DEPARTMENT OF ENERGY
Washington, DC 20585
December 28, 2009

MEMORANDUM FOR: MATTHEW A. BARRON
DIRECTOR
FINANCIAL ASSISTANCE DIVISION
GOLDEN FIELD OFFICE

FROM: DAVID J. LEOTTA
DIRECTOR
ACQUISITION PLANNING AND LIAISON DIVISION
OFFICE OF CONTRACT MANAGEMENT
OFFICE OF PROCUREMENT AND ASSISTANCE MANAGEMENT

SUBJECT: Approval of Special Terms and Conditions for use in awards under Funding Opportunity Announcement (FOA) number DE-FOA-0000096, entitled: "Recovery Act: Demonstration of Integrated Biorefinery Operations."

Pursuant to Department of Energy Acquisition Guide Chapter 71, the Special Terms and Conditions for the awards pending under the subject FOA, as submitted on December 22, 2009, and with revisions on December 23, 2009 have been reviewed and conditionally approved. The approval is conditioned on your coordinating the Intellectual Property (IP) provisions that are to be negotiated into the definitized awards with the Office of the Assistant General Counsel for Technology Transfer & Intellectual Property (GC-62). The point of contact in GC-62 is Mr. Paul Gottlieb, he may be reached on (202)586-3439 or via e-mail at: Paul.Gottlieb@hq.doe.gov.

No further review by this office is required prior to issuance of the awards. If any changes are made to the Special Terms and Conditions which are substantially different from the approved document then you are required to contact this office for further review prior to issuance of the document.

If you have any questions related to this matter, please contact Steven C. Jones at (202)287-1474.

DOE F 4220.10
(01-99) All Other Editions Are Obsolete

U.S. Department of Energy

Office of Congressional and Intergovernmental Affairs (CI)

CONGRESSIONAL GRANT/CONTRACT NOTIFICATION

TO: Office of Congressional & Intergovernmental Affairs
ATTN: Contract Notification Coordinator (CI-40)
U.S. Department of Energy
1000 Independence Avenue, SW Room 8G-070
Washington, DC 20585

Telephone: 202-586-2764
Fax: 202-586-5497

1. Informing Office: Golden Field Office (GFO)
Name: Melissa Wise
(Contracting Office Representative)
Phone: 303-275-4907

2. Program Office/Project Office:
Name: Fred Gerdeman
Phone: 303-275-4928

3. Contractor, Grantee or Offeror:
Name: Algenol Biofuels, Inc.
Street: 28100 Bonita Grande Drive, Suite 200
City: Bonita Springs State: FL Zip: 34135-6220

4. Place of Performance: (Required if different from #3)
Street:
City: Freeport State: TX Zip: 77541

5. Proposed date of award: No later than 09/30/2010
Date of Public Announcement: 12/04/2009 (if any)

6. Contract, Grant, or Other Agreement No.:
DE-EE0002867
(Specify Type of Instrument)
☒ New ☐ Renewal
☐ Modification – Total to date: $

7. Obligated Cost or Price of this Action: $25,000,000
Estimated Cost or Price of Total Contract: $REDACTED
Recipient Cost Sharing (if applicable): $EXEMPTION 4
(For incrementally funded contracts only. Report the Initial obligation and total estimated contract value.)

Does this award result from an Invitation for Bid?
☐ Yes ☒ No

8. Duration of Contract, Grant, or Other Agreement:
From: 01/01/2010 To: 12/31/2014

9. Brief Description. (Please use non-technical/plain English language/no acronyms.)
This project will make ethanol directly from carbon dioxide and seawater using hybrid algae in 1200-gallon specialized bioreactors. The facility will have the capacity to produce 100,000 of fuel-grade ethanol per year.

TO BE COMPLETED BY OFFICIAL RESPONSIBLE FOR SUBMISSION

10. Method of Submission:
☒ PDF, Upload

Date: DEC 03 2009 Time: 3:54 pm etc

Name: Molly Hames
Title: Grants and Agreements Specialist
Signature: Molly R Hames
Office: Golden Field Office

OMB Number: 4040-0004
Expiration Date: 01/31/2009

Application for Federal Assistance SF-424 Version 02

* 1. Type of Submission:	* 2. Type of Application:	* If Revision, select appropriate letter(s):
☐ Preapplication	☒ New	
☒ Application	☐ Continuation	* Other (Specify)
☐ Changed/Corrected Application	☐ Revision	

* 3. Date Received: Completed by Grants.gov upon submission.

4. Applicant Identifier:

5a. Federal Entity Identifier:

* 5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name: Algenol Biofuels Inc.

* b. Employer/Taxpayer Identification Number (EIN/TIN): REDACTED

* c. Organizational DUNS: 800399904

d. Address: EXEMPTION 6

* Street1: 28100 Bonita Grande Drive, Suite 200
Street2:
* City: Bonita Springs
County:
* State: FL: Florida
Province:
* Country: USA: UNITED STATES
* Zip / Postal Code: 34135-6220

e. Organizational Unit:

Department Name:

Division Name:

f. Name and contact information of person to be contacted on matters involving this application:

Prefix: Dr. * First Name: Craig
Middle Name:
* Last Name: Smith
Suffix:

Title: Chief Operating Officer

Organizational Affiliation:

* Telephone Number: 239-498-2000 Fax Number:

* Email: craig.smith@algenolbiofuels.com

OMB Number: 4040-0004
Expiration Date: 01/31/2009

Application for Federal Assistance SF-424 Version 02

9. Type of Applicant 1: Select Applicant Type:

Q: For-Profit Organization (Other than Small Business)

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

Golden Field Office

11. Catalog of Federal Domestic Assistance Number:

81.087

CFDA Title:

Renewable Energy Research and Development

*** 12. Funding Opportunity Number:**

DE-FOA-0000096

* Title:

Recovery Act - Demonstration of Integrated Biorefinery Operations

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

*** 15. Descriptive Title of Applicant's Project:**

Integrated Pilot-Scale Biorefinery for Producing Ethanol from Hybrid Algae

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

OMB Number: 4040-0004
Expiration Date: 01/31/2009

Application for Federal Assistance SF-424 Version 02

16. Congressional Districts Of:

* a. Applicant FL-014 * b. Program/Project TX-014

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 01/01/2010 * b. End Date: 12/31/2014

18. Estimated Funding ($):

* a. Federal 25,000,000.00
* b. Applicant
* c. State
* d. Local
* e. Other
* f. Program Income
* g. TOTAL

REDACTED
EXEMPTION 4

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☒ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)**

☐ Yes ☒ No Explanation

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: Dr. * First Name: Craig

Middle Name:

* Last Name: Smith

Suffix:

* Title: Chief Operating Officer

* Telephone Number: 239-498-2000 Fax Number:

* Email: craig.smith@algenolbiofuels.com

* Signature of Authorized Representative: Completed by Grants.gov upon submission. * Date Signed: Completed by Grants.gov upon submission.

