

**LOAN GUARANTEE
SOLICITATION ANNOUNCEMENT**



**U.S. Department of Energy
Loan Guarantee Program**

**FEDERAL LOAN GUARANTEES FOR PROJECTS THAT
EMPLOY INNOVATIVE ENERGY EFFICIENCY, RENEWABLE
ENERGY, AND ADVANCED TRANSMISSION AND
DISTRIBUTION TECHNOLOGIES**

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Application Due Date: December 31, 2008*

*See Attachment G for due dates in respect of Part I and Part II submissions in support of, and forming a part of, applications for loan guarantees for large-scale integration projects.

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Full Announcement

Loan Guarantee Solicitation for Innovative Energy Efficiency, Renewable Energy and Advanced Transmission and Distribution Technologies

I. Solicitation Description

A. Purpose of Solicitation

This solicitation announcement (“Solicitation”) invites the submission of applications for loan guarantees under Title XVII of the Energy Policy Act of 2005, 22 U.S.C. 16511-16514 (“Title XVII”), from the United States Department of Energy (“DOE” or the “Department”) in support of debt financing for projects in the United States that employ energy efficiency, renewable energy, and advanced transmission and distribution technologies that constitute New or Significantly Improved Technologies (as defined in Section 609.2 of the implementing regulations set forth in Part 609 under chapter II of title 10 of the Code of Federal Regulations (the “Final Regulations”). This Solicitation is issued in accordance with the terms and conditions of Title XVII and the Final Regulations. All applicants are encouraged to review and become familiar with the requirements of Title XVII and the Final Regulations, the provisions of which govern this Solicitation; copies of these authorities may be found at <http://www.lgprogram.energy.gov/>. All capitalized terms defined herein shall have the meanings ascribed to them in this Solicitation, and all capitalized terms used but not defined herein shall have the meanings ascribed to them under the Final Regulations. Neither a procurement action under title 48 of the Code of Federal Regulations (CFR) nor a financial assistance award under Part 600 of title 10 of the CFR is contemplated by this Solicitation.

DOE will make no more than ten billion dollars (\$10,000,000,000) in loan guarantee authority available under this Solicitation for projects employing energy efficiency, renewable energy and advanced transmission and distribution technologies that constitute New or Significantly Improved Technologies. The Department’s authority to issue this amount of loan guarantees was provided by the Consolidated Appropriations Act, 2008, P.L. No. 110-161 (the “FY08 Appropriations Act”). Under the terms of the FY08 Appropriations Act, the availability of this loan guarantee authority expires on September 30, 2009. This Solicitation is intended to provide loan guarantees under Title XVII to facilitate accelerated commercialization of energy efficiency, renewable energy and advanced transmission and distribution technologies.

B. Background of Loan Guarantee Program

Title XVII authorizes the Secretary of Energy (“Secretary”) to make loan guarantees only for projects that “avoid, reduce or sequester air pollutants or anthropogenic emissions of greenhouse gases; and employ new or significantly

improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued.” A principal goal of Title XVII is to encourage early commercial use in the United States of New or Significantly Improved Technologies in energy projects that avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases. DOE believes that accelerated commercial use of such technologies will help address the pressing issues of climate change, yield environmental benefits, sustain economic growth, and produce a more stable and secure energy supply and economy. A more complete description of DOE’s loan guarantee program may be found at www.lgprogram.energy.gov/index.html. Title XVII further requires that loan guarantees shall be based upon a determination that there is a reasonable prospect of repayment by the Borrower of the guaranteed portion of the Guaranteed Obligation and that such guaranteed portion of the Guaranteed Obligation, together with amounts available to the Borrower from other sources, will be sufficient to carry out the project. Accordingly, DOE has developed an application process that involves a thorough analysis of the applicant’s ability to repay the guaranteed portion of the Guaranteed Obligation, meet statutory and policy goals established by Title XVII and the Final Regulations and satisfy DOE’s loan guarantee underwriting criteria.

C. Finance Considerations for Applications

Loan guarantees issued under Title XVII must satisfy specific energy finance requirements as set forth in the Final Regulations, particularly Section 609.10(d)(3) through (10) and (13) thereof, that must be addressed by the applicant in responding to this Solicitation. For example, as required by Section 609.10(d)(3) of the Final Regulations, the face value of the debt guaranteed by DOE under Title XVII is limited to no more than eighty percent (80%) of total Project Costs, and, consistent with Sections 609.2 and 609.10(d)(5) of the Final Regulations, the Borrower and other principals involved in the project must have made or will make a significant Equity, defined by the Final Regulations as cash, investment in the project. For additional information relating to the requirements and policy considerations of the Department’s loan guarantee program, please refer to the Final Regulations and the preamble published in connection therewith. See 72 Fed. Reg. 60,116 (2007).

DOE expects that the information requested under this Solicitation, and the documentation produced as a result of negotiations, will conform substantially in scope, quality and detail with the information typically requested and documentation typically produced during the course of an arm’s length, commercially negotiated project or commercial financing of this scale. DOE expects to analyze projects primarily on a limited recourse project financing basis. Under such an approach, DOE intends to assume minimal pre-construction risks which are expected to be shared among the appropriate project participants. However, applications supporting loan guarantee structures outside of the classical limited project finance approach that provide a

reasonable assurance of repayment and meet other Title XVII objectives are also encouraged.

II. Eligibility Information

Before seeking a loan guarantee, applicants are strongly encouraged to verify that their proposed projects are not eliminated by the threshold determinations set forth in Section 609.7(a) of the Final Regulations and that all of the eligibility requirements listed below are met:

A. Eligible Applicants: An eligible applicant under this Solicitation includes any Applicant (as defined in Section 609.2 of the Final Regulations) seeking a loan guarantee under Title XVII for an Eligible Project under this Solicitation.

B. Eligible Lenders: An eligible lender under this Solicitation shall satisfy the meaning set forth under the term “Eligible Lender” in Section 609.2 of the Final Regulations and meets the requirements set forth in Section 609.11 of the Final Regulations.

C. Project Costs: Project costs under this Solicitation shall have the meaning ascribed to the term “Project Costs” in Section 609.2 of the Final Regulations, and as specifically set forth in Section 609.12 of the Final Regulations.

D. Eligible Project: In accordance with the definition set forth in Section 609.2 of the Final Regulations, an “Eligible Project” is a project located in the United States that employs a New or Significantly Improved Technology that is **NOT** a Commercial Technology. Foreign ownership or sponsorship of the project is permissible so long as the project is located in one of the fifty (50) states, the District of Columbia or a U.S. territory. Pursuant to Section 609.2 of the Final Regulations, a Commercial Technology means a technology in general use in the commercial marketplace in the United States at the time the Term Sheet is issued by DOE. A technology is in general use if it has been installed in and is being used in three or more commercial projects in the United States in the same general application as in the proposed project, and has been in operation in each such commercial project for a period of at least five years by the time the Term Sheet is issued. Such five-year period starts on the in service date of a given project or facility employing that technology. In addition, Eligible Projects must meet all applicable requirements of Section 1703 of Title XVII (22 U.S.C. 16513), the Final Regulations and the requirements of this Solicitation.

This Solicitation focuses on projects ready for commercial deployment in the proximate future that (1) avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases; (2) employ New or Significantly Improved Technologies as compared to Commercial Technologies in service in the United States at the time a Term Sheet is issued in respect of such project; and (3) provide a reasonable assurance of repayment of the principal and

interest of the guaranteed portion of the Guaranteed Obligation, which, when combined with the amounts available to the Borrower from other sources, will be sufficient to carry out the project. The examples of the project categories listed in Section 1703(b) of Title XVII are intended to be illustrative and are not to be construed as limiting or exclusive. Attachment E sets forth an illustrative list of project types and technology categories potentially constituting New or Significantly Improved Technologies. Applicants are encouraged to submit project proposals responsive to a particular category even if the project type or technology category is not specifically listed in Attachment E. Applicants are also advised that the project types and technology categories set forth in Attachment E do not constitute projects presumed to employ New or Significantly Improved Technologies. Submission of an application supporting a project that fits within one or more of the illustrative project types and/or technology categories set forth in Attachment E neither assures that an applicant will be selected to enter into negotiations with DOE nor assures that such applicant will be issued a Loan Guarantee Agreement.

PROJECT TYPES

DOE is actively promoting projects that fall within the following three general but distinct project type categories: (1) manufacturing projects, (2) stand-alone projects, and (3) large-scale integration projects that may combine multiple eligible renewable energy, energy efficiency and transmission technologies in accordance with a staged development scheme. Attachment E sets forth illustrative lists of each of these project types. The applicant is requested to specify which, if any, of the below project types and technology categories most accurately represents its project:

1) Manufacturing Projects

This project type category envisions facilities that utilize New or Significantly Improved Technologies in manufacturing which meet the minimum criteria and eligibility set forth in Title XVII, the Final Regulations and this Solicitation, and which result in long-term reductions in manufacturing and product costs, higher factory throughput and improved product performance compared to the manufacturing technologies in place at the time the Term Sheet is issued. In this project type, the manufactured product or manufacturing technology employed must represent a New or Significantly Improved Technology.

2) Stand-alone Projects

This project type category is focused on renewable energy projects that produce energy from renewable resources, produce fuels from renewable sources, utilize energy efficiency technologies, build advanced efficient electricity transmission and distribution systems, build advanced fuel delivery systems, build energy storage projects, or deploy energy efficient building technologies within a single project. DOE encourages applicants to propose technologies that constitute New or Significantly Improved Technologies that can be scaled to provide gigawatts

of renewable energy electricity generation, widespread deployment and utilization of energy efficiency technologies, and the development of long-range electricity transmission and fuel transportation systems connecting remote production locations with load and population centers.

3) Large-Scale Integration Projects

This project type category envisions the staged development, financing, construction and operation in one project of more than one renewable energy, energy storage, energy efficiency and advanced transmission and distribution technology that constitutes a New or Significantly Improved Technology. Projects under this project type would bring the benefits of improved capacity, reliability and efficiency to the grid. These technologies would be integrated into an efficient distributed power “community-grid” system. Because the nature of a large-scale integrated project contemplates the aggregation of eligible technologies into a single proposal, such an applicant must clearly illustrate how the combination of technologies results in a single interrelated project addressing the energy needs of a defined geographic energy market. Possible projects could target localities with robust renewable resources and high costs of energy (electric, thermal and transportation) in an effort to displace fossil fuels with a portfolio of renewable energy sources. Projects in this category could also address the difficulty in combining generation of electricity from renewable energy sources with storage facilities so that net power delivered is firm and dispatchable.

Large-scale integration projects may utilize a variety of networked renewable energy sources including wind, biomass, municipal solid waste, solar, ocean/wave/tidal based power production, and the use of electric or hydrogen fuel cell vehicles. Potential sites might include off-grid localities in remote regions, off-shore islands and island territories. In addition, communities ravaged by natural disasters and large military bases currently in use or projected for near-term construction might consider use of the integrated project concept to develop near-zero emission communities.

The primary goals and objectives desired of each of the above project type categories are to achieve:

- a) Greatest impact in avoiding, reducing or sequestering air pollutants or anthropogenic emissions of greenhouse gases
- b) The lowest cost of delivered energy based on the costs of the full supply chain (basic elements of production to final consumption), including minimizing needs for new infrastructure
- c) Greatest impact on reducing reliance on insecure sources of energy
- d) Greatest impact on reducing infrastructure vulnerabilities
- e) The fastest time to project completion
- f) The widest variety of New or Significantly Improved Technologies employed in the case of large-scale integration projects, or, in the case of

manufacturing or stand-alone projects, the extent to which the proposed technology employed constitutes a New or Significantly Improved Technology

- g) The most competitive or efficient use of the loan guarantee issued under Title XVII
- h) The readiness of the New or Significantly Improved Technology to be employed commercially, replicated and available for further commercial use in the United States

TECHNOLOGY CATEGORIES

DOE will consider projects derived from the list of technology categories identified below and which fall within one of the three distinct project types described above. Attachment E provides an illustrative list of technologies potentially constituting New or Significantly Improved Technologies that fall within each of these technology categories.

- Category 1: Alternative Fuel Vehicles
- Category 2: Biomass
- Category 3: Efficient Electricity Transmission, Distribution and Storage
- Category 4: Energy Efficient Building Technologies and Applications
- Category 5: Geothermal
- Category 6: Hydrogen and Fuel Cell Technologies
- Category 7: Energy Efficiency Projects
- Category 8: Solar
- Category 9: Wind and Hydropower

III. Overview of Application Process

Section III of this Solicitation applies to all project types. However, solely with respect to large-scale integration projects, to the extent Section III is modified or supplemented by Attachment G, the terms of Attachment G shall govern. Accordingly, please note that all references to Attachment A in this Section III of the Solicitation shall be deemed to refer to Attachment G with respect to large-scale integration projects.

1. **Application Submission:** Applicants must submit applications in response to this Solicitation no later than 11:59pm Eastern Time (“ET”), Wednesday, December 31, 2008. Detailed application instructions are set forth in Attachment A. All applicants must remit twenty-five percent (25%) of the application fee in accordance with the fee schedule and wiring instructions in Attachment C, upon submission of their applications to DOE. The remaining balance of the seventy-five percent (75%) of the application fee must be remitted upon DOE’s written request as more fully set forth in Section III.2 below. **NO PART OF THE APPLICATION FEE IS REFUNDABLE.**

2. **Pre-Selection Application Evaluation:** Upon receipt of an application, DOE will conduct a review of the application for purposes of (i) ascertaining its responsiveness and completeness of information supplied, in accordance with Section 609.6 of the Final Regulations and the requirements of this Solicitation and (ii) determining whether the proposed technology is deemed to constitute a New or Significantly Improved Technology based on the review criteria set forth in Section B-I of Attachment A. During this period of review, communications from the applicant to DOE are generally not permitted with respect to the applicant's application, except in instances when the applicant is required to respond to DOE's written notification to such applicant.

a. Non-Responsive Applications and Applications Not Employing New or Significantly Improved Technology

An applicant with an application deemed either (i) non-responsive to Section 609.6 of the Final Regulations and/or the requirements of this Solicitation or (ii) not to employ a technology that constitutes a New or Significantly Improved Technology will, in each such case, receive a written notification pursuant to Section 609.7(d) of the Final Regulations that informs the applicant of the reasons for such determination and that no further consideration will be given to its application. Such determination by DOE shall be final and non-appealable.

b. Responsive Applications Employing New or Significantly Improved Technology

DOE will notify in writing applicants with responsive applications employing a technology deemed to constitute a New or Significantly Improved Technology, subject to a Formal Review (as defined below), of DOE's intention to proceed with further evaluation of their applications and of DOE's request that the balance (75%) of the application fee be submitted by such applicant in accordance with Attachment C. Upon receipt of the remaining 75% of the application fee with respect to an application, a formal technical, financial, legal, marketing and environmental review ("Formal Review") will commence on such application. During the Formal Review, communications from the applicant to DOE with respect to the application are not permitted except in instances when the applicant is required to respond to DOE's written notification to such applicant. At the completion of the Formal Review, DOE will notify those applicants selected to enter into negotiations with DOE. Pursuant to Section 609.7(d) of the Final Regulations, those applicants not selected will be so notified in writing of DOE's decision not to proceed further with their applications and the reasons thereof. Such determination by DOE shall be final and non-appealable but will not prejudice the applicant from applying under a future solicitation. DOE and applicants selected to enter into negotiations with DOE may dialogue with respect to the applications, as

necessary, during the project underwriting and due diligence phase of the loan guarantee process through execution of a Loan Guarantee Agreement.

IV. Application Process, Application Fee and Review Criteria

Section IV of this Solicitation applies to all project types. However, solely with respect to large-scale integration projects, to the extent Section IV is modified or supplemented by Attachment G, the terms of Attachment G shall govern. Accordingly, please note that all references to Attachment A in this Section IV of the Solicitation shall be deemed to refer to Attachment G with respect to large-scale integration projects.

A. Application Process

DOE has developed this application process in accordance with the Final Regulations, particularly Sections 609.3 and 609.6 thereof. The process requires applicants to submit information in sufficient detail on a timely basis to support a thorough analysis of a project.

1. **General Schedule:** Completed applications must be submitted to DOE electronically through the Fed Connect website located at www.fedconnect.net **no later than 11:59 pm (ET) on Wednesday, December 31, 2008.** Table 1 below summarizes the general schedule from the time the Solicitation is issued until the time DOE will begin its Formal Review of an application. All submissions and any related fees are due not later than 11:59pm (ET) on each of the submission due dates set forth below. The appropriate proportion of the application fee as described in Attachment C must be submitted to the U.S. Department of the Treasury (“Treasury”) by the appropriate dates set forth below pursuant to the wire transfer instructions set forth in Section IV of Attachment C. Applicants are advised to make proper arrangements to assure that Treasury receives such fees on behalf of DOE by the dates specified below.

Table 1: General Schedule

Event	Date
Solicitation Issued	June 30, 2008
Application due with 25% of application fee	December 31, 2008
Notification date as to (i) whether application is responsive to Solicitation, (ii) whether proposed technology is deemed to constitute a New or Significantly Improved Technology, and, if applicable, (iii) DOE request to applicant to submit balance of application fee	On or about 60 days from December 31, 2008*
Remaining balance (e.g., 75%) of application fee due	On date specified in DOE's written notification to applicant
Formal Review commences to determine whether applicant will be invited to negotiate with DOE	After receipt of balance (e.g., 75%) of the application fee

*In its sole discretion, DOE may notify applicants at any time prior to on or about 60 days from December 31, 2008 as to DOE's determinations with respect to clauses (i) and (ii) in this Table 1 and any request for payment for the balance (i.e., 75%) of the application fee.

2. **Communications Prior to Formal Notification of Selection:** Before selection of an applicant is made to proceed with the project underwriting and due diligence process, any communications from DOE to the applicant (e.g., written notice of responsiveness, etc.) do not signify, nor indicate, that the project which is the subject of such communications has been or will be approved for negotiations. Issuance of a loan guarantee is subject to DOE Credit Review Board recommendation for approval, negotiation of financing, finalization of definitive guarantee and project documents on terms and conditions satisfactory in all respects to DOE and final approval by the Secretary.

3. **Independent Consultants and Outside Counsel to DOE:** DOE expects to utilize independent consultants and outside legal counsel in all aspects of the loan guarantee process, including but not limited to due diligence, underwriting, negotiation and documentation. Applicants are advised that, consistent with market practice in financings, the applicant shall be responsible for paying the fees and expenses of DOE's independent consultants and outside legal counsel in connection with the applicant's project under all circumstances, without recourse to DOE by the consultant, counsel, Project Sponsor, Borrower or applicant. At any time following the date on which the balance (e.g., 75%) of the application fee is due (see Table 1 in Section IV.A.1 above), DOE may determine in its sole discretion to engage independent consultants or outside counsel with respect to an application. Upon making such determination, DOE shall proceed in evaluating and processing of an application only upon a Project Sponsor's entering into a payment agreement with each consultant or outside counsel engaged by DOE to provide services to DOE on the applicant's project. Such payment agreements shall be executed by such consultant or counsel and a Project Sponsor of creditworthiness acceptable to such consultant or counsel prior to any work being performed by the consultant or counsel, and

such agreements are subject to review and approval by DOE. In the event that a Project Sponsor fails to comply with the provisions of such payment agreement, DOE may stop work on an application and/or reject an application. DOE shall not be financially liable to such independent consultant or outside legal counsel for any services rendered or expenses incurred in connection with an applicant's project under any circumstances whatsoever, including whether an application is approved or a closing occurs or under circumstances in which the responsible Project Sponsor or Borrower fails to pay such fees and expenses. The payment agreements shall require the responsible Project Sponsor or Borrower to make periodic payments to DOE's independent consultants and outside counsel during the loan guarantee process, including prior to a financial closing (if any). The cost of these services incurred through financial closing may be included in the calculation of total Project Costs to the extent permitted by Section 609.12 of the Final Regulations.

