



# Procurement and Property Management

Office of the Chief Financial Officer

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April 2, 2013

**Subject: Request for Proposal (RFP) DesignForward Interconnect**  
**Proposal Due Date: May 2, 2013**

The Regents of the University of California, manager and operator of Lawrence Berkeley National Laboratory ("University" or "LBNL") request a proposal for Research and Development Leading to Exascale Computing, in accordance with this RFP and the enclosed Proposal Preparation Instructions, Sample Subcontract, and other enclosures.

This solicitation is governed by procurement policies and procedures established under the University's Prime Contract with the U.S. Government, represented by the Department of Energy ("DOE"), for management and operation of LBNL. Proposals submitted will be treated as offers and any resulting award(s) will be a Subcontract under the Prime Contract.

This RFP letter and all of its associated documents may be downloaded from the following URL. This web site also contains links to other related web sites and a question and answer section.

<http://www.exascaleinitiative.org/design-forward/design-forward-rfp>

LBNL is representing seven DOE Laboratories and the DOE for this RFP. See the attached draft statement of work (SOW) for a list of the Laboratories and DOE offices participating in the DesignForward project.

## **SUBMITTAL OF PROPOSALS**

Complete written proposals must be submitted by email to the undersigned LBNL Procurement Representative no later than 3:00pm Pacific Time on May 2, 2013.

**Email to:** [design-forward-rfp@lbl.gov](mailto:design-forward-rfp@lbl.gov)

It should be noted that LBNL's firewall may prevent submission of particularly large files. Therefore an Offeror should notify the LBNL Procurement Representative (via e-mail to [rboom@lbl.gov](mailto:rboom@lbl.gov)) prior to submitting its proposal.

The proposals shall be valid for a period of 180 days from the proposal due date. Acceptance of late proposals will be at the University's sole discretion. The University reserves the right to reject any and all proposals, to waive any minor irregularities in any proposal, or to cancel this RFP at any time prior to award without cost to the University. The University will not reimburse any firm for any preparation costs or any other costs related to the participation or preparation of this RFP.

## **AWARD STRATEGY**

LBNL desires to select at least two Offerors for each area of technology discussed in the Attachments to the Statement of Work (SOW). However, LBNL reserves the right, based on the

proposals received in response to the RFP, to select none, one, or more than two for any area of technology.

LBNL reserves its rights to: 1) make selections on the basis of initial proposals; 2) negotiate with any or all Offerors for any reason; and 3) award subcontract(s) based on a single proposal that addresses more than one SOW Attachment area of technology. See the draft SOW for additional information.

### **DESIGNFORWARD PROJECT SCHEDULE**

Proposal evaluation and source selection will commence immediately after receipt of proposals. LBNL will notify finalists of their selection. At that time, negotiating teams, consisting of select members from the DOE Laboratories, will engage the finalists in negotiations to finalize the statements of work, milestones, price, and any other provisions, as required. Negotiations must be complete by July 1, 2013. Therefore, it is imperative that the Offerors selected for negotiation have qualified and authorized personnel available to negotiate with the Laboratories' negotiating teams. The schedule calls for LBNL to award subcontracts by August 1, 2013. Each subcontract will have a two-year period of performance.

### **INTELLECTUAL PROPERTY**

DOE has granted a class advance waiver on intellectual property for DesignForward. In general, the waiver allows an awardee that is a large business, and any first tier subcontractor of that awardee, who are not foreign owned, to assert copyright to its works of authorship and to elect title to its subject inventions without prior approval from the Government.

Cost sharing is a condition of the class advance waiver for a large business awardee. A large business must fund at least 40% of the total price of performance under its subcontract to have the class advance waiver language included in that subcontract. All Offerors shall include the total price of performance in their proposals and Offerors that are large businesses must make a specific assertion accepting the 40% share (or offering to share more than 40%) in order to obtain the terms of the class advance waiver. Offerors that are large businesses, that do not accept the 40% share, and that may be selected for award will be subject to the existing FAR and DEAR intellectual property clauses in the GENERAL PROVISIONS incorporated in the Sample Subcontract.

A large business Offeror that desires a lower cost share percentage or different terms than those granted in the class advance waiver would be required to negotiate directly with DOE. However, those negotiations would be time consuming and would not allow the DOE Laboratories to maintain the DesignForward schedule. As a result, the DOE Laboratories may view the Offeror's proposal less favorably than a proposal from another Offeror that is willing to cost share at least 40% and accept the class advance waiver provisions as is.