OMB Number: 4040-0004
Expiration Date: 01/31/2009

Application for Federal Assistance SF-424 Version 02

*** Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

Other Attachment File(s)

*** Mandatory Other Attachment Filename:** Project.pdf

Add Mandatory Other Attachment | Delete Mandatory Other Attachment | View Mandatory Other Attachment

To add more "Other Attachment" attachments, please use the attachment buttons below.

Add Optional Other Attachment | Delete Optional Other Attachment | View Optional Other Attachment

OMB Number: 4040-0010
Expiration Date: 08/31/2011

Project/Performance Site Location(s)

Project/Performance Site Primary Location

☐ I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Algenol Biofuels Inc.

DUNS Number: 8003999040000

* Street1: 2301 N Brazosport BLVD

Street2:

* City: Freeport

County: Brazoria

* State: TX: Texas

Province:

* Country: USA: UNITED STATES

* ZIP / Postal Code: 77541-2303

* Project/ Performance Site Congressional District: TX-014

Project/Performance Site Location 1

☐ I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name:

DUNS Number:

* Street1:

Street2:

* City:

County:

* State:

Province:

* Country: USA: UNITED STATES

* ZIP / Postal Code:

* Project/ Performance Site Congressional District:

Name of the Applicant: Algenol Biofuels Inc.

Principal Investigator: Dr. Craig R. Smith, Chief Operating Officer, Algenol Biofuels Inc.

Title: Integrated Pilot-Scale Biorefinery for Producing Ethanol from Hybrid Algae

Objectives: Algenol Biofuels Inc., together with The Dow Chemical Company, is proposing to construct an integrated pilot-scale biorefinery (Topic Area 1) that will convert carbon dioxide into ethanol using Algenol's proprietary DIRECT TO ETHANOL™ algae technology. The biorefinery will be located in Freeport, Texas on an existing Dow facility. The integrated pilot-scale biorefinery will consume two dry tonnes per day of carbon dioxide obtained from industrial emissions and will produce more than 100,000 gallons of ethanol per year. The project will also create or save more than 300 well-paying high-tech jobs in Texas, Maryland, and Florida and validate the commercial viability of a new breakthrough energy technology that could eventually create billions of dollars of economic value and thousands of new jobs.

Project Description: DIRECT TO ETHANOL™ technology is based on over-expressing in blue-green algae the genes for fermentation pathway enzymes found widely in nature. The resulting metabolically enhanced hybrid algae actively carry out photosynthesis and utilize carbon dioxide to make ethanol inside each algal cell. The ethanol diffuses through the cell wall into the culture medium and then evaporates, along with water, into the headspace of an enclosed, sealed photobioreactor. The ethanol-water vapor is then condensed, collected as a liquid, and distilled into fuel grade ethanol. Algenol currently has hybrid algae that produce ethanol at a rate equivalent to about 6,000 gallons per acre per year. The productivity of these algae is currently being evaluated

REDACTED
EXEMPTION 4

Potential Impact of the Project: Once the pilot biorefinery is fully functional, Algenol intends to construct multiple commercial production facilities that will each have a production capacity of more than 250 million gallons of ethanol per year. Based on an analysis by a premier economic consulting firm, during the three-year construction period of a commercial production facility, the project would generate over $1 billion in total economic output and would reach a peak employment of approximately 3,000 jobs. At completion, the project would annually generate over $700 million in total economic output and create approximately 2,800 permanent jobs. Algenol's DIRECT TO ETHANOL™ process has several advantages over competing methods for ethanol production. Algenol's process does not use food as a feedstock, does not require arable land and does not use large amounts of fresh water. Most importantly, it consumes large amounts of carbon dioxide, has a large positive net energy balance, and can substantially reduce net green house gas emissions. Once the Algenol process has been demonstrated to work at pilot-scale, it can be expanded to produce ethanol in very large amounts sufficient to allow the United States to reduce its dependence on imported oil.

Major Participants: Algenol has collaborative agreements with The Dow Chemical Company, the National Renewable Energy Laboratory, Membrane Technology & Research Inc., and The Georgia Institute of Technology. Dow will provide land on its facility in Freeport, Texas, assist in the development of specialized plastics, evaluate various ethanol-water separation technologies, evaluate and test various water treatment, handling and disposal options, provide engineering, analytical, EH&S, and administrative support, and supply all saltwater requirements.

PROJECT NARRATIVE COVER SHEET
Recovery Act – Demonstration of Integrated Biorefinery Operations
Funding Opportunity Announcement Number: DE-FOA-0000096
CFDA Number: 81.087 Renewable Energy Research and Development

Applicant Information	
Applicant Name:	Algenol Biofuels Inc.
Project Title:	Pilot-Scale Integrated Biorefinery for Producing Ethanol from Hybrid Algae
Major Project Subcontractors:	The Dow Chemical Company, Georgia Institute of Technology, NREL, MTR Inc.
Major Project Vendors:	Exemption 4
Key Individuals:	Craig Smith, Ed Legere, Steve Gluck, John Coleman, Ron Chance

Topic Area (Select ONLY one)

Each applicant is allowed to submit only one application to this FOA. Applicants that submit to none or more than one topic area will be excluded from further review. Select one and only one topic area below.

☒ Topic Area 1	☐ Topic Area 3	☐ Topic Area 5
☐ Topic Area 2	☐ Topic Area 4	☐ Topic Area 6

Life-cycle Greenhouse Gas Emissions Reduction (mandatory for Topic Areas 5 and 6. Important – See Note):

Technical Description		
Feedstock(s):	Carbon Dioxide	
Primary Product:	Ethanol	
Co-Products:	None	
Location of Proposed Facility:	Freeport, Texas	
Throughput of Proposed Facility (dry tonnes of feedstock per day):	Two (2) dry tonnes of carbon dioxide per day	
Conversion Technology:	☐ Biochemical	☐ Thermochemical
	☒ Algae	☐ Other (Describe)

Short Description: The proposed biorefinery will make ethanol directly from CO_2 and seawater using hybrid algae in sealed, clear plastic 4,500L proprietary flexible film photobioreactors through its patented Direct to Ethanol™ technology – all powered by the sun, with approximately 17 acres of photobioreactors and additional supporting areas for testing, distillation, and product storage in Freeport, Texas.

Project Financing Description

Exemption 4

This form is required. It must be completely filled in and be included as the cover page for the "Project Narrative" (FOA, Subpart IV.C. b.). This form may contain confidential /business proprietary information IF it properly marked, but it must not contain any Personally Identifiable Information (PII). This form will count toward the page limit stated in the FOA, Subpart IV.C.b. Non-compliant applications will not be reviewed and will not be eligible for selection.

