



Overview of the ARPA-E Award Contracting Process for Selectees

ARPA-E Director: Dr. Arun Majumdar

Tuesday, October 4, 2011



Briefing Outline

Overview and Introductions – *Shane Kosinski*

Director's Welcome – *Dr. Arun Majumdar*

Award Documentation/Budget – *Ben Lardizabal*

Reporting Requirements/NEPA/Deadlines – *Bill Bierbower/Matt Dunne*

Intellectual Property – *John Lucas*

Technical Milestones – *Dr. Eric Toone*

Technology to Market – *Dr. Ilan Gur*

Summary and Q&A – *Shane Kosinski*



Today's welcome will familiarize you with the ARPA-E team and some award basics

- You will be working with a team to develop your cooperative agreement. Each team consists of the following ARPA-E and DOE personnel:
 - Program Director (lead)
 - Technical SETAs
 - Programmatic SETAs
 - Legal Counsel
 - ARPA-E Chief Counsel
 - DOE Intellectual Property (IP) Counsel
 - ARPA-E Contracting Officer
 - Contracting Specialist
 - ARPA-E Commercialization Team

- Discover how your projects will be funded, how progress is tracked, and what the reporting requirements are for ARPA-E

- We will provide an outline of your IP options and ARPA-E policy regarding your IP



ARPA-E Leadership, Program Directors and Key Support

Director: Dr. Arun Majumdar

Deputy Director for Operations: Mr. Shane Kosinski

Deputy Director for Technology: Dr. Eric Toone

Deputy Director for Commercialization: Dr. Cheryl Martin

Solar ADEPT

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HEATS

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ARPA-E Leadership, Program Directors and Key Support (cont.)

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Deputy Director for Operations: Mr. Shane Kosinski

Deputy Director for Technology: Dr. Eric Toone

Deputy Director for Commercialization: Dr. Cheryl Martin

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GENI

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ARPA-E Leadership, Program Directors and Key Support (cont.)

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Deputy Director for Commercialization: Dr. Cheryl Martin

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This is ARPA-E's fourth round of project selections

Funding Opportunity Announcement (FOA) 1

~ 3,700 concept papers received. 37 projects selected.

FOA Round 2

Batteries for Electrical Energy Storage in Transportation (BEEST)—10 projects selected	David Danielson
Electrofuels—13 projects selected	Eric Toone
Innovative Materials and Processes for Advanced Carbon Capture Technology (IMPACCT)—14 projects selected	Mark Hartney

FOA Round 3

Grid-Scale Rampable Intermittent Dispatchable Storage (GRIDS) – 15 projects selected	Mark Johnson
Building Energy Efficiency Through Innovative Thermodevices (BEETIT) – 19 projects selected	Ravi Prasher
Agile Delivery of Electrical Power Technology (ADEPT) – 14 projects selected	Rajeev Ram

FOA Round 4

Rare Earth Alternatives in Critical Technologies for Energy (REACT)	Mark Johnson
High Energy Advanced Thermal Storage (HEATS)	Ravi Prasher
Solar Agile Delivery of Electrical Power Technology (Solar ADEPT)	Rajeev Ram
Green Electricity Network Integration (GENI)	Rajeev Ram
Plants Engineered to Replace Oil (PETRO)	Jonathan Burbaum



ARPA-E Selected High Risk, High Reward Projects with Transformational Potential in its 4th Round of Funding

FOA	No. of Concept Papers Submitted	No. of Awards	Funding Amount
REACT	89	14	\$31.6 M
HEATS	115	15	\$37.3 M
Solar ADEPT	82	7	\$14.7 M
GENI	105	14	\$36.4 M
PETRO	38	10	\$36.0 M
TOTAL	429	60	\$156 M



Cooperative Agreements

- ARPA-E is funding through cooperative agreements (TIAs in some cases)
- With a cooperative agreement...
 - “Substantial involvement is expected between the executive agency and the ...recipient when carrying out the activity contemplated in the agreement”
– 31 U.S.C. § 6305
- ARPA-E will be an active participant in your work:
 - Regular site visits, meetings, and conference calls
 - Annual program reviews (with all projects in a program)
 - Engagement on technical issues
 - Assisting, if needed, on commercialization efforts
 - ARPA-E has a vested interest in your success

Each agreement must be finalized by November 23, 2011

- As noted in your selection letter, agreement must be completed by **November 23, 2011**. Your project may be de-selected if you don't meet this deadline.
- We are committed to meeting this date and we expect your teams will be as well
- Model Cooperative Agreement is available on our website
 - <http://arpa-e.energy.gov/FundingAgreements/CooperativeAgreements.aspx>
 - Please begin your internal approval process immediately
- Resources Necessary:
 - Contracting/Budget Staff – You will need contracting/budget staff to review the award documentation, respond quickly to questions from ARPA-E, and finalize the budget for the project
 - Intellectual Property (IP) Counsel – You may need an IP attorney to identify and resolve any issues arising out of or relating to the project
 - Principal Investigator and Technical Personnel – You will need the Principal Investigator and technical personnel to negotiate an aggressive set of technical milestones and deliverables for the project



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Award Documentation

<http://arpa-e.energy.gov/FundingAgreements.aspx>

Cooperative Agreements

ARPA-E generally uses Cooperative Agreements to provide financial and other support to Prime Recipients, unless one of the following conditions apply: (1) the Prime Recipient is a Federally Funded Research and Development Center (FFRDC) or U.S. Government-Owned Government-Operated laboratory (GOGO), or (2) the Prime Recipient requests and qualifies for a Technology Investment Agreement.