DOE's independent consultants and outside counsel shall submit to the responsible Project Sponsor or Borrower periodic invoices for services rendered to DOE with respect to applicant's project. Prior to submission of any invoice to a responsible Project Sponsor or Borrower, the independent consultant or outside counsel shall have submitted the invoice to DOE for purposes of redacting any privileged attorney-client information. Responsible Project Sponsors and Borrowers shall acknowledge and pay all fees and expenses represented by such invoices upon their periodic presentation thereof, including prior to or at closing (if any).

Applicants are advised that while such services shall be rendered for the benefit of DOE in connection with a given project, the invoices of DOE's independent consultants and outside counsel working on an applicant's project will be the sole responsibility of such applicant, Borrower and its responsible Project Sponsor, notwithstanding that DOE is the client of such independent consultants and outside counsel. Each applicant, Borrower and its responsible Project Sponsor must specifically disclaim any inference of confidential, fiduciary or other client relationship (including an attorney-client relationship) between such applicant, Borrower or its responsible Project Sponsor and such independent consultant or outside counsel as a result of this arrangement and shall not interfere with DOE's relationship (including any attorney-client relationship) with, including DOE's ability to terminate in its sole discretion, such independent consultants or outside counsel.

4. **Selection Notification:** Pursuant to Section 609.7(d) of the Final Regulations, DOE will notify the applicant if DOE is prepared to open negotiations with the applicant based on DOE's Formal Review of applicant's project. Applicants that are not selected will be notified in writing of their non-selection. This non-selection determination by DOE

shall be final and non-appealable but will not prejudice the applicant from applying under a future solicitation.

5. **Multiple Applications:** Other than for large-scale integration project types, while more than one application may be submitted by an applicant, a Project Sponsor may only submit one application for one project employing a particular technology. In other words, consistent with Section 609.3(a) of the Final Regulations, a Project Sponsor may not submit an application for multiple projects using the same technology. However, a Project Sponsor may submit a separate application for each different technology or different project type (i.e., manufacturing, stand alone or large-scale integration) it wishes to submit to DOE for consideration. Loan guarantees for manufacturing projects or stand-alone projects will be limited to one project per applicant per technology. If an applicant with a large-scale integration project submits multiple large-scale integration project applications, such applicant must clearly illustrate how the combination of technologies in one such project is distinct from the combination of technologies proposed in another such application.

B. Application Fee

Consistent with the fee schedule set forth in Attachment C, Table 2 below outlines the application fee payable in the appropriate proportions and at varying loan guarantee amount levels under this Solicitation. Please refer to Section VII of this Solicitation and Attachment C for details on other fees payable in respect of a project.

Table 2: Application Fee Schedule*

Loan Guarantee Amount**	Total application fee	25% of application fee due upon application submission	75% of application fee due on date specified in DOE’s written notification to applicant
\$0- \$150,000,000	\$75,000	\$18,750	\$56,250
Above \$150,000,000 - \$500,000,000	\$100,000	\$25,000	\$75,000
Above \$500,000,000	\$125,000	\$31,250	\$93,750

* Wire instructions are set forth in Section IV of Attachment C to this Solicitation.

**i.e., Refers to the guaranteed portion of a Guaranteed Obligation

C. Review Criteria

Mandatory Criteria

In accordance with the evaluation factors set forth in Section 609.7 of the Final Regulations, DOE will conduct a Formal Review of a responsive application employing a technology deemed to constitute a New or Significantly Improved Technology. In preparing their applications, applicants are encouraged to review the evaluation factors set forth in Section 609.7 of the Final Regulations. Based on the Formal Review, DOE will determine with which applicants it will

enter into negotiations. The following represents mandatory criteria, consistent with Section 609.7 of the Final Regulations, that DOE will use during the Formal Review in determining which Project Sponsors/applicants will proceed to the negotiation stage:

1. The project must employ New or Significantly Improved Technologies as compared to Commercial Technologies in service in the U.S. at the time the Term Sheet is issued (as such capitalized terms are defined in Section 609.2 of the Final Regulations).
2. The project must at a minimum employ in the United States at the time the Term Sheet is issued a New or Significantly Improved Technology that avoids, reduces or sequesters anthropogenic emissions of greenhouse gases or air pollutants, and
3. The project must provide a reasonable assurance of repayment of the principal and interest by the applicant on the guaranteed portion of the Guaranteed Obligation, which, when combined with amounts available to the applicant from other sources, will be sufficient to carry out the project.

If technologies proposed in such applications do not meet the above minimum requirements, the application will not be reviewed further. Moreover, proposed projects eliminated by the threshold determinations set forth in Section 609.7(a) of the Final Regulations will also not be reviewed further.

Specific weighting criteria, as noted in Table 3 below, will be applied during the Formal Review of any project.

Table 3: Review Criteria

Factors	Detail	Weighting
<u>Technical</u>	Technical Relevance and Merit	10.0%
	Applicant Capabilities, Technical Approach and Work Plan	20.0%
	Environmental and Energy Security Benefits	20.0%
<u>Financial</u>	Creditworthiness	30.0%
	Construction Factors	10.0%
	Legal and Regulatory Factors	10.0%
Total		100.0%

Technical Review Criteria

Technical Relevance and Merit

Based on the criteria set forth in Section B-II of Attachment A, DOE will consider the extent to which the project will (i) employ New or Significantly Improved Technologies as compared to Commercial Technologies in service in the U.S. at the time the Term Sheet is issued, (ii) consistent with Section 609.7(b)(3) of the Final Regulations, employ a New or Significantly Improved Technology that constitutes an important improvement in technology, as compared to Commercial Technologies in service in the U.S. at the time the Term Sheet is issued and as compared to technologies proposed in other applications submitted in response to this Solicitation and (iii) advance other Title XVII objectives.

Applicant Capabilities, Technical Approach and Work Plan

DOE will evaluate the clarity and technical strength of the approach to achieve the project's objectives, including but not limited to (1) the potential for replicability of commercial use of the technology in the United States, (2) the potential for future long-lasting commercial success of the project and the technology, (3) technical readiness for near-term commercial application, (4) risk and mitigation plan(s) associated with bringing the technology to fruition and (5) timeframe required to achieve results contemplated in the application.

In addition, this review will evaluate the project's construction plan, overall construction risk associated with the contingencies for equipment supply, selected prime mover equipment, order of operations, mobilization schedules, delivery timelines, performance milestones, equipment integration scale-up challenges, acceptance/commissioning factors and other relevant considerations.

Environmental and Energy Security Benefits

DOE will evaluate to what measurable extent the project avoids, reduces or sequesters air pollutants and/or anthropogenic emissions of greenhouse gases, as well as the life-cycle and sustainability of the primary technology and project facility. Domestic energy security benefits of the project will be reviewed and compared to existing technologies or systems.

Additional Technical Policy Criteria

As part of the Formal Review, DOE will also consider technological diversity as a non-weighted technical criterion. More specifically, DOE will consider whether the project provides for portfolio diversity, as well as contributes to a balance across differing technical areas.

Comparative Evaluation of Environmental Impact of Competitive Projects

If necessary, DOE will prepare a confidential environmental critique showing how environmental factors are incorporated in decision-making under Section 1021.216 of title 10 of the CFR for projects deemed competitive by DOE. Any

such critique shall be prepared based on the environmental reports submitted by the applicants of such competitive projects, as more fully described in Attachment B.

Financial Review Criteria

Creditworthiness of the Project

DOE must consider the proposed project's capacity to provide a reasonable prospect of repayment (e.g., economic viability, cash flow sufficiency to service the debt obligations over the life of the loan guarantee, etc.) of the principal and interest of the guaranteed portion of the Guaranteed Obligation, which, when combined with amounts available to the applicant from other sources, will be sufficient to carry out the project. DOE will consider Project Sponsor experience and financial capability, the scope and timing of equity commitments, the Project Sponsor's ability to pay in full transaction costs arising out of the project (e.g., fees and expenses for DOE's independent consultants and outside counsel as they are presented for payment on a periodic basis as discussed in Section IV.A.3 and VII.3 of this Solicitation) on a timely basis, and credibility of the business and financial plans, as well as overriding market factors that could significantly influence the success of the project. Specifically, market risk will be evaluated, taking into account the resiliency of the project against market uncertainty. Demonstration of long-term supply feedstock and production off-take arrangements, including power purchase agreements where available and appropriate, will be significantly weighted. In accordance with Section 609.7(a) of the Final Regulations, greater weight will be given to applications that rely upon a smaller guarantee percentage, all else being equal.

Construction Factors

DOE will evaluate the project's construction cost, financial integrity of the general contractor (and any related liquidated damages and guarantees), as well as any cost overrun reserve facilities. In evaluating the risk of cost overruns in any given project, DOE will be required to undertake an analysis of, among other things, whether the guaranteed portion of the Guaranteed Obligation, together with amounts available to the applicant from other sources, will be sufficient to carry out the project. In addition, DOE will evaluate the technology's component manufacturers.

Legal and Regulatory Issues

DOE will evaluate the project's capacity to mitigate risk from potential legal and regulatory issues that could jeopardize the success of the project. Areas of review will include intervenor, permitting and public acceptance risks.

Additional Financial Policy Criterion

DOE will also consider in the Formal Review of an application, as a non-weighted financial criterion, the best use of the loan guarantee (e.g., demonstrates the most efficient and competitive uses of the loan guarantee).

V. Project Underwriting and Due Diligence Process

Please note that all references to Attachment A in this Section V of the Solicitation shall be deemed to refer to Attachment G with respect to large-scale integration projects.

Once an applicant has been invited in writing to negotiate, DOE will begin a comprehensive underwriting and due diligence process. An in-depth review will include analysis of the technical, business and financial plans, proposed organizational structure and staffing, major contractors, vendors and engineering and construction entities. To the extent material aspects of the project change from the information previously provided in the application, DOE's analysis and conclusions regarding the project are likely to change as well. Further, if a material change occurs after any credit review board ("CRB") recommendation or approval, the applicant must submit to DOE updated project information reflecting the modifications for resubmission to the CRB for reconsideration. Applicants are advised to avoid submitting information that may be subject to material changes as this will slow the decision-making process.

As discussed more fully above in Section IV.A.3 of this Solicitation, in the course of DOE's due diligence review and negotiations with an applicant, DOE may utilize the services of independent engineering, technical, financial, marketing consultants and outside counsel. Consistent with market practice in financings, the applicant shall be responsible for paying the fees and expenses of DOE's independent consultants and outside legal counsel in connection with applicant's project under all circumstances, without recourse to DOE by such consultant, counsel, Project Sponsor, Borrower and/or applicant. However, the cost of these services incurred through the financial closing may be included in the calculation of total Project Costs to the extent permitted by Section 609.12 of the Final Regulations.

As part of its comprehensive project underwriting process, DOE will undertake the following steps:

1. Evaluate Financing Plan: This step involves a thorough review of the sources and uses of funds as proposed by the applicant. Aspects of the review will involve:

- Analysis of the adequacy, leverage and timing of the proposed sources of funding (with equity funded either in advance of, or concurrently with, debt during the construction period);
- Review of the terms and rights of the various funding sources and degree of commitment;
- Determination of compliance with requirements of Title XVII, the Final Regulations and this Solicitation;
- Assessment of the adequacy of proposed contingency and reserve funding.

2. Assess Financial Viability: Based on the financing plan submitted with the application and projections for future financial performance, DOE will assess the financial viability of the project with specific emphasis on the applicant's ability to repay the guaranteed portion of the Guaranteed Obligation. An important consideration in the financial viability assessment will be an evaluation of the assumptions underlying projected revenues and expenses and the likelihood that assumed technical performance will be achieved.

3. Determine Technical Efficacy: This evaluation will commence with a thorough review of the project plans, including consideration of factors such as environmental compliance and infrastructure requirements. DOE may utilize its internal technical resources for evaluation purposes and may use outside independent third-party consultants in reviewing the project's technical efficacy. DOE encourages each applicant to obtain the services of an independent engineering firm for such applicant's benefit to provide a thorough review of the project plans, infrastructure requirements and efficacy of the proposed technology. Determination of the technical merit of the project will be influenced by the quality of the independent engineering report, including the professional credentials of the consultant, scope of the undertaking, and strength of the opinions provided. The applicant is encouraged to engage the independent engineer to provide an evaluation of all of the elements identified in Attachment A, Detailed Application Instructions, Sections A, B, C, and D.

4. Review Project Legal Structure: As part of its due diligence work, DOE will review the project's legal structure. This will involve analysis of draft legal agreements among project participants, including equity owners, financing sources, engineering and construction contractors, operation and maintenance contractors, equipment suppliers, host communities, and any other counter-parties of interest. Additionally, a legal review will include an analysis of the intellectual property rights of participants in the project to ensure that the project may use the proposed technology.

5. Evaluate Project Risks: As part of its review, DOE will identify, assess and estimate the impact of risks associated with the project. Based on the outcome

of the technical, financial and legal reviews, the analysis will seek to determine the types and magnitude of risks associated with the project, proper risk allocation among the parties, and the extent to which risks have been mitigated.

6. Perform Financial Model Review and Stress-Testing: Modeling is a critical tool in assessing the project's expected financial performance and ability to service debt. DOE will verify the applicant's calculations and quantify the impacts of risks by stress-testing the model to understand how changes in model assumptions can affect the project's capacity to make full and timely repayments of the guaranteed portion of the Guaranteed Obligation. This will be accomplished through the utilization of the project financial model submitted as part of the application and/or through a financial model developed by DOE.

7. Assess Strengths and Weakness of Project Sponsors: This step of the process will examine the Project Sponsors' investment to date and capability to implement the project as proposed from both financial and managerial perspectives. Specific considerations include, but are not limited to:

- The Project Sponsor's track record in project development;
- The Project Sponsor's financial strength and resources;
- The strategic value of the project to the Project Sponsors; and
- The experience and expertise of the management team, particularly as it relates to operation of the proposed project.

8. Analyze Proposed Collateral: Title XVII requires that, with respect to any property acquired pursuant to a guarantee or related agreements, the rights of the Secretary shall be superior to the rights of any other person with respect to the property. The value of the collateral will be examined in detail, particularly under default scenarios. This evaluation will be based on the nature of the collateral pledged, appraiser reports submitted by the applicant, and expected cash availability under a default scenario. Eligible Lenders or other Holders, other than the Federal Financing Bank, may, during this analysis, initiate discussions with DOE on a plan of liquidation of the assets expected to be pledged to secure the Guaranteed Obligation. Any agreement by DOE with respect to sharing the proceeds following any liquidation shall be documented in a written agreement among DOE, the applicant and such other collateral holders and shall be subject to the approval of the Secretary at or prior to the closing.

9. Analyze Environmental Impact: The applicant must provide enough information to enable DOE to support any environmental critique that DOE may prepare under Section 1021.216 of title 10 of the CFR of DOE's implementing regulations under the National Environmental Policy Act ("NEPA"), to determine the level of review required under NEPA, and to support preparation of the NEPA document, if an applicant were selected to begin negotiations with DOE. Because loan guarantees are expected to be granted for commercial-scale projects, DOE anticipates most projects will require the preparation of an

environmental assessment (“EA”) or environmental impact statement (“EIS”), which will be an integral part of DOE’s decision-making concerning any given application. In cases where an EIS is required for a project, DOE will prepare an EIS, or, as appropriate, adopt an EIS prepared by another federal agency (e.g., U.S. Department of the Interior) for the corresponding project. Guidance on the NEPA process and the list of environmental data that should be included in the application are found in Attachment B.

10. Obtain Preliminary Credit Assessment: In accordance with Section 609.6(b)(21) of the Final Regulations, for projects where the estimated total Project Costs exceeds \$25 million, the applicant must provide a preliminary credit assessment for the project (without giving effect to the DOE loan guarantee) from a nationally recognized rating agency. The preliminary assessment shall examine the project as structured, but in the absence of a loan guarantee from DOE, and shall identify any material assumptions utilized by the rating agency in its analysis. DOE will require a final credit rating, as a condition of closing, no later than 30 days prior to closing, as required by Section 609.9(f) of the Final Regulations. For projects where the estimated total Project Costs is \$25 million or less, in the sole discretion of the Department, DOE may require such an assessment as well.

11. Develop Term Sheet: Based on its review, and subject to DOE’s sole determination that the project, as structured, offers a reasonable prospect for repayment, DOE may discuss transaction terms and conditions with the applicant in anticipation of the issuance of a Term Sheet. The Term Sheet must be in writing and is expected to contain key elements of the proposed transaction, and, once converted into a Conditional Commitment, will be conditionally binding and include the following additional terms:

- Material change qualifiers;
- A series of conditions precedent to the closing of the Loan Guarantee Agreement;
- Expiration dates; and
- Termination provisions for failure to pay fees according to DOE’s schedule.

12. CRB Recommendation/Rejection: This step will involve only internal DOE resources as the loan guarantee program office (“LGPO”) prepares the CRB review package (consisting of a credit paper and a proposed Term Sheet) and presents the project to the CRB for consideration for the issuance of a Term Sheet. The CRB will then decide whether to recommend approval of the project “as is,” or with conditions, or to reject the project. If a project recommended by the CRB for approval subsequently undergoes a material change, the application will have to be re-submitted to the CRB for consideration.

13. Term Sheet/Conditional Commitment: If the CRB approves the issuance of a Term Sheet for a loan guarantee with respect to any application, DOE will notify the applicant and/or lender in writing and provide them with a proposed Term Sheet that sets forth the general terms and conditions under which DOE may issue a loan guarantee. Upon the earlier of (i) the issuance of the Term Sheet to an applicant pursuant to such CRB approval or (ii) the commencement of negotiations with an applicant on a draft Term Sheet, the applicant must pay the facility fee (or Second Fee) as set forth in Attachment C for its application to be considered further. The issuance or negotiation of a Term Sheet does not constitute a commitment by DOE to issue a loan guarantee. The proposed terms and conditions of a Term Sheet may be subject to additional negotiation. DOE will promptly notify the applicant, in writing, of any DOE decision not to finalize a Term Sheet. Any changes in the terms and conditions from the Term Sheet offered to the applicant will be reported to the CRB for approval. If the CRB approves these changes, or makes its own changes, the applicant will be presented with these revised terms and conditions. If the applicant agrees with and executes the final Term Sheet approved by the CRB, the Term Sheet becomes a Conditional Commitment between DOE and the applicant. In accordance with Section 609.2 of the Final Regulations, the Secretary may terminate the Conditional Commitment for any reason at any time prior to the execution of the Loan Guarantee Agreement; provided, however, the Secretary may not delegate this authority to terminate a Conditional Commitment.

14. Final Approval of the Loan Guarantee Agreement and Closing: After all the terms and conditions of the Conditional Commitment have been met by the applicant to DOE's satisfaction, the LGPO will prepare a record of decision ("ROD") report for the Secretary's approval of the final terms and conditions and the execution of the Loan Guarantee Agreement. The general counsel of DOE (the "General Counsel") will advise as to whether all conditions precedent have been satisfied prior to closing. After receiving advice from the General Counsel and approval by the Secretary, DOE and the applicant will set a closing date. At or prior to the closing, the applicant must pay the non-refundable Credit Subsidy Cost and if, applicable, all or part of the maintenance fee (Third Fee) as described in Section VII.1 below and Attachment C. The Secretary, or designee, will sign the Loan Guarantee Agreement at closing.