Application Table of Contents

I. **SF 424 – Application for Federal Assistance**
II. **Project Site Location (PPSL.doc)**
III. **Other Attachments**
   a. **Project Abstract**
   b. **Project Narrative** (Project.pdf)
      i. **Appendix 1** – Resume File (resume.pdf)
      ii. **Appendix 2** – Budget File (SF424A.xls)
      iii. **Appendix 3** – Budget Justification File (BudgetJustification.xls)
      iv. **Appendix 4** – Letters of Commitment
         1. Dow Chemical Company (DowLetter.pdf)
         2. The Georgia Institute of Technology (GATechLetter.pdf)
         3. Membrane Technology & Research Inc. (MTRLetter.pdf)
      v. **Appendix 5** – Subaward Budget Files, Including Budget Justification
         1. Dow Chemical Company (Dow424.xls)
         2. The Georgia Institute of Technology (GATech424.xls)
         3. Membrane Technology & Research Inc. (MTR424.xls)
      vi. **Appendix 6** – Budget for Federally Funded Research and Development Center (FFRDC) Contractor File (NREL.pdf)
      vii. **Appendix 7** – Authorization From Cognizant Contracting Officer for FFRDC (FFRDC_Auth.pdf)
      viii. **Appendix 8** – Environmental Questionnaire (Enviro.pdf)
      ix. **Appendix 9** – Project Management Plan (pmp.pdf)
      x. **Appendix 10** - Historical, Current, and Planned Technical and Financial Data (TechandFinData.pdf)
      xi. **Appendix 11** – Business and Commercialization Plan (BusComPlan.pdf)
      xii. **Appendix 12** – Pro Forma (ProForma.xls)
      xiii. **Appendix 13** – Intellectual Property Statement and Supporting Documentation (ProjectIP.pdf)
      xiv. **Appendix 14** – Process Flow Diagram and Supporting Data (PFD_Data)
      xv. **Appendix 15** – Life-Cycle GHG Emission Reduction Data (LCA_GHG.xls)
      xvi. **Appendix 16** – Petroleum Displacement Analysis (Petro.doc)
      xvii. **Appendix 17** – Project Execution Plan (ProjExecPlan.pdf)

Proprietary Information: The data contained on pages 6-10 of the Project Narrative; pages 3-6 and 12-13 of Environmental Questionnaire; pages 1-10, 16-18 and 20 of the Business and Commercialization Plan; and pages 2-4 of the IP Statement and all information contained the files named Lifecycle Energy and Greenhouse Gas Emissions, SF424A, Budget, Subaward Budget Files, Process Flow Diagram, Project Management Plant and Project Executive Plan have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data herein to the extent provided in the award.

Paragraphs in this application's respective files that are preceded by an asterisk (*) contain proprietary information that Algenol Biofuels requests not be released to persons outside the Government, except for the purposes of review and evaluation.

I. PROJECT GOALS AND OBJECTIVES.

Algenol Biofuels Inc. ("the Company") is developing and intends to commercialize DIRECT TO ETHANOL™ technology invented by Mr. Paul Woods and Dr. John Coleman between 1984 and 1996 and patented in the U.S. in 2001 and 2004 (US Patent Nos. 6,306,639 and 6,699,696). DIRECT TO ETHANOL™ technology uses hybrid algae that make ethanol from carbon dioxide. More than $70 million in investment capital has been secured from Algenol's founders to finance the initial development of DIRECT TO ETHANOL™ technology. Over the last three years about $30 million of this capital has been invested in research and development, and the technology is now ready for advancement to a pilot-scale integrated biorefinery. By means of this response to DOE Funding Opportunity Announcement Number DE-FOA-0000096 Algenol is seeking financial support to build and operate a pilot-scale DIRECT TO ETHANOL™ integrated biorefinery.

Project Goals and Objectives:

Exemption 4

Specific Aims and Targets:

Exemption 4

II. COMPANY DESCRIPTION.

Algenol Biofuels Inc. is a Delaware corporation with headquarters in Naples, Florida. Algenol has assembled a team of more than 100 employees and consultants to develop its technology from proof-of-principle to commercialization. The Company's management team has extensive experience in the energy

and biotechnology industries and has founded, financed, and built several successful publicly traded companies. The Company employs molecular biologists, marine biologists, biochemists, mechanical engineers, chemical engineers, financial professionals and project managers, including more than 40 Ph.D.'s. The Company employs two full time patent attorneys and has retained external patent law firms to represent its interests in jurisdictions both inside and outside of the United States. Algenol has an Advisory Board of distinguished scientists and engineers that actively advise the Company and has developed a broad range of research collaborations with leading academic institutions, such as The Georgia Institute of Technology, The University of Maryland Center for Marine Biotechnology, and the University of Hawaii.

The Company has research laboratories in Baltimore, Maryland and Germany that enhance and maintain selected hybrid algae for ethanol production. Both laboratories are equipped with state-of-the-art analytical technology and specialized algal growing rooms, as well as bench-top photobioreactors of varying designs from 0.5-liter to 80-liter capacity. The Company also has an advanced engineering lab in Baltimore where development, design and testing of photobioreactor, ethanol extraction and other system components are carried out.

The Company also operates a zero discharge, licensed aquaculture facility for research and development on five acres in Palm Beach County, Florida. This facility has a fully equipped laboratory and scientific staff on site and has already tested multiple photobioreactor designs and developed expertise in growing algae at large scale for more than a year under field conditions. Algenol is currently installing a Process Development Unit with 40 prototype commercial 4,500-liter bioreactors for the next phase of scale up and process development. Installation and initial operations will be completed by August 2009.