Like Grants, Cooperative Agreements involve the provision of financial or other support to accomplish a public purpose of support or stimulation authorized by Federal statute. However, Cooperative Agreements differ from Grants in terms of agency involvement, supervision, and intervention in the project. Grants restrict Government involvement to the minimum necessary to achieve program objectives. Under Cooperative Agreements, the Government and Prime Recipients share responsibility for the management, control, direction, and performance of projects.

ARPA-E created a Model Cooperative Agreement to facilitate and expedite award negotiations. ARPA-E generally does not modify the terms and conditions of the ARPA-E Model Cooperative Agreement unless there is a demonstrated need.

Award Document	Description
Cover Page	Assistance Agreement Form (PDF 95 KB)
Attachment 1	Special Terms and Conditions (Coming Soon)
Attachment 2	Intellectual Property Provisions (Small Business) (Word 33 KB)
Attachment 2	Intellectual Property Provisions (Large Business) (Word 52 KB)
Attachment 2	Intellectual Property Provisions (University) (Word 47 KB)
Attachment 3	Statement of Project Objectives (Technical Milestones and Deliverables) (Word 17 KB)
Attachment 4	Federal Financial Assistance Reporting Checklist and Instructions (PDF 303 KB)
Attachment 5	Budget Information (SF-424A) (Word 28 KB)
Attachment 6	National Policy Assurances (PDF 144 KB)

Resources for Recipient

<http://arpa-e.energy.gov/FundingAgreements/Overview.aspx>

Additional information on award documentation is available on ARPA-E's website

The screenshot displays the ARPA-E website interface. At the top left is the ARPA-E logo with the text "Advanced Research Projects Agency • ENERGY". To the right is a search bar and the U.S. Department of Energy logo. Below the header is a green banner with the text "Investing in High Risk/High Reward Energy Research" and an image of hands holding a globe. A navigation menu includes links for Home, About, Funding Opportunity, Events & Workshops, Programs & Projects, Recruitment, and Media. The main content area features a sidebar with "Overview" (checked), "Technology-to-Market", and "Help". The "OVERVIEW" section contains text about funding agreements and a link to "Download Microsoft Word Viewer". A list of project stages is provided: Pre-Award, Award, Post-Award, Closeout, and Termination. A "SUBSCRIBE FOR UPDATES" form is located at the bottom left of the main content area.

arpa-e
Advanced Research Projects Agency • ENERGY

U.S. DEPARTMENT OF ENERGY

Investing in High Risk/High Reward Energy Research

Home About Funding Opportunity Events & Workshops Programs & Projects Recruitment Media

Overview
 Technology-to-Market
 Help

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SUBSCRIBE FOR UPDATES

Enter your email address below to receive the latest updates.

First Name Last Name
*Email

*Required Fields
[Archive of Updates](#)

OVERVIEW

The Advanced Research Projects Agency – Energy (ARPA-E) has prepared the following guidance to facilitate the negotiation of funding agreements and the management and closeout of projects.

Download Microsoft Word Viewer

For more information at each stage of the project cycle, please view the pages below:

- Pre-Award
- Award
- Post-Award
- Closeout
- Termination

To view the ARPA-E Technology to Market Guide, please click [here](#).

Review of Special Award Terms and Conditions (1 of 4)

Award Project Period

- The effective start date of award is the date on which the award is signed by the ARPA-E Contracting Officer unless another date was specified in the full application and approved. (See Model Cooperative Agreement Cover Page, Block 3)

Maximum Obligations

- The maximum funding for the project is limited to the amount shown on Agreement Cover Page. (Block 13)

Acknowledgment of Award Documents

- See Award Guide Section 6 and Model Cooperative Agreement Attachment 1.

Payment Procedures

- See Model Cooperative Agreement Attachment 1.

