U.S. Department of
ENERGY

Report on Laboratory Directed Research and Development (LDRD) at the DOE National Laboratories

Report to Congress
June 2013

United States Department of Energy
Washington, DC 20585

For additional information on the Department's Laboratory Directed Research and Development program, please see the Office of Science website:
http://science.energy.gov/lpe/laboratory-directed-research-and-development/
or the National Nuclear Security Administration website:
http://tri-lab.lanl.gov/

This report responds to the Conference Report (H.R. Report No. 106-988) accompanying the Fiscal Year (FY) 2001 Energy and Water Development Appropriations Act, which requested the DOE Chief Financial Officer "develop and execute a financial accounting report of LDRD expenditures by laboratory and weapons production plant." It also responds to the National Defense Authorization Act for Fiscal Year 1997 (Public Law 104-201), which requires submission each year of "a report on the funds expended during the preceding fiscal year on [LDRD] activities [...] to permit an assessment of the extent to which such activities support the national security mission of the Department of Energy." Further, this Report addresses the requirement in the Conference Report (H.R. Report No. 107-258) accompanying the FY 2002 Energy and Water Development Appropriations Act, which requests the Secretary of Energy include in the annual Report to Congress on LDRD expenditures "an affirmation that all LDRD activities derived from funds of other agencies have been conducted in a manner that support science and technology development that benefits the programs of the sponsoring agencies and is consistent with the Appropriations Acts that provided funds to those agencies."

Message from the Deputy Chief Financial Officer

As required by the Fiscal Year (FY) 2001 Energy and Water Development Appropriations Conference Report (H.R.106-988), the Department of Energy (DOE) is submitting a *Report on Laboratory Directed Research and Development (LDRD) for FY 2012.* The report provides a detailed project history of LDRD activities, as well as information on the funding levels and the impact and importance of the program in advancing the diverse missions of the Federal Government.

In FY 2012, DOE National Laboratories devoted approximately $578.9 million to LDRD in 1,738 projects. The Report also includes information on DOE's Plant Directed Research, Development and Demonstration, and the Site Directed Research, Development and Demonstration programs.

This report is being provided to the following Members of Congress:

- **The Honorable Barbara Mikulski**
  Chairwoman, Senate Committee on Appropriations

- **The Honorable Richard C. Shelby**
  Ranking Member, Senate Committee on Appropriations

- **The Honorable Harold Rogers**
  Chairman, House Committee on Appropriations

- **The Honorable Nita M. Lowey**
  Ranking Member, House Committee on Appropriations

- **The Honorable Dianne Feinstein**
  Chairman, Senate Subcommittee on Energy and Water Development, Committee on Appropriations

- **The Honorable Lamar Alexander**
  Ranking Member, Senate Subcommittee on Energy and Water Development, Committee on Appropriations

- **The Honorable Rodney P. Frelinghuysen**
  Chairman, House Subcommittee on Energy and Water Development, Committee on Appropriations

- **The Honorable Marcy Kaptur**
  Ranking Member, House Subcommittee on Energy and Water Development, Committee on Appropriations

- **The Honorable Carl Levin**
  Chairman, Senate Committee on Armed Services

- **The Honorable James M. Inhofe**
  Ranking Member, Senate Committee on Armed Services

- **The Honorable Howard P. McKeon**
  Chairman, House Committee on Armed Services

- **The Honorable Adam Smith**
  Ranking Member, House Committee on Armed Services

- **The Honorable Fred Upton**
  Chairman, House Committee on Energy and Commerce

- **The Honorable Henry A. Waxman**
  Ranking Member, House Committee on Energy and Commerce

- **The Honorable Ron Wyden**
  Chairman, Senate Committee on Energy and Natural Resources

- **The Honorable Lisa Murkowski**
  Ranking Member, Senate Committee on Energy and Natural Resources

- **The Honorable Lamar Smith**
  Chairman, House Committee on Science, Space, and Technology

- **The Honorable Eddie Bernice Johnson**
  Ranking Member, House Committee on Science, Space, and Technology

- **The Honorable Fred Upton**
  Chairman, House Committee on Energy and Commerce

- **The Honorable Henry A. Waxman**
  Ranking Member, House Committee on Energy and Commerce

- **The Honorable Ron Wyden**
  Chairman, Senate Committee on Energy and Natural Resources

- **The Honorable Lisa Murkowski**
  Ranking Member, Senate Committee on Energy and Natural Resources

If you have any questions or need additional information, please contact me or Mr. Joseph Levin, Associate Director of External Coordination, at 202-586-3098.