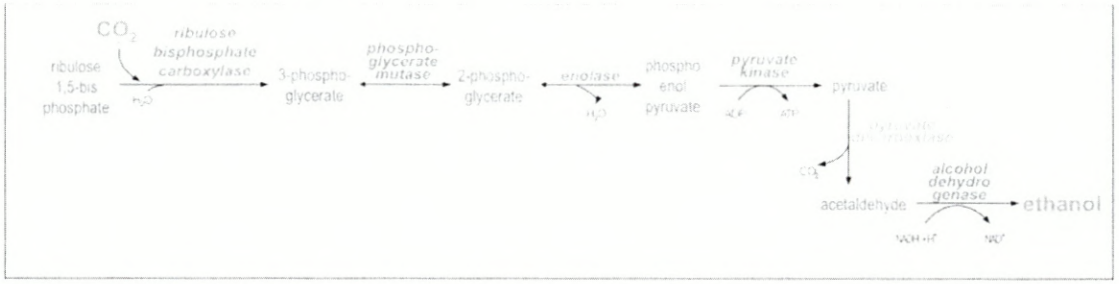
Figure 1: Algenol's Process Development Unit currently under construction in Florida

Exemption 4

III. TECHNOLOGY AND PROCESSES.

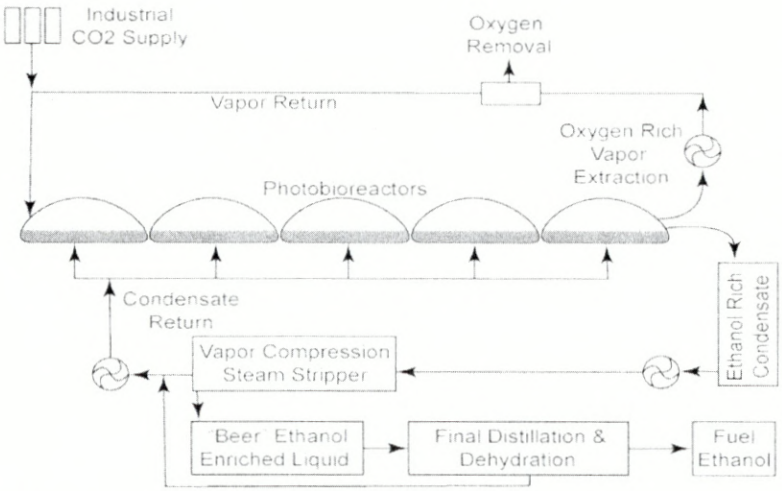
DIRECT TO ETHANOL™ technology involves over-expressing in blue-green algae the genes for fermentation pathway enzymes found widely in nature. These enzymes are pyruvate decarboxylase and alcohol dehydrogenase. The resulting metabolically enhanced hybrid algae actively carry out photosynthesis and utilize carbon dioxide as the feedstock for making ethanol inside each algal cell. The biochemical pathway for producing ethanol in the hybrid algae is shown in Figure 2.

Figure 2: Metabolic Pathway for Ethanol Production



The ethanol made inside the cell diffuses through the cell wall into the culture medium and then evaporates, along with water, into the headspace of an enclosed, sealed photobioreactor. The ethanol-water vapor condenses on the inner surface of the bioreactor headspace and is collected by gravity, concentrated, and then distilled into fuel grade ethanol.

Figure 3: Simple diagram of the DIRECT TO ETHANOL™ process



The central component of the DIRECT TO ETHANOL™ process is a proprietary 4,500 liter 5' x 50' flexible film photobioreactor made of polyethylene film with special additives and coatings. The photobioreactor contains seawater that has been treated to remove particulates and contaminants, added nutrients, and a large headspace above the seawater. The photobioreactor is inoculated with several gallons of a dense hybrid algae culture produced from stocks maintained in greenhouses on site. After hybrid algae inoculation, carbon dioxide from industrial emissions is introduced into the photobioreactor. The outdoor photobioreactor is exposed to sunlight that causes the algae to undergo photosynthesis, absorb carbon dioxide and produce ethanol. Because of the solar heat that accumulates in the photobioreactor, ethanol along with water evaporates into the headspace. Upon contact with the plastic film, the vapor condenses, runs down the sides of the

photobioreactor, and is collected in troughs that carry the ethanol-enriched condensate, by gravity, into a collection system. The ethanol-water mixture leaving the photobioreactor has an ethanol concentration of 0.5 to 2 percent (weight). The ethanol rich condensate is then pumped through a proprietary vapor compression steam stripping (VCSS) unit that further increases the ethanol concentration to ~35% (weight) producing an intermediate "beer" for further processing. If fuel ethanol is the desired product, the beer is processed through a conventional ethanol distillation system and subsequently dewatered by molecular sieves to produce fuel grade ethanol. Alternatively, the intermediate beer can be distilled to an 85% ethanol concentration and shipped to chemical companies for processing into ethylene, polyethylene, or many other biological polymers and co-products. For the purpose of validating this technology in the integrated biorefinery under this DOE FOA, this specific project will produce fuel ethanol from the intermediate beer. None of the intermediate beer will be processed into polyethylene or other polymers.

Exemption 4

Exemption 4

The Company now has more than 300 algal strains capable of producing ethanol and has an active research effort to produce more such strains. Specific candidate strains for further scale up for pilot scale production have been selected. The productivity of these algae is currently being evaluated in 1-liter to 80-liter laboratory photobioreactors and in multiple 300-liter outdoor photobioreactors under external environmental conditions.

Exemption 4

Exemption 4

IV. PROJECT DESCRIPTION.

Exemption 4

Exemption 4

Exemption 4

Exemption 4

Exemption 4

Major Participants:

One of Algenol's Specific Aims in this project is to assemble a consortium of private industry, federal laboratories, and academic institutions that will contribute to the development and operation of the Algenol pilot-scale integrated biorefinery. Algenol has accomplished this goal by signing collaborative agreements with The Dow Chemical Company, The National Renewable Energy Laboratory (NREL), Membrane Technology & Research Inc. (MTR), and The Georgia Tech Strategic Energy Institute, a division of The Georgia Institute of Technology (Georgia Tech). MTR is currently conducting a 6-month engineering design study of various ethanol-water separation technologies, including computer process simulations. This research will be completed by October 2009. Georgia Tech has completed the analysis of the life-cycle environmental impacts of Algenol's process included in this proposal.

Exemption 4

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Critical Success Factors:

Exemption 4

Exemption 4

V. Business Model and Forecast Commercial-scale Integrated Biorefinery Summary.

Exemption 4

Forecasted Commercial-scale Integrated Biorefinery Summary:

Exemption 4

VI. American Recovery and Reinvestment Act of 2009, P.L. 111-5 (Recovery Act) Information.

Algenol's pilot-scale integrated biorefinery will create jobs and economic growth, adding hundreds of millions of dollars of economic output to local and regional economies. Fishkind & Associates, Inc. conducted an economic impact study for a hypothetical integrated 40,000-acre, 250 million gallon per year DIRECT TO ETHANOL™ integrated biorefinery located in Texas. The analysis assumed the integrated biorefinery is built over 4-5 years in 8,000-acre increments or phases and that each phase is operational after construction. Impacts were measured separately for the construction and operational periods and were categorized as outputs (value added dollars and wages spent and re-spent), earnings (direct and indirect wages), and employment. During the three-year construction period, the project would generate $1.1 billion in total economic output and would reach a peak employment of 3,097 jobs. At completion, the project would annually generate $702.6 million in total economic output and create 2,830 permanent jobs. Algenol is targeting production of 10-20 billion gallons of ethanol by 2025. At these production levels the total economic impact is more than $40 billion per year and more than 100,000 jobs.

