

July 2008

# DEPARTMENT OF ENERGY

## New Loan Guarantee Program Should Complete Activities Necessary for Effective and Accountable Program Management





Highlights of [GAO-08-750](#), a report to congressional committees

## Why GAO Did This Study

Title XVII of the Energy Policy Act of 2005 established DOE's loan guarantee program (LGP) for innovative energy projects that should decrease air pollutants or greenhouse gases and that have a reasonable prospect of repayment. For fiscal years 2008 and 2009, Congress authorized the use of borrower fees to pay the costs of loan guarantees through Title XVII's "borrower pays" option, under which DOE will limit loan guarantees to \$38.5 billion. Congress mandated that GAO review DOE's progress in implementing the LGP. GAO assessed DOE's progress in (1) issuing final regulations and (2) taking actions to help ensure that the program is managed effectively and to maintain accountability. GAO also assessed how inherent risks due to the nature of the LGP may affect DOE's ability to achieve intended program outcomes. GAO analyzed DOE's regulations, guidance, and program documents and files; reviewed Title XVII; and interviewed DOE officials.

## What GAO Recommends

GAO suggests Congress consider limiting loan guarantee commitments DOE can make until it has put adequate controls in place. In this regard, GAO is recommending actions by DOE to help ensure that the LGP will be well managed. DOE disagreed with two recommendations, indicated it has largely accomplished four, and disagreed with the matter for congressional consideration. GAO reaffirms its recommendations and matter for congressional consideration.

To view the full product, including the scope and methodology, click on [GAO-08-750](#). For more information, contact Frank Rusco at (202) 512-3841 or [ruscof@gao.gov](mailto:ruscof@gao.gov).

## DEPARTMENT OF ENERGY

### New Loan Guarantee Program Should Complete Activities Necessary for Effective and Accountable Program Management

#### What GAO Found

In October 2007, DOE issued regulations that govern the LGP and include requirements for application submissions, project evaluation factors, and lender eligibility and servicing requirements. The regulations also generally address requirements set forth in applicable guidance. Some key aspects of the initial LGP guidelines were revised in the regulations to help make the program more attractive to lenders and potentially reduce financing costs for projects. For example, the maximum loan guarantee percentage increased from 80 to 100 percent of the loan. In addition, the regulations define equity as "cash contributed by the borrowers," but DOE officials told us they also plan to consider certain non-cash contributions, such as land, as equity. As a result, applicants may not fully understand the program's equity requirements.

DOE is not well positioned to manage the LGP effectively and maintain accountability because it has not completed a number of key management and internal control activities. As a result, DOE may not be able to process applications efficiently and effectively, although it has begun to do so. DOE has not sufficiently determined the resources it will need or completed detailed policies, criteria, and procedures for evaluating applications, identifying eligible lenders, monitoring loans and lenders, estimating program costs, or accounting for the program—key steps that GAO recommended DOE take over a year ago. DOE also has not established key measures to use in evaluating program progress.

Risks inherent to the LGP will make it difficult for DOE to estimate subsidy costs, which could lead to financial losses and may introduce biases in the projects that receive guarantees. The nature and characteristics of the LGP and uncertain future economic conditions increase the difficulty in estimating the LGP's subsidy costs. Because the LGP targets innovative technologies and the projects will have unique characteristics—varying in size, technology, and experience of the project sponsor—evaluating the risks of individual projects will be complicated and could result in misestimates. The likelihood that DOE will misestimate costs, along with the practice of charging fees to cover the estimated costs, may lead to biases in the projects that receive guarantees. Borrowers who believe DOE has underestimated costs and has consequently set fees that are less than the risks of the projects are the most likely to accept guarantees. To the extent that DOE underestimates the costs and does not collect sufficient fees from borrowers to cover the full costs, taxpayers will ultimately bear the costs of shortfalls. Even if DOE's estimates of subsidy costs are reasonably accurate, some borrowers may not pursue a guarantee because they perceive the fee to be too high relative to the benefits of the guarantee, affecting the project's financial viability. To the extent that this financial viability is not distributed evenly across the technologies targeted by Title XVII, projects in DOE's portfolio may not represent the range of technologies targeted by the program.

---

# Contents

---

<b>Letter</b>		<b>1</b>
	Results in Brief	4
	Background	7
	DOE Issued Regulations That Contained Required Elements, but One Key Aspect Is Not Clear	10
	DOE Has Not Fully Implemented Activities Necessary for Effective and Accountable Program Management	12
	Inherent Risks Will Make Estimating Subsidy Costs Difficult and May Introduce Self-Selection Biases in the Projects That Ultimately Receive Loan Guarantees	20
	Conclusions	22
	Matter for Congressional Consideration	23
	Recommendations for Executive Action	24
	Agency Comments and Our Evaluation	24
<b>Appendix I</b>	<b>Scope and Methodology</b>	<b>29</b>
<b>Appendix II</b>	<b>Title XVII Categories, DOE's First Solicitation, and Projects DOE Invited to Submit Full Applications for Loan Guarantees</b>	<b>31</b>
<b>Appendix III</b>	<b>Comments from the Department of Energy</b>	<b>33</b>
<b>Appendix IV</b>	<b>GAO Contact and Staff Acknowledgments</b>	<b>62</b>
<b>Tables</b>		
	Table 1: Project Categories for Title XVII and DOE Solicitation	31
	Table 2: Projects Invited to Submit Full Applications	32
<b>Figure</b>		
	Figure 1: DOE's Key Actions to Set Up Its LGP	9

---

---

## **Abbreviations**

CBO	Congressional Budget Office
CRB	Credit Review Board
DOE	Department of Energy
FFB	Federal Financing Bank
LGP	Loan Guarantee Program
FCRA	Federal Credit Reform Act of 1990
EPAct 2005	Energy Policy Act of 2005
OMB	Office of Management and Budget
OPIC	Overseas Private Investment Corporation

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.



