

**STANDARD RESEARCH SUBCONTRACT
NO. **XXX****



The Regents of the University of California
Lawrence Berkeley National Laboratory
One Cyclotron Road
Berkeley, CA 94720

Subcontractor:

TBD

University Procurement Representative:

Name: Shanna Wells
Title: Sr. Subcontract Administrator
Phone: (510) 495-8090
Fax: : (510) 486-4380
E-Mail: swells@lbl.gov

Introduction

This is a cost-reimbursement, no-fee, standard research subcontract (hereinafter "Subcontract") for Max Tech & Beyond Design Competition for Ultra-low-Energy-Use Appliances and Equipment.

This Subcontract is between The Regents of the University of California, (hereinafter "University") and the party identified above as the "Subcontractor".

This Subcontract is issued under Prime Contract No. DE-AC02-05CH11231 between the University and the United States Government (hereinafter "Government"), represented by the Department of Energy (hereinafter "DOE") for the management and operation of the Lawrence Berkeley National Laboratory (hereinafter "LBNL") and the performance of research and related work.

Agreement

The parties agree to perform their respective obligations in accordance with the terms, conditions, and provisions of the attached SCHEDULE OF ARTICLES and the documents referenced or incorporated therein, which together with this Signature Page shall collectively constitute the entire Subcontract and shall supersede all prior negotiations, representations, or agreements, whether verbal or written.

TBD

**THE REGENTS OF THE
UNIVERSITY OF CALIFORNIA**

By: _____ By: _____
Name: _____ Name: _____
Title: _____ Title: _____
Date: _____ Date: _____

SCHEDULE OF ARTICLES

ARTICLE 1 - SCOPE OF WORK

- A. Description. The Subcontractor shall conduct certain research work, generally identified as Max Tech & Beyond Design Competition for Ultra-low-Energy-Use Appliances and Equipment. The work is more specifically described in the incorporated Statement of Work Max Tech & Beyond Design Competition for Ultra-low-Energy-Use Appliances and Equipment. The work shall be performed by the Subcontractor at the Subcontractor's facility located at _____, at LBNL, and at other locations approved by the University.
- B. Principal Investigator. The Principal Investigator assigned by the Subcontractor for the performance of the research is [PI's name]. If for any reason the Principal Investigator becomes unavailable, the Subcontractor shall notify the University and a mutually acceptable successor shall be assigned.
- C. Reports. The Subcontractor shall submit written intermediate reports on the work as required by the University Technical Representative. The Subcontractor shall submit a written final report upon completion of the work.

ARTICLE 2 - REPORT PREPARATION REQUIREMENTS

- A. These instructions apply to all formal reports, including the final report, required by the Subcontract. It does not apply to reports specifically identified in this Subcontract as milestone or informal reports.
- B. All reports shall fairly and completely describe the efforts applied to and the results obtained toward achievement of objectives of the work. If an objective is not accomplished, such failure shall be fully documented and explained in the report.
- C. The final report shall cover all of the work under this Subcontract, and include the following elements: (a) an abstract briefly describing the overall objectives, results, and conclusions; (b) a full statement of each objective, the performance efforts applied, the work objectives achieved, and the Subcontractor's conclusions; (c) a list of any publications or other releases of information, or data developed or maintained, by the Subcontractor through the performance of the Subcontract; and (d) any other relevant information. If requested by the University Technical Representative, the Subcontractor shall submit a draft copy of the final report for review prior to finalization. The University Technical Representative need not approve the Subcontractor's reported conclusions of the research.
- D. The reports shall be submitted to the Maxtech general email at maxtech@dante.lbl.gov

ARTICLE 3 - PERIOD OF PERFORMANCE

The work under this Subcontract shall commence upon signature of this Subcontract by both parties on and shall be completed on or before [end date].

Neither party guarantees that the stated period of performance is sufficient for performance and completion of the work under this Subcontract, and the work shall cease on the last day mentioned above unless the Subcontract is modified to extend the period of performance for such period of time as is mutually agreed as appropriate for completion of the work. Such an extension of time shall not be a basis for any claim by the Subcontractor.