VI. Closing Checklist/Satisfaction of Conditions Precedent

This phase will involve the "close-out" of any conditions necessary for obtaining final approval by the Secretary. In addition, DOE will consult with the Office of Management and Budget ("OMB") and Treasury during this phase, as appropriate. Please note that all references to Attachment A in this Section VI of the Solicitation shall be deemed to refer to Attachment G in respect of large-scale integration projects. Specific steps in this "close-out" phase include:

1. **Negotiate CRB Conditions:** If the CRB attaches conditions to its approval of the Term Sheet, DOE will work with the applicant to resolve and incorporate them into the final documentation.
2. **Update Term Sheet:** Based on the outcome of negotiations and on the conditions precedent stipulated by the CRB, DOE will update the Term Sheet and resubmit to the CRB for approval as necessary.
3. **Facility Fee Payment:** Upon the earlier of (i) the issuance of the Term Sheet to an applicant pursuant to CRB approval or (ii) the commencement of negotiations with an applicant on a draft Term Sheet, a non-refundable payment of the facility fee (Second Fee) will be due in full from the Project Sponsor. Receipt by Treasury on behalf of DOE of the payment will be a precondition to moving forward.
4. **Definitive Financing Documentation:** Negotiate finance and guarantee agreements and final project documents based on the Conditional Commitment.
5. **Develop Closing Checklist:** Based on the Conditional Commitment, definitive financing documentation, and any conditions imposed by the CRB for its approval, DOE will develop a closing checklist, identifying each condition precedent and step required before closing may occur. This process will involve actions required of the applicant and steps that DOE will need to take in coordinating its internal activities as well as activities of other agencies, such as Treasury and OMB, as appropriate.
6. **Obtain Final Credit Rating:** Based on the project's final characteristics, the applicant shall deliver to DOE a final credit rating from a nationally recognized credit rating agency no later than 30 calendar days prior to the closing in accordance with Section 609.9(f) of the Final Regulations.
7. **Obtain Final DOE Calculation of Credit Subsidy Cost:** Upon delivery of the Project Sponsor's final credit rating from a nationally recognized credit rating agency, DOE will consider this information in its final calculation of the Credit Subsidy Cost.
8. **Prepare Signature Package for Secretary:** Once all of the items on the closing checklist have been satisfied and the General Counsel has advised as to whether all conditions precedent have been satisfied, the LGPO will submit the transaction documents for the Secretary's approval. In cases where an EIS is required, the ROD will be executed prior to or in connection with execution of the Loan Guarantee Agreement and will be published in the Federal Register.

9. **Close Transaction:** The closing shall commence with receipt by DOE of the non-refundable Credit Subsidy Cost payment and, if applicable, all or part of the non-refundable maintenance fee as set forth in Section VII.1 below and Attachment C and shall conclude when the Secretary has given final approval and all project documentation has been signed by the appropriate parties.

VII. Fees, Credit Subsidy Cost Payment and Extraordinary Costs

Section VII of this Solicitation applies to all project types. However, solely with respect to large-scale integration projects, to the extent Section VII is modified or supplemented by Attachment G, the terms of Attachment G shall govern. Accordingly, please note that all references to Attachment A in this Section VII of the Solicitation shall be deemed to refer to Attachment G with respect to large-scale integration projects.

1. **Fees:** Section 1702(h) of Title XVII requires DOE to “charge and collect fees ... sufficient to cover applicable administrative expenses” of the loan guarantee program but affords DOE discretion with respect to how to impose such fees. The Final Regulations specify the stages of the loan guarantee process at which applicants must pay to DOE Administrative Costs of Issuing a Loan Guarantee. Section 609.10(c) of the Final Regulations also provide that “no funds obtained from the Federal Government, or from a loan or other instrument guaranteed by the Federal Government, may be used to pay ... administrative fees, or other fees charged by or paid to DOE relating to the Title XVII program or any loan guarantee there under.” A fee schedule for this particular Solicitation is presented in Attachment C. These fees are non-refundable and will be due in full as specified below:

- **Application Fee:** A portion (25%) of the application fee must be submitted with the application no later than December 31, 2008. Upon DOE’s request as more fully set forth in Section III.2 above, the remainder (75%) of the application fee will be due by the date specified in DOE’s written notification. This fee recovers costs associated with DOE’s administrative costs incurred in connection with the pre-selection evaluation of an application. Please refer to Attachment G for a discussion of the application fee as applied to large-scale integration projects.
- **Facility Fee:** The facility fee (or Second Fee) is due upon the earlier of (i) the issuance of the Term Sheet to an applicant pursuant to CRB approval of such issuance or (ii) the commencement of negotiations with an applicant on a draft Term Sheet.
- **Maintenance Fee:** The maintenance fee (or Third Fee) is payable to cover DOE’s administrative expenses in servicing and monitoring the Loan Guarantee Agreement during the construction, startup, commissioning and

operational phases of a project. The amount of such fee is expected to be in the range of \$50,000 to \$100,000 per year and shall be either (i) payable each year in advance, commencing upon the closing date of the Loan Guarantee Agreement, in the amount specified in the Loan Guarantee Agreement, or (ii) if provided for in the Loan Guarantee Agreement, payable as an one-time fee at the closing in a lump sum amount equal to the aggregate sum of such annual fees specified in the Loan Guarantee Agreement for the entire term of the loan guarantee, discounted to net present value.

2. Loan Guarantee Credit Subsidy Cost: Section 1702(b) of Title XVII provides that DOE must receive either an appropriation for the Credit Subsidy Cost of a loan guarantee or, in lieu of an appropriation, a cash payment of such cost directly from the applicant. The Credit Subsidy Cost is the net present value of the estimated cost to the U.S. government of the loan guarantee as determined under the applicable provisions of Federal Credit Reform Act of 1990, as amended (“FCRA”). Applicants are advised that DOE does not expect to request or receive appropriated amounts from Congress to cover the Credit Subsidy Costs associated with the potential loan guarantees issued under this Solicitation. Therefore, DOE anticipates that the project(s) approved pursuant to this Solicitation will require the Project Sponsor or applicant to pay the non-refundable Credit Subsidy Cost directly at or before the closing. DOE is committed to providing a preliminary estimate of the Credit Subsidy Cost for the desired loan guarantee no later than at the issuance of a Term Sheet to the Project Sponsor or applicant. See 72 Fed. Reg. at 60,129. The final Credit Subsidy Cost determination must be made at or prior to the closing of the Loan Guarantee Agreement and may differ from the preliminary estimate of the Credit Subsidy Cost, depending on project-specific and other relevant factors including final structure, the terms and conditions of the debt supported by the Title XVII guarantee and risk characteristics of the project. In accordance with Section 609.10(c) of the Final Regulations, the applicant may not finance this payment of the Credit Subsidy Cost through funds obtained from the federal government or through a loan made or guaranteed by the federal government, unless otherwise explicitly authorized by an act of Congress. In accordance with FCRA, DOE will consult with, and obtain the approval of, OMB for DOE’s calculation of the Credit Subsidy Cost of each loan guarantee prior to entering into any Loan Guarantee Agreement. As appropriate, DOE will also consult with the Secretary of the Treasury on the terms and conditions of the Loan Guarantee Agreement.

3. Extraordinary Costs and Expenses: In accordance with Section 1702(h) of Title XVII, the Loan Guarantee Agreement shall also provide that in the event that a project experiences technical, financial, legal or other events which require DOE to incur time or expenses beyond standard monitoring (e.g., engineering failure or financial workouts), DOE shall be entitled to payment in full from the Borrower of such additional internal administrative costs and of

related fees and expenses of its independent consultants and outside counsels, to the extent that such third parties are not paid directly by the applicant, Borrower or Project Sponsor.

VIII. General Application Guidelines

Section VIII of this Solicitation applies to all project types. However, solely with respect to large-scale integration projects, to the extent Section VIII is modified or supplemented by Attachment G, the terms of Attachment G shall govern. Accordingly, please note that all references to Attachment A in this Section VIII of the Solicitation shall be deemed to refer to Attachment G in respect of large-scale integration projects. Please refer to Attachment G for any specific or additional instructions in respect of large-scale integration projects.

1. **Questions:** To the extent an applicant has questions relating to the application process at any time prior to submission of its application to DOE, the applicant may set forth its question in an email to the LGPO at lgprogram@hq.doe.gov. Please include in the subject line “RETDEE Solicitation Question.” The LGPO will respond to such questions as appropriate and may make public the applicants’ most frequently asked questions, along with LGPO’s responses thereto, for example, by posting on LGPO’s website or on FedConnect. If DOE decides to begin negotiations with an applicant, DOE will assign a single point of contact for individual questions and or discussions on matters relevant to the application. This single point of contact will arrange for follow-up discussions with the applicant.
2. **Applicant Submission:** Applicants must submit their applications, including a completed DOE application form – OMB No. 1910-5134 (Attachment D), electronically using FedConnect. Instructions on how to register in FedConnect, submit an application, and other related topics may be found at: www.fedconnect.net. The applicant must also submit two hard copies of their application along with a completed DOE application form – OMB No. 1910-5134 (Attachment D). Twenty-five percent (25%) of the application fee must be submitted at the time of application submission and wired to Treasury (See Section IV of Attachment C).
3. **Electronic Format of Applications:** In order for an application to be considered under this Solicitation, it must be electronically received through FedConnect no later than 11:59pm (ET) on December 31, 2008. Applicants must submit their applications in accordance with the instructions contained herein and in Attachment A.

Information regarding how to submit via FedConnect may be found at www.fedconnect.net. Further, it is the responsibility of the applicant, prior to the due date and time, to verify successful transmission. The submission

completion time of the entire proposal at the FedConnect portal will constitute the time of delivery to the U.S. government point of entry.

4. **Registrations:** In submitting applications through FedConnect, applicants must complete the following:
 - Obtain a Dun and Bradstreet Data Universal Numbering System (“DUNS”) number,
 - Obtain a North American Industry Classification (“NAIC”) number,
 - Register with the Central Contract Registration (“CCR”), and
 - Register with FedConnect.

Applicants are highly encouraged to allow at least 21 days to complete the steps above. Contact the FedConnect support team at support@fedconnect.net to verify successful registration. Instructions for registering with CCR and FedConnect are found in Attachment F. If you have questions regarding the operation of FedConnect, please contact the FedConnect support team at support@fedconnect.net.

5. **Applications:** Applications shall be prepared in accordance with the instructions in Attachment A and must be accompanied by the following submittals:
 - a. Payment of the application fee (See fee schedule in Table 2 above in Section IV.B and Attachment C).
 - b. A completed DOE application form signed by an authorized representative of the Project Sponsor and/or the applicant. See Attachment D.
6. **Detailed Preparation Instructions:** Documents supporting and forming a part of applications must be typed, single-spaced, and must adhere to a format consisting of standard 8.5” x 11” paper with 1” margins (top, bottom, left and right) with font not smaller than Times New Roman 11 point, with exceptions for charts, graphics and similar material. Applications and supporting documentation must be submitted electronically through the FedConnect site at www.fedconnect.net.
7. **Changes:** Notwithstanding the requirement for the applicant to submit comprehensive information to complete an application, DOE recognizes that certain elements of the project’s development may not be fully developed until a later time. For example, final engineering design, supply and off-take agreements, and other long-lead time items may need to be submitted during the negotiation process. These challenges will be especially significant for large-scale integration types of projects. Each applicant is nevertheless encouraged to include the applicant’s best estimate of the timing of completion of these outstanding items, recognizing that final terms and conditions cannot be presented to the CRB until all project elements

have been finalized and DOE has completed its underwriting and due diligence review. Moreover, applicants are expected to provide drafts of such long-lead time items with their applications, if execution copies thereof are not available at the time of application submission.

IX. Additional Information

- A. Government Right to Reject or Negotiate:** DOE reserves the right, without qualification, to reject any or all applications received in response to this Solicitation and to select any application, in whole or in part, as a basis for negotiation.
- B. Commitment of Public Funds:** No binding commitment, agreement, obligation, or right of any kind may be assumed or enforced by any applicant against DOE other than in accordance with an executed Loan Guarantee Agreement, as executed by the appropriate DOE authorizing official, upon payment of the Credit Subsidy Cost at the closing of the Loan Guarantee Agreement.
- C. Restrictions on Disclosure and Use of Information:** Title XVII authorizes the collection of this information. The primary use of this information is by DOE in its review of applications for loan guarantees under Title XVII. Additional disclosures of this information may be made as required by law. Where the information provided is a social security number, the provision of the information is voluntary but failure to disclose may result in disapproval of the application.

All information collected will be handled in accordance with the Freedom of Information Act (5 U.S.C. 552) and all applicable laws.

Patentable ideas, trade secrets, proprietary, or confidential commercial or financial information, disclosure of which may harm the applicant, should be included in an application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the applicant specifically identifies and marks such data in accordance with the following provisions:

1. Applicant discloses in the DOE application form that (be sure to specify the application Sections containing proprietary data in the legend as it appears in the DOE application form):

“Sections ___ of this Application contain data which 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 is issued a loan guarantee under Title XVII of the Energy Policy Act of 2005 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, other than such data that have been properly reasserted as being trade secret or proprietary in the loan guarantee agreement. This restriction does not limit the Government's right to use or disclose data obtained without restriction from any source, including the applicant."

2. Applicant includes the following legend on the first or cover page of each document or electronic file submitted as part of the application that contains such data (be sure to specify the page numbers from such document or electronic file that contains the proprietary data):

"The data contained in pages _____ of this document or electronic file which hereby forms a part of the Application 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 is issued a loan guarantee under Title XVII of the Energy Policy Act of 2005 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, other than such data that have been properly reasserted as being trade secret or proprietary in the loan guarantee agreement. This restriction does not limit the Government's right to use or disclose data obtained without restriction from any source, including the applicant."

3. Applicant includes the following legend on each page of a document or electronic file containing such data (a) as a header on the page or (b) to specifically identify and mark each line or paragraph on the page containing such data:

"The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation."

D. References: This Solicitation was developed pursuant to the following statutes and regulations, which can be found at <http://www.lgprogram.energy.gov/>:

- a) Energy Policy Act of 2005
Public Law 109-58 (August 8, 2005)
Title XVII Incentives for Innovative Technologies
22 USC 16511- 16514 (August 8, 2005)
- b) 10 CFR Part 609 Loan Guarantees for Projects That Employ Innovative Technologies (October 20, 2007)
- c) Consolidated Appropriations Act, 2008, P.L. No. 110-161, Division C- Energy and Water Development – Title III.

Attachment A

Detailed Application Instructions for Manufacturing Projects and Stand- Alone Projects

**UNITED STATES
DEPARTMENT OF ENERGY**

**APPLICATION INSTRUCTIONS FOR MANUFACTURING PROJECTS AND
STAND-ALONE PROJECTS
Title XVII Loan Guarantee Program**

Background: These instructions set forth the information to be submitted under Title XVII of the Energy Policy Act of 2005, 22 U.S.C. 16511-16514 (Title XVII), for an application to receive a loan guarantee from DOE for manufacturing projects and stand-alone projects only. Please refer to Attachment G for detailed instructions with respect to applications for loan guarantees for large-scale integration projects. Title XVII authorizes the Secretary of Energy (“Secretary”) to issue loan guarantees only for projects that avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases and that employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued. The U.S. Department of Energy (“DOE”) will use the information submitted by applicants to evaluate and select applicants for loan guarantees issued under Title XVII. Applicants may be asked to provide additional information during the review and negotiation process. At any time after an applicant has been notified as to its selection to enter into negotiations, if there are material changes to the project, the applicant must promptly provide the Loan Guarantee Program Office (“LGPO”) with written notice of such change but in no event later than three (3) business days after such change, and shall provide the LGPO with any updated information no later than ten (10) business days after such notice.

Application Fee: A portion (25%) of a non-refundable application fee must be paid to DOE via Treasury in accordance with the fee schedule set forth in Attachment C with the submission of the application. The remaining balance (75%) of the application fee must be received by DOE, at its request, for responsive applications employing a technology deemed to constitute a New or Significantly Improved Technology, subject to the Formal Review (as defined in Section III.2.b. of the Solicitation), on the date specified in DOE’s written notification to applicant before DOE will commence a Formal Review of the project.

Format: Applicant must provide all requested information in the following format:

1. Each data element in each section is named and numbered using the following format:

Project Short Name/Section/Data Number/Name

Example: Project XXX /I/D/1/Environmental and Energy Security Benefits (for this example see page 43).

2. Each data change or correction requires a complete new data entry instead of handwritten markups.
3. The changed information in the New Entry must be underlined, and the new entry must be dated.

Applications shall be prepared in accordance with Section 609.6 of the Final Regulations and the instructions in this Attachment and must be accompanied by the following submittals:

- A. The proportionate amounts of the application fee, none of which is refundable, at the appropriate times as set forth in the fee schedule in Attachment C and instructions in Table 1 in Section IV.A.1 of the Solicitation and as required by Section 609.6(b)(2) of the Final Regulations.
- B. DOE application form as set forth in Attachment D and as required by Section 609.6(b)(1) of the Final Regulations that is fully completed and signed and submitted no later than 11:59pm (ET) on December 31, 2008.

Electronic Format: The application must be submitted in electronic form and should be submitted in the following file formats: Microsoft Word, Excel, Power Point or Adobe PDF. Please do not encrypt, compress or zip files.

Registrations: In submitting applications through FedConnect, applicants must complete the following:

- Obtain a Dun and Bradstreet Data Universal Numbering System (“DUNS”) number,
- Obtain a North American Industry Classification (“NAIC”) number,
- Register with the Central Contract Registration (“CCR”), and
- Register with FedConnect.

Applicants are highly encouraged to allow at least 21 days to complete the steps above. Contact the FedConnect support team by email at support@fedconnect.net to verify successful registration. Instructions for registering with CCR and FedConnect are found in Attachment F. If you have questions regarding the operation of FedConnect, please contact the FedConnect support team by email at support@fedconnect.net.

Warning: It is a crime to knowingly make false statements to a federal agency. Penalties upon conviction can include a fine and imprisonment. For details, see 18 U.S.C. 1001. Misrepresentation of material facts may also be the basis for denial of an application for a loan guarantee by DOE.

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Section A: Application Information

1. **Project Name:** Assign a short project name for purposes of identification.
2. **Project Summary/Abstract File:** The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the project director/principal investigator(s), the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). This document must not include any proprietary or sensitive business information as DOE may make it available to the public. The project summary must not exceed 1 page when printed using standard 8.5” by 11” paper with 1” margins (top, bottom, left and right) with font not smaller than 11 point. Save this information in a file named “Project Name Summary.pdf.”
3. **Evidence of Authority:** Submit evidence that the signatory of the application has authority to bind the Project Sponsor to the commitments and representations made in the application and attests as to the accuracy of the information provided both written and oral in the application process and that binds the Project Sponsors.
4. **Applicant Validation Statement:** Provide a written statement that based on the project information provided by the applicant for DOE issuance of a loan guarantee, the applicant hereby attests that there is a reasonable prospect that the guaranteed portion of the Guaranteed Obligation will be repaid on time and in full (including interest) from project revenue according to the terms proposed in the application, as required by Section 609.6(b)(28) of the Final Regulations.
5. **Eligible Lender / Holder Statement:** Provide a written affirmation from an officer of an Eligible Lender or other older Holders expressing commitment to provide or interest in providing the required debt financing necessary to construct and fully commission the project.
6. **Equity Commitment Letters:** Provide a copy of the equity commitment letters from each project investor and a description of the sources of equity.
7. **Project Participants:** List the parties involved with the project, their function and contact information, including the name of contact person (first, middle and last), position/title, phone number, fax number, e-mail address, street address, city, state, 9-digit zip code.
8. **Applicant Point of Contact Information:** Provide the mailing address of the applicant and phone, fax and e-mail address of the project point of contact for DOE.