United States Government Accountability Office  
Washington, DC 20548

---

July 7, 2008

The Honorable Byron Dorgan  
Chairman  
The Honorable Pete Domenici  
Ranking Member  
Subcommittee on Energy and Water Development  
Committee on Appropriations  
United States Senate

The Honorable Peter J. Visclosky  
Chairman  
The Honorable David L. Hobson  
Ranking Member  
Subcommittee on Energy and Water Development  
Committee on Appropriations  
House of Representatives

Title XVII of the Energy Policy Act of 2005 (EPAAct 2005)—Incentives for Innovative Technologies—authorized the Secretary of Energy to implement a new loan guarantee program (LGP) for energy projects that satisfy three criteria: avoid, reduce, or sequester air pollutants or greenhouse gases; employ new or significantly improved technologies compared with commercial technologies in service at the time the guarantee is issued; and provide a reasonable prospect of repayment.<sup>1</sup> To date, the Department of Energy (DOE) has not approved any loan guarantees under the LGP.

Federal loan guarantee programs help borrowers obtain access to credit with more favorable terms than they may otherwise obtain in private lending markets because the federal government guarantees to pay lenders if the borrowers default, which makes extending credit more attractive to lenders. However, loan guarantee programs can expose the government to substantial financial risks. In the past, problems with loan guarantee programs have occurred, in part, because agencies did not exercise due diligence during the loan origination and monitoring processes. In addition, agencies have had difficulty estimating program costs because of

---

<sup>1</sup>Pub. L. No. 109-58, Title XVII (Aug. 8, 2005).

---

faulty assumptions that caused cost estimates to be too low, limited historical data, and deficient policies and procedures for assessing risk and estimating costs.

Title XVII has a requirement related to the subsidy cost of the LGP: DOE must either receive an appropriation for the subsidy cost or it must collect fees from borrowers to cover the subsidy cost (referred to as the “borrower pays” option). In DOE’s appropriations acts for fiscal years 2007 and 2008, Congress specifically instructed DOE to proceed under the borrower pays option. The subsidy cost, as defined by the Federal Credit Reform Act (FCRA) of 1990, is the government’s estimated net long-term cost, in present value terms,<sup>2</sup> of direct or guaranteed loans over the entire period the loans are outstanding (not including administrative costs). In calculating the subsidy cost for a guaranteed loan program, agencies estimate (1) payments from the government to cover interest subsidies, defaults, delinquencies, or other payments, and (2) payments to the government, including fees, penalties, and recoveries on defaults. Under FCRA, DOE would estimate the expected subsidy costs before issuing loan guarantees and is generally required to annually update, or reestimate, this cost to reflect actual loan performance and changes in expected future loan performance. To the extent that DOE underestimates subsidy costs and does not collect enough fees from borrowers, taxpayers will ultimately make up the difference.

Through the appropriations process, Congress authorizes the amount of loans that may be guaranteed, thereby setting limits on the government’s exposure to financial losses. For DOE’s LGP, Congress appropriated funds out of any borrower fees to be received for DOE to make up to \$4 billion of loan guarantees for fiscal year 2007 and placed no cap on guarantees for fiscal years 2008 and 2009.<sup>3</sup> Because of the financial risks associated with loan guarantees under the LGP, we assessed DOE’s efforts to implement the program in early 2007. We reported that rather than taking and completing key steps to better ensure that the LGP would be well managed and accomplish its objectives, DOE focused on soliciting preapplications

---

<sup>2</sup>Present value is the worth of the future stream of costs or returns in terms of money paid immediately. In calculating present value for subsidy cost calculations, prevailing interest rates provide the basis for converting future amounts into their “money now” equivalents.

<sup>3</sup>An explanatory statement accompanying the Consolidated Appropriations Act of 2008 (Pub. L. No. 110-161) stated that the loan guarantee authority be limited to \$38.5 billion, with the authority’s availability expiring at the end of fiscal year 2009.

---

for proposed projects.<sup>4</sup> We recommended that before DOE select eligible projects for loan guarantees, it first issue program regulations, develop policies and procedures for operating the program, and define goals and metrics to measure program effectiveness. Subsequently, in Public Law 110-5, Congress directed DOE not to award any loan guarantees until it issued final regulations. These regulations were to include programmatic, technical, and financial factors for the Secretary of Energy to use in selecting projects, as well as policies and procedures to monitor loans and lenders.<sup>5</sup>

Congress also mandated that we annually review DOE's progress in implementing the LGP and directed us to report to the House and Senate Committees on Appropriations to help inform their oversight. In response, we assessed DOE's progress in (1) issuing final regulations to govern the program and (2) taking actions to help ensure that the program is managed effectively and to maintain accountability. We also examined whether inherent risks due to the nature and characteristics of the LGP may affect DOE's ability to make the program pay for itself and support a broad spectrum of innovative energy technologies.

For this assessment, we reviewed and analyzed Title XVII of EPLA 2005, Office of Management and Budget (OMB) guidance on federal credit programs, GAO's guidance on Government Performance and Results Act and standards for internal control,<sup>6</sup> DOE's program guidance and regulations, and other information. We interviewed relevant DOE officials. We also reviewed preapplication files to determine if DOE conducted its review process consistently and documented its decisions sufficiently. We did not evaluate the technical or financial soundness of the projects DOE invited to apply for loan guarantees. To examine whether the inherent risks due to the nature and characteristics of the LGP may affect DOE's ability to make the program pay for itself and support a broad spectrum of innovative energy technologies, we reviewed reports by the Congressional Budget

---

<sup>4</sup>GAO, *Department of Energy: Key Steps Needed to Help Ensure the Success of the New Loan Guarantee Program for Innovative Technologies by Better Managing Its Financial Risk*, [GAO-07-339R](#) (Washington, D.C.: Feb. 28, 2007) and *Department of Energy: Observations on Actions to Implement the New Loan Guarantee Program for Innovative Technologies*, [GAO-07-398T](#) (Washington, D.C.: Apr. 24, 2007).

<sup>5</sup>Pub. L. No. 110-5 § 2, 121 Stat. 8, 21(Feb. 15, 2007).

<sup>6</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.: November 1999).

