Department of Energy
Washington, DC 20585

June 19, 2006

MEMORANDUM FOR DISTRIBUTION

FROM: RAYMOND L. ORBACH
UNDER SECRETARY FOR SCIENCE

SUBJECT: Laboratory Directed Research and Development

On April 19, 2006, the Department issued DOE Order 413.2B, "Laboratory Directed Research and Development." The DOE Order has been updated to reflect recent reorganizations within DOE and improvements in our management practices, as well as to comply with new reporting and oversight requirements as a result of Government Accountability Office reviews and specific Congressional direction.

While DOE Order 413.2B provides a concise statement establishing policy requirements, the more specific oversight procedures for laboratory directed research and development (LDRD) have been developed through a coordinated effort led by the Office of Science (SC) and the National Nuclear Security Administration (NNSA). The attached document provides a consolidated set of roles, responsibilities and guidelines for LDRD conducted at the DOE/NNSA laboratories. It replaces all LDRD guidance previously issued by SC.

If you have any questions, please contact John LaBarge of my staff at (202) 586-9747.

Attachment

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Roles, Responsibilities, and Guidelines for Laboratory Directed Research and Development at the Department of Energy/National Nuclear Security Administration Laboratories

1. PURPOSE

1.1. This document augments DOE Order 413.2B, Laboratory Directed Research and Development (LDRD). It establishes the roles, responsibilities, and guidelines for implementing the requirements of DOE Order 413.2B at the Department of Energy (DOE)/National Nuclear Security Administration (NNSA) laboratories.

2. ROLES and RESPONSIBILITIES

2.1. The Director, Office of Science, or designee:

2.1.1. Establishes Departmental policy in the form of DOE Order 413.2B and is the focal point for policy clarification and issue resolution.

2.1.2. Establishes and chairs the LDRD policy review committee that consists of members from the Office of Science, Office of Nuclear Energy, and NNSA.

2.2. Cognizant Secretarial Officer (CSO)/Deputy Administrator for NNSA or designees:

2.2.1. Exercise oversight of all LDRD activities at the laboratories for which they have oversight responsibility, with assistance from the responsible Site Office Manager or designee;

2.2.2. Review and approve the annual program plan and maximum funding level that may be expended or obligated on LDRD activities for the next fiscal year at each laboratory for which they have oversight responsibility; and notifies the DOE Site Offices and the laboratories in writing of the approved maximum funding levels before the beginning of the new fiscal year;

2.2.3. Annually review the laboratory LDRD programs for which they have oversight responsibility as described in Attachment 1: LDRD Program Review;

2.2.4. Grant exceptions to the policy of a maximum period of performance of 36 months for an LDRD project, with assistance from the responsible Site Office Manager or designee. Extension of a project beyond the normal 36-month limit is restricted to unusual circumstances with strong justification;

2.2.5. Conduct additional reviews, as necessary, in conjunction with the responsible Site Office, to ensure compliance with this Order and other LDRD-related requirements and/or for preparing the approval of the program plan and maximum funding level;

2.2.6. Assign additional general or specific tasks to the responsible Site Office, with their agreement, to ensure adherence to the requirements of DOE Order 413.2B; and

2.2.7. Chair their respective LDRD Working Groups that consists of members from the responsible site offices and associated laboratories.

2.3. DOE/NNSA Site Office Managers or their designees:

2.3.1. In conjunction with the CSO/NNSA Deputy Administrator for NNSA,

2.3.1.1. exercise oversight of the laboratory's LDRD activities, as required by DOE Order 413.2B;

2.3.1.2. oversee the implementation of the laboratory's LDRD management system and the general administrative aspects of LDRD activities;

2.3.1.3. assist in the annual review of the LDRD program as described in Attachment 1: LDRD Program Review;

2.3.2. Review the laboratory's proposed annual LDRD plan and funding level and provide a written recommendation on the plan and requested funding level to the responsible CSO/Deputy Administrator for NNSA;