Offerors that are small businesses or non-profit entities and that may be selected for award should note that the class advance waiver provisions for patents will not be included in a subcontract. By statute, a small business may elect title to its subject invention without prior approval from the Government.

### **AWARD VALUE**

The DOE Laboratories have established a limit of \$15M for the value of any subcontract awarded as a result of this RFP. An award in excess of \$15M would require additional reviews and not allow the DOE Laboratories to meet the schedule. The DOE Laboratories will not view favorably a proposal with a DOE cost share value<sup>1</sup> in excess of \$15M.

Further, since the ideal would be two or more awards in each technology area and because there is limited funding for these awards, the DOE Laboratories may view a proposal with a value of, for instance, approximately \$10M more favorably than a proposal nearing the \$15M threshold unless the latter proposal is compelling in the way it addresses a DesignForward technology area.

### **NAICS CODE AND SMALL BUSINESS SIZE STANDARD**

The North American Industry Classification System (NAICS) Code for this acquisition is 541712, Research and Development in the Physical, Engineering and Life Sciences and the corresponding size standard is 500 or fewer employees.

The Offeror shall complete the *Small Business Program Representations* clause in the attached Representations and Certifications form based on this small business size standard. Refer to Subpart 19.1 - Size Standards, of the Federal Acquisition Regulation (FAR) for information on calculating the number of employees.

### **ENCLOSURES**

The Offeror shall complete the following enclosure and submit it with the proposal:

- Representations & Certifications
- EEO Pre-Award Compliance Certification

The following enclosures are provided and need not be returned with the proposal:

- Proposal Preparation Instructions
- DesignForward R&D Statement of Work
- Sample Subcontract and its Incorporated Documents
- Model Small Business Subcontracting Plan

If there are any questions, please email us at [design-forward-rfp@lbl.gov](mailto:design-forward-rfp@lbl.gov)

Sincerely,

Ross Boom  
LBNL Procurement Representative

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<sup>1</sup> Offerors must be aware of the following. As discussed in INTELLECTUAL PROPERTY above, a \$15M proposal from a large business that accepts the 40% cost share would result in a DOE cost share value of \$6M, which is under the limit.

## **PROPOSAL PREPARATION INSTRUCTIONS**

### **PROPOSAL CONTENTS**

#### **General**

The proposal should consist of a technical/management proposal and a price proposal. Proposals shall be submitted in MS Office or .pdf format. The technical/management proposal shall contain no more than 75 pages.

The proposal should be submitted with a cover letter identifying the Offeror's name and address, solicitation number and title, the name(s), title(s), and telephone number(s) of the individuals in Offeror's organization who have commitment authority on behalf of the Offeror and will be responsible for contractual negotiations and administration of any resultant Subcontract.

The Offeror may submit an alternate proposal, if considered more advantageous to LBNL than the requested proposal. An explanation of the perceived benefits to the DesignForward project should be included.

#### **Technical/Management Proposal**

The technical/management proposal should contain a comprehensive discussion of how the Offeror will fulfill the technical/management requirements and successfully perform the Subcontract.

#### **Common Mandatory Requirements**

The Offeror's proposal shall demonstrate its ability to meet or exceed each of the common mandatory requirements identified in section 7 of the SOW. The common mandatory requirements (MR) for a proposal apply regardless of the technology area or areas addressed in a proposal. These are noted below by section title.

- Solution Description
- Research and Development Plan
- Productization Strategy
- Staffing/Partnering Plan
- Project Management Methodology
- Intellectual Property Plan

#### **Technology-Specific Mandatory Requirements**

The Offeror's proposal shall estimate or quantify the impact of the proposed interconnect over industry roadmaps and trends. The proposal shall provide information for all of the Performance Metrics described in Attachment B to the Statement of Work. If any of the Performance Metrics are deemed not applicable to the technology being proposed, Offeror shall explain why it believes the metric is not relevant and shall specify an alternate, meaningful metric. See Attachment B, Section B1-4 in the SOW for additional details.

#### **Performance Features and Supplier Attributes**

The Offeror's proposal should identify and discuss the performance features and supplier attributes that will be important to the Offeror's successful performance and the attainment of the DesignForward project objectives. The DOE Laboratories have identified the performance features and supplier attributes listed below, and in the Statement of Work, which should be discussed in the proposal. These

features and attributes are not listed in any particular order of importance. The Offeror may identify and discuss other performance features and supplier attributes it believes may be of value to the DOE Laboratories. In all cases, the DOE Laboratories will assess the value of each proposal as submitted.