---

Office (CBO) and reviewed past GAO reports of other loan programs that had some similar characteristics with the LGP. We did not assess the benefits of this program because doing so at this stage would be premature. It remains to be seen what projects will receive loan guarantees and when this may occur. We recognize that the program could have substantial benefits; our assessment of how the nature and characteristics of the LGP may affect its effectiveness is not intended to address its overall merits. Rather, our intent is to highlight how these aspects of the program could have a bearing on program performance and what the LGP can achieve. We conducted this performance audit from September 2007 through June 2008, with limited updates after we sent the draft report to DOE for comment on May 13, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. A further discussion of our scope and methodology is presented in appendix I.

---

## Results in Brief

In October of 2007, DOE issued final regulations that govern the LGP, including requirements for preapplication and application submissions; programmatic, technical and financial evaluation factors for applications; and lender eligibility and servicing requirements. The regulations generally include requirements set forth in applicable guidance. Some key aspects of the initial program guidelines were changed in the final regulations to help make the program more attractive to lenders and potentially reduce financing costs for projects. For example, the maximum guarantee percentage was increased from 80 percent to 100 percent of the loan; the loan itself remained limited to no more than 80 percent of the project costs. This change increased the risk that the government is willing to assume on a project by project basis. In addition, we identified one key aspect of the regulations related to the project's equity commitment that is not clear. Specifically, the regulations define equity as "cash contributed by the borrowers," but DOE plans to consider certain non-cash contributions, such as land, as equity. As a result, potential applicants may not have a full understanding of the program's equity requirements.

DOE is not well positioned to manage the LGP effectively and maintain accountability because it has not completed a number of management and internal control activities key to carrying out the program. As a result, DOE may not be able to process applications efficiently and effectively. In particular, while DOE officials told us they have begun to review the first

---

submitted application and will begin reviewing other applications as soon as they are submitted, DOE has not sufficiently determined the type and timing of contractor resources it will need to do so. Furthermore, although DOE has developed guidance for applicants to follow in submitting applications, it has not developed detailed policies and procedures, including roles and responsibilities and criteria that demonstrate how DOE plans to evaluate the applications. In addition, it has not completed policies and procedures to identify eligible lenders, monitor loans and lenders, estimate the costs of the program, or account for the program—key steps that we recommended over a year ago and most of which DOE reported to Congress that it would have completed by now. Finally, DOE has not established key measures to use in evaluating program progress.

Risks inherent to the LGP will make it difficult for DOE to estimate subsidy costs with a reasonable degree of accuracy, which could lead to financial losses and may introduce biases in the projects that ultimately receive loan guarantees. The nature and characteristics of the program and uncertain future economic conditions greatly increase the difficulty of estimating the program's subsidy costs. For example, because the LGP targets innovative energy technologies and because projects will likely have unique characteristics—varying in size, technology, and experience of the project sponsor—evaluating the risks of individual projects applying for loan guarantees will be complicated. The Congressional Budget Office (CBO) has estimated that DOE will charge companies fees at least one percent lower than costs, on average. The likelihood that DOE will misestimate costs, along with the “borrower pays” feature requiring DOE to collect fees to cover estimated costs, may introduce biases in the projects that ultimately receive loan guarantees and result in financial losses to the government. Because potential borrowers will generally know more about their projects' risks and creditworthiness than DOE, potential borrowers will be more likely to accept loan guarantees when DOE has underestimated their projects' risks—and thus set the fee too low—than in cases for which DOE has overestimated the risks and fees. This would cause DOE's portfolio to have more projects for which the fee was underestimated rather than overestimated. To the extent that DOE underestimates the costs of the program and does not collect sufficient fees from borrowers to cover the true costs, taxpayers will ultimately bear the costs of shortfalls. Such shortfalls are automatically funded by the federal government under the terms of the FCRA<sup>7</sup> and are not subject to

---

<sup>7</sup>FCRA provides permanent, indefinite budget authority to cover increases in costs. 2 U.S.C. § 661c(f).

---

congressional scrutiny during the annual appropriation process. In addition, even in instances where DOE's estimates of subsidy costs are reasonably accurate, the "borrower pays" option may cause some potential borrowers to not pursue loan guarantees because the fee is too high relative to the benefits to the borrower of the loan guarantee. To the extent that certain types of projects or technologies are more likely than others to have fees that are too high to remain economically viable, the projects that ultimately receive loan guarantees may not represent the full range of technologies that are targeted by Title XVII.

To the extent that Congress intends for the program to fully pay for itself, and to help minimize the government's exposure to financial losses, we are suggesting that Congress consider limiting the amount of loan guarantee commitments DOE can make under Title XVII until DOE has put into place adequate management and internal controls by completing sufficient actions on key policies, procedures, and activities. We are also making recommendations to assist DOE in this regard.

In commenting on a draft of this report, DOE stated that two of our six recommendations were inapplicable to the LGP, indicated it has largely accomplished the remaining four recommendations, and disagreed with our matter for congressional consideration. DOE further stated that our report contains flawed logic, significant inaccuracies, and omissions; however, we believe our evidence is sound and convincing and that DOE did not provide evidence to support these assertions.

In particular, DOE stated that we placed disproportionate emphasis on activities that should be completed for a fully implemented loan guarantee program rather than one that is currently being implemented, and that we overlooked DOE's accomplishments to date. We disagree. We believe that our report accurately assesses the LGP in its early development stage and focused our report's analysis and recommendations on activities that should be completed before DOE begins to substantively review any applications. DOE states that it will have completed many of these activities before it issues loan guarantees, but we continue to believe these activities should be completed before DOE reviews applications and negotiates with applicants so that it can operate the program prudently—and minimize inefficiencies and inconsistencies it may face in not having these activities completed or in place before proceeding with its operations. In several cases, DOE cites as complete, documents and activities that were, and still are at the time of this report, in draft form. For example, in several instances DOE states that it has "implemented" its credit subsidy model. However, as of June 24, 2008, DOE stated that OMB

---

had not approved its model. Further, DOE illustrated in an updated timetable it provided in appendix B of its comment letter that a majority of these activities are not yet complete and that several will not be complete until the end of the calendar year 2008. DOE's entire letter, including its appendixes, is reproduced as appendix III of this report.