VII. Value Proposition.

Algenol's DIRECT TO ETHANOL™ technology also offers a compelling value proposition to consumers, the global environment, potential investors, and the United States.

Algenol today possesses the most advanced third generation biofuel technology in the United States. Algenol makes low cost ethanol directly from CO_2 and seawater using hybrid algae in sealed, clear plastic photobioreactors through its unique, patented Direct to Ethanol™ technology – all powered by the sun. Importantly, this is done without processing or transporting a separate biomass. At its core, Algenol has several components that come together in an integrated biorefinery from upstream CO_2 to final fuel grade ethanol product.

Algenol brings to this project significant capabilities and experience of its own and, together with its world-class partners, seeks to accelerate the commercialization of its Direct to Ethanol™ technology through application for funding by the Department of Energy.

Algenol's technology has culminated in hybrid algae that produce over 6,000 gallons of ethanol per acre per year, compared to corn at 400. Algenol's process achieves an energy balance of over 5 to 1 and a Life Cycle Carbon Analysis in a practical case that demonstrates that Algenol's Direct to EthanolTM production process has a carbon footprint that is merely 20% of petroleum (an 80% reduction from petroleum). Algenol intends to build commercial scale facilities that can produce ethanol for under $1.50 per gallon. Our group of people, companies, and institutions are extraordinarily talented and possess diverse skills that ensure Algenol can not only execute on its plan to build both this pilot-scale integrated biorefinery, but Algenol will bring the technology to commercial scale in under 5 years.

To the US government, we offer a method to make domestic transportation fuel that can make a substantial contribution to U.S. energy security, or at least free the U.S. from price volatility or supply restrictions based on the market dominance of the Organization of the Petroleum Exporting Countries (OPEC). We believe the DIRECT TO ETHANOL™ process could allow the U.S. to make 40-50 billion gallons of transportation fuel on as little as 100 miles square of desert or marginal land in the southern tier of the US. Presently, OPEC countries supply the U.S. with approximately 40 billion gallons of transportation fuel per year. We could replace the oil from unstable foreign sources with fuel produced here in the U.S.

To potential investors we offer an excellent business opportunity. Ethanol product pricing will be set by the commodity market and is expected to exceed a rack price of $2.50 per gallon of E85 by 2012. At these prices we could have net profit margins (after tax) in excess of 20% and a process that could be scaled to 50 billion gallons per year or more. If successful, the resultant return on investment would warrant the risks associated with an investment in Algenol's DIRECT TO ETHANOL™ technology.

Algenol will employ thousands of people in the future, and many at very high wages. Algenol has detailed conceptual blueprints completed for the pilot-scale integrated biorefinery on Dow's land in Freeport Texas. Algenol has completed detailed engineering work as well. In our application we allow 11 months for Award Budget Period One (often referred to as Phase I), and this is largely due to getting permits and through the DOE approval process. Algenol, with the DOE's assistance, is largely ready to build a pilot-scale integrated biorefinery today and most certainly as soon as possible after the award.

Algenol has already demonstrated its ability to attract the very best talent, execute on its plan, and scale up working systems, all of these lead to a successful pilot-scale integrated biorefinery and ensures that the DOE's accomplishes its goal as well.

STATEMENT OF PROJECT OBJECTIVES
Algenol Biofuels Inc.
Pilot-Scale Integrated Biorefinery for Producing Ethanol from Hybrid Algae

A. PROJECT OBJECTIVES

Exemption 4

B. PROJECT SCOPE

The DOE Office of Energy Efficiency and Renewable Energy (EERE) has established performance goals. Among these goals are to: 1) dramatically reduce, or even end, dependence on imported oil; and 2) spur the creation of the domestic bio-industry. To that end, the Office of the Biomass Program is offering to fund integrated biorefinery projects under this FOA entitled "Demonstration of Integrated Biorefinery Operations". The FOA lists three main criteria for selection; 1) technical merit and rationale, 2) credible economics and competitive advantages that justify an award, and 3) knowledge and experience in project management.

Algenol and its collaborators, The Dow Chemical Company, National Renewable Energy Laboratory, Membrane Technology & Research Inc., and The Georgia Institute of Technology, have collectively prepared an application that is responsive to the selection criteria as detailed below.

Exemption 4

Exemption 4

C. TASKS TO BE PERFORMED

Exemption 4

Exemption 4

Exemption 4

Exemption 4

Applicant Name: Algenol Biofuels Inc. Award Number: _____ Total Project

Budget Information - Non Construction Programs

OMB Approval No. 0348-0044

Section A - Budget Summary

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds: Federal (c)	Estimated Unobligated Funds: Non-Federal (d)	New or Revised Budget: Federal (e)	New or Revised Budget: Non-Federal (f)	New or Revised Budget: Total (g)
1. DE-FOA-0000096	81.087			$25,000,000	REDACTED EXEMPTION 4	
2.						
3.						
4.						
5. Totals		$0	$0	$25,000,000		

Section B - Budget Categories

6. Object Class Categories	Grant Program, Function or Activity: (1) DE-FOA-0000096	(2)	(3)	(4)	Total (5)
a. Personnel	REDACTED EXEMPTION 4				REDACTED EXEMPTION 4
b. Fringe Benefits					
c. Travel					
d. Equipment					
e. Supplies					
f. Contractual					
g. Construction					
h. Other					
i. Total Direct Charges (sum of 6a-6h)		$0	$0	$0	
j. Indirect Charges					
k. **Totals** (sum of 6i-6j)		$0	$0	$0	
7. Program Income					$0

Section C - Non-Federal Resources

(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) **Totals**
8. DE-FOA-0000096				
9.				
10.				
11.				
12. **Total** (sum of lines 8 - 11)				

REDACTED
EXEMPTION 4

Section D - Forecasted Cash Needs

	Total Budget Period 1	1st Quarter	2nd Quarter	3rd Quarter	4th quarter
13. Federal	$9,669,386	$2,342,099	$2,645,510	$2,758,464	$1,923,312
14. Non-Federal					
15. **Total** (sum of lines 13 and 14)					

REDACTED
EXEMPTION 4

Section E - Budget Estimates of Federal Funds Needed for Balance of the Project

	Future Funding Periods (Years)			
(a) Grant Program	(b) First - Phase !!	(c) Second	(d) Third	(e) Fourth
16. DE-FOA-0000096	$15,330,614	$0	$0	$0
17.				
18.				
19.				
20. **Total** (sum of lines 16-19)	$15,330,614	$0	$0	$0

Section F - Other Budget Information

21. Direct Charges	22. Indirect Charges

23. Remarks Per page 15 in the FOA, the funding is based on Phases / Periods not years. Accordingly, the Forecasted Cash Needs in section D above agrees to the Phase I Total Project costs in the Budget justification file (in our case this is an 11 month period). In Section E, again we based it on Budget Periods as directed by the FOA. We have yearly information available and have included that as well. All tabs are labeled accordingly.