2.3.3. Provide a written certification that the laboratory's method for accumulating LDRD funds meets the requirements of DOE Order 413.2B, and submit it to the CSO/Deputy Administrator for NNSA either before the recommendation on the LDRD Plan and requested funding level or with this recommendation;

2.3.4. Review each individual LDRD project data sheet, assess the proposed project's compliance with DOE Order 413.2B, and concur or withhold concurrence:

2.3.4.1. within 30 calendar days from date of receipt of the project data sheet for each individual project that will start work at the beginning of the fiscal year;

2.3.4.2. within 10 working days from date of receipt of the project data sheet for each individual late-start project (i.e., those projects that begin after October 1); or

2.3.4.3. within 10 working days from the date of receipt of the project data sheet for each individual project requesting a cumulative budget increase of greater than or equal to 50 percent over the DOE approved amount or $200,000, whichever is less. Cumulative budget increases up to $25,000 do not require concurrence;

2.3.5. As necessary, provide additional assistance to the CSO/Deputy Administrator for NNSA in fulfilling the requirements outlined in DOE Order 413.2B, including active participation in the appropriate LDRD Working Groups;

2.3.6. Provide the responsible CSO/NNSA Deputy Administrator for NNSA with a written concurrence for any project for which the laboratory requests an exception from the policy of a maximum period of performance of 36 months for an LDRD project; and

2.3.7. Conduct special reviews, audits, and assessments as necessary to ensure compliance with DOE Order 413.2B and for continuous improvement.

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2.4. The Laboratory Directors or their designees:

2.4.1. Guide the laboratory's LDRD program to support the overall mission and goals of the laboratory consistent with the requirements of DOE Order 413.2B;

2.4.2. Ensure that all LDRD projects support the DOE national security missions (energy resources, nuclear security, environmental quality, and science), and to the extent required by law, support missions of other federal agencies;

2.4.3. Fully support all LDRD review and oversight activities and participate in the LDRD Working Groups;

2.4.4. Comply with the DOE Order 413.2B requirements as stated in the Contractor Requirements Document of this Order;

2.4.5. Submit an annual LDRD program plan, as described in Attachment 2: Reporting Requirements, for approval to the CSO/Deputy Administrator for NNSA and the responsible Site Office Manager at least 45 days before the start of the fiscal year;

2.4.6. Submit an annual LDRD report, as described in Attachment 2: Reporting Requirements, to the CSO/Deputy Administrator for NNSA and the responsible Site Office Manager within 6 months after the end of the fiscal year;

2.4.7. Submit a data sheet, as described in Attachment 2: Reporting Requirements, to the Site Office Manager for every project selected by the laboratory. For projects intended to begin at the start of the fiscal year, these data sheets should be submitted at least 30 days prior to the start of the fiscal year to allow at least 30 days for review by the DOE/NNSA Site Office manager or designee; for late-start projects, data sheets may be submitted at any time.

2.4.8. Submit a data sheet, as described in Attachment 2: Reporting Requirements, to the Site Office Manager for a project requesting a cumulative budget increase of greater than or equal to 50 percent over the DOE approved amount or $200,000, whichever is less. Cumulative budget increases up to $25,000 do not require concurrence.

2.4.9. Keep documentation on file for each approved LDRD project to show that the project has undergone proper review and is in compliance with all applicable requirements;

2.4.10. Respond to DOE/NNSA, Congressional, or auditor inquiries or requests for information in a timely manner; and

2.4.11. Support the annual LDRD Program Review (see Attachment 1) as instructed by the CSO/Deputy Administrator for NNSA.

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Attachment 1. LDRD Program Review

DOE/NNSA LDRD Roles, Responsibilities and Guidelines

The LDRD Program Review is a process, conducted annually between May and September, that evaluates the laboratory's compliance with DOE Order 413.2B, the LDRD program results, and the operation of the laboratory's LDRD management system, including the project selection process. The annual review in conjunction with the reasonableness of the LDRD Program Plan, the Site Office's recommendation, and the laboratory's overall performance in managing its LDRD program, forms the basis for the decision on the laboratory's LDRD program plan and maximum level of funding for the next fiscal year.