#### Performance Features

- The extent to which the proposed solution meets the overall programmatic objectives expressed in the SOW.
- The number and type of Target Requirements (TRs) proposed and the degree to which the technical proposal meets or exceeds those TRs.
- The degree of innovation in the proposed R&D activities.
- The extent to which the proposed R&D achieves substantial gains over existing industry roadmaps and trends.
- The extent to which the proposed R&D will impact HPC and the broader marketplace.
- Credibility that the proposed R&D will achieve stated results.
- Credibility of the productization plan for the proposed technology.
- Realism and completeness of the project work breakdown structure.
- Completeness of the overall interconnect architecture including, host interface, switches and routers, fabric topology, software stacks, protocols and expected programming models.
- How well the proposed design choices for levels of integration into the interconnection network fabric meet the requirements.
- How well enhancements to the networking abstraction layers would provide for improved interoperability between multiple upper layer communication libraries
- How efficiently interactions between communication libraries and on-node tasking or threading interfaces will be accomplished.
- How well the interconnection network performance meets the requirements.
- How effectively does open interface standards or non-discriminatory licensing enabling alternative implementations of key components.
- How well does the interconnect network scale.

#### Supplier Attributes

- The extent to which the proposal demonstrates the Offeror's experience and past performance engaging in similar R&D activities.
- The extent to which the Offeror demonstrates its ability to meet schedule and delivery promises.
- The extent to which the proposed research aligns with the Offeror's product strategy.
- The extent to which the proposal demonstrates significant relevant expertise and skill of the Offeror's key personnel.
- The extent to which the proposal demonstrates the contribution of the Offeror's management plan and key personnel to successful and timely completion of the work.
- If work is subcontracted, how much is to small business, to what extent is the assignment of work scope appropriate, and to what extent is the prospective lower-tier subcontractor qualified to do that work?
- The Offeror should include in its proposal a written description of contracts similar in type and complexity as this scope of work that the Offeror has completed recently. These may include public and private contracts. Include technical and business contact points by name, title, address, telephone number and, if available, e-mail address. Offerors should include a self-assessment of their performance on these contracts including what went well and what did not. Offerors should discuss the latter in the context of a lessons learned scenario. The Offeror should also identify, and provide resumes for, key personnel who will perform the work.

## **Price Proposal**

The price proposal shall include a total firm fixed price for the work proposed. The proposal shall include a basis of estimate (BOE) for the proposed total firm fixed price, denote cost share, milestone payments and deliverables. The BOE shall include, at a minimum, an estimate of labor categories, labor hours by category, and fully burdened hourly labor rates by category to perform the work. The BOE shall also identify proposed material, travel, or other expenses to perform each proposed activity or task. The proposal shall include a projected funding expenditure profile by month or quarter for each proposed research activity or task. LBNL does not anticipate the need for Certified Cost or Pricing Data (as defined at FAR Part 15); however, LBNL reserves its right to request submission of Certified Cost or Pricing Data from the selected Offeror(s).

Offerors should propose milestone payments and/or payments for deliverables. Milestone payments must conform to the following guidelines.

- A milestone payment cannot represent an advance payment. It must represent the value the DOE Laboratories will receive upon making the payment.
- A milestone payment must be in accordance with readily verifiable actions or achievements (e.g., receipt of purchased materials, measurable performance, or a report on accomplishments).
- The final milestone payment must be at least 10% of the total subcontract price.

The price proposal shall be separate and distinct from the technical proposal content. While this part of the proposal may consist of more than one file, the files shall not contain any technical responses to the SOW other than references to corresponding milestones or deliverables.

## **Financial Statements**

The successful Offeror must have sufficient financial resources to perform the subcontract. LBNL reserves the right to request adequate evidence to determine an Offeror's financial condition. The evidence would consist of either: (1) audited and certified year-end financial statements for a minimum of the last two years (balance sheet, income statement, statement of cash flows, and other financial statements or reports as necessary); (2) financial statements reviewed or compiled by a certified public accountant or other accounting professional (include the accounting firm's cover letter); or (3) other information acceptable to LBNL. LBNL reserves the right to request additional financial statements.

## **Small Business Subcontracting Plan**

Unless the Offeror is a small business or the total value of the offer is less than \$650,000, the successful Offeror must provide a Small Business Subcontracting Plan that includes anticipated total subcontracting amount and the percentage goals and amounts for all of the various small business categories. Refer to the *SMALL BUSINESS SUBCONTRACTING PLAN* clause referenced in the GENERAL PROVISIONS and the attached Model Small Business Subcontracting Plan for additional information. The approved plan will be made a part of any resulting subcontract. Failure to submit an acceptable subcontracting plan shall likely render the Offeror ineligible for award of a subcontract. If the nature of the proposed work is such that the Offeror will perform all the work and no opportunities exist for subcontracting with small businesses, then the Offeror should state so in its proposal.