---

## Background

Title XVII of EPLA 2005—Incentives for Innovative Technologies—authorized DOE to guarantee loans for projects that satisfy all three of the following criteria: (1) decrease air pollutants or man-made greenhouse gases by reducing their production or by sequestering them (storing them to prevent their release into the atmosphere); (2) employ new or significantly improved technologies compared with current commercial technologies; and (3) have a “reasonable prospect” of repayment. Title XVII identifies 10 categories of projects that are eligible for a loan guarantee, such as renewable energy systems, advanced fossil energy technologies, and efficient end-use energy technologies. Appendix II provides a list of these categories.

The LGP office is under DOE's Office of the Chief Financial Officer. LGP's actions are subject to review and approval by a Credit Review Board.<sup>8</sup> The Board met for the first time in April 2007; it approves major policy decisions of the LGP, reviews LGP's recommendations to the Secretary of Energy regarding the issuance of loan guarantees for specific projects, and advises the Secretary on loan guarantee matters.<sup>9</sup> DOE first received appropriated funds for the LGP's administrative costs in early 2007 and began processing preapplications—in response to the August 2006 solicitation—and at the same time began to obtain staff and take other steps to initiate the program. During 2007, it reviewed preapplications for 143 projects and in October 2007 invited 16 of the preapplicants to submit full applications for loan guarantees. Appendix II includes information on the 16 projects invited to submit full applications. In general, according to DOE, the processing of full applications will require DOE to have numerous interactions with the applicants and private lenders. It will also

---

<sup>8</sup>OMB Circular A-129 requires that agencies with credit programs such as the LGP establish boards “to coordinate credit management and debt collection activities, and to ensure full consideration of credit management and debt collection issues by all interested and affected organizations.”

<sup>9</sup>The Board is chaired by the Deputy Secretary of Energy and its members include the Chief Financial Officer, the Under Secretary of Energy, the Under Secretary for Science, the Assistant Secretary for Policy and International Affairs, the Chief of Staff to the Secretary of Energy, and the General Counsel.

---

require financial, technical, environmental, and legal advisors to assist with underwriting, approving, and issuing a loan guarantee. DOE estimated that the time between receiving an application and completing negotiations for a loan guarantee contract would range from 9 to 25 months, with additional time at the beginning to prepare and issue the solicitation and at the end to close the loan.

On April 11, 2008, DOE issued a fiscal year 2008 implementation plan for \$38.5 billion in solicitations, to respond to a requirement that DOE provide Congress information about future solicitations 45 days prior to issuing them.<sup>10</sup> On June 30, 2008, DOE simultaneously issued three solicitations that total \$30.5 billion—on (1) efficiency, renewable energy, and electric transmission (\$10 billion), (2) nuclear power facilities (\$18.5 billion), and (3) nuclear facilities for the “front end” of the nuclear fuel cycle (\$2 billion). DOE plans to subsequently issue a fourth solicitation in late summer 2008 for advanced fossil energy projects (\$8 billion).<sup>11</sup> DOE is also required to annually provide Congress a report on all activities under Title XVII and issued the first report on June 15, 2007.<sup>12</sup> Figure 1 shows a timeline of these and other key program events since 2005 that illustrate the status of the LGP through June 2008.