ARTICLE 4 – ESTIMATED COST AND LIMITATIONS

A. Estimated Cost. The estimated cost for the performance of this Subcontract is as follows:

Estimated Cost Amount: **up to \$25,000.00**

The estimated cost is based upon the estimated levels of effort in the Subcontractor's cost proposal.

The Subcontractor shall endeavor to perform this Subcontract within the stated estimated cost amount. The estimated cost amount specified above shall be the limit of the University's liability for all costs under this Subcontract, any other provision of this Subcontract notwithstanding, and shall not be exceeded by the Subcontractor.

B. Allocated Funding. This Subcontract is fully-funded and is subject to the *Limitation of Cost* clause of the General Provisions.

Paragraph "B" if Incrementally Funded.

B. Allocated Funding. This Subcontract is incrementally funded and is subject to the *Limitation of Funds* clause of the General Provisions. The amount presently available and allotted to this Subcontract for payment by the University is as follows:

Allocated Funding Amount: \$ _____

It is contemplated that further allocations of funds, up to the total of the estimated cost identified above, will be made by the University, by a written unilateral modification to this Subcontract specifically increasing the allocated funding amount.

C. Allowability. The University shall reimburse the Subcontractor for its direct costs and a portion of its indirect costs as determined allowable and allocable in accordance with the *Allowable Cost and Payment* clause of the General Provisions and OMB Circular A-21, *Cost Principles for Educational Institutions*, except as otherwise limited or excluded by other provisions of this Subcontract.

Predetermined Rates.

In determining the allowable indirect costs under this Subcontract, the Subcontractor's government-approved predetermined indirect rates shall apply. As provided in OMB Circular A-21, if the Subcontractor's negotiated rate agreement does not extend through the entire period of performance for the work, the negotiated (predetermined or fixed) indirect cost rate(s) for the last year of the rate agreement shall apply to the remaining period of performance.

Provisional Rates.

The Subcontractor's government-approved provisional indirect rates shall be used for interim billing purposes, pending finalization.

- D. Sales Taxes. Items purchased hereunder for delivery to the University are considered for resale, per the University's California State Resale Permit No. SR-CH 21-835970. Accordingly, the University shall not be charged for, and payments hereunder shall not include, any California or other State sales or use tax for such items, if shipped to California.

The University of California State Resale Permit No. SR-CH 21-835970 for LBNL is available at: <http://procurement.lbl.gov/supplier-forms/>.

- E. Audits. This Subcontract involves the expenditure of Federal funds, and the Subcontractor shall ensure this Subcontract is included in its scheduled annual OMB Circular A-133 Single Audit Act audits, and make the results of the audits available to the University. Otherwise, the University or the U.S. Government may audit the Subcontractor's costs hereunder and, in such event, the University will endeavor to arrange for the audit to be performed by the cognizant government audit agency. The Subcontractor shall include expenditures from this subcontract in their annual Schedule of Expenditures of Federal Awards. The federal program name should include "LBNL" and the Subcontract number.

ARTICLE 5 - INVOICES AND PAYMENT

A. Invoices

1. All invoices shall be emailed (as an attachment) directly to the LBNL Accounts Payable Office at APInvoice@lbl.gov. The "subject" line of the email shall state the Subcontractor's name and the Subcontract number.

If the Subcontractor is unable to submit an invoice by email, it may submit the invoice to the following address:

Lawrence Berkeley National Laboratory
Accounts Payable Office, Subcontract No. XXX
One Cyclotron Road, M/S 971-AP
Berkeley, CA 94720

2. Interim invoices shall be submitted on a monthly basis. A "Final Invoice" shall be submitted within 60 days of completion of the work or expiration or termination of this Subcontract.
3. All invoices shall state the Subcontract number; clearly identify the Subcontractor (including business heading or logo); include an invoice date, unique invoice number, and remittance address; sufficiently identify the items/services being invoiced; and identify any separately payable freight charges (with receipts if available) and taxes. Invoice(s) in a spreadsheet format are not acceptable, but a spreadsheet can be used to support an invoice. The Subcontractor shall maintain records which support all invoiced amounts, and provide them to the University Procurement Representative upon request.
4. Invoices for property acquired by the Subcontractor at a cost of \$5,000 or more shall include or be supplemented with a description of the property and shall identify the assigned property

number; the manufacturer; the serial number and model number; the acquisition date; the unit price, quantity, and total cost of the property; and the location of the property.