## **Acceptance of Terms and Conditions**

Submission of a proposal shall indicate the Offeror's willingness to accept the terms and conditions of the Sample Subcontract and its attachments. These terms and conditions have been approved by the DOE. Changing them is time consuming. Failure to accept the terms and conditions will delay the

DesignForward project schedule in award of a subcontract and could cause LBNL to reject an Offeror's proposal.

## **PROPOSAL INSTRUCTIONS**

### **Offerors' Questions**

The DOE Laboratories will respond to questions submitted in writing to the LBNL Procurement Representative on or before April 22, 2013. Questions must be submitted by e-mail to [design-forward-rfp@lbl.gov](mailto:design-forward-rfp@lbl.gov). Answers to questions that are germane to the interpretation of the DesignForward project requirements will be posted to the DesignForward RFP web site for viewing by all potential Offerors.

### **Proprietary Information**

The DOE Laboratories will treat any commercial or financial information in the proposal as proprietary information. The DOE Laboratories prefer not to receive any proprietary technical information. If the proposal includes any proprietary technical information, it must be conspicuously marked as "Proprietary" or "Confidential", or an equivalent term. The DOE Laboratories will endeavor to maintain proprietary information in confidence to the same degree as its own proprietary information and disclose such information to personnel other than DOE Laboratories or Government employees who are bound by an obligation of confidentiality and solely for the purpose of evaluation of the proposal.

If the Offeror intends to use a product or process in which there is a proprietary or background patent position, the proposal should so indicate and list patent applications and/or patents granted (including dates, numbers, and descriptions), and whether the Government has rights related to the patents.

### **Royalty Information**

If the Offer in response to this solicitation contains costs or charges for royalties totaling more than \$250, the following information shall be included in the response relating to each separate item of royalty or license fee: name and address of licensor; date of license agreement; patent numbers, patent application serial numbers, or other basis on which the royalty is payable; brief description, including any part or model numbers of each item or component on which the royalty is payable; percentage or dollar rate of royalty per unit; unit price of item; number of units; and total dollar amount of royalties.

In addition, if specifically requested by the LBNL Procurement Representative before award, the Offeror shall furnish a copy of the current license agreement and an identification of applicable claims of specific patents or other basis upon which the royalty may be payable.

### **E-Verify Program Enrollment Verification**

The Subcontract will include FAR Clause 52.222-54, *Employment Eligibility Verification*. Accordingly, the selected offeror will be required to:

1. Be enrolled as a Federal contractor in the Government's online E-Verify system, which is located at: <https://e-verify.uscis.gov/enroll>) and, if necessary, provide LBNL with written verification of the enrollment;
2. Use the E-Verify system to verify the employment eligibility of all employees assigned to the Subcontract and of all new hires working in the United States, except that if the selected offeror is an institution of higher education as defined at 20 U.S.C. 1001(a), or a State or local government or the government of a Federally recognized Indian tribe, it may choose to verify only new hires assigned to the Subcontract; and
3. Include the clause in lower-tier subcontracts for construction or services exceeding \$3,000, as required by the clause, and, if necessary, provide LBNL with written verification of the inclusion of the clause in the subcontracts and the lower-tier subcontractors' enrollment in the E-Verify system.

Additional information about the employment eligibility verification requirements is available at <http://www.uscis.gov/verify>.

**EEO Pre-Award Compliance Certification**

An award in the amount of \$10 million or more will not be made under this solicitation unless the successful offeror and each of its known first-tier subcontractors to whom it intends to award a subcontract of \$10 million or more are found, on the basis of a compliance review conducted by the responsible government agency, to be able to comply with the provisions of the Equal Opportunity clause in the General Provisions of the Sample Subcontract.

If the Offeror's proposal is valued at \$10 million or more, and the Offeror is not listed in the Office of Federal Contract Compliance Programs (OFCCP) National Pre-Award Registry, available on the Internet at <http://www.dol-esa.gov/preaward/>, or otherwise exempt from this requirement, then the Offeror shall complete and submit with its proposal the attached EEO Pre-Award Compliance Certification, along with the information stipulated in the form.

(End of Proposal Preparation Instructions)