Review of Special Award Terms and Conditions (2 of 4)

Cost Share (See Model Cooperative Agreement Attachment 1)

Cost Share Requirement	Domestic educational institution or domestic nonprofit applying as a Standalone Applicant	Greater than or Equal to (\geq) 5% of the Total Project Cost
	Project Teams composed exclusively of domestic educational institutions, domestic nonprofits, and/or FFRDCs	\geq 5% of the Total Project Cost
	Project Teams where domestic educational institutions, domestic nonprofits, and/or FFRDCs perform \geq 80%, but less than 100%, of the work under the funding agreement, as measured by the Total Project Cost	\geq 10% of the Total Project Cost
	All other projects	\geq 20% of the Total Project Cost
	Technology Investment Agreements and "other transactions" agreements	\geq 50% of the Total Project Cost

Review of Special Award Terms and Conditions (3 of 4)

Pre-Award Costs (See Model Cooperative Agreement Attachment 1)

- ARPA-E will deny requests for reimbursement where no award is made.
- You may submit requests for reimbursement for insignificant costs (i.e., \$20,000 or less in total aggregate costs) incurred up to 90 days before the effective date of the Award. You are required to obtain written authorization from the ARPA-E Contracting Officer (ARPA-E-CO@hq.doe.gov) before submitting any requests for reimbursement for:
 - insignificant costs incurred more than 90 days before the effective date of the Award, or
 - significant costs (i.e., more than \$20,000 in total aggregate costs) incurred before the effective start date of the Award.
- All pre-award costs must be in accordance with the applicable Federal Cost principles referenced in 10 C.F.R. Part 600.

Reporting Requirements

- See Model Cooperative Agreement Attachment 4 & Model Cooperative Agreement Attachment 1



Review of Special Award Terms and Conditions (4 of 4)

Monitoring Process

- See Model Cooperative Agreement Attachment 1 & Model Cooperative Agreement Attachment 4

Financial Management Assessment and Determination of Responsibility

- The ARPA-E Contracting Officer is required to perform a financial management assessment to assess your ability to manage the financial aspects of an award and your plans to accomplish project activities with reasonable economy and efficiency. The standards for acceptable financial management systems are found at 10 CFR 600.121 for universities and non-profits and at 10 CFR 600.311 for-profit organizations.
- The ARPA-E Contracting Officer is required to make an affirmative determination of responsibility. The determination considers if the contractor has the administrative and programmatic capabilities to perform.
- See Award Guide Page 17



Budget Documents

(See Award Guide Page 15)

- The ARPA-E Contracting Officer will review the budget documents submitted with your Full Application, and identify the information/documents needed to complete his analysis and approve the proposed budget.
- Any missing information is requested in the form of a Budget Review Questionnaire, which includes questions to be answered and identifies information and documents to be provided (sample Questionnaire—see Award Guide Appendix 2)
- The following budget documents are available on ARPA-E’s website (<http://www.arpa-e.energy.gov/FundingAgreements.aspx>).

Form	Brief Description
SF-424A	The SF-424A provides an overview of the total budget by categories (e.g., personnel, fringe benefits, travel, equipment, supplies, contractual, construction, other, indirect charges).
Budget Justification Spreadsheet	The Budget Justification Spreadsheet provides detailed information on yearly budgeted items in each category.
Budget Justification Guidance	The Budget Justification Guidance provides detailed instructions for the completion of the Budget Justification Spreadsheet.
Indirect Rate Proposal	You are required to submit an indirect rate proposal to ARPA-E if you do not have indirect rates negotiated with, or approved by, a Federal government agency.

Required Forms

(See Award Guide Page 12)

Required Forms

Upon selection for award negotiations, you are required to complete and submit the following forms:

- **Indirect Rate Proposal** (Word 104 KB) (if you do not have a current federally approved rate agreement)
- **Civil Rights Questionnaire** (Word 33 KB)
- **DOE Form 1600.5** (PDF 21 KB)

If your project is re-scoped (during award negotiations or at a later time), you may be required to submit new budget documents and/or a new Environmental Impact Questionnaire.

- **SF-424** (PDF 83 KB)
- **SF-424A** and **Budget Justification Spreadsheet** (Excel 50 KB and Excel 216 KB)
- **Budget Justification Guidelines** (PDF 520 KB)
- **Environmental Impact Questionnaire** (PDF 465 KB)

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<http://arpa-e.energy.gov/FundingAgreements.aspx>



Put Your Award Negotiations in High Gear—Part I (Budget)

- Prepare and submit supporting documentation for your proposed budget to the ARPA-E Contracting Officer. Refer to the Budget Justification Guidance for detailed instructions.
- Respond quickly (1-2 days) to Budget Review Questionnaires.
- Modify your SF-424 to include a reasonable and realistic period of performance.
- Be sure to provide signed cost share letters of commitment from any third party contributing cost share.
- Be sure to provide a separate budget justification and SF-424A for any sub-recipients that are expected to perform 10% or more of the total project costs.
- Budget Justification Spreadsheet—see additional tips for each budget category in the Award Negotiations Guide (pages 22-23)
- Submit indirect rate proposal (if required)