B. Payment

All invoices except the final invoice shall be payable within 30 days of receipt; provided, however, that payments made thereafter shall not be subject to any penalty, interest, or late charges. Only those items/services identified in this Subcontract or a Subcontract Modification will be considered for payment. Payment amounts may be adjusted for any applicable credits, offsets, or withholds. The final invoice shall be payable upon determination of the final allowable costs and the Subcontractor's compliance with all terms of this Subcontract. For inquiries about the status of an invoice, call (510) 486-6954.

ARTICLE 6 - TRAVEL REQUIREMENTS

- A. All travel not included in the Subcontractor's cost proposal must be approved in advance by the University Procurement Representative.
- B. All foreign travel is subject to the requirements of DOE Order 551.1D, *Official Foreign Travel*, and must be approved in advance, even if the travel is included in the Subcontractor's cost proposal or indirectly charged. A *Request for Approval of Foreign Travel* (Form DOE F 551.1) shall be submitted to the University Technical Representative at least 60 days prior to the departure date. The form is available at: <http://energy.gov/cio/downloads/dae-f-5511>.
- C. Foreign travel is travel (whether wholly or partly on official business) from the United States (including Alaska, Hawaii, the Commonwealths of Puerto Rico and the Northern Mariana Islands, and the territories and possessions of the United States) to a foreign country (including Canada and Mexico) and return; and travel between foreign countries by persons, including foreign nationals.

ARTICLE 7 - SUBCONTRACT ADMINISTRATION

- A. Notices, Requests, and Modifications. The Subcontractor shall submit all notices and requests for approval by email to the University Procurement Representative indicated on the signature page or at the following mail address:

Lawrence Berkeley National Laboratory
Attn: [University Procurement Representative]
One Cyclotron Road M/S 971-PROC
Berkeley, CA 94720

Only the University Procurement Representative is authorized to modify the terms, conditions, and requirements of this Subcontract, including any changes to the description of the work, and to issue any notices and approvals required by this Subcontract.

- B. University Technical Representative. Stacy Pratt is the University Technical Representative for this Subcontract. The University Technical Representative is the person designated to monitor performance of the work and to interpret and clarify the technical requirements, but is not authorized to make changes to the work or to modify any of the terms and conditions of this Subcontract, including those related to the completion schedule or pricing.

- C. Closeout. The Subcontractor shall, as a condition of full payment, assist the University after the completion of the work in accomplishing the administrative closeout of this Subcontract, including, as necessary or required, the furnishing of documentation and reports, the disposition of property, the disclosure of any inventions, the execution of any required documents, the performance of any audits, and the settlement of any interim or disallowed costs.

ARTICLE 8 – FURNISHED AND ACQUIRED PROPERTY

- A. University Furnished Property. The University will furnish the following U.S. Government Property for use as required under this Subcontract:

NONE

- B. Subcontractor Acquired Property. The Subcontractor is authorized to acquire, fabricate, or provide the tangible personal property items identified in the Subcontractor's proposal for use under this Subcontract, including the items listed below. The Subcontractor shall not acquire other tangible personal property for use under this Subcontract without the University Procurement Representative's advanced written approval.

NONE

Pursuant to Alternate II of the *Government Property* clause of the General Provisions (FAR 52.245-1), title to tangible personal property acquired by the Subcontractor with an acquisition cost of less than \$5,000 shall vest in the Subcontractor upon acquisition.

- C. Disposition. All University Furnished Property and Subcontractor Acquired Property listed above shall be identified, utilized, accounted for, and protected in accordance with the *Government Property* clause of the General Provisions. Disposition of such property shall be as directed by the University Procurement Representative or a University Property Representative. For such property, the Subcontractor shall submit, upon request, a completed *Final Property Certification* form, as incorporated herein or provided, confirming the property disposition.

ARTICLE 9 – ENVIRONMENTALLY PREFERABLE PRODUCTS AND SERVICES

In the performance of this Subcontract, the Subcontractor shall specify, furnish, and use environmentally preferable products and services (i.e., products and services with a lesser or reduced effect on human health and the environment), to the maximum possible extent consistent with the Subcontract requirements and the intended end use of the products or services. Information on environmentally preferable products and services is available at: <http://www.epa.gov/opptintr/epp/>.