9. **List of Requirements:** Pursuant to Section 609.6(b)(27) of the Final Regulations, provide a list of all requirements contained in Part 609 under chapter II of title 10 of the Code of Federal Regulations and under this Solicitation and where in the application these requirements are addressed.

10. **Project Eligibility:** To the extent not otherwise addressed in other Sections of this Attachment A, provide a detailed explanation of how and to which measure the proposed project will meet all applicable requirements of Section 1703 of Title XVII.

Section B-I: Project Description –New or Significantly Improved Technology Determination Criteria

Among other things, DOE will specifically evaluate the extent to which the project will employ New or Significantly Improved Technologies as compared to Commercial Technologies in service in the U.S. at the time the Term Sheet is issued.

1. **New or Significantly Improved Technology:** New or Significantly Improved Technology means under Section 609.2 of the Final Regulations a technology concerned with the production, consumption or transportation of energy and that is not a Commercial Technology (as defined in Section 609.2 of the Final Regulations), and that has either only recently been developed, discovered or learned; or involves or constitutes one or more meaningful and important improvements in productivity or value, in comparison to Commercial Technologies in use in the United States at the time the Term Sheet is issued.
 - a. Define the extent to which the project will employ New or Significantly Improved Technologies as compared to Commercial Technologies in service in the U.S. at the time the Term Sheet is issued.
 - b. Describe if your technology involves one or more significant improvements in productivity or value when compared to Commercial Technologies in use in the United States.

2. **Commercial Technology:** Under Section 609.2 of the Final Regulations, Commercial Technology means a technology in general use in the commercial marketplace in the United States at the time the Term Sheet is issued by DOE. A technology is in general use if it has been installed in and is being used in three or more commercial projects in the United States in the same general application as in the proposed project, and has been in operation in each such commercial project for a period of at least five years. The five year period shall be measured, for each project, starting on the in service date of the project or facility employing that particular technology. For purposes of the term Commercial Technology, commercial projects include projects that have been the recipients of a loan guarantee from DOE under the Final Regulations.
 - a. Describe if your technology is in general use in the commercial marketplace in the United States.
 - b. Define if your technology has been installed in and is being used in three or more commercial projects in the United States in the same general application as in the proposed project, and has been in operation in each such commercial project for a period of at least five years.

Section B-II: Project Description – Technical Relevance and Merit

Among other things, DOE will specifically evaluate the extent to which the project will (i) employ New or Significantly Improved Technologies as compared to Commercial Technologies in service in the U.S. at the time the Term Sheet is issued, (ii) consistent with Section 609.7(b)(3) of the Final Regulations, employ New or Significantly Improved Technologies that constitutes an important improvement in technology, as compared to Commercial Technologies in service in the U.S. at the time the Term Sheet is issued and as compared to technologies proposed in other applications submitted in response to this Solicitation, and (iii) advance other Title XVII objectives.

1. **Executive Summary:** Provide a description of the nature and scope of the proposed project, including the purpose, design features, capacity and estimated total capital cost. Provide a top level description of the site location, facility and construction plans. Include your target date to close a loan guarantee to commence site preparation, begin operation and, if applicable, establish grid connection. Describe any potential legal or regulatory risks to the project.
2. **Technology Description:** Note that to qualify for a loan guarantee the technology must have been successfully demonstrated both at the pilot and demonstration scale and be ready for commercialization.
 - a. Provide a description of the new technology to be employed in the project and its commercial applications and feasibility and discuss why it is not now in general use.
 - b. Provide a report detailing the technology's pilot plant and demonstration plant experience (including hours of experimentation or run-time) including its successes and failures during the pilot and demonstration phases.
 - c. Provide actual demonstration plant technical results such as operating efficiency, yield, etc., such that a technical reviewer could assess the results.
 - d. Provide supporting information (e.g., process flow diagrams, equipment descriptions).

Also describe the applicant's rights to such technologies, including the status and expiration date of all licensing agreements required for the project.

3. **New or Significantly Improved Technology:** New or Significantly Improved Technology means under Section 609.2 of the Final Regulations a technology concerned with the production, consumption or transportation of energy and that is not a Commercial Technology, and that has either only recently been developed, discovered or learned; or involves or constitutes one or more meaningful and important improvements in productivity or value, in comparison to Commercial Technologies in use in the United States at the time the Term Sheet is issued.

- a. Define the extent to which the project will employ New or Significantly Improved Technologies as compared to Commercial Technologies in service in the U.S. at the time the Term Sheet is issued.
- b. Describe if your technology involves one or more significant improvements in productivity or value when compared to Commercial Technologies in use in the United States.

(To the extent applicant has completed Item 1 in Section B-I of Attachment A, it is not necessary to complete this Item 3 in this Section B-II of Attachment A. Please note that the response for Item 3 in this Section B-II will also be evaluated under the factor in paragraph (ii) above which was not the case with respect to Item 1 in Section B-I).

4. **Commercial Technology:** Under Section 609.2 of the Final Regulations, Commercial Technology means a technology in general use in the commercial marketplace in the United States at the time the Term Sheet is issued by DOE. A technology is in general use if it has been installed in and is being used in three or more commercial projects in the United States in the same general application as in the proposed project, and has been in operation in each such commercial project for a period of at least five years. The five year period shall be measured, for each project, starting on the in service date of the project or facility employing that particular technology. For purposes of the term Commercial Technology, commercial projects include projects that have been the recipients of a loan guarantee from DOE under the Final Regulations.
 - a. Describe if your technology is in general use in the commercial marketplace in the United States.
 - b. Define if your technology has been installed in and is being used in three or more commercial projects in the United States in the same general application as in the proposed project, and has been in operation in each such commercial project for a period of at least five years.

(To the extent applicant has completed the Item 2 in Section B-I of Attachment A, it is not necessary to complete this Item 4 in this Section B-II of Attachment A. Please note that the response for Item 4 in this Section B-II will also be evaluated under the factor in paragraph (ii) above which was not the case with respect to Item 2 in Section B-I).

5. **Intellectual Property:**
 - a. Provide a description and list of the owners or controllers of the intellectual property incorporated in and utilized by such technologies.
 - b. Describe the applicant's rights to such technologies, including the status and expiration date of all licensing agreements required for the project.
 - c. Provide a list the manufacturer(s) and licensee(s), if any, authorized to make the technology available in the United States, the potential for replication of commercial use of the technology in the United States, and

whether and how the technology is or will be made available in the United States for further commercial use.

Section C: Applicant Capabilities, Technical Approach and Work Plan

The applicant's and Project Sponsors' capabilities and prior experience as it relates to carrying out projects similar to the one being proposed will be evaluated. The proposed technical approach and work plan will be reviewed for its comprehensiveness, effective use of available resources, cost management and proposed schedule for meeting the applicant's objectives. The methods planned to meet each objective should be clear and discussed in detail.

The application will be evaluated on whether it offers a clearly innovative and feasible approach to the implementation of a technology that involves improvements in energy efficiency, development of renewable energy sources, and/or improves the efficiency and cost of transmission and distribution technologies and reduces, stores, or mitigates the emission of greenhouse gases. Specific objectives, approaches and plans for developing and verifying the innovation must demonstrate a clear understanding of the problem or opportunity, the current state-of-the-art, and the significance of the risks involved in the proposed innovation or use of technology and the identified means for mitigating those risks. The application will be evaluated for the clarity and technical strength of the approach to achieve the project objectives.

For example, this review will evaluate the quality of the project's construction plan, overall construction risk associated with the contingencies for equipment supply, evaluation of selected prime mover equipment, order of operations, mobilization schedules, delivery timelines, performance milestones, equipment integration scale-up challenges, acceptance/commissioning factors, performance and scheduling guarantees, and other relevant considerations such as site ownership or lease or liquidated damage provisions, etc

1. **Organization:** Provide a current organizational chart showing the applicant's structure, relationship to any subsidiaries or affiliates, and to the project. Advise if there are any proposed changes to the current organizational structure. List the full names (including middle name or initial), home address (including zip code), date of birth and taxpayer identification/social security number of key staff to be involved with the project. DOE will use this information for background check purposes and, with respect to certain key staff providing credit support to the project, for credit history verification purposes. DOE may request additional documentation as part of the project evaluation process.
2. **Prior Experience:** Describe the applicant's and Project Sponsors' capabilities and prior experience as it relates to carrying out (including designing, engineering and constructing, and/or manufacturing) projects similar to the one being proposed. Include the applicant's track record of completing projects on time and on budget, and operational results.

3. **Sponsor's Capabilities:** Describe the Project Sponsor's capabilities, financial strengths and investment both in the project to date and as anticipated during the operational phase of the project (e.g. continuing financial support). Detail the project's strategic significance to the Project Sponsor.
4. **Proposed Project Location:** Identify the proposed location and the rationale for the site location.
5. **State and Local Support:** Describe the status of potential and actual forms, amounts and conditions of state and local support for the project. Provide timelines for such assistance.
6. **Project Time Lines:** Provide a time line of the estimated start and completion dates of each major phase or key milestone of the project from construction through start of operations, and commercial operation date. Include early site preparation start, date commencing operation and first grid connection. Indicate current progress on time lines.
7. **Key Material Components:** Describe the key material components in the success of the project and describe any risk in availability (e.g., water, construction materials, site access, power evacuation infrastructure and fuel or raw material supply).
8. **Legal Opinions/Material Reports:** Provide a copy of all legal opinions, and other material reports, analyses and reviews concerning the project.
9. **Detailed Total Project Costs:** Provide a detailed estimate of total Project Costs including a breakdown by cost category, year of expenditure and basis for amounts and include a description of the methodology and assumptions used to make such estimate. Also indicate whether these costs are firm or subject to change. Distinguish between program eligible and non-eligible costs as determined for the loan guarantee program in Section 609.12 of the Final Regulations. Cost categories should include: labor, overhead, subcontracts, materials/supplies, equipment, general & administrative, indirect costs, and total costs.
10. **Production Costs:** Include an estimate of production costs of the product(s) and, if appropriate, compare such costs to that required to produce the same product(s) from petrochemical sources. Provide production cost estimates for this first commercial plant and the estimated cost of the Nth plant or facility.
11. **Engineering and Construction Plans:** List the engineering and design contractor(s), construction contractor(s), and equipment supplier(s) to be involved in the project, their major activity and cost milestones, and performance guarantees (e.g., bonds, liquidated damages provisions and equipment warranties to be provided). Provide their experience and

qualifications as they relate to the proposed project. Include construction schedules for the project.

12. **Project Plan**: Include a comprehensive project plan that will guide the design, engineering and construction of the commercial project. As a minimum, the project plan must include:

- a. Validated pilot plant and/or demonstration data that forms the basis for this design.
- b. Description of prior successful technical projects of this scale by the applicant or associated Project Sponsors including an identification of vendors and partners involved.
- c. Written descriptions of each step of the proposed process.
- d. Full material and energy balances using industry standard software.
- e. Plans to close and converge all recycle loops, both in a printout and in working versions of any simulations or plans.
- f. Description of the selection process for an engineering, procurement, and construction (“EPC”) firm, if used for the project.
- g. Description of the capabilities of internal resources, if used for the project.
- h. Equipment requirements.
- i. A schedule or Project Work Plan. The schedule should include time periods for design, procurement, construction, and start-up and shake-down, as well as development of environmental and land-use agreements, obtaining permits and licenses, and obtaining financing.
- j. Minimum design specifications in which process flow diagrams are coupled to preliminary cost estimates (internally or from an EPC contractor)
- k. Planned project management tools, including Gantt charts, resource based scheduling, or other methods to assess progress and track progress. These would include methods to assess actual cost and schedule versus planned cost and schedule, etc.
- l. Plans for staffing, including identification of costs and resources required to design, engineer and construct the proposed facility. This could involve proposals from third party operators.
- m. Justification for the schedule for completing the proposed project based on the applicant’s professional evaluation or that of their EPC firms, if such are employed.
- n. Technology Risks and Mitigation Strategies. In addition to identifying existing operational data, describe the identified technology risks and your associated mitigation strategies. Include scale up risks (including

scale-up factors from the largest demonstration to date), materials of construction, performance risks, etc., and the potential impacts of such risks.

o. Contingency planning to address cost overruns and schedule slippage.

13. **Operating and Maintenance Plans:** Describe the plans for operating and maintaining the project, including the proposed providers, their expected staffing requirements, parts inventory, major maintenance schedules, estimated annual downtime, and any performance guarantees and related liquidated damaged provisions.
14. **Decommissioning Plan:** If applicable to project, provide a detailed description of the project decommissioning and deconstruction plan, the anticipated costs, and arrangements to ensure the necessary funding will be available when needed.
15. **Engineer's Report:** Include as an attachment an independent engineering report prepared by an engineer with experience in the industry and familiarity with similar projects. The report should comprehensively evaluate the project plan, project's siting and permitting, engineering and design, contractual requirements and arrangements, environmental compliance, testing and commissioning, and operations and maintenance.

Section D: Environmental and Energy Security Benefits

The overall projected environmental and energy security benefits will be evaluated in terms of the project's ability to avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases, and the potential for the project and the use of the proposed New or Significantly Improved Technologies employed in the project to improve the energy security of the United States. The proposed domestic environmental and energy security benefits of the project shall be compared to existing technologies or systems employing similar technologies.

Specific considerations for this criterion are:

- a. The capacity of the project to avoid, reduce or sequester air pollutants or anthropogenic emissions of greenhouse gases;
- b. Potential environmental impacts of the project and mitigation plans;
- c. National Environmental Policy Act ("NEPA") considerations (e.g., status of any planned, ongoing or completed NEPA reviews);
- d. Life-cycle air pollution or greenhouse gas reduction benefits associated with wide-scale deployment of the technology(ies) underlying the project;
- e. The domestic energy security benefits of the project compared to existing or similar technologies or systems.

1. **Environmental and Energy Security Benefits:** The domestic environmental and energy security benefits of the project must be compared to existing technologies or systems employing similar technology. The results must be reported in the Energy Benefits and Emissions Table, shown in Table 1 in Attachment A-1. The following subcriteria will be used to evaluate the information relative to this specific criterion.
 - a. Adequacy and completeness of the life-cycle and sustainability data related to the primary technology and project facility.
 - b. Adequacy and completeness of the emissions data in addressing the improvement of the proposed technology in avoiding, reducing or sequestering air pollutants and/or greenhouse gases.
 - c. Reasonableness of the data in Table 1 of Attachment A-1 that shows the energy security benefits of the project.
 - d. Efficacy of the data provided in Table 1 of Attachment A-1 in addressing project metrics and performance metrics.
 - e. Adequacy of the completion of Table 1 of Attachment A-1 for benchmark and performance metrics.
2. **Permits and Approvals:** The applicant shall provide a complete list of federal, state and local permits and approvals required to site, construct, implement and operate the project, including environmental authorizations or reviews necessary to commence construction and operation. For approvals already received, provide the filing and approval dates and parties involved; for those not yet

received, provide the filing date, steps to be taken to obtain them, and expected date(s) they will be obtained.

3. **Environmental Report:** The environmental report specified in Section 609.6(b)(23) of the Final Regulations, together with additional environmental information that DOE may request of the applicant or that DOE develops during the course of its review of the environmental report, will be used by DOE for NEPA compliance purposes. The Report should contain data and analysis reasonably available to the applicant. Attachment B of the Solicitation addresses factual information that should be included in the environmental report, as appropriate. The environmental report will not be point scored but will be used to prepare an environmental critique and synopsis, if applicable, under 10 CFR 1021.216, to assist DOE in determining the appropriate level of NEPA review, and to facilitate DOE's preparation of any required EA or EIS.

Section E: Business Plan

The applicant shall provide a business plan demonstrating its expertise, financial strength and management capability to undertake and operate the project as proposed. The business plan shall also present a detailed analysis of the construction and performance-related risks associated with the project (e.g., cost escalation or overruns, obtaining approvals and litigation) and safeguards/risk mitigation strategies (e.g., fixed price contracts, liquidated damages, warranties or other incentive/disincentive arrangements) to be employed, as well as a comprehensive project implementation plan for integrating and monitoring the various phases of the project. Taken together, the components of the business plan shall provide analyses demonstrating that, at the time of the application, there is reasonable prospect that the borrower will be able to repay the guarantee obligations (including interest) according to their terms, and a complete description of the operational and financial assumptions and methodologies on which this demonstration is based. The conclusions of the business plan shall include a statement from the applicant that it believes there is a reasonable prospect that the guaranteed portion of the Guaranteed Obligations will be fully paid from project revenue according to the terms proposed in the application.

1. **Financial Analysis:** Provide a detailed description of the overall financial plan for the proposed project, including quarterly sources and uses of funding, equity and debt statement for the construction period, prepared in accordance with Generally Accepted Accounting Principles in the United States (“US GAAP”), showing the timing and amount of expected equity and debt funding by institution, as well as a full set of financial projections (income statements, balance sheets and cash flow statements) prepared according to US GAAP for the tenor of the proposed guaranteed portion of the Guaranteed Obligation. List the major assumptions in a separate worksheet of the model. Calculate at a minimum the current leverage and debt service coverage ratios of the parties associated with the project based on the expected tenor of a DOE-guaranteed loan. Discuss the principal factors that could impair the project’s ability to meet its debt service obligations.
2. **Market Analysis:** Include an analysis of the market for each product to be sold by the project. Also discuss the prevailing economic and demographic trends in the target market, justification for revenue projections (price and volume), and potential competitors/substitutes. Provide evidence that a market exists for the products and an assessment of the market potential for the proposed technology beyond the project currently being proposed by the applicant. Describe any sales arrangements (e.g., off-take agreements) that exist or are contemplated, including summaries of their key terms and conditions and executed letters of intent, as applicable. DOE will conduct its own market analysis of the project. Provide your forecast for product demand. Describe any potential off-take or other revenue-generating agreements that will provide a primary source of

revenues for the project including repayment of debt obligations, and include copies of these agreements.

3. **Project Sponsor Involvement:** Describe the project sponsor's capabilities, financial strength and investment both in the project to date and as anticipated during the operational phase of the project (e.g., continuing financial support). Detail the project's strategic significance to the Project Sponsor.
4. **Contractual Arrangements:** Provide a copy of all material agreements (whether entered into or proposed) for the investment, design, construction, start-up and operation of the project (e.g., engineering, financing, raw material supply, commissioning, shakedown and maintenance).
5. **Potential Project Off-take:** Provide your forecast for plant capacity. Describe and provide copies (whether entered into or proposed) of any potential off-take or other revenue generating agreements that will provide a primary source of revenues for the project including repayment of debt obligations.
6. **Management Plan:** Provide an organizational chart showing the staff and positions expected to operate the project, their qualifications and track record. Describe the plan for operating the project.
7. **Operational Risks and Mitigation Strategies:** Based on the business plan information above, prepare an analysis showing the strengths, weaknesses, opportunities and threats for successful operation of the project (e.g., price declines, scarcity of raw materials, dependence on a particular technology supplier) and mitigation strategies.