Sincerely,

Alison L. Doone

Alison L. Doone

Executive Summary

As required by the FY 2001 Energy and Water Development Appropriations Conference Report (H.R. 106-988), the Department of Energy (DOE) has prepared a *Report on Laboratory Directed Research and Development (LDRD) for FY 2012.* The report provides a detailed project history of LDRD activities, as well as information on the funding levels and the impact and importance of the program in advancing the diverse missions of the Federal Government.

Report on Laboratory Directed Research and Development at the National Laboratories For Fiscal Year Ended September 30, 2012

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Secretarial Affirmation

On behalf of the Department of Energy, I am pleased to present the Fiscal Year 2012 Laboratory Directed Research and Development (LDRD) Report to Congress. The Department's national laboratories execute long-term national missions and develop unique scientific and technical capabilities beyond the scope of academic and industrial institutions. Further, the laboratories develop and sustain scientific and technical capabilities that the Federal Government deems critical and desires assured access. The LDRD Program provides the laboratories with the opportunity and flexibility to establish and maintain an environment that encourages and supports creativity and innovation, and contributes to their long-term viability. LDRD is indispensable to the Department because it enables the laboratories to position themselves to advance our national security mission and respond to our Nation's future research needs.

Based on the information and acknowledgments provided to the Department and its contractors by other Federal agencies that are funding LDRD activities in Fiscal Year 2012, I affirm that all LDRD activities derived from funds of other Federal agencies (1) have been conducted in a manner supporting scientific and technical development that benefits the programs of the sponsoring agencies, and (2) are consistent with the appropriations acts that provided funds to those agencies.

Ernest J. Moniz
Secretary of Energy
June 2013

I. Congressional Language

This report responds to the Conference Report (H.R. Report No. 106-988) accompanying the Fiscal Year (FY) 2001 Energy and Water Development Appropriations Act, which requested the DOE Chief Financial Officer "develop and execute a financial accounting report of LDRD expenditures by laboratory and weapons production plant." It also responds to the National Defense Authorization Act for FY 1997 (Public Law 104-201), which requires submission each year of "a report on the funds expended during the preceding fiscal year on [LDRD] activities [...] to permit an assessment of the extent to which such activities support the national security mission of the Department of Energy." Further, this Report addresses the requirement in the Conference Report (H.R. Report No. 107-258) accompanying the FY 2002 Energy and Water Development Appropriations Act, which requests the Secretary of Energy include in the annual Report to Congress on LDRD expenditures "an affirmation that all LDRD activities derived from funds of other agencies have been conducted in a manner that support science and technology development that benefits the programs of the sponsoring agencies and is consistent with the Appropriations Acts that provided funds to those agencies."

II. Introduction

The Atomic Energy Act (AEA) of 1954, as amended (42 U.S.C. 2011 et seq., in Section 31), directs the Department of Energy (DOE)/National Nuclear Security Administration (NNSA) to ensure the continued conduct of research and development (R&D) and to assist in the acquisition of an ever-expanding body of theoretical and practical knowledge in the fields of energy, its production, uses, handling, and effects. This mission, initially the responsibility of the Atomic Energy Commission (AEC), then that of the Energy Research and Development Administration (ERDA) and subsequently DOE, has been and continues to be carried out to a significant extent in government-owned facilities.

The AEC recognized that to maintain the laboratories' intellectual vitality, their ability to respond immediately to developments at the cutting edge of science and technology, and their ability to retain the best scientific, technological, and managerial talent, a certain amount of work must be left to the laboratories' discretion. Thus, from its inception, the AEC and its successor agencies made allowable certain amounts of research derived from the ideas of the national laboratory researchers themselves.