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AWARD NEGOTIATION SCHEDULE

Award Negotiation Milestones	Deadline	Deadline
ARPA-E notifies applicant of its selection for award negotiations and requests the applicant to review the ARPA-E Model Cooperative Agreement and forms at http://arpa-e.energy.gov/FundingAgreements/Overview/Award.aspx .	Day 1	9/29/11
ARPA-E hosts a webinar for selectees (i.e., applicants selected for award negotiations) to review the contracting process.	Day 3	10/4/11
ARPA-E Program Director negotiates statement of project objectives and aggressive schedule of technical milestones and deliverables with selectees. Upon request, selectees revise milestones and deliverables in accordance with ARPA-E technical direction.	Days 3-22	10/21/11
Selectee drafts Technology-to-Market Plan with assistance of ARPA-E Commercialization Advisor/Program Director	Days 3-25	10/21/11
DOE Contracting Officer works with selectee to finalize budget for project. Upon request, selectees complete ARPA-E Budget Review Questionnaires and provide revised budgets within 3 business days.	Days 3-33	11/1/11
Deadline for finalizing SOPO and schedule of technical milestones and deliverables with ARPA-E Program Director.	Day 22	10/21/11
Deadline for submitting request for "Other Transactions" Agreement or Technology Investment Agreement to ARPA-E Legal Counsel.	Day 24	10/25/11
Deadline for submitting request for changes to Attachment 1 to ARPA-E Legal Counsel. (Changes will be made only in exceptional circumstances.)	Day 24	10/25/11
Deadline for submitting request for changes to Attachment 2 to DOE Patent Counsel. (Changes will be made only in exceptional circumstances.)	Day 24	10/25/11
Deadline for providing DOE Patent Counsel with final list of unlimited data rights.	Day 24	10/25/11
Deadline for finalizing budget for the project with the DOE Contracting Officer.	Day 33	11/1/11
ARPA-E sends final award package to selectee.	Day 38	11/7/11
Deadline for selectee to return signed award package to ARPA-E.	Day 40	11/9/11
Selectees acknowledge receipt of award in FedConnect.	Day 45	11/14/11

KEY MILESTONES

DAY 3: Webinar for selectees.

DAY 22: Deadline for ARPA-E Program Director to approve final Statement of Project Objectives and schedule of technical milestones and deliverables.

- Every element of the award (e.g., budget, data rights, environmental review, commercialization plan) is contingent upon the scope of work. The schedule of technical milestones and deliverables defines the scope of work, so it must be completed before the other elements can be finalized.

DAY 24: Deadline for requesting “Other Transactions” Agreement, including Technology Investment Agreement

DAY 24: Deadline for ARPA-E Program Director to approve final list of data rights for the project

DAY 25: Deadline for selectee to submit draft Technology-to-Market Plan to ARPA-E Program Director.



KEY MILESTONES (cont'd)

DAY 25: Deadline for selectee to submit draft Technology-to-Market Plan to ARPA-E Program Director.

DAY 33: Deadline for DOE Contracting Officer to approve final budget for the project.

DAY 45: Deadline for selectee to acknowledge award documents in FedConnect.