Section F: Financial Plan

1. **Background and Legal Structure:** Describe the applicant's history, ownership, and legal structure (e.g., corporation or partnership) and the relationship between the applicant and the Borrower. Include a copy of the statutory authority under which the entity was created.
2. **Loan Guarantee Impact:** Provide an explanation of what estimated impact the loan guarantee will have on the interest rate, debt term and overall financial debt structure of the project.
3. **Legal Authority:** Describe the legal authority of the applicant to carry out the proposed project activities (e.g., issuing debt, charging fees). Provide supporting documentation.
4. **Financial Statements:** Provide audited financial statements and associated notes for the past three years (or during the full time in operation, if less), prepared in accordance with US GAAP by an independent certified public accountant firm acceptable to DOE. Include the applicant's quarterly or interim financial statements and associated notes of applicant and parties providing applicant's financing backing for the current fiscal year, supported by a letter from the appropriate company financial official certifying their correctness.
5. **Credit History:** Include a credit history of the applicant and any party owning or controlling, by itself and/or through individuals in common or affiliated business entities, a five percent or greater interest in the project or the applicant. Provide their full names (including middle name or initial), home or business address as appropriate (including zip code), date of birth and taxpayer identification/social security number. DOE will use such information to verify the credit history of such applicant and party. DOE may also request additional documentation as part of the project evaluation process.
6. **Litigation and/or Conflicts:** Disclose any current, threatened, or pending litigation involving the applicant related to permitting, public involvement, environmental irregularities, construction defects, securities fraud, conflict of interest, failure to perform under a state or federal contract, or other charges which may reflect on the applicant's financial position or ability to complete the project.
7. **Sources of Funds:** List all proposed sources of funding by provider, aggregate amount and type. Include a schedule showing the expected amount and timing of disbursements.
8. **Letter(s) of Intent:** For financing other than from the Federal Financing Bank (FFB), provide an executed letter of intent from the applicant's debt and equity financing sources, which include the terms and the conditions precedent to

funding. Submission of financing documents, and acceptance of terms and conditions by DOE, will be a condition precedent for closing of a loan guarantee transaction.

9. **Closing Checklist:** Provide a copy of the financial closing checklist for all sources of financing to the extent available.
10. **Information on Other Borrowed Funds:** Provide information on the other types of expected borrowing financing the project, including type(s) of credit instrument(s) to be issued, security to be pledged for such borrowing, its priority with respect to the security pledged to the loan guarantee program instrument, and details of structuring.
11. **Collateral:** Describe and value all assets associated, or to be associated, with the project and any other assets that will serve as collateral for the Guaranteed Obligation. Valuations must be supported by independent, third-party appraisals for existing assets, and/or adequate cost substantiation for assets to be constructed for the purpose of the project, and in all cases acceptable to DOE. An appraisal of real property must be performed by a licensed or certified appraiser consistent with the Uniform Standards of Professional Appraisal Practice promulgated by the Appraisal Standards Board of the Appraisal Foundation. Provide information on the useful life of all physical assets, including a depreciation schedule (in accordance with US GAAP), associated, or to be associated, with or to serve as collateral.
12. **Preliminary Credit Assessment:** For projects where the estimated total Project Costs exceed \$25 million, provide a preliminary credit assessment for the project (without giving effect to the DOE loan guarantee) from a nationally recognized rating agency. The assessment shall examine the project as structured, but in the absence of a loan guarantee from DOE and shall identify any material assumptions utilized by the rating agency in its analysis. DOE will require a final credit rating, as a condition of financial close, no later than 30 days prior to financial closing, as required by Section 609.9(f) of the Final Regulations. For projects where the estimated total cost is \$25 million or less, in the sole discretion of the Secretary, DOE may require such an assessment as well.
13. **Eligible Lender or Holder Statement:** If funds are to be provided by lenders other than FFB, provide the name of each such lender, the amount terms and conditions of their expected financing, documentation detailing their financial strength, experience with other federal programs, and any other information deemed material to the application. If such a lender intends to sell participations in the loan, include a plan of syndication giving the lender's approach and track record with similar transactions. If such a lender contemplates a bond financing, include the lender's plan regarding size and timing of issuance, use of any registration with the U.S. Securities and

Exchange Commission, key terms and conditions, and marketing strategy. Also provide the lender's qualifications and track record in undertaking similar size financings in the capital markets. Include with the application written affirmation from an officer of the Eligible Lender or other Holder: (i) describing its current involvement with DOE's and other Federal agencies loan guarantee programs; and (ii) that it is in good standing with all such programs.

Section G: Progress Reports

1. **Progress Reports:** The applicant shall provide project progress reports to DOE or its agent(s) during the construction and start-up phases on a monthly basis (the first such report to be submitted within 30 calendar days of notification of CRB approval of the Term Sheet), comparing actual timing, cost and financing against the original budget and previous month. Each report shall explain the reason(s) for any significant variance(s) during the month and likely impact on the project going forward. During the operational phase of the project, the applicant shall provide financial statements, prepared in accordance with US GAAP, to DOE on a quarterly basis (consisting of an income statement, balance sheet and cash flow statement), with certification by the applicant that the statements are true and correct. At all times, from receipt by DOE of an application, until the guaranteed portion of the Guaranteed Obligation is fully re-paid, the applicant shall be obligated to inform DOE expeditiously (but in no event later than three (3) business days after discovery) of any condition having, or potentially having, a material adverse effect on either the project or the ability of the parties to carry out their obligations. DOE reserves the right to require submission of additional information as it deems necessary. Details on submission procedures, URLs, and passwords will be provided to successful applicants later in the process under separate cover.

Section H: Application Certifications

1. **Certifications and Assurances:** In submitting an application for a loan guarantee under Title XVII, applicants must provide certain certifications and assurances contained in the form entitled “U.S. Department of Energy Loan Guarantee Certifications and Assurances.” It may be downloaded from the DOE website: http://www.management.energy.gov/business_doe/business_forms.htm. DOE may require that applicants provide additional certifications or supporting documentation as part of the project evaluation process.

Energy Benefits and Emissions Table Attachment A-1 - Table 1

http://www1.eere.energy.gov/industry/bestpractices/software.html		Existing Technology or Industry Practice		New Technology or Industry Practice	
Calculated items from Plant Energy Profiler or documented source*		<i>Units - trillions of btu</i>		<i>Units - \$</i>	
Energy use per unit of Production					
Energy cost per unit of Production					
Annual Purchased energy in 2008					
Annual Consumed energy in 2008					
		For 2012 assume no change in practices and market growth as projected by EIA, Chemical Economics Handbook or other citable sources for 2012. Assume inflationary cost growth		Represent growth by the number of plants estimated to be built or implementation of technologies by the applicant as a result of this proposed plant or technology improvement, with specific output capacity as a percentage of the output that would meet the needs for projected markets in 2012. Use EIA market projections, Chemical Economics Handbook values or other citable source for 2015 numbers. Please provide citations for your values. Assume inflationary cost growth.	
Calculated items from Plant Energy Profiler or documented source*		<i>Units - trillions of btu</i>		<i>Units - \$</i>	
Annual Projected Purchased energy in 2012					
Annual Projected Consumed energy in 2012					

http://www.energetics.com/ies_tool/		Existing Technology or Industry Practice		New Technology or Industry Practice	
Calculated emissions from ITP Industrial Energy Systems Project Evaluation Tool or documented source*		<i>Units - metric tons</i>		<i>Units - metric tons</i>	
Total Sum of Annual Emissions of Greenhouse Gases (CO ₂ , SO _x , NO _x , CO) for 2008					
Total sulfur dioxide emissions 2008					
Total nitrogen dioxide emissions 2008					
Total particulate emissions 2008					
		For 2012 assume no change in practices and market growth as projected by EIA, Chemical Economics Handbook or other citable sources for 2012. Assume inflationary cost growth		Represent growth by the number of plants estimated to be built or implementation of technologies by the applicant as a result of this proposed plant or technology improvement, with specific output capacity as a percentage of the output that would meet the needs for projected markets in 2012. Use EIA market projections, Chemical Economics Handbook values or other citable source for 2015 numbers. Please provide citations for your values. Assume inflationary cost growth.	
Calculated emissions from ITP Industrial Energy Systems Project Evaluation Tool or documented source*		<i>Units - metric tons</i>		<i>Units - metric tons</i>	
total Sum of Projected Annual Emissions of Greenhouse Gases (CO ₂ , SO _x , NO _x , CO) for 2012					
Total sulfur dioxide emissions 2012					
Total nitrogen dioxide emissions 2012					
Total particulate emissions 2012					

* If an applicant has completed their own Life Cycle analysis, they can employ data from the analysis

Attachment B

National Environmental Policy Act (NEPA) Guidance

Overview

The National Environmental Policy Act of 1969 (“NEPA”) requires Federal agencies to consider the potential environmental impacts of their proposed actions.

Because loan guarantees are expected to be granted for commercial-scale projects, categorical exclusions from NEPA analysis are not expected to apply. If DOE invites a Project Sponsor to negotiate after the Formal Review is complete, DOE will evaluate each project to determine the appropriate level of NEPA review required (i.e., whether an EA or EIS should be prepared).

Selection of a NEPA Contractor

DOE may choose to use a third-party contract arrangement to assist DOE in the preparation of an EA or EIS. Under a third-party contract arrangement, the applicant will be required to pay the contractor cost of NEPA compliance. The environmental firm preparing the EA or EIS will work exclusively under the direction of DOE. DOE will be solely responsible for the contents of the EA or EIS. The applicant may propose an environmental firm to DOE, but DOE will make the ultimate selection. Information on firms that hold DOE-wide NEPA indefinite delivery/indefinite quantity contracts is available on the DOE NEPA website at <http://www.eh.doe.gov/nepa>, under “DOE-wide NEPA Contracting.”

The applicant will hire a firm to prepare the EA or EIS once a third-party agreement or memorandum of understanding (“MOU”) has been signed by DOE, the environmental firm, and the applicant. The firm DOE selects must sign a conflict of interest form indicating that it has no financial or other interest in the outcome of the project. DOE will not be involved in the fee and contractual negotiations between the applicant and the NEPA contractor.

NEPA Process and Preparation of an EIS

The following outlines the NEPA process at DOE following the decision to invite an applicant to negotiate. The first step involves determining the appropriate level of NEPA review for each project.

If DOE determines that an EIS is required, DOE will prepare the EIS, or, as appropriate, adopt an EIS prepared by another federal agency (e.g., U.S. Department of the Interior) for the corresponding project. If DOE needs to prepare an EIS, DOE will publish in the Federal Register a notice of intent (“NOI”) to prepare the EIS. The NOI states the purpose and need for agency action, opens a minimum 30-day scoping process, and provides preliminary information on the proposed EIS scope, including the alternative actions to be evaluated and the kinds of potential environmental impacts to be analyzed in the EIS. During the 30-day scoping process, DOE will hold one or more

public meetings in the vicinity of the proposed project site. DOE officials will attend and run the meeting(s). The EIS preparation contractor may be called upon to facilitate the logistics of the meeting.

During the public scoping process DOE requests comments from the public on the scope of the EIS in regards to what alternatives should be evaluated and what potential environmental impacts should be analyzed. DOE then considers scoping comments and prepares a draft EIS (“DEIS”), which will, at a minimum, meet the requirements in the Council on Environmental Quality’s (“CEQ”) NEPA regulations at 40 CFR Parts 1500-1508 and DOE NEPA regulations at 10 CFR Part 1021.

The DEIS is distributed to members of Congress, other federal agencies, Indian tribes, state and local governments and organizations and individuals known to be potentially affected or have an interest in the project and is filed with the U.S. Environmental Protection Agency (EPA). EPA then publishes a notice of availability (“NOA”) in the Federal Register announcing the availability of the DEIS beginning a minimum 45-day public comment period. DOE may publish its own NOA describing how the public may comment, including the location and schedule of one or more public hearings on the DEIS.

After receiving comments, a final EIS (“FEIS”) is prepared that includes public comments on the draft EIS and DOE responses describing how the comments were addressed in the FEIS. The same distribution process as the DEIS follows, including a filing with EPA. EPA issues a NOA in the Federal Register, and DOE may issue a record of decision (“ROD”) no sooner than 30 days after publication of the NOA. The ROD describes the agency's decision regarding the proposed action and is published in the Federal Register.

Information to be Submitted to DOE in the Application

Under Section 609.6(b)(23) of the Final Regulations, an application must include a report containing an analysis of the potential environmental impacts of the project that will enable DOE to assess whether the project will comply with all applicable environmental requirements and will enable DOE to complete any necessary reviews under NEPA. Accordingly, each applicant should submit the following information to assist DOE in preparing, if necessary, an environmental critique under Section 1021.216 of title 10 of the CFR, in determining the appropriate level of NEPA review, and in preparing the EA or EIS.

1. Facilities – describe and, as appropriate, identify and quantify:
 - new facilities to be constructed, existing facilities to be modified, and materials and equipment to be used in construction;
 - size of the new and modified facilities and of the total project site (including support facilities needed, such as parking lots and treatment facilities, and associated land uses, such as agricultural production areas);
 - extent of necessary site clearing and excavation;

- associated construction of transport infrastructure (e.g., access roads, railroad links, docks, pipelines, electrical transmission facilities) or waste treatment facilities; and
 - any existing facility that is part of, or related to, the proposed project.
2. Project Location – describe and, as appropriate, identify, quantify, or provide a map:
- project site and location;
 - ownership of or jurisdiction over the land by Federal, state, regional, or local agency;
 - existing transportation corridors and infrastructure;
 - nearby land use and features (e.g., residences, industrial facilities, parks, surface water, soils, geology, hydrology);
 - areas with special designation both on the project location and nearby (e.g., National Forests, National Historic Properties, wetlands, floodplains, critical habitat for designated threatened or endangered species);
 - ambient air quality; and
 - near-by populations (including minority and low-income).
3. Proposed Project Construction and Operation –
- (a) describe and, as appropriate, identify and quantify, project operations, including:
- material resources to be used, including how they would be transported;
 - source(s) and rates of water consumption and adequacy of water supply sources;
 - materials produced, including how they would be transported;
 - onsite and offsite releases (air emissions, including carbon dioxide, odors; water effluents; and solid and other liquid waste streams), including rate and duration of such substances as criteria pollutants, greenhouse gases, and hazardous substances;
 - onsite and offsite waste treatment and disposal;
 - number of on-site workers; and
 - any mitigating measure(s) to be used or considered to be used to reduce environmental impacts.
- (b) present an overall schematic process diagram that identifies all inputs and outputs; and
- (c) identify a spectrum of scenarios that could result from process upsets, human error, and accidents/intentional destructive acts.
4. Project progression – provide information on:
- construction milestones;
 - expected operating cycle and any aspects of the project that could result in impacts that vary over time (e.g., with time of day or season of the year); and
 - expected project lifetime, including expansion of initial project at the proposed site and to other sites.

5. Status of other environmental and regulatory reviews, including permitting
 - if the proposed project would require review or permitting by another Federal agency or by a state, regional, or local agency, identify the required reviews and permits and tell the status of each; and
 - if an environmental impact review (e.g. NEPA documentation, agency consultations) has been prepared (or is in the process of being prepared or is anticipated) for the proposed project (by another federal agency or a state agency), provide a summary or copy of the review.

6. Alternative sites or operating parameters:
 - identify any other sites considered for the proposed project, and state whether they remain options or give the reasons for not proposing them;
 - identify any alternative operating parameters for the proposed project (e.g., materials to be used in constructing and operating the project, emissions controls or carbon sequestration) and state whether they remain options or give the reasons for not proposing them.
 - identify other major project options, if any, relevant to environmental concerns

7. Post-operational requirements – to the extent possible:
 - describe any reasonably foreseeable future requirements, including site close-out and site restoration; and
 - describe any related decontamination and decommissioning activities, including associated waste streams.

8. Other actions in the project area:
 - describe current or other possible future industrial-or other facilities and activities (for example, coal-fired electrical plants or biomass facilities), including those by other companies, in the same geographic area(s).

DOE recommends that applicants also consider NEPA references on DOE’s website at http://www.eh.doe.gov/nepa/guid_tools.html -- “Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements,” “Environmental Impact Statement Checklist,” and the “Environmental Assessment Checklist”. Applicants may also wish to refer to existing EAs and EISs published on DOE’s website to understand the level of analysis that DOE will need to carry out in its NEPA review.

Attachment C

Schedule of Fees

**UNITED STATES
DEPARTMENT OF ENERGY**

**FEE SCHEDULE FOR LOAN GUARANTEE
Title XVII Loan Guarantee Program**

LOAN GUARANTEE FEE STRUCTURE:

Note: All fees appearing on this schedule are non-refundable.

Type of Fee Fee Amount

I. Application (First Fee)

Loan Guarantee Amount	Total application fee amount	25% of application fee due December 31, 2008	75% of application fee due upon DOE notification
\$0- \$150,000,000	\$75,000	\$18,750	\$56,250
Above \$150,000,000- \$500,000,000	\$100,000	\$25,000	\$75,000
Above \$500,000,000	\$125,000	\$31,250	\$93,750

II. Facility (Second Fee)

Loan Guarantee Amount	Total Fee Amount
\$0- \$150,000,000	1% of the guaranteed amount
Above \$150,000,000- \$500,000,000	\$375,000 + 0.75% of the guaranteed amount
Above \$500,000,000	\$1,625,000 + 0.50% of the guaranteed amount

III. Maintenance (Third Fee)

As set forth in Section VII.1 of the Solicitation.

IV. Fee Payments

Fee Payments will only be credited by wire transfers to the following address:
U.S. Treasury Department
ABA No. 0210-3000-4 TREASNYC/CTR/BNF=D89000001
OBI=LGPO SOLICITATION # DE-PS01-088LG00001 Application Fee for (applicant name)

Attachment D

Loan Guarantee Application Form

U.S. Department of Energy Loan Guarantee Program for Projects that Employ Innovative Technologies

This form is for use by Applicants seeking a U.S. Department of Energy Loan Guarantee pursuant to Title XVII of the Energy Policy Act of 2005, Public Law 109-58 (22 USC 16511, et seq.) and is governed by 10 CFR Part 609. (Social Security numbers are requested for purposes of verifying whether the Applicant has any tax delinquent accounts with the IRS as required by OMB Policy Circular A-129.) After completing this form, please print two copies and send to the address below. It is highly recommended that all mail be sent via Express Mail. Full Applications should be uploaded using Fed Connect at www.fedconnect.net. For more information on the program, please visit our website at <http://www.lgprogram.energy.gov>.

Submit Completed Form to:
Director
U.S. DOE Loan Guarantee Program
1000 Independence Ave, SW
Washington, DC 20585-0121

If you need assistance or have any questions please contact the Loan Guarantee Program Office by email at lgprogram@hq.doe.gov

In reference to DOE Solicitation No.

