</p>			
<p>Idaho Facilities Management</p>		<p>Meet the milestones for legacy waste cleanup at Test Reactor Area (TRA) in the Voluntary Consent Order between the State of Idaho and DOE, and efficiently manage resources to limit growth in backlog of maintenance to no more than 10 percent. (MET GOAL)</p>			
<p>Idaho Sitewide Safeguards and Security</p>		<p>During FY 2002, no national security incidents occurred within NE Idaho sitewide cyber systems and security areas that caused unacceptable risk or damage to the Department. (MET GOAL)</p>	<p>Complete the Idaho Integrated Safeguards and Security Plan to assure appropriate protective measures are taken commensurate with the risks and consequences for both the laboratories on the Idaho site. (MET GOAL)</p>	<p>Issue the Design Basis Threat Implementation Plan for the Idaho National Engineering and Environmental Laboratory and Argonne National Laboratory-West.</p>	<p>Approve corrective action plans, which indicate an analysis of causal factors, list steps to resolve the findings, and provide a completion schedule with milestones for all cited findings for Category I and II facilities within 60 calendar days of issuance of final reports that resulted from Safeguards and Security inspections performed by the Office of Independent Oversight and Performance Assurance pursuant to DOE Orders 470.1 chg 1 and 470.2B.</p>

Means and Strategies

NE will use various means and strategies to achieve its program goals. However, various external factors may impact the ability to achieve these goals. NE also performs collaborative activities to help meet its goals.

The Department will implement the following means:

- Ensure that mission essential systems, resources, and services are identified to conduct priority missions for the Department and are maintained and operated in compliance with DOE, Federal, and State safety and environmental requirements in a secure and cost-effective manner. For Idaho Facilities Management, this will be accomplished by the implementation of the *INL Ten Year Site Plan* that will be updated annually.
- Maintain isotope production facilities in a ready, safe and environmentally compliant condition and maintain the unique infrastructure and capability to deliver advanced radioisotope power systems for space and national security missions.

The Department will implement the following strategies:

- Idaho Facilities Management mission essential facilities will be identified in the *INL Ten Year Site Plan*. Detailed work planning and funding requests will result from implementation of this Plan that will be updated annually.
- Efficient use of existing facilities and staff, backup supply agreements, upgrade of present facilities, purchase of needed equipment, and investing in new facilities as warranted by demand. The challenges to the program will continue as scientific and medical research result in increased demand for new isotope products.

The following external factors could affect NE's ability to achieve its strategic goal:

- For Idaho Facilities Management, lack of Congressional and Administration support to accomplish the goals of the *INL Ten Year Site Plan* would impact Idaho's ability to achieve the strategic goals for the site.
- Changing mission requirements from agencies that use radioisotope power systems and the risk associated with technological developments could affect the Department's ability to deliver these systems to customers in a timely manner.

In carrying out the program's mission, NE performs the following collaborative activities:

- Coordinates with national security agencies and NASA to develop radioisotope power systems for their use, to ensure proposed systems and technologies satisfy the necessary technical requirements identified by customers for identified mission scenarios.
- The Department finances all isotope production and distribution expenses through cash collections from both federal and non-federal customers. The program is working to fully address its customers' requirements and to forecast future trends. This is being done through frequent interactions between customers and program staff, data obtained from customer and grantee site visits and attendance at society conferences (*e.g.*, the Society of Nuclear Medicine), and

coordination of isotope activities with stakeholders in the isotope community, including other Federal agencies.

Validation and Verification

To validate and verify program performance, NE will conduct various internal and external reviews and audits. NE's programmatic activities are subject to continuing review by the Congress, the General Accounting Office, the Department's Inspector General, the Nuclear Regulatory Commission, the U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Engineering and Construction Management. In addition, NE provides continual management and oversight of its vital field infrastructure programs—the Radiological Facilities Management program, the Idaho Facilities Management program, and the Idaho Sitewide Safeguards and Security program. Periodic internal and external program reviews evaluate progress against established plans. These reviews provide an opportunity to verify and validate performance. Monthly, quarterly, semi-annual and annual reviews, consistent with program management plans, are held to ensure technical progress, cost and schedule adherence, and responsiveness to program requirements. In addition, NE conducts semiannual Operational Program Reviews of the performance of national laboratories on NE programs.