COOPERATIVE AGREEMENTS

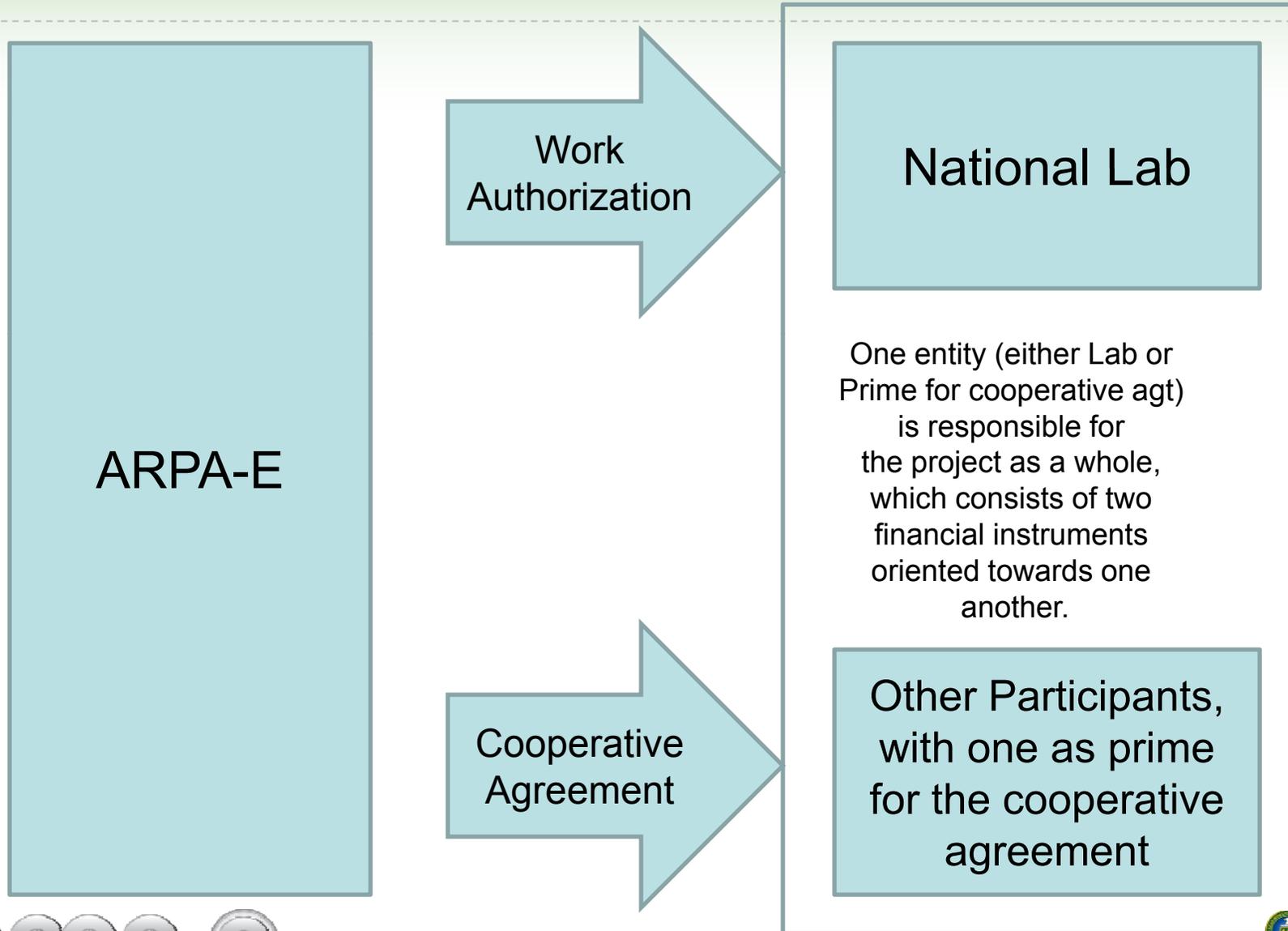
- ARPA-E has established a Model Cooperative Agreement as the default award for all Prime Recipients. The use of a standard agreement expedites the award negotiation process and reduces the administrative burden associated with ARPA-E's active project management.
- The Model Cooperative Agreement explains the Prime Recipient's duties and responsibilities concisely and in plain English, which facilitates their compliance with reporting and other obligations.
- The Model Cooperative Agreement consists of the following attachments, which are available on ARPA-E's website at http://arpa-e.energy.gov/FundingAgreements/Overview/Award.aspx#Cooperative_Agreements.

COOPERATIVE AGREEMENTS

- ARPA-E will make changes to Attachment 1 and Attachment 2 only in exceptional circumstances. ARPA-E will not make accept any proposed changes to Attachments 4 or 6.

AWARD DOCUMENT	BRIEF DESCRIPTION
Cover Page	Assistance Agreement Form
Attachment 1	Special Terms and Conditions
Attachment 2	Intellectual Property Provisions
Attachment 3	Statement of Project Objectives and Technical Milestones and Deliverables
Attachment 4	Reporting Checklist and Instructions
Attachment 5	Budget
Attachment 6	National Policy Assurances

Contracting Arrangement: National Labs as Leads or Subs



Contracting Arrangement – National Labs as Leads or Subs (FOA language)

When a FFRDC or non-DOE/NNSA GOGO is the lead organization for a Project Team, ARPA-E executes a funding agreement directly with the FFRDC or non-DOE/NNSA GOGO and a single, separate Cooperative Agreement with the rest of the Project Team.

- Notwithstanding the use of multiple agreements, **the FFRDC or non-DOE/NNSA GOGO is the lead organization for the entire project**, including all work performed by the FFRDC or non-DOE/NNSA GOGO and the rest of the Project Team.

When a FFRDC or non-DOE/NNSA GOGO is a member of a Project Team, ARPA-E executes a funding agreement directly with the FFRDC or non-DOE/NNSA GOGO and a single, separate Cooperative Agreement with the rest of the Project Team.

- Notwithstanding the use of multiple agreements, **the Prime Recipient under the Cooperative Agreement is the lead organization for the entire project**, including all work performed by the FFRDC or non-DOE/NNSA GOGO and the rest of the Project Team.

Funding agreements with DOE/NNSA FFRDCs take the form of Work Authorizations issued to DOE/NNSA FFRDCs through the DOE/NNSA Field Work Proposal system for work performed under Department of Energy Management & Operation Contracts.

Funding agreements with non-DOE/NNSA FFRDCs and GOGOs generally take the form of Interagency Agreements.

Any funding agreement with a FFRDC or non-DOE/NNSA GOGO will have **substantially similar terms and conditions as ARPA-E's Model Cooperative Agreement** .