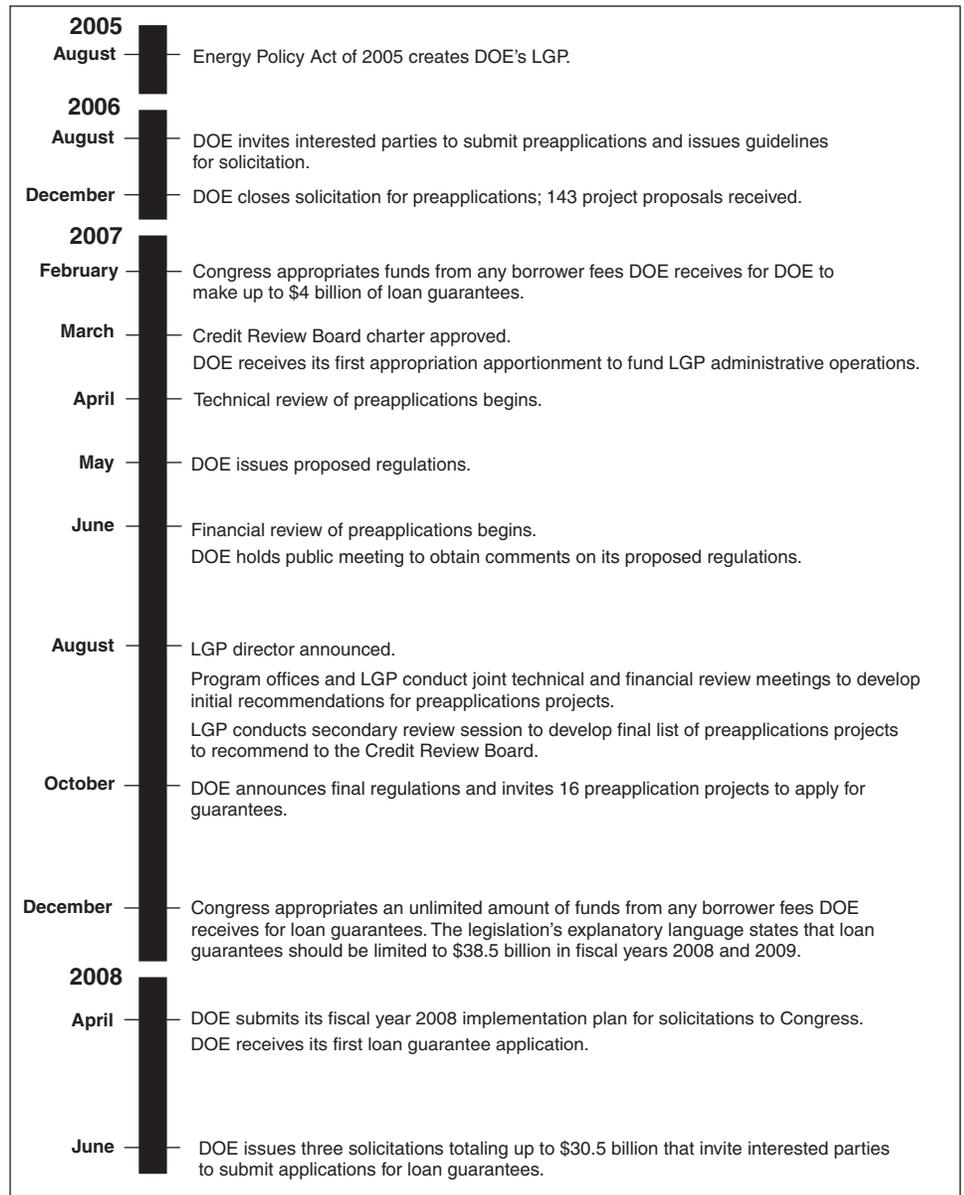
---

<sup>10</sup>Pub. L. No. 110-161 (2007) provides that none of the funds made available in this or prior acts are available for a new LGP solicitation until 45 days after DOE has submitted to the Committees on Appropriations a loan guarantee implementation plan that defines the proposed award levels and eligible technologies. The act further provides that DOE is not to deviate from the plan without 45 days prior notice to the Committees.

<sup>11</sup>This solicitation would consider projects for coal-based power generation facilities, industrial gasification activities at retrofitted and new facilities that incorporate carbon capture and sequestration, and advanced coal gasification facilities.

<sup>12</sup>The LGP’s appropriation directs the Secretary of Energy to submit a report to the Committees on Appropriations that contains a summary of all activities under Title XVII of the Energy Policy Act of 2005, beginning in fiscal year 2007, with a listing of responses to loan guarantee solicitations under such title, describing the technologies, amount of loan guarantee sought, and the applicants’ assessment of risk.

**Figure 1: DOE's Key Actions to Set Up Its LGP**



Source: GAO presentation of DOE information.

---

## DOE Issued Regulations That Contained Required Elements, but One Key Aspect Is Not Clear

On October 23, 2007, DOE's final regulations for the LGP were published in the Federal Register. DOE had previously issued program guidelines in August 2006. The final regulations contain requirements for preapplication and application submissions; programmatic, technical and financial evaluation factors for applications; and lender eligibility and servicing requirements. The regulations incorporate and further clarify requirements of Title XVII related to eligibility, fees, default conditions, and audit documentation. The regulations also generally incorporate requirements set forth in OMB Circular A-129 *Policies for Federal Credit Programs and Non-Tax Receivables*, which prescribes policies and procedures for federal credit programs, such as applicant screening, lender eligibility, and corrective actions. Because loan guarantee programs pose significant financial risks, it is important to include appropriate mechanisms to help protect the federal government and American taxpayers from excessive or unnecessary losses.

DOE changed some key aspects of the initial program guidelines in its final regulations to help make the program more attractive to lenders and potentially reduce financing costs for projects. These changes included increasing the maximum guarantee percentage, allowing the lender to separate or "strip" the nonguaranteed portion of the debt, and revising its interpretation of a Title XVII requirement that DOE have superior right to project assets pledged as collateral. Other important changes relate to increased specificity in key definitions and a requirement for independent engineering reports. Specifically, we found the following:

- *Guarantee percentage.* The final regulations allow for loan guarantees of up to 100 percent of the loan amount, which is limited to no more than 80 percent of the project costs, provided that, for a 100 percent guarantee, the loan must be disbursed by the Federal Financing Bank (FFB).<sup>13</sup> The use of the FFB is required, in part, because a private lender may exercise less caution when underwriting and monitoring a loan with a 100 percent guarantee. The guidelines stated that DOE preferred not to guarantee more than 80 percent of the loan amount, which was limited to no more than 80 percent of the project costs. Because the regulations increased the maximum guarantee percentage, this change increases the risk that the government is willing to assume on a project by project basis.

---

<sup>13</sup>The FFB is a government corporation, created by Congress under the general supervision of the Secretary of the Treasury. It has statutory authority to purchase any obligation issued, sold, or guaranteed by a federal agency to ensure that fully guaranteed obligations are financed efficiently.

- 
- *Stripping the nonguaranteed portion.* When DOE guarantees 90 percent or less of a loan, the final regulations allow the nonguaranteed portion of a loan to be separated or “stripped” from the guaranteed portion. This change allows lenders greater flexibility in selling portions of a loan on the secondary market and could reduce overall funding costs for projects. In contrast, the guidelines and the proposed regulations did not allow stripping.
  - *Superiority of rights.* Title XVII requires DOE to have superior rights to project assets pledged as collateral. In the proposed regulations, DOE interpreted this provision to require DOE to possess first lien priority to assets pledged as collateral. Therefore, holders of nonguaranteed portions of loans would be subordinate to DOE in the event of a default. In the final regulations, DOE changed its interpretation to allow proceeds received from the sale of project assets to be shared with the holders of nonguaranteed portions of loans in the event of a default. As noted in public comments on the proposed regulations, this practice is an established norm in project lending. DOE stated that it retains superiority of rights, as required by Title XVII, because DOE has sole authority to determine whether, and under what terms, the project assets will be sold at all.
  - *Key definitions.* In the context of “innovative technologies,” the final regulations added a definition that clarified the definition of what constitutes a “new or significantly improved” technology, considerably expanded the definition of “commercial” technology already in use, and clearly linked the definitions to each other. According to the regulations, a new or significantly improved technology is one that has only recently been developed or discovered and involves a meaningful and important improvement in productivity or value in comparison with the commercial technology in use. DOE’s regulations define a commercial technology as being in general use if it is employed by three or more commercial projects in the United States for at least 5 years.
  - *Independent engineering report.* The final regulations require the applicant to provide an independent engineering report on the project, which was not required under the guidelines. According to the regulations, the engineering report should assess the project, including its site information, status of permits, engineering and design, contractual requirements, environmental compliance, testing and commissioning, and operations and maintenance.

Although the final regulations generally address requirements from applicable guidance, we identified one key aspect related to equity

---

requirements that is not clear. The final regulations state that DOE will evaluate whether an applicant is contributing significant equity to the project. The regulations define equity as “cash contributed by the borrowers and other principals.” Based on this definition, it appears that non-cash contributions, such as land, would not be considered equity. However, the LGP director told us that land and certain other non-cash contributions could be considered equity. As a result, the regulations do not fully reflect how DOE is interpreting equity and potential applicants may not have a full understanding of the program’s equity requirements.