The annual review includes submittal of a program assessment for the prior fiscal year by the laboratory to the CSO/Deputy Administrator for NNSA and the DOE/NNSA Site Office Manager. This assessment may be submitted as a separate document or included in the annual report or annual program plan as agreed upon by the laboratory and the CSO/Deputy Administrator for NNSA and the responsible Site Office Manager. The assessment includes the following:

- A statement from the laboratory director or designee affirming the quality of science and engineering, program relevance, and adherence to compliance requirements for the LDRD program;
- A description of the laboratory's LDRD management process;
- A description of the peer review process by which the LDRD research is evaluated;
- A financial overview;
- A summary of the LDRD portfolio's relatedness to laboratory initiatives and strategic plans;
- A summary of the performance indicators listed in Attachment 3; and
- An assessment of the program's value to the laboratory and DOE and, if any, proposed areas for improvement

As part of the annual review, each CSO/Deputy Administrator, NNSA or designee conducts a meeting attended by representatives of the DOE/NNSA site offices and the laboratories. The depth to which each laboratory program is reviewed at this meeting is determined by the CSO/Deputy Administrator, NNSA or designee and will be commensurate with the size of the program and its history of compliance and effectiveness. Generally, each laboratory review includes the following:

- A review of the administrative/management structure of the program (current and changes for the upcoming fiscal year);
- Prior fiscal year program technical accomplishments;
- Current fiscal year program expected technical accomplishments; and
- Proposed technical program activities for the next fiscal year.

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Attachment 2. Reporting Requirements

DOE/NNSA LDRD Roles, Responsibilities, and Guidelines

1. Annual Program Plan

The plan shall provide the following:

1.1. requested funding level;

1.2. general description and justification of the LDRD program; and

1.3. an explanation of how the LDRD program will meet laboratory needs; support the DOE national security missions (energy resources, nuclear security, environmental quality, and science), and to the extent required by law, support missions of other federal agencies.

2. Annual Report

The annual report consists of a brief program overview and individual technical reports for each project active during the reporting period. The report may be submitted as printed matter or electronic files using generally available media and formats such as Portable Document Format (pdf) files on CDs. Each laboratory must also provide a report on completed projects to the Office of Scientific and Technical Information. The format for the annual report is as follows:

2.1. Brief program overview including annual program costs and number of projects; and a discussion of how the program will meet laboratory needs and support the DOE national security missions (energy resources, nuclear security, environmental quality, and science), and to the extent required by law, support missions of other federal agencies.

2.2. Project Summaries

2.2.1. a general description of the project including objectives and purpose;

2.2.2. a summary of the scientific or technical progress achieved during the life of the project; and

2.2.3. a brief statement describing how the project benefited the DOE national security missions (energy resources, nuclear security, environmental quality, and science), and to the extent required by law, the missions of other federal agencies.

3. Project Data Sheets

Data sheets are submitted annually for each project to the responsible DOE/NNSA Site Office Manager or designee for concurrence. The purpose of a project data sheet is to provide DOE with sufficient background and technical information on which to base concurrence. Project data sheets will provide the following information:

3.1. Laboratory name

3.2. Fiscal year for which concurrence is being requested

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3.3. Project identifier

3.4. Project title

3.5. Principal investigator

3.6. Responsible project manager

3.7. Project description: include a short description of the project and an explanation of the cutting edge, high-risk, high-potential science or engineering

3.8. Tie to mission: explain the project's relevance or anticipated benefits to DOE's national security missions (energy resources, nuclear security, environmental quality, and science), and to the extent required by law, the missions of other federal agencies.

3.9. Previous year's accomplishments and results (as applicable)

3.10. Work proposed for next year and anticipated/desired results

3.11. Project funding profile, broken down by FY, including prior- and current-year funding, next year's budget being requested for concurrence, future funding as applicable, and total projected cost. The example in the table below is for a data sheet of a FY 2005 concurrence request.

