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| PPPL | Princeton Plasma Physics Laboratory | PROCEDURE | GEN-036 Rev 0 page 1 of 5 |
| | Subject: Laboratory Directed Research and Development (LDRD) | Effective Date: March 14, 2014 | Initiated by: Budget Director |
| | | Supersedes: NEW | Approved: Director |

Management System (Primary): 01. Strategy and Management (MANAGE)

Management System Owner: Director, Deputy Director for Research

Management Process: 01.08 Business Development

Process Owner: Director

Sub-Process: 01.08.02 LDRD – Laboratory Directed Research and Development

Sub-Process Owner: Budget Director

Subject Matter Experts (SMEs): Head of Business Operations; Budget Director; Head, LDRD Steering Committee

APPLICABILITY

This procedure is applicable to all Laboratory scientists and engineers who may propose and perform work under PPPL’s Laboratory Directed Research and Development (LDRD) program.

INTRODUCTION

LDRD projects are pursued in promising new and unexplored directions in the areas of basic and applied science and technology that support DOE missions and enhance the Laboratory’s capabilities. LDRD activities are limited to those Laboratory efforts related to the early exploration and development of scientific and technical concepts developed in the course of the Laboratory’s normal work. The objectives of PPPL’s LDRD program are to: (1) maintain the scientific and technical vitality of the Laboratory, and (2) foster creativity, and stimulate exploration of forefront science and technology, by supporting the technical staff to pursue their novel research ideas, new concepts in research and development, and high-risk/high-reward projects. LDRD funds will not be used to pay for either costs specifically defined as unallowable under the terms of the prime contract or to accomplish the following:

- Substitute for, or increase funding for, any other specific tasks that are funded by DOE or other users of the Laboratory.
- Fund LDRD projects that will require the addition of non-LDRD funds to accomplish the technical goals of the LDRD project.
- Fund construction design beyond the preliminary phase (i.e., conceptual design, Title I design work or any similar or more advanced design effort may not be supported) or fund construction line items/projects, in whole or in part.
- Fund capital expenditures of a general-purpose nature with the exception of the acquisition of general-purpose equipment that is clearly required for the project and is not otherwise readily available from the Laboratory’s inventory.

A call for LDRD proposals is issued to researchers and engineers annually approximately three months prior to the start of the fiscal year. Proposals are requested to be a one to two page succinct description including: (1) motivation/statement of the purpose; (2) excellence of the associated science including possible interdisciplinary research; (3) requested budget, including possible extension beyond one year; (4) time-line for success, including deliverables; (5) prospective funding sources to drive the proposed area of research after the LDRD seed period is over; and (6) for experimental proposals, the Responsible Line Manager (RLM). LDRD projects are limited to a maximum period of performance of 36 months. Exceptions may be granted by DOE with appropriate justification. The annual maximum funding level for LDRD must not exceed 6% of the total Laboratory funding for the fiscal year.

REFERENCES

DOE Order 413.2B – Laboratory Directed Research and Development
 PPPL Budget Manual Section 3.2: Budgeting and Accounting for Selected Activities/Expenses -
 Laboratory Directed Research and Development (LDRD) Activities

DEFINITIONS & ACRONYMS

FY – Fiscal Year
 LMM – Laboratory Management Meeting
 RLM – Responsible Line Manager
 PSO – Princeton Site Office
 PI – Principal Investigator

PROCEDURE

Responsibility

Action

- | | |
|-------------------------------|---|
| Deputy Director for Research | 1. Appoints members to the LDRD steering committee. |
| Head, LDRD Steering Committee | 2. Drafts annual LDRD program plan requesting DOE approval to conduct an LDRD in the coming fiscal year. The plan includes a general description and justification for the program and a requested maximum funding level. |
| Budget Office | 3. Upon Director’s Office approval, submits LDRD program plan to the PSO no less than 45 days prior to the start of the fiscal year. Notification of DOE approval of the LDRD program plan is issued by the Office of Science (SC-1). |

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| Head, LDRD Steering Committee | 4. Issues a call to all Laboratory researchers and engineers for submission of LDRD proposals approximately three months prior to the start of the fiscal year. |
| PPPL Researchers and Engineers | 5. Submit LDRD proposals to the Head, LDRD Steering Committee, addressing all items listed in the LDRD proposal call. |
| LDRD Steering Committee | 6. Screens LDRD proposals to assure compliance with DOE Order 413.2B (with support of the Budget Office). |
| | 7. Reviews and evaluates proposals. |
| | 8. Recommends proposals for funding, including the proposed funding allocation for each project, responsible PIs and, for experimental projects, the RLM. |
| Head, LDRD Steering Committee | 10. Transmits proposal recommendations to the Laboratory Director and Deputy Director for Research. |
| Laboratory Director and Deputy Director for Research | 11. Approve final LDRD project selection and funding allocation; notifies Head, LDRD Steering Committee and Budget Office. |
| LDRD Project PI, Budget Office | 12. Prepare LDRD project data sheets (Attachment 1) for projects approved by the Laboratory Director and Deputy Director for Research. |
| Budget Office | 13. Submits LDRD project data sheets to DOE-PSO for concurrence. |
| Budget Office | 14. Upon written notification of DOE PSO concurrence, opens a unique account for each LDRD project and notifies PI's that work may begin. |
| LDRD Project PI, RLM | 15. Responsible for the conduct, safety and technical supervision of the LDRD project. |
| Head, LDRD Steering Committee | 16. Conducts mid-year review of LDRD projects, addressing technical progress to date, plans for the remainder of the fiscal year and projected costs. Submits budget and scope modifications to the Director and Deputy Director for Research for approval. |

- Budget Office
 - 17. Upon Director’s Office approval, submits scope modifications (revised LDRD project data sheets) and changes in LDRD project budgets (which meet conditions identified by the DOE LDRD Order Contractor Requirements Document) to DOE PSO for concurrence.
 - 18. Upon written notification from DOE PSO, informs PI of PSO concurrence/non-concurrence.