AWARD NEGOTIATION RESOURCES

- ARPA-E has created an “Applicant’s Guide to Award Negotiations with ARPA-E,” which is posted at <http://arpa-e.energy.gov/FundingAgreements/Overview/PreAward.aspx>
- ARPA-E has revised its “Funding Agreements” webpage to provide a wide range of useful information to selectees and performers. This information is organized chronologically: Pre-Award, Award, Post-Award, Closeout, and Termination.

ARPA-E has redesigned the Funding Agreement Overview Page allow more information at each stage of the project cycle

- Pre-Award
 - Award Negotiations
 - Required Forms
 - DUNS Number and CCR and FSRS and FedConnect Registrations
 - Proof of Cost Share and Cost Share Commitment Letters
- Award
 - Funding Agreements
 - Cooperative Agreements
 - Funding Agreements with FFRDCs and GOGOs
 - "Other Transaction" Agreements
 - Subawards and Other Agreements
 - Intellectual Property Rights and Requirements
 - Intellectual Property Reporting
 - Intellectual Property Management Plans
 - Utilization Reporting
 - Domestic Manufacturing Requirement
 - Rights in Technical Data
- Post-Award
 - Applicable Federal Regulations
 - Reporting
 - ARRA Guidelines
 - Requesting Reimbursement
- Closeout
 - Closeout Process
- Termination
 - Enforcement and Termination Process
 - Suspension and Termination
 - Noncompliance

Reporting Requirements

- ARPA-E Specific
- All reporting is electronic
- Federal Financial Assistance Reporting Checklist and Instructions are on our website as Attachment 4:

<http://arpa-e.energy.gov/FundingAgreements/Overview/Award.aspx>

National Environmental Policy Act (NEPA)

- ARPA-E is required to evaluate the potential environmental impact of any projects that it is considering for funding
- ARPA-E uses the NEPA Compliance Questionnaire to obtain information regarding the potential environmental impact of particular projects and to determine the appropriate level of environmental review. Projects may qualify for a categorical exclusion under 10 CFR 1021.410, or may require further environmental review
- You are required to answer the questionnaire for the entire project, including all work to be performed by other participants (subrecipients, contractors, etc.). You may not limit your responses to work performed by the lead recipient.
- If your project is re-scoped, you may be required to submit a new NEPA Compliance Questionnaire.
- See Section 3.2.1 of the Award Negotiation Guide for additional information

Put Your Award Negotiations in High Gear—Part II (General/Technical)

- General: Identify the persons within your organization who will be participating in the award negotiations. Make sure they will have sufficient time and resources to participate in the award negotiation process.
- Technical: Work with the ARPA-E Program Director to quickly negotiate an aggressive set of technical milestones and deliverables.
 - Differentiate between tasks and milestones.
 - Milestones should be concrete, aggressive, and quantifiable.
 - Include metrics so that milestones are measurable.

Put Your Award Negotiations in High Gear—Part III (Legal/IP)

- Legal: Review the model award documentation and forms available on ARPA-E's website
 - Notify the ARPA-E Chief Counsel immediately if you intend to request any changes to Attachment 1 (Terms and Conditions) or intend to request an "Other Transactions" Agreement
- Intellectual Property:
 - Notify the DOE Patent Counsel immediately if you intend to request any changes to Attachment 2 (Intellectual Property Provisions)
 - Identify your Unlimited Data Rights immediately
 - Research your intellectual property and how it was funded. If there was past government funding that contributed to developing certain IP, it will affect your negotiations with the DOE Patent Counsel

Briefing Outline

Overview and Introductions – *Shane Kosinski*

Director's Welcome – *Dr. Arun Majumdar*

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Overview of Patent Rights in ARPA-E Cooperative Agreements

- DOE OGC Patent Counsel will work directly with each ARPA-E and Recipients.
- The goals of DOE/ARPA-E patent provisions are:
 - Strengthen U.S. energy and economic security
 - Maintain or establish U.S. scientific and engineering leadership in key energy fields
 - Encourage development and deployment of new inventions in the U.S.
 - Establish new industries
 - Strengthen the U.S. manufacturing base
 - Create new sources of employment
 - Retention of limited government rights for use of inventions and data by the US government.
- Certain patent requirements and rights are mandated by law, regulation, or policy as the quid pro quo for the recipient receiving financial assistance.
- Under certain circumstances, there is some flexibility to vary from the standard patent requirements and rights (i.e., .



Technical Data Types

- **Limited Rights Data** is proprietary data that was developed at private expense before you received this award. The Federal Government does not have any rights to this data, unless you provide it to us. To protect Limited Rights Data, you should not disclose it to ARPA-E, unless it is necessary for us to evaluate your work under the award. (See Clause 23 of Attachment 1.)
- **Unlimited Rights Data** is data produced under the award that is suitable for immediate public release. Data produced under government sponsorship is generally classified as public information.
- **Protected Data** is data produced under the award that is protected from public release for a limited period of time. You may designate data first produced under the conduct of this award as Protected Data; such data will be protected from public release for a period of 5 years from the time it is first produced.