PMC123.1 - Budget Justification for SF 424A Budget

Instructions and Summary

Award Number: DE-FOA-0000096
Award Recipient: Algenol Biofuels Inc.

Date of Submission: Jan-10
Form submitted by: Algenol Biofuels Inc.
(May be award recipient or sub-recipient)

Please read the instructions on each page before starting.
If you have any questions, please ask your DOE contact. It will save you time!

On this form, provide detailed support for the estimated project costs identified on the SF-424A form (Budget).

- The dollar amounts on this page must match the amounts on the associated SF-424A.
- The award recipient and each sub-recipient with estimated costs of $100,000 or more must complete this form and a SF-424A form.
- The total budget presented on this form and on the SF424A must include both Federal (DOE), and Non-Federal (cost share) portions, thereby reflecting TOTAL PROJECT COSTS proposed.
- For costs in each Object Class Category on the SF-424A, complete the corresponding worksheet on this form (tab at the bottom of the page).
- All costs incurred by the preparer's sub-recipients, vendors, contractors, consultants and Federal Research and Development Centers (FFRDCs), should be entered only in section f. Contractual. All other sections are for the costs of the preparer only.

SUMMARY OF BUDGET CATEGORY COSTS PROPOSED
(Note: The values in this summary table are from entries made in each budget category sheet.)

CATEGORY	Budget Period 1 Costs	Budget Period 2 Costs	Budget Period 3 Costs	Total Costs	Project Costs %	Comments (Add comments as needed)
a. Personnel						
b. Fringe Benefits						
c. Travel						
d. Equipment						
e. Supplies						
f. Contractual						
Sub-recipient						
FFRDC						
Vendor						
Total Contractual						
g. Construction						
h. Other Direct Costs						
i. Indirect Charges						
Total Project Costs						

REDACTED
EXEMPTION 4

Additional Explanations/Comments (as necessary)

a. Personnel

Task #	Title	Position Title	Budget Period 1			Budget Period 2			Budget Period 3			Project Total Hours	Project Total Dollars
			Time (Hours)	Pay Rate ($/Hr)	Total Budget Period 1	Time (Hours)	Pay Rate ($/Hr)	Total Budget Period 2	Time (Hours)	Pay Rate ($/Hr)	Total Budget Period 3		
1. Generation 2A Receiver Design			10000		$423,000	600		$24,000	888		$31,880	11408	
EXAMPLE		Sr. Engineer	2000	$85.00	$170,000	200	$50.00	$10,000	200	$50.00	$10,000	2408	
ONLY!!!		Electrical engineers	6200	$35.00	$217,000	400	$35.00	$14,000	600	$35.00	$21,000	7280	
		Technician	1800	$20.00	$36,000	0	$0.00	$0	0	$0.00	$0	1880	
1.1	Appoint Algenol / Dow Chemical Joint Project Team		[illegible]		[illegible]								

REDACTED
EXEMPTION 4

Redacted

Exemption 4

REDACTED
EXEMPTION 4

		Total Personnel Costs

Additional Explanations/Comments (as necessary)

For existing employees, salary rates were based on actual. For new hires, their salary was based on industry standards for their respective position, experience and education. In all cases, we will be Davis-Bacon compliant. /s/ Craig R. Smith, M.D.

b. Fringe Benefits

	Budget Period 1	Budget Period 2	Budget Period 3	Total
Rate applied:		REDACTED		
Total fringe requested:		EXEMPTION 4		

A federally approved fringe benefit rate agreement, or a proposed rate supported and agreed upon by DOE for estimating purposes is required if reimbursement for fringe benefits is requested. Please check (X) one of the options below and provide the requested information, if it has not already been provided to the Contracting Officer, OR if it has changed since it was. Calculate the fringe rate and enter the total amount in Section B, line 6.b. ("Fringe Benefits") of form SF-424A.

____ **A fringe benefit rate has been negotiated with, or approved by, a federal government agency. A copy of the latest rate agreement is included with this application, and will be provided electronically to the Contracting Officer for this project.**
(When this option is selected, a presentation of the budget that demonstrates the appliction of the approved rate, to arrive at the proposed fringes benefits dollars should also be provided.)

XXX **There is not a current, federally approved rate agreement negotiated and available.**
(When this option is checked, the entity preparing this form shall submit a rate proposal in the format provided at the following website, or a format that provides the same level of information and which will support the rates being proposed for use in performance of the proposed project. Go to https://www.eere-pmc.energy.gov/forms.aspx and select PMC 400.2 Sample Rate Proposal.)

dditional explanation/comments (as necessary)

The Fringe Benefits rate is based on current actual and adjusted in the future periods for projected hiring salary levels.Currently a larger portion of our employess are senior level and as we expend they will represent a smaller portion of our staff. Since the majority of our fringe benefits is for healthcare insurance, the effect of this demographic change is that fringe benefits will be a higher percent of compensation. Please see the Indirect tab at the end of this file for the Fringe calculation.

c. Travel

PLEASE READ!!!

Provide travel detail as requested below, identifying total Foreign and Domestic Travel as separate items. Purpose of travel are items such as professional conference, DOE sponsored meeting, project management meeting, etc. The Basis for Estimating Costs are items such as past trips, current quotations, Federal Travel Regulations, etc.

All listed travel must be necessary for performance of the Statement of Projecct Objectives.

Add rows as needed. If rows are added, formulas/calculations may need to be adjusted by the preparer.

Purpose of travel	No. of Travelers	Depart From (not required for domestic travel)	Destination (not required for domestic travel)	No. of Days	Cost per Traveler	Cost per Trip	Basis for Estimating Costs
Budget Period 1							
REDACTED EXEMPTION 4							
						$0	
						$0	
						$0	
						$0	
International Travel subtotal							
Budget Period 1 Total						$	
Budget Period 2							
Domestic Travel							
REDACTED EXEMPTION 4							
							historic actual adj for inflation

Purpose of travel	No. of Travelers	Depart From (not required for domestic travel)	Destination (not required for domestic travel)	No. of Days	Cost per Traveler	Cost per Trip	Basis for Estimating Costs
REDACTED EXEMPTION 4							
Budget Period 2 Total						$	
Budget Period 3							
Domestic Travel							
REDACTED EXEMPTION 4							
Budget Period 3 Total						$	
PROJECT TOTAL						$	

Additional Explanations/Comments (as necessary)

In the interest of having a more reader-friendly schedule, column B above represents the number of trips, not the number of travelers on each trip (e.g. will not be traveling on 1 trip but for that entire task we estimate rips will be made by a combination of the personnel assigned to that task). The general assumption (based on past experience) is that each trip would be In the case of training the , their trips last @ of the training. We anticipated lower hotel rates due to the volume and ability to book in advance.

d. Equipment

PLEASE READ!!!