ARTICLE 10 - E-VERIFY PROGRAM ENROLLMENT

Pursuant to the *Employment Eligibility Verification* clause of the General Provisions (FAR 52.222-54), the Subcontractor shall:

1. Enroll as a Federal contractor in the online E-Verify System at: <https://e-verify.uscis.gov/enroll>, and within 10 days of award of this Subcontract provide the University Procurement Representative with written verification of the enrollment, such as a copy of the Subcontractor's "Company Information" page from the E-Verify System.
2. Include the clause in each lower-tier subcontract for construction or services exceeding \$3,000, as required by the clause (excluding those with self-employed individuals), and within 10 days of award thereof provide the University Procurement Representative with written verification of the subcontractor's enrollment in the E-Verify System.

ARTICLE 11 – ELIGIBILITY CERTIFICATION

By acceptance of this Subcontract, the Subcontractor certifies that:

- A. To the best of its knowledge and belief, it and its principals are not presently debarred, suspended, proposed for debarment, or declared ineligible by any agency of the Federal Government for the award of contracts (including subcontracts); and
- B. To the extent it has had previous Government contracts or first-tier subcontracts subject to the *Equal Opportunity* clause (FAR 52.222-26) of the General Provisions, it has developed and has on file all written affirmative action programs and it has filed all prescribed compliance reports, as required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2).

ARTICLE 12 - INCORPORATED DOCUMENTS

The following documents are hereby incorporated as a part of this Subcontract. The documents marked with an asterisk are available at: <http://procurement.lbl.gov/welcome-to-procurement-property/become-a-supplier/general-provisions/>, and <http://procurement.lbl.gov/supplier-forms/>.

- General Provisions for Standard Research Subcontracts, dated 7/5/13 *
- Statement of Work Max Tech and Beyond Design Competition for Ultra-Low-Energy-Use Appliances and Equipment, dated May 19, 2014
- Subcontractor's Cost Proposal, dated _____
- Patent Responsibility Under Your Subcontract Award *

ARTICLE 13 - GENERAL PROVISIONS

- A. The FAR and DEAR clauses listed in the *Clauses Incorporated by Reference* clause of the General Provisions shall be applicable to this Subcontract based on the value of the Subcontract, the status of the Subcontractor, and the nature and location of the work, as indicated in the General Provisions.
- B. The reference for FAR Clause 52.227-14, *Rights in Data-General*, in the *Clauses Incorporated by Reference* clause of the General Provisions is hereby revised to add Alternate IV and remove paragraph (d)(3) of DEAR 927.409. The additional statements accompanying the reference are unchanged. The revised reference shall read as follows:

FAR 52.227-14 RIGHTS IN DATA-GENERAL (DEC 2007), with Alternates IV & V and substituting Paragraph (a) with DEAR 927.409(a). *Definitions*

(END OF SCHEDULE OF ARTICLES)

Statement of Work
To
Subcontract Number XXX
Between
The Regents of the University of California
Lawrence Berkeley National Laboratory
And
Vendor
For

Max Tech and Beyond Design Competition for Ultra-Low-Energy-Use Appliances and Equipment
May 19, 2014

BACKGROUND

In FY-2010, Lawrence Berkeley National Laboratory (LBNL) published a report, [Max Tech and Beyond](#), that ranked the energy saving potential of 150 categories of appliances and equipment (henceforth referred to as appliances) used in the U.S. residential, commercial, and (in some cases) industrial sectors. Assuming Max Tech designs were to replace current equipment at the end of their lifetimes, the report estimated that 200 quads of energy could be saved in the US economy over 30 years. Aiming to turn potential into reality and to seed future energy savings, LBNL, with the support of the U.S. Department of Energy's Building Technologies Program, launched the *Max Tech and Beyond Design Competition for Ultra-Low Energy Use Appliances and Equipment* in academic year (AY) 2011/2012. The Design Competition challenged engineering design teams at U.S. universities to go beyond the current "max tech" by exploring new appliance and equipment design concepts that could become the next generation of ultra-low energy use appliances and equipment. In its first two years the competition, which culminates in a national webinar, has supported seventeen teams nationwide.