ARPA-E IP: Data Rights Clause

- First produced technical data that is delivered to ARPA-E may be protected from public release for 5 years from the date of development of the data. We call this “Protected Data.”
- ARPA-E and the awardee will mutually agree on list of data that may be marked as Protected and a list of what will be released to the public.
- Universities and nonprofits, including national laboratories operated by universities and nonprofits, do not receive this right unless specifically requested.
- “Patent Hold” restricts any release of data for enough time to file patent application



ARPA-E IP: Patent Rights Clause

- Apply only to “subject inventions” made under the award. “Made” means invention conceived **or** first **actually** reduced to practice. No government rights in any other inventions; e.g. background inventions.
- All subject inventions must be reported to DOE. ARPA-E will provide a fact sheet on reporting subject inventions.
- Per Bayh-Dole Act, universities, nonprofits, and small businesses, as well as national laboratories operated by universities and nonprofits, have the automatic right to elect to retain title to their own subject inventions.
- Per Patent Class Waiver, large businesses, including national laboratories operated by large businesses, will have an automatic right to elect to retain title to their own subject inventions, subject to meeting certain cost share requirements.



ARPA-E IP: Patent Rights Clause

- If you elect to retain title to an invention, you must file a patent application.
- **Government Patent Rights:**
 - **Government purpose license:** Government & others acting on behalf of the Government may practice invention royalty free for a Government Purpose.
 - **March-in Rights:** Insurance Policy that you will commercialize the invention
 - **U.S. Preference in licensing:** Grant of exclusive right to use or sell invention in U.S. must be to party who agrees to substantially manufacture in the U.S.



ARPA-E: U.S. Manufacturing Requirement

- **University and nonprofits:**
 - Exclusive licensees must substantially manufacture in the United States any products embodying subject inventions (or produced through the use of subject inventions) if such products are intended for use or sale in the United States
- **Small business:**
 - Recipient and exclusive licensees must substantially manufacture in the United States any products embodying subject inventions (or produced through the use of subject inventions) if such products are intended for use or sale in the United States
- **Large Business:**
 - Recipient and exclusive and nonexclusive licensees must substantially manufacture in the United States any products embodying subject inventions (or produced through the use of subject inventions), whether such products are intended for use or sale in the United States or overseas



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Milestones and reporting are used by ARPA-E to assess project performance

- Quarterly, annual, and end of project technical milestones will be negotiated before award
 - Annual/end of project: clearly-defined quantitative technical milestones subject to independent measurement or validation
 - Aggressive milestones are required for all projects
- Quarterly, annual, and end of project reports and reviews
 - Technical: teleconferences, presentations at ARPA-E, site visits
 - Programmatic: quarterly reports to assess progress in terms of cost and schedule



Technical Milestones

- ARPA-E funds projects through cooperative agreements, which require substantive involvement by the Federal Government
- ARPA-E evaluates progress of a program by comparing actual progress to Technical Milestones
- Technical Milestones are a critical component of ARPA-E awards and are negotiated prior to award
 - Milestones describe specific, objective quantitative deliverables due at specific intervals (e.g. production of xx g/L of fuel; energy density of yy W h kg⁻¹)
 - Milestones are *not* aspirational, nor do they describe simple effort (e.g. examine 10 strains; complete report)
 - Annual/End of Project may be subject to independent measurement or verification

Technical Milestones (con't)

- Review of technical milestones
 - Progress against milestones will be evaluated on a regular basis (e.g. during teleconferences, presentations at ARPA-E, and site visits)
- Importance of meeting milestones
 - Aggressive milestones are required for all projects
 - Milestones help focus effort and resources on critical path technology components
 - Failure to meet technical milestones could be the basis for termination of funding

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Moving Technology to Market is an ARPA-E Essential

- Beyond supporting technical progress, ARPA-E ensures that funded technologies are well positioned to impact agency goals through market deployment
- These activities are specifically called for in ARPA-E's statutory mandate from Congress

ARPA-E Technology to Market Related Award Elements

Technology-to-Market Plan



The roadmap you develop for activities to assess and advance your technology's commercial viability

Technology-to-Market Milestones

Example activity	Examples of appropriate milestones
Commercialization Readiness	
Cost-performance model	<ul style="list-style-type: none"> • Bill of materials estimated and presented to program director • Cost-performance model presented to program director

Milestones to track progress over course of project

Technology Transfer and Outreach Budget

The image shows a thumbnail of a budget form titled "Budget Information - Non Construction Programs". It includes fields for Applicant Name, Award Number, and a detailed budget table with columns for Cost Program Function, Category of Activity, and various funding sources (Federal, Non-Federal, Total).