Invitation No. (if applicable)-

GENERAL INFORMATION

Organization Name **Federal Tax ID or Social Security No.**

--

Contact Last Name	First Name	Position/Title

Phone Number	Fax Number

Address

--

City	State	9 Digit Zip Code

Email	DUNS Number	NAIC Number

Project Location – City	State	9 Digit Zip Code

PROJECT SPONSORS (ASSET HOLDERS) WITH EQUITY OF 5 PERCENT OR MORE

Organization Name **Federal Tax ID or Social Security No.**

--

Contact Last Name	First Name	Position/Title

Phone Number	Fax Number

Address

--

City	State	9 Digit Zip Code

Organization Name		Federal Tax ID or Social Security No.
<input type="text"/>		
Contact Last Name	First Name	Position/Title
<input type="text"/>	<input type="text"/>	<input type="text"/>
Phone Number	Fax Number	
<input type="text"/>	<input type="text"/>	
Address		
<input type="text"/>		
City	State	9 Digit Zip Code
<input type="text"/>	<input type="text"/>	<input type="text"/>

Organization Name		Federal Tax ID or Social Security No.
<input type="text"/>		
Contact Last Name	First Name	Position/Title
<input type="text"/>	<input type="text"/>	<input type="text"/>
Phone Number	Fax Number	
<input type="text"/>	<input type="text"/>	
Address		
<input type="text"/>		
City	State	9 Digit Zip Code
<input type="text"/>	<input type="text"/>	<input type="text"/>

Organization Name		Federal Tax ID or Social Security No.
<input type="text"/>		
Contact Last Name	First Name	Position/Title
<input type="text"/>	<input type="text"/>	<input type="text"/>
Phone Number	Fax Number	
<input type="text"/>	<input type="text"/>	
Address		
<input type="text"/>		
City	State	9 Digit Zip Code
<input type="text"/>	<input type="text"/>	<input type="text"/>

Organization Name		Federal Tax ID or Social Security No.
<input type="text"/>		
Contact Last Name	First Name	Position/Title
<input type="text"/>	<input type="text"/>	<input type="text"/>
Phone Number	Fax Number	
<input type="text"/>	<input type="text"/>	
Address		
<input type="text"/>		
City	State	9 Digit Zip Code
<input type="text"/>	<input type="text"/>	<input type="text"/>

SUMMARY OF LOAN GUARANTEE REQUEST

Requested Period of Guarantee	yrs	Total Project Costs*	\$
Equity*	\$	Proposed Guaranteed Amount*	\$
Debt*	\$	Requested Loan Guarantee to Debt Instrument	%
Debt to Equity Ratio	:	Requested Loan Guarantee to Total Project Costs	%

* Please indicate dollars in millions

CATEGORY OF PROJECT

Category	Description	Check Box
1	Renewable Energy Systems	
2	Advanced Fossil Energy Technology (including coal gasification meeting the criteria in paragraph 1703 (d) of Title XVII	
3	Hydrogen fuel cell technology for residential, industrial or transportation Applications	
4	Advanced nuclear energy facilities	
5	Carbon capture and sequestration practices and technologies, including agricultural and forestry practices that store and sequester carbon	
6	Efficient electrical generation, transmission and distribution technologies	
7	Efficient end-use energy technologies	
8	Production facilities for fuel efficient vehicles including hybrid and advanced diesel vehicles	
9	Pollution control equipment	
10	Refineries, meaning facilities at which crude oil is refined into gasoline	

RESTRICTIONS ON DISCLOSURE AND USE OF INFORMATION

Title XVII of the Energy Policy Act of 2005 authorizes the collection of this information. The primary use of this information is by the Loan Guarantee Program Office of the Department of Energy in their review of applications for loan guarantees under Title XVII. Additional disclosures of this information may be made as required by law. Where the information provided is a social security number, the provision of the information is voluntary but failure to disclose may result in disapproval of the application.

All information collected will be handled in accordance with the Freedom of Information Act (5 U.S.C. 552) and all applicable laws.

Patentable ideas, trade secrets, proprietary, or confidential commercial or financial information, disclosure of which may harm the applicant, should be included in an Application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the applicant specifically identifies and marks such data in accordance with the following provisions:

1. Applicant hereby discloses that (fill in the blank below in this Application Form with the specific Application Sections containing proprietary data):

“Sections ____ of this Application contain data which 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 is issued a loan guarantee under Title XVII of the Energy Policy Act of 2005 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, other than such data that have been properly reasserted as being trade secret or proprietary in the loan guarantee agreement. This restriction does not limit the Government’s right to use or disclose data obtained without restriction from any source, including the applicant.”

2. Include the following legend on the first or cover page of each document or electronic file submitted that contains such data (be sure to specify the page numbers from such document or electronic file that contains the proprietary data):

“The data contained in pages _____ of this document or electronic file which hereby forms a part of the Application 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 is issued a loan guarantee under Title XVII of the Energy Policy Act of 2005 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, other than such data that have been properly reasserted as being trade secret or proprietary in the loan guarantee agreement. This restriction does not limit the Government’s right to use or disclose data obtained without restriction from any source, including the applicant.”

3. Include the following legend on each page of a document or electronic file containing such data (a) as a header on the page or (b) to specifically identify and mark each line or paragraph on the page containing such data:

“The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation.”

BURDEN DISCLOSURE STATEMENT

This data is being collected to support Applications for loan guarantees from the Department of Energy under Title XVII of the Energy Policy Act of 2005 (22 USC 16511, *et seq.*). The data you supply will be used for the review of business and credit risks relating to projects which qualify for loan guarantees under Title XVII.

Public reporting burden for this collection of information is estimated to average 10.36 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of the Chief Information Officer, Records Management Division, IM-23, U.S. Department of Energy, 1000 Independence Ave SW, Washington, DC, 20585-1290; and to the Office of Management and Budget, OIRA, Washington, DC 20503.

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB control number.

Submission of this data is required to obtain a guarantee of the repayment of principal and interest on loans relating to projects that qualify for such guarantees under Title XVII of the Energy Policy Act of 2005 (22 USC 16511, *et seq.*).

CERTIFICATION

The undersigned certifies that the data and information submitted and the representations made in this Application and any attachments to this Application are true and correct, to the best of the Applicant's knowledge and belief after due diligence, and that the Applicant has not omitted any material facts.

The undersigned further certifies to having full authority to bind the Applicant.

Applicant (Organization Name)

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Name of Applicant's Authorized Officer (<i>will fulfill on-line certification</i>)	Title
--	-------

--	--

Signature of authorized officer (<i>for paper copy only</i>)	Date
--	------

--	--

Attachment E

Examples of Eligible Projects

The following is provided for illustrative purposes only and is a non-exclusive list of projects potentially employing New or Significantly Improved Technologies that would generally fall within each of the respective project types described under the heading “Project Types” in Section II of the Solicitation. The project types set forth in this Attachment E do not constitute projects presumed to employ New or Significantly Improved Technologies. Submission of an application supporting a project that fits within one or more of the illustrative project types set forth below neither assures that an applicant will be selected to enter into negotiations with DOE nor assures that such applicant will be issued a Loan Guarantee Agreement.

Manufacturing Projects

- Energy Efficient Industrial Manufacturing
- Energy Efficient Building Equipment and Components Technologies
- Hybrid Vehicle Manufacturing Facilities
- Advanced Wind Turbine or Component Manufacturing Facilities
- Ocean Wave, Tidal, and River Current (e.g., hydrokinetic) Manufacturing Facilities
- Utility-Scale Energy Storage Device Manufacturing Facilities
- Battery Manufacturing Facilities
- Hydrogen and Fuel Cell Manufacturing Facilities
- Low-cost Carbon Fiber Manufacturing Facilities
- Plug-in Hybrid Manufacturing and Assembly Facilities
- Solar Technology Manufacturing Facilities
- High Temperature Geothermal Pump Manufacturing Facilities
- Advanced Geothermal Power Cycle Manufacturing Facilities
- Substation-Class Transformer Manufacturing Facilities
- Energy Efficient, High Capacity Transmission Cable/Conductor Manufacturing Facilities
- High Power, High Voltage Power Electronics (or Transmission-Class Solid-State Equipment) Manufacturing Facilities

Stand-Alone Projects

- Commercialization of Advanced Design Bio-Refineries for Multi-Feedstock Processing into Biofuels
- Geothermal Power Project Development in Known Geothermal Resource Areas
- Large-Scale Concentrated Solar Power (“CSP”) and Concentrated Photovoltaic (“CPV”) Projects
- Tidal Energy Project
- Wave Energy Project

- Advanced Hydropower Project
- Offshore Wind Project
- Industrial Energy Efficiency Projects
- Implementing Hydrogen Fuel Cells into a Project for Stationary and or Vehicular Applications
- Integration of an Energy Efficient Technology into a Commercial, Residential, or Industrial Facility or Building
- Advanced Hydropower Facility

Large-scale Integration Projects

- Technologies that will facilitate the integration of hybrid technologies which may include plug-in hybrid network equipment, battery service, and transportation services
- Large solar arrays (photovoltaic or CSP) as a significant component of a distributed generation system
- Grid reliability investments
- Wind energy systems coupled with grid integration or energy storage technologies constituting New or Significantly Improved Technologies that mitigate wind variability impact on grid reliability
- Interconnecting islands via deep water interconnect electric power cables to deliver energy from remote geothermal energy sources to load centers
- Ship-based ocean thermal energy conversion (“OTEC”) with multiple generators and undersea cables
- New CSP technology co-located with biomass plant (or other type of thermal generation plant) to enhance steam production and to provide firm electricity delivery
- Establishment of grid stability enhancements designed to allow high penetration (50% or greater) of the proposed technology. Enhancements could include batteries, fast responding thermal generators or hardware/software implementation to improve grid management
- Projects that can deploy energy storage technologies constituting New or Significantly Improved Technologies to be used for peak shaving, integration of renewable resources and substation and distribution feeder deferral.

TECHNOLOGY CATEGORIES

Applicants may submit applications for technologies not specifically listed below but which conform to the requirements set forth in Title XVII, the Final Regulations and this Solicitation. The following list is provided for illustrative purposes only in order to familiarize the applicant with the types of technologies potentially constituting New or Significantly Improved Technologies that may fit within each defined category. The technology categories set forth in this Attachment E are not presumed to employ New or Significantly Improved Technologies. Submission of an application supporting a project that fits within

one or more of the illustrative technology categories set forth below neither assures that an applicant will be selected to enter into negotiations with DOE nor assures that such applicant will be issued a Loan Guarantee Agreement.

Category 1 Alternative Fuel Vehicles

- 1) Battery manufacturing facilities
- 2) Plug-in hybrid manufacturing and assembly facilities
- 3) Advanced hybrid manufacturing facilities

Category 2 Biomass

- a) Bioenergy projects as described in Section 932(d) of the Energy Policy Act of 2005
- b) Biofuels production, distribution and infrastructure
- c) Municipal solid waste (“MSW”) to ethanol projects or syngas (for the non-recyclable portion of MSW)
- d) Biomass to syngas projects
- e) Biomass to diesel projects (excluding fatty acid methyl ester projects)
- f) Bio-oil derived fuel projects

Category 3 Efficient Electricity Transmission, Distribution and Storage

- a) Smart grid technologies
- b) Solid-state devices for grid applications such as advanced converters, transformers, and fault current limiters
- c) Advanced utility-scale energy storage devices
- d) Advanced cables and conductors
- e) Advanced technologies that assist in the widespread deployment of intermittent renewable energy systems and which combine generation with storage facilities and demand side management

Category 4 Energy Efficient Building Technologies and Applications

- a) Improved building shell materials
- b) Cool roof materials
- c) Day-lighting technologies
- d) Lighting systems
- e) Advanced window technologies

Category 5 Geothermal

- a) Advanced exploration and drilling technologies
- b) Electricity production from hot wastewater from oil and gas wells
- c) Advanced power cycle technologies
- d) Hybrid cooling systems
- e) Enhanced air-cooled condensation systems
- f) High temperature and high pressure instrumentation and diagnostic tools
- g) Advanced geothermal power facilities

Category 6 Hydrogen and Fuel Cell Technologies

- a) Manufacturing for small scale fuel cell systems
- b) Utility scale hydrogen energy storage systems
- c) Combined heat and power fuel cells for buildings

Category 7 Energy Efficiency Projects

- a) Technologies which reduce energy consumption in industrial, commercial, institutional and government applications.
- b) Examples for industrial applications include the aluminum, chemicals, forest products, glass, metal casting, mining, petroleum refining and steel industries.
- c) Examples for commercial applications include large office buildings, big box retailers, shopping malls, apartment complexes and housing subdivisions.
- d) Examples for institutional applications include universities and hospitals.
- e) Examples for government applications include military bases, laboratories, testing facilities, office buildings and prisons.

Category 8 Solar

- a) Centralized solar electricity generation facilities or installations (concentrated solar power or photovoltaic)
- b) Solar technology manufacturing facilities (concentrated solar power or photovoltaic)
- c) Advanced solar thermal technologies, applications and manufacturing

Category 9 Wind and Hydropower

- a) Advanced wind power plant
- b) Wind or renewables specific transmission lines
- c) Turbine or component manufacturing
- d) Testing facilities for commercial wind turbine components
- e) Community wind power systems
- f) Hydropower technology devices in existing impoundments
- g) Ocean wave and ocean, tidal and river current (hydrokinetic) energy projects

Attachment F

Communication Instructions

Responses to this Solicitation

NOTE: All references to Attachment A in this Attachment F of the Solicitation shall be deemed to refer to Attachment G solely with respect to large-scale integration projects.

1. FEDCONNECT

Potential applicants that receive this Solicitation through sources other than FedConnect should immediately register with FedConnect. In order to register you will need:

- Your company's DUNS (including plus 4 extension if applicable).
- (If you don't know your company's DUNS or if your company does not have a DUNS you can search for it or request one at <http://fedgov.dnb.com/webform/displayHomePage.do>), and
- A Federal Contractor Central Registration ("CCR") account.

(If your company is not currently registered with CCR, please register at <http://www.ccr.gov> before continuing with your FedConnect registration.) In completing the CCR utilize the "Grants" format unless you have reason to use any of the other formats.

- Other details on registering at FedConnect are available at the website – <http://www.fedconnect.net>

VERY IMPORTANT: Applicants are highly encouraged to obtain such numbers and complete such registrations as soon as possible and should allow at least 21 days to complete these processes. Contact the FedConnect support team at support@fedconnect.net to verify successful registration. If you have questions regarding the operation of FedConnect, please contact the FedConnect support team at support@fedconnect.net.

Important subsequent information may be posted concerning this Solicitation that will only be available at FedConnect and/or the LGPO website. For example, questions and responses of general interest to all potential applicants will be available at the FedConnect and/or the LGPO websites.

Applicants that intend to respond to this Solicitation should pay careful attention to the instructions contained in Section VIII.3 of the Solicitation as well as the instructions in Attachment D. The form set forth in Attachment D, OMB No 1910-5134, must be

completed, signed and submitted, along with the application, no later than 11:59pm (ET) on December 31, 2008. Such form shall be submitted both as hard copies (2) and electronically through FedConnect.

Applicants shall provide a “short name” or other identifier that will allow for easy identification of the company or the project. Applicants may ask questions or seek clarification prior to submitting an application through FedConnect or by contacting the LGPO at lgprogram@hq.doe.gov in accordance with the procedures set forth in Section VIII.1 of this Solicitation. DOE will respond to such questions, as appropriate, and may make applicant’s question(s) and DOE’s response(s) to such question(s) public, for example, by posting them on LGPO’s website or on the FedConnect website.

If an applicant needs to make substantive changes or additions to its application prior to the application submission deadline, the applicant must clearly identify and date the new version of the submission in its file name and upload it through the FedConnect website.

2. ALTERNATIVE COMMUNICATIONS

During the application submission period which expires 11:59pm (ET) on December 31, 2008, the preferred method of communication with the LGPO is through FedConnect. Alternate communication channels include:

- Regular or express mail, including private carriers at
Director
U.S. DOE Loan Guarantee Program Office CF 1.3
1000 Independence Ave., SW
Washington, DC 20585-0121

- E-mail at:
lgprogram@hq.doe.gov

Additional information on the loan guarantee program may also be available at <http://www.lgprogram.energy.gov> including Frequently Asked Questions and Responses.

3. SINGLE POINT OF CONTACT

Upon receipt of a completed application and a decision by DOE to begin negotiations with an applicant, DOE will assign a single point of contact for individual questions and or discussions on matters relevant to the application. This single point of contact **will** arrange for follow-up discussions. DOE may request that each submission be followed with an oral presentation to discuss and clarify the submission and agree on next steps. A teleconference instead of face-to-face meeting can suffice by mutual agreement.

Attachment G

Detailed Application Instructions for Large- Scale Integration Projects

**UNITED STATES
DEPARTMENT OF ENERGY**

**APPLICATION INSTRUCTIONS FOR LARGE-SCALE INTEGRATION
PROJECTS**

Title XVII Loan Guarantee Program

Background: These instructions set forth the information to be submitted under Title XVII of the Energy Policy Act of 2005, 22 U.S.C. 16511-16514 (“Title XVII”), for an application to receive a loan guarantee from DOE for a large-scale integration project as described in Section II.3 of this Solicitation. Please refer to Attachment A for detailed instructions for applications for loan guarantees for manufacturing projects and stand-alone projects. Title XVII authorizes the Secretary of Energy (“Secretary”) to issue loan guarantees only for projects that avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases and that employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued. The U.S. Department of Energy (“DOE”) will use the information submitted by applicants to evaluate and select applicants for loan guarantees issued under Title XVII. Applicants may be asked to provide additional information during the review and negotiation process. At any time after the applicant has been notified as to its selection to enter into negotiations, if there are material changes to the project, the applicant must promptly provide the Loan Guarantee Program Office (“LGPO”) with written notice of such change but in no event later than three (3) business days after such change and provide the LGPO with any updated information no later than ten (10) business days after such notification.

Application Process for Large-Scale Integration Projects

The following description of the application process for large-scale integration projects supplements Sections III, IV, VII and VIII of the Solicitation and, to the extent certain terms in such Sections III, IV, VII and VIII conflict with, or are modified by, this Attachment G, the terms in this Attachment G shall govern.

The application for a large-scale integration project is divided into two parts, namely Parts I and II. The Part I submission is expected to provide DOE with a top-level description of the project, project eligibility, financing strategy and progression to date in critical path schedules. The Part I submission includes information requests for such items as licensing, site preparation and long-lead procurements, and certain elements required to be submitted by Section 609.6 of the Final Regulations. The Part II submission consists of the items required by Section 609.6 of the Final Regulations that were not due in the Part I submission, as well as other requested items of information expected to facilitate DOE’s due diligence review. **An entirely complete Part I**

submission, including a completed DOE application form set forth in Attachment D, OMB No 1910-5134, along with remittance of twenty-five percent (25%) of the application fee (as set forth in Table 2 below), must be received by Treasury on behalf of DOE no later than 11:59pm (ET) on December 31, 2008. See Attachment F for details on communication procedures. All items required in Part I is set forth below in this Attachment G under the heading “Detailed Instructions for Part I Submissions for Large-Scale Integration Projects.” No later than 60 days from the due date for Part I submissions, DOE will notify applicants with large-scale integration projects as to (i) whether the applicant’s Part I submission is responsive and complete under this Solicitation and, if the Part I submission is responsive and complete, (ii) whether the application employs a technology deemed to constitute a New or Significantly Improved Technology based on considerations set forth below in Section B-I of the “Detailed Instructions for Part I Submissions for Large-Scale Integration Projects.” DOE will also provide in any such written notification a due date for such applicant’s Part II submission and request submission of the balance (75%) of the application fee to be remitted no later than the date specified in DOE’s written notification to applicant.

Applicants with applications deemed non-responsive to this Solicitation and/or with applications that do not employ a technology deemed to constitute a New or Significantly Improved Technology will receive written notification informing those applicants in accordance with Section 609.7(d) of the Final Regulations that no further consideration will be given to their applications. This non-selection determination by DOE shall be final and non-appealable.

Upon receipt of the 75% portion of the application fee, DOE will begin the Formal Review (as defined in Section III.2.b. of this Solicitation) of the project. If DOE does not receive the entire application fee by the time noted above, no further review will occur. See Tables 1 and 2 below. Based on the review of the submissions for Part I and Part II (if any) made available to DOE at the time of such Formal Review, DOE will provide written notification to those applicants who are not invited to enter into negotiations and provide reasons for this determination in accordance with Section 609.7(d) of the Final Regulations. This non-selection determination by DOE shall be final and non-appealable but will not prejudice the applicant from applying under a future solicitation. DOE will make such determination based on the review criteria set forth in Section IV.C of this Solicitation, the “Detailed Instructions for Part I Submissions for Large-Scale Integration Projects” and, as applicable, the “Detailed Instructions for Part II Submissions for Large-Scale Integration Projects” below. Moreover, in making such determination, DOE will also consider the following: (i) the extent to which the guaranteed portion of the Guaranteed Obligation supports portion(s) of the large-scale integration project that actually employs New or Significantly Improved Technologies, as opposed to Commercial Technologies, and (ii) the extent to which the New or Significantly Improved Technologies employed in the project are independent of one another and provide for redundancies to ensure the operational and financial integrity of the entire project if any of the technologies employed failed to operate as planned.