Funding by General and Program Goal

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
General Goal 4, Energy Security					
Program Goal 04.17.00.00: Maintain and enhance the national nuclear infrastructure	178,471	195,189	235,263	+40,074	+20.5%
Total, General Goal 4, Energy Security..	178,471	195,189	235,263	+40,074	+20.5%

Idaho Facilities Management

Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Idaho Facilities Management					
INL Operations	60,691	73,120	106,527	+33,407	+45.7%
INL Construction	2,292	2,295	1,523	-772	-33.6%
Total, Idaho Facilities Management	62,983	75,415	108,050	+32,635	+43.3%

Funding Schedule by Activity – Energy Supply

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Idaho Facilities Management – Energy Supply ^a					
INL Operations	40,049	51,824	85,641	+33,817	+65.3%
INL Construction	2,292	2,295	1,523	-772	-33.6%
Total, Idaho Facilities Management – Energy Supply^a	42,341	54,119	87,164	+33,045	+61.1%

Funding Schedule by Activity – Other Defense Activities

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Idaho Facilities Management – Other Defense Activities ^b					
INL Operations	20,642	21,296	20,886	-410	-1.9%
Total, Idaho Facilities Management – Other Defense Activities^b	20,642	21,296	20,886	-410	-1.9%

^a Funding for Test Reactor Area (TRA) Landlord and Argonne National Laboratory - West (ANL-W) activities.

^b Funding for Idaho Landlord activities less TRA and ANL-W (previously funded under Defense EM).

Description

On May 19, 2003, oversight of and Landlord responsibilities for the Idaho National Engineering and Environmental Laboratory (INEEL) transferred from the Office of Environmental Management (EM) to the Office of Nuclear Energy, Science and Technology (NE). Beginning in the second quarter of FY 2005, the laboratory will be merged with Argonne National Laboratory - West (ANL-W) to create the Idaho National Laboratory (INL).

The purpose of the Idaho Facilities Management program is to provide the Idaho National Laboratory (INL) with the site-wide Landlord infrastructure required to support technical efforts such as development of Generation IV nuclear energy systems, the Advanced Fuel Cycle Initiative, the Space Nuclear Propulsion program, and the Navy's nuclear propulsion research and development program. The INL is a multi-program national laboratory that employs its research and development assets to pursue assigned roles in a range of research and national security activities.

Benefits

The Idaho Facilities Management program supports *National Energy Policy* goals by maintaining and operating important Landlord infrastructure required to support facilities dedicated both to advanced nuclear energy technology research and development and multi-program use. The Landlord manages common-use equipment, facilities, land, and support services that are not directly funded by programs. Key activities conducted under these programs include assuring that all Landlord facilities meet essential safety and environmental requirements and are maintained at user ready levels. Other key activities include managing all special nuclear materials contained in these facilities and the disposition of DOE legacy waste materials under NE ownership.

To address the new mission, an *INL Ten-Year Site Plan* has been developed. The plan presents a mission needs analysis of existing facilities and infrastructure and of new facilities needed. It provides recommendations for short- and long-term recapitalization of existing mission essential facilities and infrastructure. It also presents a plan for revitalization of laboratory facilities to support the Generation IV Nuclear Energy Systems Initiative, the Advanced Fuel Cycle Initiative, national security technology programs, and multi-program advanced technology services and support. The plan identifies and prioritizes the projects, activities, and mission resource requirements for real property assets that covers a ten-year planning horizon. It describes how NE could: recapitalize INL; acquire new facilities, infrastructure systems and equipment; and dispose of facilities no longer needed. The plan is the product of the detailed INL planning process and provides performance measures to show how the physical state of the complex is expected to change over time. The FY 2005 budget request has been based on this plan. The plan will be updated annually to reflect new program and infrastructure requirements as they emerge.

Detailed Justification

(dollars in thousands)

	FY 2003	FY 2004	FY 2005
INL Operations	60,691	73,120	106,527
▪ Laboratory Transition and Restructuring	0	0	43,800

The current plan for the INEEL is to divide the contract into two new contracts both of which will be in place February 2005, through a competitive selection process. NE will manage the new nuclear power research laboratory contract, which is referred to as the Idaho National Laboratory (INL) contract. EM will manage the Idaho Closure Project contract. The new INL contractor will be responsible for continuity of services and restructuring the site to meet the needs of the new and enduring program missions. These one-time costs do not include the transition costs generally paid to new contractors or any worker severance costs.