Funding for Technology to Market related activities



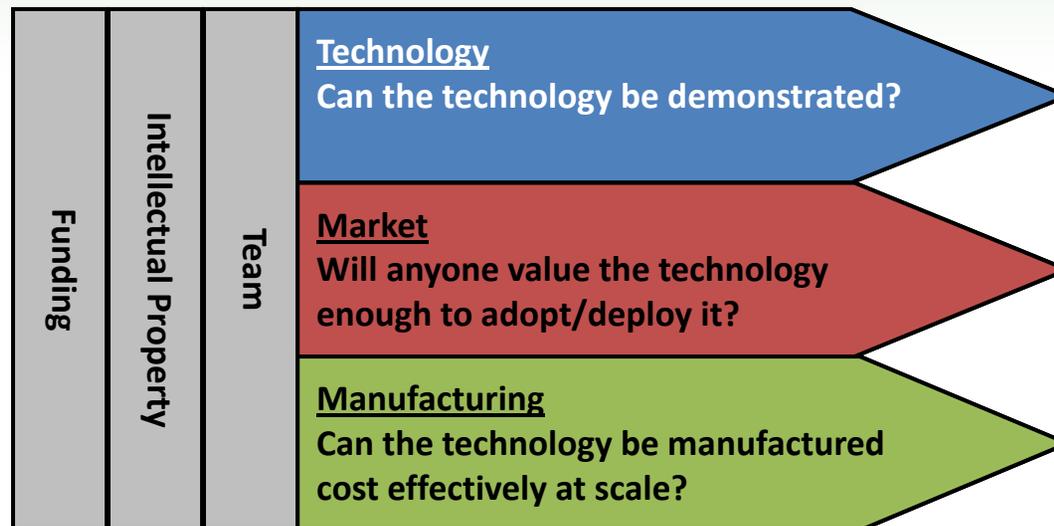
1

Technology-to-Market Plan

Technology-to-Market Plan



Technology-to-Market Plan Elements



- Technology-to-Market Plan will serve as a roadmap of activities to assess and advance technology-to-market viability
- Given the aggressive contracting schedule, you are only required to submit a **draft** plan prior to award (day 14) → this exercise is expected to take 2-3 hours
- Template, instructions, and specific feedback will be sent to you by your Program Director

2

Technology-to-Market – Milestones

Example activity Examples of appropriate milestones

Commercialization Readiness

Cost-performance model	Q6	<ul style="list-style-type: none"> • Bill of materials estimated and presented to program director • Cost-performance model presented to program director
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Additional milestones may relate to areas such as Intellectual Property, Manufacturing and Scalability, Next Stage Funding, or Team Development

- Technology-to-Market milestones will be included in Attachment 3 as project technical milestones negotiated before award
- Default milestones:
 - Finalize and present Technology-to-Market Plan (end of Q1)
 - Present Technology-to-Market progress (every other Quarter)
 - Project-specific Technology-to-Market milestones (based on Tech-to-Market Plan)
- Examples of appropriate milestones can be found at: <http://arpa-e.energy.gov/FundingAgreements/TechnologytoMarket/Planning.aspx>



3 Technology Transfer & Outreach (TT&O) Budget

Applicant Name:		Award Number:		Budget Information - Non Construction Programs			
Grant Program Function or Activity	Category of Federal Activity	Category of Assistance Number	I. Number of Budget Items		Type of Financial Budget		Total
			Federal	Non-Federal	Federal	Non-Federal	
1							\$0
2							\$0
3							\$0
4							\$0
5	Total		5	5	5	5	\$0
II. Object Class Categories							
A. Personnel							\$0
B. Fringe Benefits							\$0
C. Travel							\$0
D. Total (Sum of A-C)			0	0	0	0	\$0
E. Program Income							\$0

Technology Transfer and Outreach Budget

The TT&O budget provides funding for Technology to Market related activities

- Teams must spend at least 5% of ARPA-E funds on Technology Transfer and Outreach (TT&O) activities unless your Program Director has waived or modified this requirement
- Your Technology-to-Market Plan draft will help provide context and guidance on appropriate activities for use of TT&O funds
- TT&O budget and justification must be approved by the Contracting Officer before award

Technology to Market - Resources



ARPA-E's online Technology-to-Market Guide provides additional info

- Technology-to-Market Guide available via ARPA-E website:
 - Info on the Technology-to-Market Program and how we work
 - Guidance and examples of appropriate Technology to Market activities, considerations, and milestones
 - A Technology to Market glossary
 - Links to other resources to help with Technology to Market planning
 - How to contact us with questions and concerns

<http://arpa-e.energy.gov/FundingAgreements/TechnologytoMarket.aspx>



Advanced Research Projects Agency • Energy



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Summary: ARPA-E funding has high expectations

- Review the award documentation
- Don't miss your deadlines—November 23rd is the final deadline for award, or project may be de-selected
- ARPA-E negotiation teams will support you throughout the process.
 - You will be expected to negotiate quickly and fairly (November 23 deadline)
 - When issues arise, evaluate quickly within your organization, ARPA-E will do the same
- Reporting is critical (and required!)
 - ARPA-E reporting requirements
- Make your ARPA-E project your top priority