---

## DOE Has Not Fully Implemented Activities Necessary for Effective and Accountable Program Management

DOE may not be well positioned to manage the LGP effectively and maintain accountability because it has not completed a number of management and internal control activities key to carrying out the program. As a result, DOE may not be able to process applications efficiently and effectively, even though DOE has begun to review its first application, and officials told us they will begin reviewing other applications as soon as they are submitted. The key activities that DOE has not sufficiently completed include (1) clearly defining its key milestones and its specific resource needs, (2) establishing policies and procedures for operating the program, and (3) agreeing upon key measures to evaluate program progress. The nature and characteristics of the LGP expose the government to substantial inherent risk; implementing these management and internal control tools is a means of mitigating some risks.

---

## DOE Has Begun Its Application Review Process before Clearly Defining Program Milestones and Specific Resource Needs

According to our work on leading performance management practices, agencies should have plans for managing their programs that identify goals, strategies, time frames, resources, and stakeholder involvement in decision making. In January 2008 DOE completed a “concept of operations” document that contains, among other things: information on the LGP’s organizational structure; mission, goals, and objectives; and timelines, milestones, and major program activities that must be accomplished and their sequence. However, LGP officials told us they do not consider the concept of operations a strategic or performance planning document. In addition, it is unclear whether LGP plans to set other timelines and milestones that would be available to stakeholders, such as applicants and Congress. Without associating key activities with the time frames it aims to meet, it is unclear how DOE can adequately gauge its progress or establish and maintain accountability to itself and stakeholders.

---

As of March 2008, 14 of the 16 companies invited to submit full applications reported that they plan to submit their applications to DOE by the end of September 2008, and the other 2 plan to submit by the end of January 2009. DOE received one application in April 2008, which it has begun to review, and DOE officials told us they will begin reviewing other applications as soon as they are submitted. This influx of applications could cause a surge in workload, but it is not clear that DOE has obtained the resources it needs to carry out its application review activities. Although it is critical for agencies to determine the timing and type of resources needed, DOE has not determined the number and type of contractor resources it will need to review the applications, which could lead to delays. For example, DOE expects to need legal, engineering, environmental, and financial contracting expertise but has not completed plans describing the types of expertise needed, estimated when the expertise will be required, or determined to what extent each type of expertise will be needed. According to the LGP director, much of this expertise will have to be acquired through new contracts that DOE must negotiate and that generally take some months to put into place. To the extent that these resources are not available when needed, DOE could experience delays in reviewing the applications. In early April 2008, the LGP director said that his office is working with other DOE offices to develop these contracts and considers this activity high priority; while the completion date for an acquisition and contract vehicles strategy was initially set for the end of April, the timetable DOE includes in its agency comments letter indicates an August 2008 completion date. In addition, as of April the LGP office was 7 staff short of its authorized level of 16 for fiscal year 2008; the director told us it has faced delays in hiring permanent staff, although he indicated that the office has enough permanent staff to review the first 16 applications.<sup>14</sup> He also said that the permanent and contractor staff LGP has hired have many years of project finance or loan guarantee experience at other institutions.

---

## DOE Has Not Completed Key Policies and Procedures

Management has a fundamental responsibility to develop and maintain effective internal controls to help ensure that programs operate and resources are used efficiently and effectively to achieve desired objectives and safeguard the integrity of their programs. As of May 2008, DOE had not completed policies and procedures to select loans, identify eligible lenders and monitor loans and lenders, estimate the costs of the program,

---

<sup>14</sup>DOE stated in its agency comment letter that the LGP had 11 full-time equivalent employees on board as of May 2008.

---

or account for the program, despite reporting to Congress in June 2007 that it would have completed most of these activities by the end of fiscal year 2007.

## Selecting Loans

OMB Circular A-129 calls for agencies to develop policies and procedures to select loans, including appropriate applicant screening standards to determine eligibility and creditworthiness. In this regard, from August 2006 through October 2007, DOE conducted a preapplication process to help it develop final regulations; develop and test policies, criteria, and procedures for reviewing preapplications; and determine which projects it would invite to apply for loan guarantees. Conducting the preapplication process also enabled DOE to respond to congressional interest in launching the program, according to DOE officials.

We found that, during its preapplication review process, DOE did not always sufficiently document why it ultimately selected projects that reviewers did not score highly or recommend initially. DOE documented the results of the selection process, including its technical and financial reviews for individual projects, its joint technical-financial reviews for categories of projects, and its decisions made during its secondary review process. However, we found that DOE's documentation for deciding which projects to recommend to the Credit Review Board did not always provide sufficient justification. While our discussions with DOE officials helped clarify the documentation for 6 of the 16 invited projects, they did not for 2 of those projects. According to DOE officials, they gave greater weight to the technical merit than the financial merit of the projects during the preapplication selection process. In addition, a consultant DOE hired to review the preapplication process found that although the files were in "good working order," DOE did not consistently conduct and document its technical evaluations and did not document financial evaluations in depth. The consultant recommended that DOE take steps to establish standards for these evaluations and increase the level of transparency in the preapplication evaluation process.

We also found that the financial and technical criteria DOE used to review the preapplications were not sufficiently defined in some cases. For example, a requirement that is central in considering projects' overall eligibility—whether it is "innovative," also known as "new and significantly improved"—was difficult to determine, according to several program managers and reviewers. After the initial review process was completed, DOE further defined what it considers "new and significantly improved" in its final regulations, but has not correspondingly updated the review criteria. In addition, when DOE conducted its financial reviews, it

---

evaluated projects by assigning scores between zero and four—with zero being the weakest score and four being the strongest score. However, DOE did not define what the possible scores signified. Moreover, 60 percent of a preapplicant’s financial score was based on creditworthiness; yet, DOE did not require preapplicants to submit pertinent financial and credit information such as audited financial statements or credit histories.