▪ Infrastructure Operations	46,046	52,264	53,011
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Provide landlord facility operations for operating and maintaining common use and user facilities, including nuclear and radiological facilities, and ensuring environmental compliance; infrastructure program management and support for planning, managing, and administering the Idaho Facilities Management Program. This includes: 890 square miles of land use; maintenance of 800 miles of roads; site railroad and grounds inspection and maintenance; inactive facilities surveillance and maintenance; excess facility decommissioning and disposition; disposition of legacy materials at an off-site commercial facility; and general plant project, capital equipment, and line item project funding. It also includes various crosscutting contracts and obligations between the Department of Energy and other entities including the National Oceanic and Atmospheric Administration, the Shoshone and Bannock Indian Tribes, the State of Idaho, and payments in lieu of taxes for the four counties in which the INL is located.

▪ General Plant Projects	8,092	4,800	6,863
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In FY 2005, funding will provide for projects such as:

- Minimum Safe/Caretaker Operations – GPPs will be used to reduce or eliminate emerging emergency infrastructure-related Environment, Safety, and Health problems.
- Upgrade the high voltage protective relays for the INL main electrical power distribution system.
- Complete construction of a new potable water well and water system for the Test Reactor Area (TRA) to meet new State and Federal drinking water standards.
- Test Reactor Area Retention Basin Isolation to prevent uncontrolled release of contaminated water.

(dollars in thousands)

	FY 2003	FY 2004	FY 2005
▪ General Purpose Capital Equipment	6,553	5,395	2,853
<p>Purchase equipment in accordance with the <i>INL Ten Year Site Plan</i>. This funding primarily provides upgraded replacements for aged, deteriorated equipment and new equipment to meet emerging requirements. This includes such things as: shop and miscellaneous maintenance equipment; vehicles; and heavy equipment.</p>			
▪ Advanced Test Reactor Research and Development Upgrade Initiative	0	4,824	0
<p>Initiate upgrades in FY 2004, to the Advanced Test Reactor to support planned advanced nuclear energy research projects.</p>			
▪ ANL-W General Site Upgrades	0	5,837	0
<p>Provide for infrastructure projects and upgrades in FY 2004 such as the Industrial Waste Pond Remediation, and various urgent General Plant Projects needed to restore the site's aging infrastructure.</p>			
INL Construction	2,292	2,295	1,523
▪ TRA Fire & Life Safety Improvements	481	490	0
<p>The highest priority remaining work scope will be completed in FY 2004 and the project closed out in FY 2005 using prior year funds.</p>			
▪ TRA Electrical Utility Upgrade	1,811	1,805	1,523
<p>Complete the TRA Electrical Utility Upgrade Line Item Capital Project, which replaces most of the obsolete TRA high voltage electrical distribution system that had become inadequate for current tenant needs and unreliable due to age and dwindling availability of spare parts.</p>			
Total, Idaho Facilities Management	62,983	75,415	108,050

Explanation of Funding Changes

FY 2005 vs. FY 2004 (\$000)

INL Operations

- **Laboratory Transition and Restructuring**

The increase of \$43,800,000 reflects one-time costs associated with restructuring the Idaho laboratory complex and supporting site infrastructure services until the new contractors are in place +43,800

- **Infrastructure Operations**

The increase of \$747,000 reflects the goal of baselining routine maintenance and repair in FY 2005 and increasing funding to achieve and maintain an expenditure rate of 2-4 percent of Replacement Plant Value, a level recommended by the National Academy of Science and generally applied in industry..... +747

- **General Plant Projects**

The increase of \$2,063,000 will be used to support necessary maintenance projects at INL..... +2,063

- **General Purpose Capital Equipment**

The decrease of \$2,542,000 reflects deferring equipment purchases to future years due to higher priority activities -2,542

- **Advanced Test Reactor Research and Development Upgrade Initiative**

The decrease of \$4,824,000 reflects the FY 2004 Appropriation language to initiate upgrades to the Advanced Test Reactor to support advanced nuclear energy research projects..... -4,824

- **ANL-W General Site Upgrades**

The decrease of \$5,837,000 reflects the final FY 2004 Appropriation to provide funding for necessary infrastructure projects and upgrades that could no longer be deferred. -5,837