In 1985, and in response to the recommendations of national panels and commissions, the Department established the Exploratory Research and Development Program (ER&D) to formalize the practice of providing its national laboratories with the means with which to

conduct laboratory initiated R&D.[1] Six years later, DOE renamed the program Laboratory Directed Research and Development (LDRD) and formally established it at the DOE national laboratories. Today, the LDRD Program at the DOE national laboratories and analogous programs at the Department's nuclear weapons production plants (Plant Directed Research and Development, or PDRD) and Nevada National Security Site (NNSS) (Site Directed Research and Development, or SDRD) are active components of the DOE mission to promote scientific and technical (S&T) innovation that advances the economic, energy, and national security of the United States (U.S.).[2]

All LDRD activities conducted at the DOE national laboratories are governed by a standard DOE policy (DOE Order 413.2B, *Laboratory Directed Research and Development*), which provides guidance to ensure effective management and oversight of the LDRD Program, while at the same time supporting the laboratories' statutory authority to pursue innovative, self-selected projects in support of the DOE mission. DOE's LDRD policy is consistent with the Department's management practices for all R&D activities in that it includes annual planning and reporting requirements, as well as program and peer reviews to ensure the investments reflect highly innovative and the highest quality research projects. In addition, DOE concurs with each proposed LDRD project before a laboratory commences work on it to ensure the project complies with Departmental policy. The remainder of this Report responds to the LDRD Program financial reporting requirements required by law (see Appendix for the list).

[1] See, among others, the *Report of the White House Science Council*, Office of Science and Technology Policy, Executive Office of the President, Washington, DC, May 1983; and Guidelines, Energy Research Advisory Board, December 1985.

[2] PDRD Programs at DOE's Kansas City, Y-12, Pantex, and Savannah River Plants are consistent with the statutory authorizations found in Section 310 of the FY 2001 Energy and Water Development Appropriations Act (P.L. 106-377) and Section 3156 of the FY 2001 Floyd D. Spence National Defense Authorization Act (P.L. 106-398). The NNSS's SDRD Program is consistent with the statutory authorizations found in Section 310 of the FY 2002 Energy and Water Development Appropriations Act, 2002 (P.L. 107-66).

III. FY 2012 LDRD Financial Reporting

In accordance with Section 308 of Division C of the Omnibus Appropriations Act, 2009 (Public Law 111-8), the maximum funding level established for LDRD must not exceed eight percent of a laboratory's total operating and capital equipment budget, including non-DOE funded work, for the year. LDRD is a cost of doing business that is accumulated through a percentage of the overhead rate charged by a laboratory; this is based on the premise that LDRD is a cost for keeping the laboratories vibrant, cutting edge and creative in ideas and new fields, and thereby benefits all programs doing work at a laboratory. LDRD is considered an allowable cost in accordance with the terms of the laboratory management and operating contracts and is identified in the laboratories' accounting systems. Table 1 includes the FY 2012 end-of-year information.

Table 1. FY 2012 Overall Laboratory Costs and LDRD Costs at DOE Laboratories

Laboratory	# of LDRD Projects	LDRD Certified Costs ($M)	Total LDRD Certified Cost Base ($M)[3]	LDRD as a % of Certified Cost Base[4]
Argonne National Lab	111	28.9	704.0	4.11%
Brookhaven National Lab	53	10.1	512.2	1.97%
Idaho National Lab	118	28.4	896.6	3.17%
Lawrence Berkeley National Lab	92	20.0	705.6	2.83%
Lawrence Livermore National Lab	159	91.8	1,645.5	5.58%
Los Alamos National Lab	293	142.1	2,051.1	6.93%
National Renewable Energy Lab	44	9.2	351.8	2.62%
Oak Ridge National Lab	187	32.7	1,384.8	2.36%
Pacific Northwest National Lab	182	41.4	923.5	4.48%
Princeton Plasma Physics Lab	19	2.2	87.2	2.52%
Sandia National Labs	433	162.3	2,425.1	6.69%
Savannah River National Lab	30	5.7	154.1	3.70%
SLAC National Accelerator Lab	17	4.1	310.2	1.32%
Total	**1,738**	**578.9**	**12,151.7**	**4.76%**

[3] Certified Cost base is defined in DOE Order 413.2B and represents a laboratory's total operating and capital equipment budgets, including non-DOE funded work, but excluding certain cost categories where appropriate (e.g., Recovery Act costs). Field Chief Financial Officers certify the data as accurate.

[4] The maximum allowable LDRD percentage began at 6 percent and since FY 2006 is at 8 percent.

The total FY 2012 LDRD Program cost at the national laboratories was $579 million, which represents approximately 4.8 percent of total cost base at these laboratories.