Equipment is generally defined as an item with an acquisition cost greater than $5,000 and a useful life expectancy of more than one year. Further definitions can be found at 10 CFR 600 found on the PMC Recipient Resources Forms page at https://www.eere-pmc.energy.gov/Forms.aspx#regs .

List all proposed equipment below, providing a basis of cost such as vendor quotes, catalog prices, prior invoices, etc., and briefly justifying its need as it applies to the Statement of Project Objectives. If it is existing equipment, and the value of its contribution to the project budget is being shown as cost share, provide logical support for the estimated value shown. If it is new equipment which will retain a useful life upon completion of the project, provide logical support for the estimated value shown.

For equipment over $50,000 in price, also include a copy of the associated vendor quote or catalog price list.

Add rows as needed. If rows are added, formulas/calculations may need to be adjusted by the preparer.

Equipment Item	Qty	Unit Cost	Total Cost	Basis of Cost	Justification of need
Budget Period 1					
EXAMPLE ONLY!!! Thermal shock chamber	2	$20,000	$40,000	Vendor Quote	Reliability testing of PV modules- Task 4.3
	0		$0		
	0		$0		
	0		$0		
	0		$0		
	0		$0		
	0		$0		
	0		$0		
Budget Period 1 Total			$0		
Budget Period 2					
	0		$0		
Lab equipment - see attached detail sheet		REDACTED		Vendor quotes/Catalogs/actual	Required for a functioning lab - Tasks 2.3,
Office equipment and set-up - see attached detail		EXEMPTION 4		internet or historic actual	Basic office needs
	0		$0		
	0		$0		
	0		$0		
Budget Period 2 Total			$		
Budget Period 3					
	0		$0		

Equipment Item	Qty	Unit Cost	Total Cost	Basis of Cost	Justification of need
	0		$0		
	0		$0		
	0		$0		
	0		$0		
Budget Period 3 Total			$0		
PROJECT TOTAL			$		

REDACTED
EXEMPTION 4

Additional Explanations/Comments (as necessary)

At the end of this file there are 2 tabs, one for Lab equipment the other for Office equipment which details the above amounts by item. Basis for quotes include vendor quotes, known actual and catalogs.

e. Supplies

PLEASE READ!!!

Supplies are generally defined as an item with an acquisition cost of $5,000 or less and a useful life expectancy of less than one year. Supplies are generally consumed during the project performance. Further definitions can be found at 10 CFR 600 found on the PMC Recipient Resources Forms page at https://www.eere-pmc.energy.gov/Forms.aspx#regs.

List all proposed supplies below, providing a bases of cost such as vendor quotes, catalog prices, prior invoices, etc., and briefly justifying the need for the Supplies as they apply to the Statement of Project Objectives. Note that Supply items must be direct costs to the project at this budget category, and not duplicative of supply costs included in the indirect pool that is the basis of the indirect rate applied for this project.

Add rows as needed. If rows are added, formulas/calculations may need to be adjusted by the preparer.

General Category of Supplies	Qty	Unit Cost	Total Cost	Basis of Cost	Justification of need
Budget Period 1					
EXAMPLE ONLY!!! Wireless DAS components	10	$360.00	$3,600	Catalog price	For Alpha prototype - Task 2.4
	0		$0		
	0		$0		
	0		$0		
Budget Period 1 Total			**$0**		
Budget Period 2					
	0		$0		
	0		$0		
	0		$0		
	0		$0		
Budget Period 2 Total			$0		
Budget Period 3					
	0		$0		

General Category of Supplies	Qty	Unit Cost	Total Cost	Basis of Cost	Justification of need
Analytical supplies	0				Required in the normal course of running a laboratory and biorefinery
Chemicals, solvents, polymers	0				Required in the normal course of running a laboratory and
Disposable lab supplies (e.g. gloves)	0				Required in the normal course of running a laboratory and
Safety supplies	0				Required in the normal course of running a laboratory and
Minor engineering equipment	0				Required in the normal course of running a laboratory and
	0				
	0				
	0				
	0				
	0				
Budget Period 3 Total					
PROJECT TOTAL					

REDACTED
EXEMPTION 4

Additional Explanations/Comments (as necessary)

The above was based on our historic usage and cost rates. These supplies are required in the normal course of running a biorefinery and for lab analysis and monitoring.

f. Contractual

Sub-Recipient Name/Organization	Purpose/Tasks in SOPO	Budget Period 1 Costs	Budget Period 2 Costs	Budget Period 3 Costs	Project Total
EXAMPLE ONLY!!! XYZ Corp.	Partner to develop optimal fresnel lens for Gen 2 product - Task 2.4	$48,000	$32,000	$16,000	$96,000
Georgia Tech					
MTR - Membrane Technology and Research, Inc.					
The Dow Chemical Company					
					$0
	Sub-total				

REDACTED
EXEMPTION 4

Vendor Name/Organization	Product or Service, Purpose/Need and Basis of Cost (Provide additional support at bottom of page as needed)	Budget Period 1 Costs	Budget Period 2 Costs	Budget Period 3 Costs	Project Total
EXAMPLE ONLY!!! ABC Corp.	Vendor for developing custom robotics to perform lens inspection, alignment, and placement (Task 4.1). Required for expanding CPV	$32,900	$86,500		$119,400
					$0

REDACTED
EXEMPTION 4

Sub-Recipient Name/Organization	Purpose/Tasks in SOPO	Budget Period 1 Costs	Budget Period 2 Costs	Budget Period 3 Costs	Project Total
TBD					
TBD					
TBD					
TBD					
TBD					
TBD					
TBD					
TBD					
TBD					
TBD					
TBD					
TBD		REDACTED EXEMPTION 4			
TBD					
TBD					
TBD					
TBD					
TBD					
TBD					
TBD					
TBD					
TBD					
TBD					
TBD					
					$0
					$0
					$0

f. Contractual

Sub-Recipient Name/Organization	Purpose/Tasks in SOPO	Budget Period 1 Costs	Budget Period 2 Costs	Budget Period 3 Costs	Project Total
FFRDC Name/Organization	**Purpose**	**Budget Period 1 Costs**	**Budget Period 2 Costs**	**Budget Period 3 Costs**	**Project Total**
NREL- National Renewable Energy Laboratory	REDACTED EXEMPTION 4				$0
		$	$	$	$
Total Contractual		$	$	$	$

AdditionalExplanations/Comments (as necessary)

The TBD vendors are related to the building and equipping of the pilot-scale integrated biorefinery. Estimates were based on known actual, (potential) vendor quotes as well as our industry knowledge. Detailed sheets which directly correspond to a TBD line item are attached at the end of this file. (For ease of use the tabs are named according to the line item.

g. Construction

PLEASE READ!!!