Total, INL Operations **+33,407**

INL Construction

- **TRA Fire & Life Safety Improvements Project**

The decrease of \$490,000 reflects completion of the project in FY 2004 -490

- **TRA Electrical Utility Upgrade**

The decrease of \$282,000 reflects completion of the project in FY 2005 in accordance with the project plan. -282

FY 2005 vs. FY 2004 (\$000)

Total, INL Construction	-772
Total Funding Change, Idaho Facilities Management	+32,635

Capital Operating Expenses

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Capital Equipment	6,553	5,395	2,853	-2,542	-47.1%
General Plant Projects.....	8,092	10,637	6,863	-3,774	-35.5%
Total, Capital Operating Expenses	14,645	16,032	9,716	-6,316	-39.4%

Construction Projects

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior-Year Approp.	FY 2003	FY 2004	FY 2005	Unapprop. Balance
95-E-201, TRA Fire & Life Safety Improvements Project (LICP)	14,768	13,797	481	490	0	0
99-E-200, TRA Electrical Utility Upgrade (LICP).....	7,732	2,593	1,811	1,805	1,523	0
Total, Construction	22,500	16,390	2,292	2,295	1,523	0

Idaho Sitewide Safeguards and Security Other Defense Activities

Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Idaho Sitewide Safeguards and Security					
Idaho Operations Office ^a	52,560	56,343	58,103	+1,760	+3.1%
Less: Security Charge for Reimbursable Work	-3,003	-3,003	-3,003	+0	+0.0%
Total, Idaho Sitewide Safeguards and Security.....	49,557	53,340	55,100	+1,760	+3.3%

Funding Schedule by Category

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Idaho Operations Office					
Protective Forces	29,440	31,325	33,216	+1,891	+6.0%
Security Systems.....	9,504	11,398	10,756	-642	-5.6%
Transportation	52	55	57	+2	+3.6%
Information Security	1,686	1,794	1,855	+61	+3.4%
Personnel Security.....	1,695	1,691	1,735	+44	+2.6%
Material Control & Accountability	2,941	2,926	3,040	+114	+3.9%
Program Management	1,660	1,960	2,021	+61	+3.1%
Cyber Security.....	5,582	5,194	5,423	+229	+4.4%
Total, Idaho Operations Office	52,560	56,343	58,103	+1,760	+3.1%

^a Program levels reflect Work for Others (WFO) before the bottom line reduction to the NE appropriation for a "Security Charge for Reimbursable Work." This offset is displayed above by fiscal year. The new budget authority, as well as the offsetting collections (such as when other agencies are using the facility), for the WFO portion of the S&S budget is included in Departmental Administration's Cost of Work for Others program, which is managed by the Department's Office of Management, Budget and Evaluation. The Department's FY 2005 request assumes that DOE sites could be on a SECON 2 alert status for at least 60 days.

Description

The mission of the Idaho Sitewide Safeguards and Security (S&S) program is to protect DOE interests from theft, diversion, sabotage, espionage, unauthorized access, compromise, and other hostile acts, which may cause unacceptable adverse impacts on national security; program continuity; or the health and safety of employees, the public, or the environment.

Benefits

This program is designed to support DOE's Defense Strategic Goal to protect our national security. The Idaho Sitewide 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.

Beginning in the second quarter of FY 2005, the Idaho National Engineering and Environmental Laboratory (INEEL) and the Argonne National Laboratory-West site will merge under a single new contract. The resulting laboratory will be called the Idaho National Laboratory (INL). This integration will continue in FY 2005 with additional changes anticipated to increase efficiency and contain costs. In anticipation of this merger, the Department expects that the two existing safeguards and security programs at the Idaho site will be merged into a single program. Initiation of the new Departmental Design Basis Threat (DBT) requirements will begin in FY 2005. Costs associated with implementation of the new DBT are not included in the funding levels shown in the Funding Schedule by Activity. DOE will implement the new DBT requirements using a risk informed approach to physical upgrades and by seeking efficiencies associated with combining the two contracts.

The following is a brief description of the type of activities performed under the Idaho Sitewide Safeguards and Security program:

Protective Forces

The Physical Protection Protective Forces activity provides for security guards or other specialized personnel and equipment, training, and management needed to effectively carry out the protection tasks during normal and security emergency conditions.