The national laboratory management and operations (M&O) contractors conducted an analysis of the total FY 2012 LDRD program costs comparing the funding sources to the benefits received from the LDRD program projects. The analysis concluded that, of the total $579 million spent on LDRD at the national laboratories in FY 2012, approximately $367 million was funded by national-defense customers; $197 million was funded by non-defense customers; and $15 million was funded by the Department of Homeland Security (DHS). In FY 2012, the benefits projected from the LDRD program to national-defense, non-defense, and DHS were approximately $378 million, $503 million, and $158 million, respectively. The projected benefits amounts included the direct benefits attributable to the individual customer as well as those that benefited multiple customers across the three groups.

The Department of Energy has a link to display all FY 2012 LDRD Projects. The link is: http://www.cfo.doe.gov/cf12/reports/ldrd/ldrd.htm

IV. LDRD and the Work for Others Program

The Work for Others (WFO) program creates opportunities to leverage non-DOE Federal and non-Federal resources to accelerate scientific discovery and deploy solutions to the dual benefit of DOE and the sponsoring entity. WFO plays an important role in the laboratories' efforts to develop, strengthen, and sustain unique S&T capabilities deemed critical by the Government and, in many cases, represents a coordinated set of activities that seek to address large and complex national needs. This leveraging of DOE and WFO activities allows the laboratories to deliver national solutions in a cost-effective manner.

Congress provided language in the Conference Report accompanying the Energy and Water Development Appropriations Act, 2002, that requested the Department notify other Federal agencies that a portion of WFO programs will be used to fund LDRD projects. In addition, with the creation of the Department of Homeland Security in the FY 2002 Homeland Security Act, Congress enacted analogous requirements that LDRD funding associated with DHS programs be used to benefit DHS missions. In response to the FY 2002 Conference Report, the Secretary of Energy issued guidance requiring all LDRD laboratories to notify other Federal agencies of LDRD charges before funding work at the laboratories. Specifically, each new and/or revised WFO proposal DOE provides to a Federal agency must indicate the amount of LDRD charges that will be collected on the project. Furthermore, the proposal notifies the sponsor that, by providing funding, the agency is acknowledging that LDRD activities are beneficial to its organization and are consistent with the appropriation acts that provided funds to the agency. Subsequently, each WFO funding acceptance document also includes the LDRD charge acknowledgement.

In February 2003, the Secretary of Energy and the Secretary of Homeland Security entered into a Memorandum of Agreement to implement key provisions of the Homeland Security Act. In addition, the Deputy Secretary of Energy issued DOE Order 484.1 on *Reimbursable Work for the Department of Homeland Security.* The purpose of this latter document was to provide information on the process by which the DHS may place orders for reimbursable work activities to be performed at the DOE laboratories. In that Order, there are provisions for notification of LDRD charges in the cost proposal as well as requirements for acknowledgements regarding the benefits of LDRD before final approval.

In December 2003, DOE's Acting Chief Financial Officer provided other Federal agency Chief Financial Officers who are customers and sponsors of work at the Department's laboratories with applicable guidance and policy documents to explain the Department's processes. Collectively, the implementation and execution of these policies provide the basis for the Secretary's affirmation that the LDRD Program is managed in accordance with the Congressional requirements cited above.

V. FY 2012 PDRD and SDRD Programs – Financial Reporting

Plant Directed Research and Development (PDRD) - Fiscal Year Expenditures

Section 308 of Division C of the Omnibus Appropriations Act, 2009 (Public Law 111-8) allowed the Secretary of Energy to authorize an amount not to exceed four percent for PDRD. Table 2 shows FY 2012 PDRD expenditures by site.

Table 2. FY 2012 PDRD Expenditures

Plant	# of PDRD Projects	PDRD Certified Costs ($M)	Total Plant Certified Cost Base ($M)	PDRD as a % of Certified Cost Base[5]
Kansas City	102	11.8	634.2	1.86%
Pantex	19	1.4	554.5	.25%
Savannah River	10	2.2	148.4	1.48%
Y-12	76	23.9	776.1	3.08%
Total	**207**	**39.3**	**2,113.2**	**1.86%**

A review conducted by the Department identified that the Y-12 Plant, in FY 2012 and prior years, did not apply Common Site Support Overhead to its PDRD projects as recommended by House of Representatives Conference Report, H.R. Rep. No. 109-275 (2006). The Department has elected to apply those overhead rates in the future. The FY 2012 LDRD report was adjusted to reflect the full PDRD costs.