- Budget Office
 - 19. Coordinates submission of annual LDRD report to DOE. Issues call to LDRD PI’s for individual project reports following the close of the fiscal year.

- LDRD Project PI
 - 20. Prepares year-end LDRD project report (attachment 2).

- Budget Office
 - 21. Upon review and approval by the Director’s Office, submits LDRD annual report to DOE within six months following the fiscal year-end.

TRAINING (Section Required For All Procedures)

- Budget Director
 - 1. Provides training as follows:
 - Target Audience: Researchers and Engineers
 - Instructor: Budget Director

 - Training Method:
 - Read only
 - Standard_email distribution to supervisors by Best Practices.
 - Standard_email distribution to Researchers and Engineers as part of the annual LDRD proposal call.
 - Briefing by the Head of Business Operations to Council at the LMM meeting.

 - Frequency:
 - Annual with the LDRD call.
 - Major Revision of the LDRD Procedure.

- Budget Director
 - 2. Notifies the Human Resources Training Office of the training so that they will be aware of the training requirements and be able to provide assistance and guidance in the course development, implementation, tracking, and maintenance.

Records

Records Custodians 1. Maintain records according to the following requirements:

| Record | Record Custodian | Location | Retention Time <i>[Reference DOE records schedule Admin 5]</i> |
|-------------------------------|---|---------------------|---|
| Accepted LDRD Proposal | Budget Director or designated Records Coordinator | Budget Office Files | Destroy 1 year after close of the fiscal year covered by the budget. <i>[Admin 5 Section 2]</i> |
| Rejected LDRD Proposal | Budget Director or designated Records Coordinator | Budget Office Files | Destroy 1 year after close of the fiscal year covered by the budget. <i>[Admin 5 Section 2]</i> |
| Annual LDRD Plan | Budget Director or designated Records Coordinator | Budget Office Files | Destroy when 5 years old. . <i>[Admin 5 3.a]</i> |
| LDRD Project Data Sheets | Budget Director or designated Records Coordinator | Budget Office Files | Destroy 1 year after close of the fiscal year covered by the budget. <i>[Admin 5 Section 2]</i> |
| LDRD Reviews | Budget Director or designated Records Coordinator | Budget Office Files | Destroy 1 year after close of the fiscal year covered by the budget. <i>[Admin 5 Section 2]</i> |
| Year End LDRD Report | Budget Director or designated Records Coordinator | Budget Office Files | Destroy when 5 years old. <i>[Admin 5 3.a]</i> |
| Revised LDRD Project proposal | Budget Director or designated Records Coordinator | Budget Office Files | Destroy 1 year after close of the fiscal year covered by the budget. <i>[Admin 5 Section 2]</i> |
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ATTACHMENTS

- 1 LDRD Project Data Sheet
- 2 LDRD Project Report

**Princeton Plasma Physics Laboratory
LDRD Project Data Sheet
Current Fiscal Year**

1. Project Title:
2. Project Identifier: PPPL-xxx (xxx is a sequential number assigned by the Budget Office)
3. Principal Investigator:
4. Phone Number of Principal Investigator:
5. Responsible Project/Line Manager:
6. Project Start Date:
7. Expected Project Completion Date:
8. Type of Work: (basic research, applied research, or development)
 - a. *Basic* = the systematic study directed toward fuller knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind.
 - b. *Applied* = the systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met.
 - c. *Development* = the systematic application of knowledge or understanding, directed toward the production of useful materials, devices, and systems or methods, including design, development and improvement of prototypes and new processes to meet specific requirements.
9. Project Description: Include a short description of the project and an explanation of the cutting edge, high-risk, high-potential science or engineering.
10. 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 mission of other federal agencies.
11. Prior FY Accomplishments and Results: (if applicable)
12. Work Proposed for the Current FY and Anticipated /Desired Results:

13. Project Funding Profile:

| Fiscal Year | Amount (\$) |
|---------------------------|--------------------|
| FY-2 Budget | |
| FY-1 Budget | |
| Current FY Budget Request | |
| FY +1 Projected Budget | |
| FY +2 Projected Budget | |
| | |
| Total Estimated Budget | |

**Princeton Plasma Physics Laboratory
LDRD Project Report
FYxxxx**

Project Title:

Project Identifier: PPPL-xxx (xxx is a sequential number assigned by the Budget Office)

Principal Investigator(s):

Project Description: A short description of the project including objectives and purpose

Scientific/Technical Progress Achieved During the Life of the Project:

Follow-on Funding and Future Actions: A short description of future funding opportunities including prospective funding sources for this area of research

Benefit to DOE and Other Federal Agencies: A brief statement describing how the project benefitted the DOE nation security missions (energy resources, nuclear security, environmental quality and science) and, to the extent required by law, the missions of other federal agencies.

Cumulative Funding and Cost:

| | | |
|-------|--|--|
| FY1 | | |
| FY2 | | |
| FY3 | | |
| Total | | |

Indicate whether project is complete or ongoing.

Performance Results

| | FY1 | FY2 | FY3 |
|--|-----|-----|-----|
| Number of peer reviewed publications (also includes conference papers that have been peer-reviewed). | | | |
| Number of invention disclosures reported | | | |
| Number of proposals submitted for funding | | | |