Security Systems

The Physical Security Protection Systems activity provides for equipment to protect vital security interests and government property per the local threat. Equipment and hardware includes performance testing, intrusion detection and assessment, fences, barriers, secure storage, lighting, sensors, entry/access control devices, locks, explosives detection, and vital components and tamper-safe monitoring.

Transportation

The Transportation activity provides for all security-related transportation for intra-site transfers of special nuclear materials (including safe havens), weapons, and other classified material that is not funded through NNSA's Office of Transportation Safeguards (OTS). The safeguards and security program pays for cost of protection and secure movement.

Information Security

This activity ensures that classified and sensitive unclassified matter is adequately protected. The scope of this activity includes export controls, classified matter protection and control, technical surveillance countermeasures, and operations security.

Personnel Security

The Personnel Security activity includes clearance program, adjudication, security awareness and education, visit control, Personnel Security Assurance Program, psychological/medical assessments, and administrative review costs. Security Investigations (SI) activities performed by the Federal Bureau of Investigation (FBI) and the Office of Personnel Management (OPM) associated access authorizations are funded by the Office of Security and is not requested/displayed in NE's budget.

Material Control and Accountability

The Material Control and Accountability (MC&A) activity provides for the protection of special nuclear materials (SNM), nuclear weapons, test devices, and weapons components and parts. The cost of activities such as MC&A training, proper measurement of materials, and performing a physical inventory are included in the budgets of those programs responsible for processing or storing SNM, and nuclear weapons components and parts, and are not included here.

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, planning and integration of security activities into facility operations.

Cyber Security

The Cyber Security activity includes security-related unclassified computer security and classified computer security, protecting the transmission of cyber infrastructure.

Detailed Justification

(dollars in thousands)

	FY 2003	FY 2004	FY 2005
Idaho Sitewide Safeguards and Security	52,560	56,343	58,103
Program activities include security systems, material control and accountability, information and cyber security, and personnel security. In addition, a protective force is maintained. These activities ensure that the site, personnel, and assets remain safe from potential threats.			
Subtotal, Idaho Sitewide Safeguards & Security	52,560	56,343	58,103
Less: Security Charge for Reimbursable Work	-3,003	-3,003	-3,003
Total, Idaho Sitewide Safeguards & Security	49,557	53,340	55,100

Explanation of Funding Changes

FY 05 vs. FY 04 (\$000)

Idaho Sitewide Safeguards and Security

<ul style="list-style-type: none"> ▪ An increase of \$1,760,000 in security is partially due to expectations to operate at a heightened security posture and other related safeguards and security activities costs... 	+1,760
Total Funding Change, Idaho Sitewide Safeguards and Security	+1,760

Capital Operating Expenses

(dollars in thousands)

	FY 2003	FY 2004	FY 2005
General Plant Project.....	907	3,150	700
Capital Equipment	2,547	1,736	4,681
Total, Capital Operating Expenses.....	3,454.....	4,886	5,381

Program Direction

Funding Schedule

(dollars in thousands/whole FTEs)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Program Direction					
Salaries and Benefits.....	44,997	47,151	47,356	+205	+0.4%
Travel.....	1,511	1,732	1,732	+0	+0.0%
Support Services.....	3,460	2,430	2,430	+0	+0.0%
Other Related Expenses.....	7,941	8,474	8,767	+293	+3.5%
Total Program Direction.....	57,909	59,787	60,285	+498	+0.8%
Headquarters FTEs.....	137	142	144	+2	+1.4%
Field FTEs.....	259	259	251	-8	-3.1%

Funding Schedule- Energy Supply

(dollars in thousands/whole FTEs)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Program Direction – Energy Supply					
Salaries and Benefits.....	17,474	19,741	20,140	+399	+2.0%
Travel.....	757	951	951	+0	+0.0%
Support Services.....	2,710	1,627	1,627	+0	+0.0%
Other Related Expenses.....	3,033	3,423	3,709	+286	+8.4%
Total Program Direction – Energy Supply	23,974	25,742	26,427	+685	+2.7%
Headquarters FTEs.....	128	133	141	+8	+6.0%
Field FTEs.....	23	23	14	-9	-39.1%

Funding Schedule- Other Defense

(dollars in thousands/whole FTEs)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Program Direction – Other Defense					
Salaries and Benefits.....	27,523	27,410	27,216	-194	-0.7%
Travel.....	754	781	781	+0	+0.0%
Support Services.....	750	803	803	+0	+0.0%
Other Related Expenses.....	4,908	5,051	5,058	+7	+0.1%
Total Program Direction – Other Defense	33,935	34,045	33,858	-187	-0.5%
Headquarters FTEs.....	9	9	3	-6	-66.7%
Field FTEs.....	236	236	237	+1	+0.4%