[5] The maximum allowable PDRD percentage began at 2 percent and since FY 2008 is at 4 percent.

Site Directed Research and Development (SDRD) - Fiscal Year Expenditures

Section 308 of Division C of the Omnibus Appropriations Act, 2009 (Public Law 111-8) allowed the Secretary of Energy to authorize an amount not to exceed four percent for SDRD. Table 3 shows FY 2012 SDRD program expenditures.

Table 3. FY 2012 SDRD Expenditures

Site	# of SDRD Projects	SDRD Certified Costs ($M)	Total Site Certified Cost Base ($M)	SDRD as a % of Certified Cost Base[6]
Nevada National Security Site	40	5.5	404.4	1.36%

VI. Scientific Productivity and Performance

LDRD is the principal mechanism through which the Department's national laboratories are provided the flexibility to support the formulation of their own new theories, hypotheses, and approaches; build new and enhance existing S&T capabilities; and, identify and develop technology applications with the potential to advance the DOE mission. Over the years, LDRD Programs and projects have realized major science and technology breakthroughs that have been reported widely in the scientific community. The Laboratory LDRD page on the DOE website (http://science.energy.gov/lpe/laboratory-directed-research-and-development/success-stories/) provides a number of examples of highlights associated with the LDRD program at the DOE national laboratories. Additionally, the subsequent sections are examples of key performance results of the LDRD Program for the last several fiscal years.

VII. Workforce Development

The LDRD Program, over time, has proven itself to be instrumental in the laboratories' ability to attract promising young scientists and engineers to careers aimed at advancing DOE's mission, thus providing the basis for continually refreshing the laboratory research staff, as well as for the education and training of the next generation of scientists. This includes support for both undergraduate and graduate students working on LDRD projects, technical staff retention associated with opportunities to retain and hone scientific skills via LDRD, and a range of university collaborations stimulated via LDRD projects. Furthermore, the LDRD Program plays an important role in supporting early-career post-doctoral researchers to the laboratories, as shown in Table 4.

[6] The maximum allowable SDRD percentage began at 2 percent and since FY 2008 is at 4 percent.

Table 4. Post-Doctoral Researchers Supported by LDRD at the DOE Laboratories in FY 2012

	Total Postdoctoral Count		
	Total # Postdoctoral Researchers at the National Laboratories	Total # of Postdoctoral Researchers Supported by LDRD Funding[7]	% of Postdoctoral Researchers Supported by LDRD Funding
Total # in FY 2012	3,265	994	30.4%

VIII. Publications

Publication in the open literature is an important component of any research and development program, especially those that involve the more fundamental scientific studies. Because these reports must first pass through expert reviews by peers in the relevant fields, they are demonstrative of the scientific quality of the knowledge produced through R&D.[8] The table below provides aggregate numbers of publications derived from LDRD activities at the DOE laboratories for FY 2009-2011. These statistics demonstrate that LDRD is producing a high volume of outstanding science.

Table 5. Cumulative Number of Peer-Reviewed Publications Derived from LDRD Projects in FY 2009, 2010, and 2011

	Total Publication Count		
Fiscal Year	2009	2010	2011
Total # Peer Reviewed Publications	1,940	1,976	1,869

X. Intellectual Property

In 1989, the National Competitiveness Technology Transfer Act (P.L. 99-502) established technology transfer as a mission of Federal R&D agencies, including the DOE. Since then, DOE has encouraged its national laboratories to find ways to bring the knowledge, intellectual property, facilities, and capabilities they have developed to the market place in order to meet public and private needs.

Over time, the Department has found that LDRD Programs and projects are a productive component in its ability to advance its technology transfer mission. One example of LDRD's productivity is the number of invention disclosures and patents—a useful indicator in

[7] The number of postdoctoral researchers supported by LDRD in FY 2012 includes postdoctoral researchers at the DOE/NNSA laboratories that spent 10% or more of their time at a laboratory working on LDRD during the fiscal year.

[8] There is no standard value for publications across technical fields (e.g., chemists publish numerous short papers, mathematicians publish less frequently but more in-depth, and geologists publish accounts of field work).

measuring technological strength and innovation—that stem from LDRD projects. The table below illustrates the distribution of patents and invention disclosures for FY 2009-2011.