DOE acknowledges that, given the scope, complexity and long-lead times associated with large-scale integration projects, some applicants may be unable to provide to DOE certain information items required by Section 609.6 of the Final Regulations, as described below in this Attachment G under the heading “Detailed Instructions for Part II Submissions for Large-Scale Integration Projects,” by 11:59pm (ET) on December 31, 2008 when Part I submissions are due. A fully completed Part I submission, together with a substantially complete Part II submission, shall, in the aggregate, constitute a substantially complete application. **Accordingly, under this Solicitation, on or after the date of this Solicitation, and subject to the filing of the Part I submission in its entirety on time, Part II submissions may be filed, in whole or in part, at any time on or prior to the due date established by DOE in its written notification to an applicant. Nevertheless, applicants are strongly encouraged to submit their Part II submissions as early as possible in order to allow for sufficient time for the project underwriting, due diligence review and finalization of documentation to be completed prior to September 30, 2009 when the loan guarantee authority expires. In any event, a Part II submission must be filed in its entirety by the date established by DOE (which may not be later than 11:59pm (ET) on April 30, 2009) in DOE’s written notification to the applicant. DOE will make actual selections of applicants with whom it will enter into negotiations only after review of such applicants’ Part II submissions. Such selections shall be based on the review criteria set forth in Section IV.C of this Solicitation and in this Attachment G, including the “Detailed Instructions for Part II Submissions for Large-Scale Integration Projects” below.**

Table 1: General Schedule

Event	Date
Solicitation Issue	June 30, 2008
Part I submission due with 25% of application fee	December 31, 2008
Notification date as to (i) whether Part I submission is responsive to Solicitation, (ii) whether the proposed technology constitutes a New or Significantly Improved Technology, (iii) the due date for the Part II submission and, if applicable, (iv) DOE request to applicant to submit balance (e.g., 75%) of application Fee	On or about 60 days from December 31, 2008*
Remaining balance (e.g., 75%) of application fee due	On date specified in DOE’s written notification to applicant
Formal Review commences to determine whether applicant will <u>not</u> be invited to negotiate with DOE	After receipt of the balance (e.g., 75%) of the application fee
Complete Part II submission due	Based on date set by DOE in written notification to applicants which date may not be later than April 30, 2009

*In its sole discretion, DOE may notify applicants at any time prior to on or about 60 days from December 31, 2008 as to DOE’s determinations with respect to clauses (i) and (ii) in this Table 1 and any request for payment for the balance (i.e., 75%) of the application fee.

Application Fee: A portion (25%) of a non-refundable application fee must be paid to DOE via Treasury with the filing of Part I of the application no later than 11:59pm (ET) on December 31, 2008. The remaining balance (75%) of the application fee is due, with respect to responsive applications employing technologies deemed to constitute

New or Significantly Improved Technologies, subject to the Formal Review (as defined in Section III.2.b. of the Solicitation), on the date specified in DOE’s written notification to applicant before DOE will commence a Formal Review of the project.

Table 2 below outlines the application fee payable with respect to large-scale integrated projects in the appropriate proportions and at varying loan guarantee amount levels under this Solicitation.

Table 2: Application Fee Schedule*

Loan Guarantee Amount**	Total application fee	25% of application fee due upon filing of Part I submission	75% of application fee due on date specified in DOE’s written notification to applicant
\$0- \$150,000,000	\$75,000	\$18,750	\$56,250
Above \$150,000,000 - \$500,000,000	\$100,000	\$25,000	\$75,000
Above \$500,000,000	\$125,000	\$31,250	\$93,750

* **The wiring instructions are set forth in Section IV of Attachment C to this Solicitation.**

****i.e., Refers to the guaranteed portion of a Guaranteed Obligation**

Format: Applicant must provide all requested information in the following format:

1. The application is divided into two parts:
 - A. Part I – Initial Information/Overview
 - B. Part II – Due Diligence Information Requirements
2. The data in Part II builds on the information submitted in Part I.
3. Each data element in each section is named and numbered using the following format:

Project Short Name/Section/Data Number/Name

Example: Project XXX /I/D/1/Environmental and Energy Security Benefits (for this example see page 91).

4. Each data change or correction requires a complete new data entry instead of handwritten markups.
5. The changed information in the New Entry must be underlined, and the new entry must be dated.
6. Parts I and II together represent the complete application

Part I Submissions: Part I submissions shall be prepared in accordance with Section 609.6 of the Final Regulations and the instructions in “Detailed Instructions for Part I Submissions for Large-Scale Integration Projects” set forth below and must be accompanied by the following submittals:

- A. Initial portion (25%) of the application fee payable with the submission of Part I no later than 11:59pm (ET) on December 31, 2008.
- B. A DOE application form as appears in Attachment D and as required by Section 609.6(b)(1) of the Final Regulations that is fully completed and signed by an authorized representative of the Project Sponsor and/or applicant. The Part I submission must include an electronic version of the DOE application form – OMB No. 1910-5134 (Attachment D) provided through FedConnect, along with two signed paper copies to be submitted to the address contained in such form.

Part II Submissions: Part II submissions shall be prepared in accordance with Section 609.6 of the Final Regulations and the requirements in “Detailed Instructions for Part II Submissions for Large-Scale Integration Projects” below and must be submitted by 11:59pm (ET) on the date set by DOE (which may be no later than April 30, 2009) in its written notification to applicant.

Electronic Form: The application must be submitted in electronic form in the following Microsoft Office formats: Word, Excel, Adobe PDF or PowerPoint. Please do not encrypt, compress or zip the files. Applications and supporting documentation must be submitted electronically through the FedConnect site at <http://www.fedconnect.net> (See Attachment F).

Registrations: In submitting applications through FedConnect, applicants must complete the following:

- Obtain a Dun and Bradstreet Data Universal Numbering System (“DUNS”) number,
- Obtain a North American Industry Classification (“NAIC”) number,
- Register with the Central Contract Registration (“CCR”), and
- Register with FedConnect.

Applicants are highly encouraged to allow at least 21 days to complete the steps above. Contact the FedConnect support team by email at support@fedconnect.net to verify successful registration. Instructions for registering with CCR and FedConnect are found in Attachment F. If you have questions regarding the operation of FedConnect, please contact the FedConnect support team by email at support@fedconnect.net.

Warning: It is a crime to knowingly make false statements to a federal agency. Penalties upon conviction can include a fine and imprisonment. For details, see 18 U.S.C. 1001. Misrepresentation of material facts may also be the basis for denial of an application for a loan guarantee by DOE.

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Section A: Application Information

1. **Project Name:** Assign a short project name for purposes of identification.
2. **Project Summary/Abstract File:** The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the project director/principal investigator(s), the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). This document must not include any proprietary or sensitive business information as DOE may make it available to the public. The project summary must not exceed 1 page when printed using standard 8.5” by 11” paper with 1” margins (top, bottom, left and right) with font not smaller than 11 point. Save this information in a file named “Project Name Summary.pdf”
3. **Evidence of Authority:** Submit evidence that the signatory of the application has authority to bind the Project Sponsor to the commitments and representations made in the application and attests as to the accuracy of the information provided both written and oral in the application process and that binds the Project Sponsors.
4. **Applicant Validation Statement:** Provide a written statement that based on the project information provided by the applicant for DOE issuance of a loan guarantee, the applicant hereby attests that there is a reasonable prospect that the guaranteed portion of the Guaranteed Obligation will be repaid on time and in full (including interest) from project cash flow according to the terms proposed in the application, as required by Section 609.6(b)(28) of the Final Regulations.
5. **Equity Commitment Letters:** Provide a copy of the equity commitment letters from each project investor and a description of the sources of equity.
6. **Project Participants:** List the parties involved with the project, their function and contact information, including the name of contact person (first, middle and last), position/title, phone number, fax number, e-mail address, street address, city, state, 9-digit zip code.
7. **Applicant Point of Contact Information:** Provide the mailing address of the applicant and phone, fax and e-mail address of the project point of contact for DOE.
8. **Project Eligibility:** To the extent not otherwise addressed in other Sections of the Detailed Instructions for Part I Submissions for Large-Scale Integration Projects and the Detailed Instructions for Part II Submissions for Large-Scale Integration Projects, provide a detailed explanation of how and to which

measure the proposed project will meet all applicable requirements of Section 1703 of Title XVII.

Section B-I: Project Description – New or Significantly Improved Technology Determination Criteria

DOE will specifically evaluate whether the proposed technology in the project will employ New or Significantly Improved Technologies as compared to Commercial Technologies in service in the U.S. at the time the Term Sheet is issued.

1. **New or Significantly Improved Technologies:** New or Significantly Improved Technology means under Section 609.2 of the Final Regulations a technology concerned with the production, consumption or transportation of energy and that is not a Commercial Technology (as defined in Section 609.2 of the Final Regulations), and that has either only recently been developed, discovered or learned; or involves or constitutes one or more meaningful and important improvements in productivity or value, in comparison to Commercial Technologies in use in the United States at the time the Term Sheet is issued.
 - a) Define the extent to which the project will employ New or Significantly Improved Technologies as compared to Commercial Technologies in service in the U.S. at the time the Term Sheet is issued.
 - b) Describe if your technology involves one or more significant improvements in productivity or value when compared to Commercial Technologies in use in the United States.
2. **Commercial Technology:** Under Section 609.2 of the Final Regulations, Commercial Technology means a technology in general use in the commercial marketplace in the United States at the time the Term Sheet is issued by DOE. A technology is in general use if it has been installed in and is being used in three or more commercial projects in the United States in the same general application as in the proposed project, and has been in operation in each such commercial project for a period of at least five years. The five year period shall be measured, for each project, starting on the in service date of the project or facility employing that particular technology. For purposes of the term Commercial Technology, commercial projects include projects that have been the recipients of a loan guarantee from DOE under the Final Regulations.
 - a. Describe if your technology is in general use in the commercial marketplace in the United States.
 - b. Define if your technology has been installed in and is being used in three or more commercial projects in the United States in the same general application as in the proposed project, and has been in operation in each such commercial project for a period of at least five years.
 - c. State if a project with your technology has benefited from a loan guarantee from DOE under this Title XVII.

Section B-II: Project Description – Technical Relevance and Merit

Among other things, DOE will specifically evaluate the extent to which the project will (i) employ New or Significantly Improved Technologies as compared to Commercial Technologies in service in the U.S. at the time the Term Sheet is issued, (ii) consistent with Section 609.7(b)(3) of the Final Regulations, employ New or Significantly Improved Technologies that constitutes an important improvement in technology, as compared to Commercial Technologies in service in the U.S. at the time the Term Sheet is issued and as compared to technologies proposed in other applications submitted in response to this Solicitation, and (iii) advance other Title XVII objectives, as well as the material provided below.

1. **Executive Summary:** Provide a description of the nature and scope of the proposed project, including the purpose, design features, capacity and estimated total capital cost. Provide a top level description of the site location, facility and construction plans. Include your target date to close a loan guarantee to commence site preparation, begin operation and, if applicable, establish grid connection. Describe any potential legal or regulatory risks to the project.
2. **Technology Description:** Note that to qualify for a loan guarantee the technology must have been successfully demonstrated both at the pilot and demonstration scale and be ready for commercialization.
 - a. Provide a description of the new technology to be employed in the project and its commercial applications and feasibility and discuss why it is not now in general use.
 - b. Provide a report detailing the technology's pilot plant and demonstration plant experience (including hours of experimentation or run-time) including its successes and failures during the pilot and demonstration phases.
 - c. Provide actual demonstration plant technical results such as operating efficiency, yield, etc., such that a technical reviewer could assess the results.
 - d. Provide supporting information (e.g., process flow diagrams, equipment descriptions).

Also describe the applicant's rights to such technologies, including the status and expiration date of all licensing agreements required for the project.

3. **New or Significantly Improved Technologies:** New or Significantly Improved Technology means under Section 609.2 of the Final Regulations a technology concerned with the production, consumption or transportation of energy and that is not a Commercial Technology, and that has either only recently been

developed, discovered or learned; or involves or constitutes one or more meaningful and important improvements in productivity or value, in comparison to Commercial Technologies in use in the United States at the time the Term Sheet is issued.

- a. Define the extent to which the project will employ new or significantly improved technologies as compared to commercial technologies in service in the U.S. at the time the guarantee is issued.
- b. Describe if your technology involves one or more significant improvements in productivity or value when compared to Commercial Technologies in use in the United States.

(To the extent applicant has completed the Item 1 in Section B-I of the Detailed Instructions for Part I for Large-Scale Integration Projects, it is not necessary to complete this Item 3 in this Section B-II of the Detailed Instructions for Part I for Large-Scale Integration Projects. Please note that the response for Item 3 in this Section B-II will also be evaluated under the factor in paragraph (ii) above which was not the case with respect to Item 1 in Section B-I).

4. **Commercial Technology**: Under Section 609.2 of the Final Regulations, Commercial Technology means a technology in general use in the commercial marketplace in the United States at the time the Term Sheet is issued by DOE. A technology is in general use if it has been installed in and is being used in three or more commercial projects in the United States in the same general application as in the proposed project, and has been in operation in each such commercial project for a period of at least five years. The five year period shall be measured, for each project, starting on the in service date of the project or facility employing that particular technology. For purposes of the term Commercial Technology, commercial projects include projects that have been the recipients of a loan guarantee from DOE under the Final Regulations.
 - a. Describe if your technology is in general use in the commercial marketplace in the United States.
 - b. Define if your technology has been installed in and is being used in three or more commercial projects in the United States in the same general application as in the proposed project, and has been in operation in each such commercial project for a period of at least five years.

(To the extent applicant has completed the Item 2 in Section B-I of the Detailed Instructions for Part I for Large-Scale Integration Projects, it is not necessary to complete this Item 4 in this Section B-II of the Detailed Instructions for Part I for Large-Scale Integration Projects. Please note that the response for Item 4 in this Section B-II will also be evaluated under the factor in paragraph (ii) above which was not the case with respect to Item 2 in Section B-I).

5. **Intellectual Property:**

- a. Provide a description and list of the owners or controllers of the intellectual property incorporated in and utilized by such technologies.
- b. Describe the applicant's rights to such technologies, including the status and expiration date of all licensing agreements required for the project.
- c. Provide a list the manufacturer(s) and licensee(s), if any, authorized to make the technology available in the United States, the potential for replication of commercial use of the technology in the United States, and whether and how the technology is or will be made available in the United States for further commercial use.

Section C: Applicant Capabilities, Technical Approach and Work Plan

The applicant's and Project Sponsors' capabilities and prior experience as it relates to carrying out projects similar to the one being proposed will be evaluated. The proposed technical approach and work plan will be reviewed for its comprehensiveness, effective use of available resources, cost management and proposed schedule for meeting the applicant's objectives. The methods planned to meet each objective should be clear and discussed in detail.

The application will be evaluated on whether it offers a clearly innovative and feasible approach to the implementation of a technology that involves improvements in energy efficiency, development of renewable energy sources, and/or improves the efficiency and cost of transmission and distribution technologies and reduces, stores, or mitigates the emission of greenhouse gases. Specific objectives, approaches and plans for developing and verifying the innovation must demonstrate a clear understanding of the problem or opportunity, the current state-of-the-art, and the significance of the risks involved in the proposed innovation or use of technology and the identified means for mitigating those risks. The application will be evaluated for the clarity and technical strength of the approach to achieve the project objectives.

For example, this review will evaluate the quality of the project's construction plan, overall construction risk associated with the contingencies for equipment supply, evaluation of selected prime mover equipment, order of operations, mobilization schedules, delivery timelines, performance milestones, equipment integration scale-up challenges, acceptance/commissioning factors, performance and scheduling guarantees, and other relevant considerations such as site ownership or lease or liquidated damage provisions, etc

1. **Organization:** Provide a current organizational chart showing the applicant's structure, relationship to any subsidiaries or affiliates, and to the project. Advise if there are any proposed changes to the current organizational structure. List the full names (including middle name or initial), home address (including zip code), date of birth and taxpayer identification/social security number of key staff to be involved with the project. DOE will use this information for background check purposes and, with respect to certain key staff providing credit support to the project, for credit history verification purposes. DOE may request additional documentation as part of the project evaluation process.
2. **Prior Experience:** Describe the applicant's and Project Sponsors' capabilities and prior experience as it relates to carrying out (including designing, engineering and constructing, and/or manufacturing) projects similar to the one being proposed. Include the applicant's track record of completing projects on time and on budget, and operational results.

3. **Project Sponsor's Capabilities:** Describe the Project Sponsor's capabilities, financial strengths and investment both in the project to date and as anticipated during the operational phase of the project (e.g. continuing financial support). Detail the project's strategic significance to the Project Sponsor.
4. **Proposed Project Location:** Identify the proposed location and the rationale for the site location.
5. **State and Local Support:** Describe the status of potential and actual forms, amounts and conditions of state and local support for the project. Provide timelines for such assistance.
6. **Project Time Lines:** Provide a time line of the estimated start and completion dates of each major phase or key milestone of the project from construction through start of operations, and commercial operation date. Include early site preparation start, date commencing operation and first grid connection. Indicate current progress on time lines.
7. **Key Material Components:** Describe the key material components in the success of the project and describe any risk in availability (e.g., water, construction materials, site access, power evacuation infrastructure and fuel or raw material supply).
8. **Detailed Total Project Costs:** Provide a detailed estimate of total Project Costs including a breakdown by cost category, year of expenditure and basis for amounts and include a description of the methodology and assumptions used to make such estimate. Also indicate whether these costs are firm or subject to change. Distinguish between program eligible and non-eligible costs as determined for the loan guarantee program in Section 609.12 of the Final Regulations. Cost categories should include: labor, overhead, subcontracts, materials/supplies, equipment, general & administrative, indirect costs, and total costs.

Section D: Environmental and Energy Security Benefits

The overall projected environmental and energy security benefits will be evaluated in terms of the project's ability to avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases, and the potential for the project and the use of the proposed New or Significantly Improved Technologies employed in the project to improve the energy security of the United States. The proposed domestic environmental and energy security benefits of the project shall be compared to existing technologies or systems employing similar technologies.

Specific considerations for this criterion are:

- a. The capacity of the project to avoid, reduce or sequester air pollutants or anthropogenic emissions of greenhouse gases;
- b. Potential environmental impacts of the project and mitigation plans;
- c. National Environmental Policy Act ("NEPA") considerations (e.g., status of any planned, ongoing or completed NEPA reviews);
- d. Air pollution or greenhouse gas reduction benefits associated with the project;
- e. The domestic energy security benefits of the project compared to existing or similar technologies or systems.