Program Direction Funding Profile by Category

(dollars in thousands/whole FTEs)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Chicago					
Salaries and Benefits.....	1,044	1,063	0	-1,063	-100.0%
Travel.....	71	80	0	-80	-100.0%
Support Services.....	52	78	0	-78	-100.0%
Other Related Expenses.....	67	75	0	-75	-100.0%
Total, Chicago.....	1,234	1,296	0	-1,296	-100.0%
Full Time Equivalents.....	8	8	0	-8	-100.0%
Idaho					
Salaries and Benefits.....	26,279	25,778	26,108	+330	+1.3%
Travel.....	695	714	794	+80	+11.2%
Support Services.....	712	764	842	+78	+10.2%
Other Related Expenses.....	4,622	4,755	4,830	+75	+1.6%
Total, Idaho.....	32,308	32,011	32,574	+563	+1.8%
Full Time Equivalents.....	236	236	237	+1	+0.4%
Oak Ridge					
Salaries and Benefits.....	1,705	1,759	1,819	+60	+3.4%
Travel.....	37	39	39	+0	+0.0%
Support Services.....	22	23	23	+0	+0.0%
Other Related Expenses.....	42	75	76	+1	+1.3%
Total, Oak Ridge.....	1,806	1,896	1,957	+61	+3.2%
Full Time Equivalents.....	14	14	14	+0	+0.0%
Livermore Site Office					
Salaries and Benefits.....	110	116	0	-116	-100.0%
Travel.....	5	6	0	-6	-100.0%
Support Services.....	0	0	0	+0	-100.0%
Other Related Expenses.....	12	12	0	-12	-100.0%
Total, Livermore Site Office.....	127	134	0	-134	-100.0%
Full Time Equivalents.....	1	1	0	-1	-100.0%

(dollars in thousands/whole FTEs)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Headquarters					
Salaries and Benefits.....	15,859	18,435	19,429	+994	+5.4%
Travel.....	703	893	899	+6	+0.7%
Support Services.....	2,674	1,565	1,565	+0	+0.0%
Other Related Expenses.....	3,198	3,557	3,861	+304	+8.5%
Total, Headquarters.....	22,434	24,450	25,754	+1,304	+5.3%
Full Time Equivalents.....	137	142	144	+2	+1.4%
Total Program Direction					
Salaries and Benefits.....	44,997	47,151	47,356	+205	+0.4%
Travel.....	1,511	1,732	1,732	+0	+0.0%
Support Services.....	3,460	2,430	2,430	+0	+0.0%
Other Related Expenses.....	7,941	8,474	8,767	+293	+3.5%
Total, Program Direction.....	57,909	59,787	60,285	+498	+0.8%
Full Time Equivalents.....	396	401	395	-6	-1.5%

Mission

Program Direction provides the Federal staffing resources and associated costs required to provide overall direction and execution of the Office of Nuclear Energy, Science and Technology (NE). NE promotes secure, competitive, and environmentally responsible nuclear technologies to serve the present and future energy needs of the country. NE carries out this mission in several ways. As the central organization with the Federal Government's core expertise in nuclear technology, NE directs the Nation's investment in nuclear science and technology by sponsoring research at the national laboratories, U.S. universities, and private industry. Through its support of innovative, higher risk science and by helping to preserve the national research and development infrastructure, NE works to advance the responsible use of nuclear technology. NE also manages the safe operation and maintenance of critical nuclear infrastructure and provides nuclear technology goods and services to industry and government.

On May 19, 2003, oversight of and Landlord responsibilities for the Idaho National Engineering and Environmental Laboratory (INEEL) transferred from the Office of Environmental Management (EM) to the Office of Nuclear Energy, Science and Technology (NE). Beginning in the second quarter of FY 2005, the INEEL will be merged with Argonne National Laboratory-West (ANL-W) to create the Idaho National Laboratory (INL). The Secretary of Energy has designated INL as the center for the Department's strategic nuclear energy research and development efforts. The INL will play a lead role in Generation IV nuclear energy systems development, Advanced Fuel Cycle development, testing of

naval reactor fuels and reactor core components, and space nuclear power applications. While the laboratory has transitioned its research and development focus to nuclear energy programs, it is also maintaining its multi-program national laboratory status to serve a variety of current and planned Department and national research and development missions.