Table 6. Cumulative Number of Patents Filed/Granted and Invention Disclosures Derived from LDRD Projects in FY 2009, 2010, and 2011

	Total Intellectual Property Count		
Fiscal Year	2009	2010	2011
Total # Patents	116	150	141
Total # Invention Disclosures	378	416	453

Appendix. Statutory and Report Language Related to LDRD

Section 308 of Division C of the Omnibus Appropriations Act, 2009 (Public Law 111-8). LABORATORY DIRECTED RESEARCH AND DEVELOPMENT. Of the funds made available by the Department of Energy for activities at government-owned, contractor-operated laboratories funded in this Act or subsequent Energy and Water Development Appropriations Acts, the Secretary may authorize a specific amount, not to exceed 8 percent of such funds, to be used by such laboratories for laboratory directed research and development: *Provided,* That the Secretary may also authorize a specific amount not to exceed 4 percent of such funds, to be used by the plant manager of a covered nuclear weapons production plant or the manager of the Nevada Site Office for plant or site directed research and development: *Provided further,* That notwithstanding Department of Energy order 413.2A, dated January 8, 2001, beginning in fiscal year 2006 and thereafter, all DOE laboratories may be eligible for laboratory directed research and development funding.

Section 309 of Division C of the Consolidated Appropriations Act, 2008 (Public Law 110-161). LABORATORY DIRECTED RESEARCH AND DEVELOPMENT. Of the funds made available by the Department of Energy for activities at government-owned, contractor-operator operated laboratories funded in this Act or subsequent Energy and Water Development Appropriations Acts, the Secretary may authorize a specific amount, not to exceed 8 percent of such funds, to be used by such laboratories for laboratory-directed research and development: *Provided,* That the Secretary may also authorize a specific amount not to exceed 4 percent of such funds, to be used by the plant manager of a covered nuclear weapons production plant or the manager of the Nevada Site Office for plant or site-directed research and development: *Provided further,* That notwithstanding Department of Energy order 413.2A, dated January 8, 2001, beginning in fiscal year 2006 and thereafter, all DOE laboratories may be eligible for laboratory directed research and development funding.

109th Congress - House of Representatives Conference Report 109-275 (2006). "The conferees are concerned with the level of overhead charges applied to programs funded in this bill and urge the Department to continue to work to minimize the overhead burden on all program activities. In order to ensure an equitable allocation of overhead costs the Secretary should apply overhead charges to LDRD activities consistent with cost accounting practices applied to program activities that are direct funded. The conference agreement increases the allowable percentage for LDRD, PDRD and SDRD activities to allow this accounting change without harming the underlying discretionary research activities. The change in accounting practices should be implemented with no net reduction in LDRD levels below 6 percent of the funds provided by the Department of Energy to such labs for national security activities and 2 percent for PDRD and SDRD activities at the appropriate plants and sites. Within 90 days after the date of enactment of this Act, the Secretary of Energy shall submit a report to the Committees on Appropriations detailing how the accounting change will be implemented without impacting

the basic research and the change shall be implemented within 180 days of enactment."

Section 311 of the Energy and Water Development Appropriations Act, 2006 (Public Law 109-103). "Of the funds made available by the Department of Energy for activities at government-owned, contractor-operator operated laboratories funded in this Act or subsequent Energy and Water Development Appropriations Acts, the Secretary may authorize a specific amount, not to exceed 8 percent of such funds, to be used by such laboratories for laboratory-directed research and development: *Provided,* That the Secretary may also authorize a specific amount not to exceed 3 percent of such funds, to be used by the plant manager of a covered nuclear weapons production plant or the manager of the Nevada Site Office for plant or site-directed research and development: *Provided further,* That notwithstanding Department of Energy order 413.2A, dated January 8, 2001, beginning in fiscal year 2006 and thereafter, all DOE laboratories may be eligible for laboratory directed research and development funding."