DOE has not fully developed detailed internal policies and procedures, including criteria, for selecting applications. To review the first 16 projects, DOE officials told us they will use criteria developed for the preapplication process. For projects that apply in response to future solicitations, DOE plans to amend current preapplication criteria and develop additional evaluation factors that will be specific to certain technology areas or sectors. According to DOE officials, as of May 2008, DOE has also hired one staff person to develop credit policies and procedures specific to LGP, and to fully establish its credit policy function. They also said that these credit policies and procedures would provide internal guidance related to some aspects of application review.

DOE officials told us they also expect the application process guidance they developed for companies to also serve as internal review policies and procedures. This guidance provides instructions on the content and format applicants should adhere to when applying for a guarantee, such as background information; a project description; and technical, business, and financing plans. The guidance generally aligns with information in the final regulations on the factors DOE plans to review and should make it easier for companies to develop applications. However, in some cases the guidance lacks specificity for applicants. In addition, when considering the guidance for use as internal policies and procedures, as DOE has indicated it will be used, we determined that it does not contain criteria or guidance that would be sufficient for DOE reviewers. Specifically, it lacks instruction and detail regarding how DOE will determine project eligibility and review applications, such as roles and responsibilities, criteria for conducting and documenting analyses, and decision making. For example, we found the following:

- *Project eligibility.* DOE does not delineate how it will evaluate project eligibility—that is, how each project achieves substantial environmental benefits and employs new or significantly improved technologies. The guidance requires applicants to submit background information on the technologies and their anticipated benefits but does not require enough detail for DOE to assess the information. Without such detail, it is unclear how DOE will measure each project’s contribution to the program.

- 
- *Independent engineer's report.* DOE's guidance does not provide sufficient detail on the technical information applicants should submit in this report, even though the guidance requires that the report comprehensively evaluate five technical elements as well as contractual requirements and arrangements.<sup>15</sup> DOE officials told us that applicants generally develop this report for investors and that the reports will likely be of varying quality and detail. DOE officials also expect that, in developing a separate report that assesses this information, they will likely need to fill considerable gaps and conduct additional analyses. While DOE recognizes these reports serve an important due diligence function, DOE has not provided applicants with specific instructions on what to include. As a result, DOE is likely to lose efficiency and effectiveness when it uses the reports to aid in evaluating loan guarantee applications.
  - *Creditworthiness.* For a company to be eligible for a loan guarantee, a reasonable prospect of repayment must exist and the applicant cannot have delinquent federal debt, which is critical to determine at the beginning of the review process to assess whether an applicant is even eligible. Therefore, a sound assessment of creditworthiness is essential. However, the criteria DOE has established to evaluate creditworthiness—which it used during the preapplication process and plans to use for future applications—did not take into account the more meaningful and thorough information required for the full application process. In addition, while DOE's guidance requests applicants to submit more complete information, such as a credit assessment, it does not provide details regarding how DOE will evaluate the information to determine creditworthiness.
  - *Project cost information.* DOE's guidance for the application process instructs applicants to indicate if their cost estimates are firm or subject to change, but it does not request applicants to report a level-of-confidence in their total project estimates. GAO has reported that for management to make good decisions and determine if a program is realistically budgeted, the estimate must quantify the uncertainty so that a level of confidence can be given about the estimate.<sup>16</sup> For example, an uncertainty analysis could inform DOE management that there is a 60 percent chance that a project's cost will be greater than estimated. Without requiring information

---

<sup>15</sup>The other five elements are site information and status of permits, engineering and design, environmental compliance, testing and commissioning, and operations and maintenance.

<sup>16</sup>GAO, *Cost Assessment Guide: Best Practices for Estimating and Managing Program Costs, Exposure Draft*, [GAO-07-1134SP](#) (Washington, D.C.: July 2007).

---

on the uncertainty in project cost estimates and specifying how it will assess that information, DOE may not be able to appropriately determine a project's feasibility and identify projects that could eventually require substantially more investment or loans for completion.

Without sufficient internal policies and procedures that correspond to application components, DOE's application review process will lack transparency and it will be difficult for DOE to consistently, thoroughly, and efficiently evaluate project applications.

### Identifying Eligible Lenders and Monitoring Loans and Lenders

OMB Circular A-129 calls for agencies to establish policies and procedures to identify eligible lenders and to monitor loans and lenders. DOE has hired a director of monitoring and, according to DOE officials, is currently developing policies and procedures that will include (1) processes for identifying eligible lenders through a competitive process, as well as an associated checklist and guide for evaluating potential lenders, and (2) loan servicing and monitoring guidelines. These policies and procedures may build upon the monitoring policies of the Overseas Private Investment Corporation (OPIC).<sup>17</sup> Implementing rigorous monitoring policies and procedures will help DOE ensure the success of the loan guarantee program. According to DOE officials, these policies and procedures will be completed before DOE issues the first loan guarantees.

### Estimating Subsidy Costs

As required by the LGP's fiscal years 2007 and 2008 appropriation, DOE plans to charge borrowers fees to cover subsidy costs, as permitted by Title XVII. However, estimating the subsidy cost for the LGP will be difficult because of inherent risks due to the nature and characteristics of the program. To the extent that DOE underestimates the costs and does not collect enough fees from borrowers, taxpayers will ultimately be responsible for any shortfall. Therefore, it is critical that DOE have a sound and comprehensive methodology to develop its cost estimates. Guidance on preparing subsidy cost estimates lists procedures necessary to estimate subsidy costs, such as the development of a cash flow model; the review and approval process; and documentation of the cash flow

---

<sup>17</sup>OPIC was established as an agency of the U.S. government to help U.S. businesses invest overseas. OPIC's financing and political risk insurance helps U.S. businesses compete in emerging markets and meet the challenges of investing overseas when private-sector support is not available. OPIC financing provides funding through direct loans and loan guarantees to eligible investment projects in developing countries and emerging markets.

---

Estimating Administrative Costs

model and underlying assumptions.<sup>18</sup> OMB Circular A-129 requires agencies to develop models to estimate subsidy costs before obligating direct loans and committing loan guarantees. According to LGP officials, DOE has submitted a draft subsidy cost model to OMB for approval and has drafted documentation for the subsidy calculation process.