The Office of Nuclear Energy, Science and Technology and the DOE Idaho Operations Office (NE-ID) are being integrated into a single functional organization to optimize the efficiency and effectiveness of the Department's oversight of the INL. NE is committed to eliminating the barriers associated with the traditional headquarters/field relationship. This new structure will carry out all of the programmatic, project, and landlord responsibilities assigned to NE now and in the future, both as Lead Program Secretarial Officer (PSO) and Contracting Officer for DOE's operations in Idaho, and as responsible PSO for programs, projects, facilities and operations at other DOE sites.

NE is one of the most programmatically diverse organizations in the Department and is faced with critical human capital challenges to pursuing its mission. Extensive downsizing several years ago resulted in numerous skill imbalances, and particularly affected NE's retention of technical and scientific specialists. Wherever possible, employees were redeployed from lower priority programs to higher priority programs to meet mission needs. At this point, with expanding programs, limited resources, and skill imbalances, NE faces a variety of staffing challenges as it works to meet the requirements set for it by the President and the Secretary of Energy.

NE's human capital vision is to develop, recruit, and maintain a diverse organization of highly skilled professionals with the competency and motivation to contribute to the development and implementation of national energy policies and programs, and help lead the Nation in achieving its nuclear technology goals for the twenty-first century.

NE is aggressively addressing the mismatch between the growth in its national responsibilities and the decline in its skilled personnel. The *Office of Nuclear Energy, Science and Technology Workforce Plan* was updated in December 2003 to reflect the transfer of Lead Program Secretarial Office (LPSO) responsibilities to NE from the Office of Environmental Management and other mission changes. Like the rest of the Federal Government, NE is planning for workforce changes that are engendered by an aging workforce. The average age of the NE workforce is 49.5 years, just slightly higher than the 47.5 year average age of the Federal workforce overall. Out of the current workforce, thirty six percent will be eligible to retire within 5 years. Over the past several years, NE has been trying to address the issue of an aging workforce through the recruitment of entry-level engineering, scientific, and administrative positions. Continuation of this effort is essential. The *Plan* indicates that, especially in the area of project management, NE has a skills mix problem that must be addressed in the near term, as well as a need to increase staffing. In accordance with the *Plan*, NE plans a moderate increase in the Headquarters workforce over the next five years. The required staffing level is restrained because NE expects to continue its successful practice of aggressive matrix management and assuring the fullest possible utilization of staff resources. The proposed actions from the *Plan* plus NE's evolving mission, create small, additional requirements for Program Direction funds. However, as in the past, NE's Program Direction budget is developed to cover special programs and circumstances such as A-76/competitive outsourcing; to retain special skills through special incentive programs; succession planning; to train/retrain; and participate in special employment programs.

NE's expanding responsibilities are reflected in the transfer of staff from other organizations to assist in a range of vital missions. In FY 2004, NE will complete its absorption of twenty experienced staff from the Office of Environmental Management to assist in the oversight of the Idaho Laboratory Complex and guide its reformation into a world-class nuclear energy research center. NE has also assumed oversight responsibility for the Department's interaction with the Organization for Economic Cooperation and Development's (OECD), reflecting its expanding role in guiding U.S. policy related the OECD Nuclear Energy Agency. With that responsibility, beginning in FY 2005, NE will assume full responsibility for one FTE transferred from NNSA, including all associated expenses and International Cooperative Administrative Support Services (ICASS). Finally, several staff at the Oak Ridge Operations Office (OR) are supporting EM and NE headquarters in managing a range of activities associated with the management of uranium resources and related functions, overseeing the Department's lease agreement with USEC Inc, and assisting in various management activities associated with the DOE enrichment sites. With a recent decision to release the Office of Science from its LPSO responsibilities for the Portsmouth and Paducah sites, seven staff at the Oak Ridge Operations Office will be transferred from Office of Science oversight to NE beginning in FY 2005.

As stated in the Departmental Strategic Plan, DOE's Strategic and General Goals will be accomplished not only through efforts of the major program offices in the Department but with additional effort from offices which support the programs in carrying out the mission. The Office of Nuclear Energy, Science and Technology performs critical functions which directly support the mission of the Department.