108th Congress - House of Representatives 108-212 (2004). "The Committee recognizes the value of conducting discretionary research at DOE's national laboratories. Such research provides valuable benefits to the Department and to other Federal agencies, and is crucial to attracting and retaining scientific talent at the laboratories. However, the Committee continues to have concerns about the financial execution of this program. One concern centers on the manner in which DOE levies the LDRD "tax" on all DOE and Work for Other programs, and then accumulates the funds into an overhead pool. This Committee typically deals with defense and non-defense allocations within the Energy and Water Development bill, and the line between those two allocations is not easily crossed. Under LDRD, however, the laboratory directors are able to pool defense and non-defense appropriations at will. The only obvious solution to this concern is to require DOE to establish and track separate LDRD accounts for defense and non-defense funding sources, and the Committee is not yet ready to direct that change. The other principal concern deals with the application of LDRD to work being performed for other agencies (Work for Others). The conference report accompanying the Energy and Water Development Appropriations Act, 2002 (P.L. 107–66) directed the Secretary to "include in the annual report to Congress on LDRD activities an affirmation that all LDRD activities derived from funds of other agencies have been conducted in a manner that support science and technology development that benefits the programs of the sponsoring agencies and is consistent with the Appropriations Acts that provided funds to those agencies." The Department has implemented this guidance by including the following language into its standard project proposal and funding acceptance documents that it requires the funding WFO agencies to sign: "The Department of Energy believes that LDRD efforts provide opportunities in research that are instrumental in maintaining cutting edge science capabilities that benefit all of the customers at the laboratory. The Department will conclude that by providing funds to DOE to perform work, you acknowledge that such activities are beneficial to your organization and consistent with appropriations acts that provide funds to you." This is too facile a solution for the Department. According to a review conducted by this Committee's investigative staff, only a little more than half of the WFO customers indicated they could reliably certify that DOE's LDRD activities are consistent with the funding agencies' appropriations acts. Nevertheless, most agencies sign the

required certification letter to DOE because they see no real alternative. The Committee fully expects that there are terms and conditions attached to the appropriations acts for these other agencies that are being ignored through this so-called "certification" process for LDRD work."

The Committee is considering changing the arrangement by which LDRD activities are funded to eliminate these concerns. The results of an ongoing General Accounting Office review will help to inform the Committee's choice. The Committee is receptive to streamlining the annual LDRD report to Congress, which is undoubtedly a significant burden for the Department to prepare and is of little value to this Committee in resolving the concerns identified above. The Department should work with Committee staff to develop a simpler and more useful LDRD report."

107th Congress - House of Representatives Conference Report 107-258 (2002). "The conference agreement does not include bill language proposed by either the House or the Senate regarding the Laboratory Directed Research and Development (LDRD) program. The conferees recognize the benefits of LDRD and expect LDRD activities to continue at previously authorized levels. However, when accepting funds from another Federal agency that will be used for LDRD activities, the Department of Energy shall notify that agency in writing how much will be used for LDRD activities. In addition, the conferees direct the Secretary of Energy to include in the annual report to Congress on all LDRD activities an affirmation that all LDRD activities derived from funds of other agencies have been conducted in a manner that supports science and technology development that benefits the programs of the sponsoring agencies and is consistent with the Appropriations Acts that provided funds to those agencies."

Utilization of Department of Energy National Laboratories and Sites in Support of Homeland Security Activities - FY 2002 Department of Homeland Security Act (Public Law. 107-296, Section 309, 6 USC 189(6) f) Laboratory Directed Research and Development by the Department of Energy.--No funds authorized to be appropriated or otherwise made available to the Department in any fiscal year may be obligated or expended for laboratory directed research and development activities carried out by the Department of Energy unless such activities support the missions of the Department of Homeland Security.

106th Congress - House of Representatives Conference Report 106-988 (2001). "The conference agreement includes an allowance of six percent for the laboratory directed research and development (LDRD) program and two percent for nuclear weapons production plants. Travel costs for LDRD are exempt from the contractor travel ceiling. The conferees direct the Department's Chief Financial Officer to develop and execute a financial accounting report of LDRD expenditures by laboratory and weapons production plant. This report due to the House and Senate Committees on Appropriations by December 31, 2000, and each year thereafter,

should provide costs by personnel salaries, equipment, and travel.[9] The Department should work with the Committees on the specific information to be included in the report."

Section 3136(b)(1) of the National Defense Authorization Act for Fiscal Year 1997 (Public Law 104-201). "The Secretary of Energy shall annually submit to the congressional defense committees a report on the funds expended during the preceding fiscal year on activities under the Department of Energy Laboratory Directed Research and Development Program. The purpose of the report is to permit an assessment of the extent to which such activities support the national security mission of the Department of Energy."

[9]The offer to streamline the LDRD report resulted in the Department and Hill contacts agreeing not to require costs be provided by personnel salaries, equipment, and travel.