Construction, for the purpose of budgeting, is defined as all types of work done on a particular building, including erecting, altering, or remodeling. Construction conducted by the award recipient is entered on this page. Any construction work that is performed by a vendor or subrecipient to the award recipient should be entered under f. Contractual.

List all proposed construction below, providing a basis of cost such as engineering estimates, prior construction, etc., and briefly justify its need as it applies to the Statement of Project Objectives.

Add rows as needed. If rows are added, formulas/calculations may need to be adjusted by the preparer.

Overall description of construction actiivities:

Example Only!!! - Build wind turbine platform

General Description	Cost	Basis of Cost	Justification of need
Budget Period 1			
Three days of excavation for platform site EXAMPLE ONLY!!!	$28,000	Engineering estimate	Site must be prepared for construction of platform.
Budget Period 1 Total	$0		
Budget Period 2			
Budget Period 2 Total	$0		

General Description	Cost	Basis of Cost	Justification of need
Budget Period 3			
Budget Period 3 Total	$0		
PROJECT TOTAL	**$0**		

Additional Explanations/Comments (as necessary)

Construction will be sub-contracted, one of our sub-recipient partners, The Dow Chemical Company, will provide ground clearing/ land prep work while the actual construction contractor is TBD. These amounts have been included on the Contractual tab. At the end of the this file there is a tab, Construct Recon, which summarizes the the capitalized costs.

h. Other Direct Costs

PLEASE READ!!!

Other direct costs are direct cost items required for the project which do not fit clearly into other categories, and are not included in the indirect pool for which the indirect rate is being applied to this project. Examples are meeting costs, postage, couriers or express mail, telephone/fax costs, printing costs, etc.

Basis of cost are items such as vendor quotes, prior purchases of similar or like items, published price list, etc.

Add rows as needed. If rows are added, formulas/calculations may need to be adjusted by the preparer.

General description	Cost	Basis of Cost	Justification of need
		Budget Period 1	
EXAMPLE ONLY!!! Grad student tuition	$16,000	Established UCD costs	Support of graduate students working on project
Budget Period 1 Total			
		Budget Period 2	
		REDACTED EXEMPTION 4	
Budget Period 2 Total			

General description	Cost	Basis of Cost	Justification of need
		Budget Period 3	
		REDACTED EXEMPTION 4	
	$0		
Budget Period 3 Total	$		
PROJECT TOTAL	$		

Additional Explanations/Comments (as necessary)

i. Indirect Costs

	Budget Period 1	Budget Period 2	Budget Period 3	Total
Rate applied:		REDACTED		
Total indirect costs requested:		EXEMPTION 4		

A federally approved indirect rate agreement, or rate proposed supported and agreed upon by DOE for estimating purposes is required if reimbursement of fringe benfits is requested. Please check (X) one of the options below and provide the requested information if it has not already been provided as requested, or has changed. Calculate the indirect rate dollars and enter the total in the Section B., line 6.j. (Indirect Charges) of form SF 424A.

____ **There is a federally approved indirect rate agreement. A copy is provided with this application and will be provided electronically to the Contracting Officer for this project.**
(When this option is selected, a presentation of the budget that demonstrates the application of the approved rate, to arrive at the proposed indirect charges proposed should also be provided.)

X **There is no current, federally-approved indirect rate agreement.**
(When this option is checked, the entity preparing this form shall submit an indirect cost rate proposal in the format provided at the following website, or in a format that provides the same level of information and which supports the rate(s) being proposed for use in estimating the project. Go to https://www.eere-pmc.energy.gov/forms.aspx and select PMC 400.2 Sample Rate Proposal.)

Additional Explanations/Comments (as necessary)

Please see the Indirect Proposal tab at the end of this file for indirects calculation. The allowable rate per the calculation is % and we request this rate during Phase II since we anticipate during the construction period this would require maximum overhead effort. Please note the overhead rate was not applied to Fringe, Travel nor construction costs.

Cost Share

PLEASE READ!!!

A detailed presentation of the cash or cash value of all cost share proposed for the project must be provided in the table below. Identify the source & amount of each item of cost share proposed by the award recipient and each sub-recipient or vendor. Letters of committment must be submitted for all third party cost share (other than award recipient).

Note that "cost-share" is not limited to cash investment. Other items that may be assigned value in a budget as incurred as part of the project budget and necessary to performance of the project, may be considered as cost share, such as: contribution of services or property; donated, purchased or existing equipment; buildings or land; donated, purchased or existing supplies; and/or unrecovered personnel, fringe benefits and indirect costs, etc. For each cost share contribution identified as other than cash, identify the item and describe how the value of the cost share contribution was calculated.

Funds from other Federal sources MAY NOT be counted as cost share. This prohibition includes FFRDC sub-recipients. Non-Federal sources include private, state or local Government, or any source not originally derived from Federal funds. Documentation of cost sharing commitments must be provided, if not already provided with the original application and they have not changed since its submission.

Fee or profit will not be paid to the award recipients or subrecipients of financial assistance awards. Additionally, foregone fee or profit by the applicant shall not be considered cost sharing under any resulting award. Reimbursement of actual costs will only include those costs that are allowable and allocable to the project as determined in accordance with the applicable cost principles prescribed in 10 CFR 600.127, 10 CFR 600.222 or 10 CFR 600.317. Also see 10 CFR 600.318 relative to profit or fee.

Add rows as needed. If rows are added, formulas/calculations may need to be adjusted by the preparer.

Organization/Source	Type (cash or other)	Cost Share Item	Budget Period 1 Cost Share	Budget Period 2 Cost Share	Budget Period 3 Cost Share	Total Project Cost Share
ABC Company **EXAMPLE ONLY!!!**	Cash	Project partner ABC Company will provide 40 PV modules for product development at 50% off the of the retail price of $680	$13,600			$13,600
Algenol Biofuels Inc	REDACTED EXEMPTION 4					
The Dow Chemical Company						
The Dow Chemical Company						
Membrabe Technology and Research, Inc.						
						$0
						$0
						$0
						$0
						$0

Organization/Source	Type (cash or other)	Cost Share Item	Budget Period 1 Cost Share	Budget Period 2 Cost Share	Budget Period 3 Cost Share	Total Project Cost Share
						$0
		Totals				

REDACTED
EXEMPTION 4

Total Project Cost: $

Cost Share Percent of Award:

Additional Explanations/Comments (as necessary)

Redacted

Exemption 4

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