OBJECTIVE

Addressing the challenge of climate disruption requires a new generation of highly trained, efficiency-minded engineers and continuous innovation in appliance and equipment efficiency. The purpose of this subcontract is to support the work of a design team that is competing in the AY 2014-2015 Design Competition.

SCOPE

Selected faculty-led teams from U.S. Universities will be required to design, build, test, analyze and present results on a final prototype. Prototype proposals can address any significant residential or commercial energy end-use to displace energy currently consumed by stationary appliances and equipment in and around buildings. Proposals cannot focus on mobile sources of energy consumption (transportation), building design, or energy generation. However they can incorporate building-integrated design and integrated renewables (*e.g.*, solar assist). Through innovative design and testing, the team shall demonstrate that their prototype significantly reduces appliance energy consumption over the most efficient appliances currently on the market (5% or more) and/or demonstrates large cost reductions for best-on-market appliances (20% or

more). Design improvements can use any approach with significant potential, including, but not limited, to combining all existing best practices and technologies into a single prototype, exploiting efficiencies of hybridization, and testing fundamentally new efficiency design concepts.

All projects will culminate in a national webinar presentation and final report. The subcontractor shall also meet all required deadlines and deliverables, including bi-annual progress reports and participation in quarterly meetings, mentoring sessions, path to market presentation, and all financial restrictions.

TASKS (exact dates to be provided by the University Technical Representative)

Team and Curriculum Development (Fall 2014)

- Finalize student teams and curriculum as needed. Select team leads.
- Submit team contact information and team plans (template provided).
- Attend first quarterly meeting (see below).
- General description of work (template provided) and photograph(s) due for team website pages.

Design Development and Procurement Phase (Fall/Winter 2014)

- Finalize design and begin purchasing as needed.
- Attend second quarterly meeting (see below).
- Submit first status report (see below).
- Mentoring Sessions begin.

Construction Phase (Fall/Winter/Spring 2014/2015)

- Attend Path to Market webinar (TBD)
- Prototype construction begins and ends.
- Updates for website team pages due.
- Attend third quarterly meeting (see below).

Testing and Analysis Phase (Winter/Spring 2015)

- Prototype testing and adjustments begun and completed.
- Submit second status report (see below).
- Attend last quarterly meeting (see below).
- Submit preliminary slides for Webinar (see below).

Presentation at National Webinar (May/June 2015)

- Participate, attend, or present at the final national teleconferenced webinar with judges in attendance.

Submit Final Team Report (June/July 2015)

- Submit final report at close of contract (see below).

COMMUNICATIONS

Review Meetings

- The Subcontractor shall participate in quarterly teleconference review, Q&A, and practice sessions during the period of performance (~September 2014, December 2014, February 2015, April 2015).
 - Agendas, preparatory information, faculty and student required attendance and participation to be reviewed and provided by the University Technical Representative.
 - Each meeting will last 1-2 hours.
- The Subcontractor shall participate in pre-scheduled one-on-one mentoring sessions, additional meetings, and webinars arranged by the University Technical Representative as necessary.

Reporting

- The Subcontractor (faculty and student leads, at minimum) shall submit bi-annual status reports (November 2014; March 2015).
 - Further information and required templates to be provided by the University Technical Representative.
 - Students are required to play a role in the writing of the status reports with lead faculty review before submission.
- The Subcontractor shall submit a final detailed project report (due before the closure of the contract in June /July 2015).
 - Required outline, templates, and judging criteria to be provided by the University Technical Representative.
 - To be submitted by faculty team lead.
 - Students are expected to contribute to the final report.
 - Final reports to be judged by a selected team of energy efficiency experts.

Presentation (National Webinar)

- The Subcontractor shall prepare and give a webinar presentation describing the prototype and final energy savings testing results (May /June 2015).
- Student team lead or other selected representative(s) shall deliver the presentation.
- Faculty lead and other selected representative team member(s) are expected to attend the all day event.
- Faculty lead and selected students will attend additional practice sessions if necessary.
- Further instructions, outlines and templates to be provided by the University Technical Representative.
 - Webinar presentations to be judged by a selected team of energy efficiency experts.