Detailed Justification

(dollars in thousands)

	FY 2003	FY 2004	FY 2005
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Salaries and Benefits	44,997	47,151	47,356
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NE Headquarters has retrained and redeployed staff to reduce dependence on contractors; and continuously redirected and realigned staff to accomplish program goals efficiently and effectively. However, NE's expanding role in the Department to support the *National Energy Policy* and to improve the proliferation-resistance of civilian nuclear energy systems will require additional staff. In addition, staff will be needed to assure the safe operation of the Department's various reactor facilities and provide adequate Federal oversight of essential programs. NE believes that it is essential to hire not only senior engineers and project managers for new and changing programs, but also to recruit junior staff for succession planning purposes; efforts to hire additional junior staff are continuing. NE Headquarters currently has a staff of 132. As nearly forty percent of the staff will be eligible to retire within 5 years, it is essential that program direction resources are available to compete for needed skills. In addition to the Headquarters staff, NE also funds one overseas FTE located in Paris to support international collaboration activities. In FY 2005, NE field employees include: Idaho Operations Office (237), and Oak Ridge Operations Office (14).

Travel	1,511	1,732	1,732
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Travel includes funding for transportation of Headquarters and operations office personnel associated with NE programs, their per diem allowances while in authorized travel status, and other expenses incidental to travel.

Support Services	3,460	2,430	2,430
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Support Services includes funding for technical and management support services provided to NE Headquarters and Operations office employees. NE requires its senior technical managers to be Federal employees with significant experience necessary to accomplish program objectives. NE does not rely on support service contractors to manage NE programs in place of Federal staff. To reduce support services costs, NE has retrained and redeployed staff to reduce dependence on contractors while meeting growing needs in programs such as Generation IV Nuclear Energy Systems Initiative and Nuclear Hydrogen Initiative.

Other Related Expenses	7,941	8,474	8,767
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The major expenditure in the other related expenses category (\$2,334,000 million in FY 2005, up from \$2,068,000 million in FY 2004) is earmarked for the Headquarters Working Capital Fund (WCF). The Department's Office of Management, Budget, and Evaluation (ME) established a WCF to provide funding for mandatory administrative costs, such as office space and telephone services. The FY 2005 estimate was provided by ME and requires an increase in the cost of building occupancy rates based on current General Services Administration (GSA) rates and an increase in telephone services.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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Also included in other expenses are costs associated with the Paris Office such as housing, training, office communications, supplies, miscellaneous expenses and International Cooperative Administrative Support Services (ICASS).

Total, Program Direction	57,909	59,787	60,285
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Explanation of Funding Changes

FY 2005 vs. FY 2004 (\$000)

Salaries and Benefits

- The increase of \$205,000 is the net of an additional \$330,000 for new hires at Headquarters to manage expanding research and development programs, such as the Nuclear Hydrogen Initiative and Generation IV Nuclear Energy Systems Initiative to support the Department's nuclear non-proliferation objectives, while simultaneously preparing for a significant number of retirements over the coming five years; an additional \$742,000 for a 2.5 percent escalation in accordance with established guidelines and funds for promotions and within-grade salary increases; and a decrease of \$867,000 for a reduction of 1 field FTE at Livermore Site Office Oakland, 2 field FTEs at Chicago and 5 field FTEs at Idaho +205

Other Related Expenses

- The increase of \$293,000 in other related expenses is primarily due to an increase for the WCF for the cost of building occupancy rates based on current GSA rates, and an increase in telephone services. +293

Total Funding Change, Program Direction.....	+498
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Support Services by Category

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Technical Support Services	2,597	1,418	1,418	+0	+0.0%
Management Support Services	863	1,012	1,012	+0	+0.0%
Total, Support Services	3,460	2,430	2,430	+0	+0.0%

Other Related Expenses by Category

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Other Related Expenses					
Working Capital Fund	1,930	2,068	2,334	+266	+12.9%
Nuclear Energy Research Advisory Committee	300	400	400	0	+0.0%
ADP/TeleVideo Hardware and Software	428	588	591	+3	+0.5%
Subscriptions/Publications	20	28	28	0	+0.0%
Training	133	108	108	0	+0.0%
Other Miscellaneous	5,130	5,282	5,306	+24	+0.5%
Total, Other Related Expenses	7,941	8,474	8,767	+293	+3.5%