Fiscal Year	Amount ($)
FY 2003 (prior-year costs)	
FY 2004 (current-year budget)	
FY 2005 (next year's budget, concurrence requested)	
FY 2006 (projected budget)	
FY 2007 (projected budget)	
Total estimated budget	

4. Annual Project and Laboratory Data

Each laboratory annually provides project and laboratory data as described below.

4.1. CFO Database Upload

Annually, at the beginning of each fiscal year, as requested by the Office of the Chief Financial Officer, each laboratory is required to provide the following information for the previous fiscal year.

4.1.1. For each LDRD project:

4.1.1.1. Laboratory name

4.1.1.2. Project title

4.1.1.3. Project identifier

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4.1.1.4. Total fiscal-year costs in dollars

4.1.1.5. Point of contact (normally the laboratory's LDRD manager)

4.1.1.6. Phone number of point of contact

4.1.1.7. Type of work (basic research, applied research, or development)

4.1.1.8. Start date

4.1.1.9. Expected completion date (optional)

4.1.1.10. Description of Project (optional)

4.1.2. Laboratory-wide cost information:

4.1.2.1. LDRD-supported administrative costs (any costs that were not charged to LDRD research and development projects)

4.1.2.2. Laboratory costs for each DOE program, the Department of Defense, the Department of Homeland Security, and all other reimbursable work. All costs are reported on a fiscal-year basis and include both operating and capital equipment, but not construction. This requirement is subject to change from year to year as the DOE programs and offices change.

4.2. Other laboratory-wide information

The following information is required annually for the report to Congress. It is not part of the CFO database upload

4.2.1. Number of postdoctoral researchers supported by LDRD

4.2.2. Number of postdoctoral researchers supported by all laboratory programs

4.2.3. Number of dollars provided by defense programs to LDRD

4.2.4. Number of dollars provided by nondefense programs to LDRD

4.2.5. Number of dollars provided by DHS programs to LDRD

4.2.6. Sum of fiscal-year budgets of LDRD projects expected to support defense programs

4.2.7. Sum of fiscal-year budgets of LDRD projects expected to support nondefense programs

4.2.8. Sum of fiscal-year budgets of LDRD projects expected to support DHS programs

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Attachment 3. Annual Performance Indicators

DOE/NNSA LDRD Roles and Responsibilities Guidance

All indicators are to be reported on a fiscal year basis. For indicators 4-7, it is expected that the laboratories will collect this information for LDRD projects going back at least 3 years (i.e., the fiscal year being reported and the two preceding years).

1. Number of postdoctoral researchers supported in full or in part by LDRD during the fiscal year.
2. Number of students supported in full or in part by LDRD during the fiscal year.
3. Number of full-time scientific and technical research staff hired as a result of full or partial LDRD support during the fiscal year.
4. Number of LDRD-derived refereed publications (e.g., journal articles, conference papers, book chapters, or other reports) published during the fiscal year. This indicator includes all publications derived in whole or in part from LDRD projects funded in any year.
5. Number of LDRD-derived invention disclosures filed during the fiscal year (disclosures are internal laboratory intellectual property documents). This indicator includes all disclosures derived in whole or part from LDRD projects funded in any year and all subsequent LDRD follow-on activities.
6. Number of LDRD-derived patents issued/granted during the fiscal year. This indicator includes all patents derived in whole or part from LDRD projects funded in any year and all subsequent LDRD follow-on activities.
7. Number of LDRD-derived copyrights (other than publications) issued/granted during the fiscal year. This indicator includes all copyrights derived in whole or part from LDRD projects funded in any year and all subsequent LDRD follow-on activities.

In addition to the numerical data requested above, please provide information on any national awards or recognition received during the fiscal year that are attributable in whole or in part to LDRD projects funded in any year. For each award, describe (in 150 words or less) its significance and the role that LDRD played in achieving it.

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