1. **Environmental and Energy Security Benefits:** The domestic environmental and energy security benefits of the project must be compared to existing technologies or systems employing similar technology. The results must be report in the Energy Benefits and Emissions Table, shown in Table 1 in Attachment G-1. The following subcriteria will be used to evaluate the information relative to this specific criterion.
 - a. Adequacy and completeness of the life-cycle and sustainability data related to the primary technology and project facility.
 - b. Adequacy and completeness of the emissions data in addressing the improvement of the proposed technology in avoiding, reducing or sequestering air pollutants and/or greenhouse gases.
 - c. Reasonableness of the data in Table 1 of Attachment G-1 that shows the energy security benefits of the project.
 - d. Efficacy of the data provided in Table 1 of Attachment G-1 in addressing project metrics and performance metrics.
 - e. Adequacy of the completion of Table 1 of Attachment G-1 for benchmark and performance metrics.
2. **Permits and Approvals:** The applicant shall provide a complete list of federal, state and local permits and approvals required to site, construct, implement and operate the project, including environmental authorizations or reviews necessary to commence construction and operation. For approvals already received, provide the filing and approval dates and parties involved; for those not yet

received, provide the filing date, steps to be taken to obtain them, and expected date(s) they will be obtained.

3. **Environmental Report:** The environmental report specified in Section 609.6(b)(23) of the Final Regulations, together with additional environmental information that DOE may request of the applicant or that DOE develops during the course of its review of the environmental report, will be used by DOE for NEPA compliance purposes. The environmental report should contain data and analysis reasonably available to the applicant. Attachment B of the Solicitation addresses factual information that should be included in the environmental report, as appropriate. The environmental report will not be point scored but will be used to prepare an environmental critique and synopsis, if applicable, under 10 CFR 1021.216, to assist DOE in determining the appropriate level of NEPA review, and to facilitate DOE's preparation of any required EA or EIS.

Section E: Business Plan

The applicant shall provide a business plan demonstrating its expertise, financial strength and management capability to undertake and operate the project as proposed. The business plan shall also present a detailed analysis of the construction and performance-related risks associated with the project (e.g., cost escalation or overruns, obtaining approvals and litigation) and safeguards/risk mitigation strategies (e.g., fixed price contracts, liquidated damages, warranties or other incentive/disincentive arrangements) to be employed, as well as a comprehensive project implementation plan for integrating and monitoring the various phases of the project. Taken together, the components of the business plan shall provide analyses demonstrating that, at the time of the application, there is reasonable prospect that the borrower will be able to repay the guarantee obligations (including interest) according to their terms, and a complete description of the operational and financial assumptions and methodologies on which this demonstration is based. The conclusions of the business plan shall include a statement from the applicant that it believes there is a reasonable prospect that the guaranteed portion of the Guaranteed Obligations will be fully paid from project revenue according to the terms proposed in the application.

1. **Market Analysis:** Include an analysis of the market for each product to be sold by the project. Also discuss the prevailing economic and demographic trends in the target market, justification for revenue projections (price and volume), and potential competitors/substitutes. Provide evidence that a market exists for the products and an assessment of the market potential for the proposed technology beyond the project currently being proposed by the applicant. Describe any sales arrangements (e.g., off-take agreements) that exist or are contemplated, including summaries of their key terms and conditions and executed letters of intent, as applicable. DOE will conduct its own market analysis of the project. Provide your forecast for product demand. Describe any potential off-take or other revenue-generating agreements that will provide a primary source of revenues for the project including repayment of debt obligations, and include copies of these agreements.
2. **Project Sponsor Involvement:** Describe the project sponsor's capabilities, financial strength and investment both in the project to date and as anticipated during the operational phase of the project (e.g., continuing financial support). Detail the project's strategic significance to the Project Sponsor.
3. **Potential Project Off-take:** Provide your forecast for plant capacity. Describe and provide copies (whether entered into or proposed) of any potential off-take or other revenue generating agreements that will provide a primary source of revenues for the project including repayment of debt obligations.

4. **Management Plan:** Provide an organizational chart showing the staff and positions expected to operate the project, their qualifications and track record. Describe the plan for operating the project.
5. **Operational Risks and Mitigation Strategies:** Based on the business plan information above, prepare an analysis showing the strengths, weaknesses, opportunities and threats for successful operation of the project (e.g., price declines, scarcity of raw materials, dependence on a particular technology supplier) and mitigation strategies.

Section F: Financial Plan

1. **Background and Legal Structure:** Describe the applicant's history, ownership, and legal structure (e.g., corporation or partnership) and the relationship between the applicant and the Borrower. Include a copy of the statutory authority under which the entity was created.
2. **Loan Guarantee Impact:** Provide an explanation of what estimated impact the loan guarantee will have on the interest rate, debt term and overall financial debt structure of the project.
3. **Legal Authority:** Describe the legal authority of the applicant to carry out the proposed project activities (e.g., issuing debt, charging fees). Provide supporting documentation.
4. **Financial Statements:** Provide audited financial statements and associated notes for the past three years (or during the full time in operation, if less), prepared in accordance with US GAAP by an independent certified public accountant firm acceptable to DOE. Include the applicant's quarterly or interim financial statements and associated notes of Applicant and parties providing applicant's financing backing for the current fiscal year, supported by a letter from the appropriate company financial official certifying their correctness.
5. **Credit History:** Include a credit history of the applicant and any party owning or controlling, by itself and/or through individuals in common or affiliated business entities, a five percent or greater interest in the project or the applicant. Provide their full names (including middle name or initial), home or business address as appropriate (including zip code), date of birth and taxpayer identification/social security number. DOE will use such information to verify the credit history of such applicant and party. DOE may also request additional documentation as part of the project evaluation process.
6. **Litigation and/or Conflicts:** Disclose any current, threatened, or pending litigation involving the applicant related to permitting, public involvement, environmental irregularities, construction defects, securities fraud, conflict of interest, failure to perform under a state or federal contract, or other charges which may reflect on the applicant's financial position or ability to complete the project.
7. **Sources of Funds:** List all proposed sources of funding by provider, aggregate amount and type. Include a schedule showing the expected amount and timing of disbursements.
8. **Letter(s) of Intent:** For financing other than from the Federal Financing Bank ("FFB"), provide an executed letter of intent from the applicant's debt and equity financing sources, which include the terms and the conditions precedent

to funding. Submission of financing documents, and acceptance of terms and conditions by DOE, will be a condition precedent for closing of a loan guarantee transaction.

9. **Information on Other Borrowed Funds:** Provide information on the other types of expected borrowing financing the project, including type(s) of credit instrument(s) to be issued, security to be pledged for such borrowing, its priority with respect to the security pledged to the loan guarantee program instrument, and details of structuring.

10. **Preliminary Credit Assessment:** For projects where the estimated total Project Costs exceed \$25 million, provide a preliminary credit assessment for the project (without giving effect to the DOE loan guarantee) from a nationally recognized rating agency. The assessment shall examine the project as structured, but in the absence of a loan guarantee from DOE and shall identify any material assumptions utilized by the rating agency in its analysis. DOE will require a final credit rating, as a condition of financial close, no later than 30 days prior to financial closing, as required by Section 609.9(f) of the Final Regulations. For projects where the estimated total cost is \$25 million or less, in the sole discretion of the Secretary, DOE may require such an assessment as well.

Section G: Progress Reports

1. **Progress Reports:** The applicant shall provide project progress reports to DOE or its agent(s) during the construction and start-up phases on a monthly basis (the first such report to be submitted within 30 calendar days of notification of CRB approval of the Term Sheet), comparing actual timing, cost and financing against the original budget and previous month. Each report shall explain the reason(s) for any significant variance(s) during the month and likely impact on the project going forward. During the operational phase of the project, the applicant shall provide financial statements, prepared in accordance with US GAAP, to DOE on a quarterly basis (consisting of an income statement, balance sheet and cash flow statement), with certification by the applicant that the statements are true and correct. At all times, from receipt by DOE of an application, until the guaranteed portion of the Guaranteed Obligation is fully re-paid, the applicant shall be obligated to inform DOE expeditiously (but in no event later than three (3) business days after discovery) of any condition having, or potentially having, a material adverse effect on either the project or the ability of the parties to carry out their obligations. DOE reserves the right to require submission of additional information as it deems necessary. Details on submission procedures, URLs, and passwords will be provided to successful applicants later in the process under separate cover.

Section H: Application Certifications

1. **Certifications and Assurances:** In submitting an application for a loan guarantee under Title XVII, applicants must provide certain certifications and assurances contained in the form entitled “U.S. Department of Energy Loan Guarantee Certifications and Assurances.” It may be downloaded from the DOE website:
http://www.management.energy.gov/business_doe/business_forms.htm. DOE may require that applicants provide additional certifications or supporting documentation as part of the project evaluation process.

Energy Benefits and Emissions Table Attachment G-1 - Table 1

http://www1.eere.energy.gov/industry/bestpractices/software.html		Existing Technology or Industry Practice		New Technology or Industry Practice	
Calculated items from Plant Energy Profiler or documented source*		<i>Units - trillions of btu</i>		<i>Units - \$</i>	
Energy use per unit of Production					
Energy cost per unit of Production					
Annual Purchased energy in 2008					
Annual Consumed energy in 2008					
		For 2012 assume no change in practices and market growth as projected by EIA, Chemical Economics Handbook or other citable sources for 2012. Assume inflationary cost growth		Represent growth by the number of plants estimated to be built or implementation of technologies by the applicant as a result of this proposed plant or technology improvement, with specific output capacity as a percentage of the output that would meet the needs for projected markets in 2012. Use EIA market projections, Chemical Economics Handbook values or other citable source for 2015 numbers. Please provide citations for your values. Assume inflationary cost growth.	
Calculated items from Plant Energy Profiler or documented source*		<i>Units - trillions of btu</i>		<i>Units - \$</i>	
Annual Projected Purchased energy in 2012					
Annual Projected Consumed energy in 2012					

http://www.energetics.com/ies_tool/		Existing Technology or Industry Practice		New Technology or Industry Practice	
Calculated emissions from ITP Industrial Energy Systems Project Evaluation Tool or documented source*		<i>Units - metric tons</i>		<i>Units - metric tons</i>	
Total Sum of Annual Emissions of Greenhouse Gases (CO ₂ , SO _x , NO _x , CO) for 2008					
Total sulfur dioxide emissions 2008					
Total nitrogen dioxide emissions 2008					
Total particulate emissions 2008					
		For 2012 assume no change in practices and market growth as projected by EIA, Chemical Economics Handbook or other citable sources for 2012. Assume inflationary cost growth		Represent growth by the number of plants estimated to be built or implementation of technologies by the applicant as a result of this proposed plant or technology improvement, with specific output capacity as a percentage of the output that would meet the needs for projected markets in 2012. Use EIA market projections, Chemical Economics Handbook values or other citable source for 2015 numbers. Please provide citations for your values. Assume inflationary cost growth.	
Calculated emissions from ITP Industrial Energy Systems Project Evaluation Tool or documented source*		<i>Units - metric tons</i>		<i>Units - metric tons</i>	
total Sum of Projected Annual Emissions of Greenhouse Gases (CO ₂ , SO _x , NO _x , CO) for 2012					
Total sulfur dioxide emissions 2012					
Total nitrogen dioxide emissions 2012					
Total particulate emissions 2012					

* If an applicant has completed their own Life Cycle analysis, they can employ data from the analysis

Detailed Instructions for Part II Submissions for Large-Scale Integration Projects

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Section A: Application Information

1. **Eligible Lender / Holder Statement:** Provide a written affirmation from an officer of an eligible lender or other older holders expressing commitment to provide or interest in providing the required debt financing necessary to construct and fully commission the project.
2. **List of Requirements:** Pursuant to Section 609.6(b)(27) of the Final Regulations, provide a list of all requirements contained in Part 609 under chapter II of title 10 of the Code of Federal Regulations and under this Solicitation and where in the application these requirements are addressed.

Section C: Applicant Capabilities, Technical Approach and Work Plan

The applicant's and Project Sponsors' capabilities and prior experience as it relates to carrying out projects similar to the one being proposed will be evaluated. The proposed technical approach and work plan will be reviewed for its comprehensiveness, effective use of available resources, cost management and proposed schedule for meeting the applicant's objectives. The methods planned to meet each objective should be clear and discussed in detail.

The application will be evaluated on whether it offers a clearly innovative and feasible approach to the implementation of a technology that involves improvements in energy efficiency, development of renewable energy sources, and/or improves the efficiency and cost of transmission and distribution technologies and reduces, stores, or mitigates the emission of greenhouse gases. Specific objectives, approaches and plans for developing and verifying the innovation must demonstrate a clear understanding of the problem or opportunity, the current state-of-the-art, and the significance of the risks involved in the proposed innovation or use of technology and the identified means for mitigating those risks. The application will be evaluated for the clarity and technical strength of the approach to achieve the project objectives.

For example, this review will evaluate the quality of the project's construction plan, overall construction risk associated with the contingencies for equipment supply, evaluation of selected prime mover equipment, order of operations, mobilization schedules, delivery timelines, performance milestones, equipment integration scale-up challenges, acceptance/commissioning factors, performance and scheduling guarantees, and other relevant considerations such as site ownership or lease or liquidated damage provisions, etc

1. **Legal Opinions/Material Reports:** Provide a copy of all legal opinions, and other material reports, analyses and reviews concerning the project.
2. **Production Costs:** Include an estimate of production costs of the product(s) and, if appropriate, compare such costs to that required to produce the same product(s) from petrochemical sources. Provide production cost estimates for this first commercial plant and the estimated cost of the Nth plant or facility.
3. **Engineering and Construction Plans:** List the engineering and design contractor(s), construction contractor(s), and equipment supplier(s) to be involved in the project, their major activity and cost milestones, and performance guarantees (e.g., bonds, liquidated damages provisions and equipment warranties to be provided). Provide their experience and qualifications as they relate to the proposed project. Include construction schedules for the project.

4. **Project Plan:** Include a comprehensive project plan that will guide the design, engineering and construction of the commercial project. As a minimum, the project plan must include:
- a. Validated pilot plant and/or demonstration data that forms the basis for this design.
 - b. Description of prior successful technical projects of this scale by the applicant or associated Project Sponsors including an identification of vendors and partners involved.
 - c. Written descriptions of each step of the proposed process.
 - d. Full material and energy balances using industry standard software.
 - e. Plans to close and converge all recycle loops, both in a printout and in working versions of any simulations or plans.
 - f. Description of the selection process for an engineering, procurement, and construction (“EPC”) firm, if used for the project.
 - g. Description of the capabilities of internal resources, if used for the project.
 - h. Equipment requirements.
 - i. A schedule or project work plan. The schedule should include time periods for design, procurement, construction, and start-up and shake-down, as well as development of environmental and land-use agreements, obtaining permits and licenses, and obtaining financing.
 - j. Minimum design specifications in which process flow diagrams are coupled to preliminary cost estimates (internally or from an EPC contractor)
 - k. Planned project management tools, including Gantt charts, resource based scheduling, or other methods to assess progress and track progress. These would include methods to assess actual cost and schedule versus planned cost and schedule, etc.
 - l. Plans for staffing, including identification of costs and resources required to design, engineer and construct the proposed facility. This could involve proposals from third party operators.
 - m. Justification for the schedule for completing the proposed project based on the applicant’s professional evaluation or that of their EPC firms, if such are employed.
 - n. Technology risks and mitigation strategies. In addition to identifying existing operational data, describe the identified technology risks and your associated mitigation strategies. Include scale up risks (including scale-up factors from the largest demonstration to date), materials of construction, performance risks, etc., and the potential impacts of such risks.

- o. Contingency planning to address cost overruns and schedule slippage.
- 5. **Operating and Maintenance Plans:** Describe the plans for operating and maintaining the project, including the proposed providers, their expected staffing requirements, parts inventory, major maintenance schedules, estimated annual downtime, and any performance guarantees and related liquidated damages provisions.
- 6. **Decommissioning Plan:** If applicable to project, provide a detailed description of the project decommissioning and deconstruction plan, the anticipated costs, and arrangements to ensure the necessary funding will be available when needed.
- 7. **Engineer's Report:** Include as an attachment an independent engineering report prepared by an engineer with experience in the industry and familiarity with similar projects. The report should comprehensively evaluate the project plan, project's siting and permitting, engineering and design, contractual requirements and arrangements, environmental compliance, testing and commissioning, and operations and maintenance.

Section E: Business Plan

The applicant shall provide a business plan demonstrating its expertise, financial strength and management capability to undertake and operate the project as proposed. The business plan shall also present a detailed analysis of the construction and performance-related risks associated with the project (e.g., cost escalation or overruns, obtaining approvals and litigation) and safeguards/risk mitigation strategies (e.g., fixed price contracts, liquidated damages, warranties or other incentive/disincentive arrangements) to be employed, as well as a comprehensive project implementation plan for integrating and monitoring the various phases of the project. Taken together, the components of the business plan shall provide analyses demonstrating that, at the time of the application, there is reasonable prospect that the borrower will be able to repay the guarantee obligations (including interest) according to their terms, and a complete description of the operational and financial assumptions and methodologies on which this demonstration is based. The conclusions of the business plan shall include a statement from the applicant that it believes there is a reasonable prospect that the guaranteed portion of the Guaranteed Obligations will be fully paid from project revenue according to the terms proposed in the application.

1. **Financial Analysis:** Provide a detailed description of the overall financial plan for the proposed project, including quarterly sources and uses of funding, equity and debt statement for the construction period, prepared in accordance with US GAAP, showing the timing and amount of expected equity and debt funding by institution, as well as a full set of financial projections (income statements, balance sheets and cash flow statements) prepared according to US GAAP for the tenor of the proposed guaranteed portion of the Guaranteed Obligation. List the major assumptions in a separate worksheet of the model. Calculate at a minimum the current leverage and debt service coverage ratios of the parties associated with the project based on the expected tenor of a DOE-guaranteed loan. Discuss the principal factors that could impair the project's ability to meet its debt service obligations.
2. **Contractual Arrangements:** Provide a copy of all material agreements (whether entered into or proposed) for the investment, design, construction, start-up and operation of the project (e.g., engineering, financing, raw material supply, commissioning, shakedown and maintenance).

Section F: Financial Plan

1. **Closing Checklist:** Provide a copy of the financial closing checklist for all sources of financing to the extent available.
2. **Collateral:** Describe and value all assets associated, or to be associated, with the project and any other assets that will serve as collateral for the Guaranteed Obligation. Valuations must be supported by independent, third-party appraisals for existing assets, and/or adequate cost substantiation for assets to be constructed for the purpose of the project, and in all cases acceptable to DOE. An appraisal of real property must be performed by a licensed or certified appraiser consistent with the Uniform Standards of Professional Appraisal Practice promulgated by the Appraisal Standards Board of the Appraisal Foundation. Provide information on the useful life of all physical assets, including a depreciation schedule (in accordance with US GAAP), associated, or to be associated, with or to serve as collateral.
3. **Eligible Lender or Holder Statement:** If funds are also to be provided by lenders other than FFB, provide the name of each such lender, the amount terms and conditions of their expected financing, documentation detailing their financial strength, experience with other federal programs, and any other information deemed material to the application. If such a lender intends to sell participations in the loan, include a plan of syndication giving the lender's approach and track record with similar transactions. If such a lender contemplates a bond financing, include the lender's plan regarding size and timing of issuance, use of any registration with the U.S. Securities and Exchange Commission, key terms and conditions, and marketing strategy. Also provide the lender's qualifications and track record in undertaking similar size financings in the capital markets. Include with the application written affirmation from an officer of the Eligible Lender or other Holder: (i) describing its current involvement with DOE's and other federal agencies loan guarantee programs; and (ii) that it is in good standing with all such programs.

Section H: Application Certifications

1. **Certifications and Assurances:** In submitting an application for a loan guarantee under Title XVII, applicants must provide certain certifications and assurances contained in the form entitled “U.S. Department of Energy Loan Guarantee Certifications and Assurances.” It may be downloaded from the DOE website:
http://www.management.energy.gov/business_doe/business_forms.htm. DOE may require that applicants provide additional certifications or supporting documentation as part of the project evaluation process.