Title XVII requires DOE to collect fees from borrowers to cover applicable administrative costs. Such costs could include costs associated with evaluating applications; offering, negotiating, and closing guarantees; and servicing and monitoring the guarantees. The federal accounting standard for cost accounting<sup>19</sup> states that cost information is an important basis for setting fees and reimbursements and that entities should report the full cost of programs, including the costs of (1) resources the office uses that directly or indirectly contribute to the program, and (2) identifiable supporting services other offices provide within the reporting entity. While DOE has prepared a schedule of fees to be charged for the first solicitation, it could not provide support for how it calculated the fees. DOE officials stated that they used professional judgment as a basis for the fee structure. However, DOE has not developed policies and procedures to estimate administrative costs, including a determination of which costs need to be tracked. For example, DOE has not tracked administrative costs associated with the time general counsel staff have spent working on issues related to the LGP. Therefore, DOE lacks assurance that the fees it collects will fully cover applicable administrative costs, particularly support costs from offices outside of the LGP office, such as the general counsel. According to DOE officials, some element of judgment must be used at this time in the determination of fees and as more experience is gained they will be able to develop policies and procedures designed to ensure that adequate fees are collected to cover administrative costs.

Accounting for the Loan Guarantee Program

In April 2008, DOE officials told us that policies and procedures to account for the LGP are nearly complete. Under the LGP regulations, DOE may

---

<sup>18</sup>In January 2004, the Federal Accounting Standards Advisory Board's Accounting and Auditing Policy Committee issued *Technical Release 6, Preparing Estimates for Direct Loan and Loan Guarantee Subsidies under the Federal Credit Reform Act Amendments to Technical Release 3: Preparing and Auditing Direct Loan and Loan Guarantee Subsidies under the Federal Credit Reform Act*, which provides guidance to agencies on preparing subsidy cost estimates.

<sup>19</sup>Statement of Federal Financial Accounting Standard No. 4, *Managerial Cost Accounting Concepts and Standards for the Federal Government*.

---

issue loan guarantees for up to 100 percent of the loan amount as long as FFB disburses the loan. OMB Circular A-11, *Preparation, Submission and Execution of the Budget*, calls for credit issued by FFB to be budgeted for as a direct loan. Because the accounting treatment mirrors the budgeting, DOE would also account for such loans as direct loans. Accordingly, DOE has indicated that the policies and procedures will cover accounting for both direct loans and loan guarantees.

---

## DOE Has Not Completed Its Framework for Evaluating Program Progress

DOE has also not completed the measures and metrics it will use to evaluate program progress. DOE included some of these in its fiscal year 2009 budget request and its concept of operations document, but LGP's director told us the measures and metrics have not been made final because DOE and OMB have not yet agreed on them. In assessing the draft measures and metrics, we observed the following shortcomings:

- DOE intends to measure outcomes directly tied to overall program goals—installing new capacity, reducing greenhouse gas emissions, and reducing air pollution—and has said it will develop baselines or benchmarks for these outcomes. However, it has not yet gathered and analyzed the necessary data on, for example, existing capacity or current emission levels for categories of LGP project technologies.
- DOE included a measure for the recovery of administrative costs but not one for the recovery of subsidy costs, which will most likely be the more significant program cost.
- DOE's metric to assess the effectiveness of financing decisions—containing the loss rate to 5 percent—may not be realistic; it is far lower than the estimated loss rate of over 25 percent that we calculated using the assumptions included in the fiscal year 2009 president's budget.<sup>20</sup>

---

<sup>20</sup>Calculated from table 6 of the *Federal Credit Supplement, Fiscal Year 2009*. The assumptions presented for the LGP were a default rate of 50.85 percent and a recovery rate of 50 percent, which result in a loss rate of 25.42 percent when multiplied together.

---

## Inherent Risks Will Make Estimating Subsidy Costs Difficult and May Introduce Self-Selection Biases in the Projects That Ultimately Receive Loan Guarantees

The nature and characteristics of the LGP will make estimating the program's subsidy costs difficult even if DOE develops a sound and comprehensive methodology. Evaluating the risks of individual projects applying for loan guarantees will be difficult because the LGP targets innovative energy technologies and because projects will likely have unique characteristics—varying in size, technology, and experience of the project sponsor. For the first solicitation alone, the technologies range from a modest energy efficiency project to multiyear advanced coal projects, and estimated project costs range from around \$25 million to more than \$2 billion. In fiscal year 2008, DOE plans to further diversify the types of technology projects that it will consider for its loan portfolio, including nuclear power facilities, whose project costs may be more than \$5 billion for each facility. Further, DOE will not gain significant experience in each technology because the program's objective is to commercialize a limited number of each type of innovative technologies. Therefore, the types of projects will, by design, evolve over time, and the experience and data that DOE gains may not be applicable to evaluating the risks of projects applying in the future.<sup>21</sup>

The composition of DOE's eventual portfolio will even further limit the data available to help DOE evaluate project risks. Unlike an agency that provides a high volume of loan guarantees for relatively similar purposes, such as student loans or home loans, DOE will likely approve a small number of guarantees each year, leaving it with relatively little experience to help inform estimates for the future. In addition, DOE's loan guarantees will probably be for large dollar amounts, several of which could range from \$500 million to more than \$1 billion each. As a result, if defaults occur, they will be for large dollar amounts and will likely not take place during easily predicted time frames. Recoveries may be equally difficult to predict and may be affected by the condition of the underlying collateral. In addition, project risks and loan performance could depend heavily on regulatory and legislative actions, as well as future economic conditions, including energy prices and economic growth, which generally can not be predicted accurately. These factors combine to make it difficult for DOE

---

<sup>21</sup>In 2005, we reported that FHA could benefit from adopting a pilot approach when launching a new loan product. By proceeding slowly with the program, FHA could gain data about default risks and recoveries that could be applied to future products. With DOE's LGP, however, the program will continually be evaluating new types of project technologies; therefore the data that DOE gains may be of limited use for future projects.

---

to prepare reliable estimates of subsidy costs.<sup>22</sup> To the extent that DOE underestimates the costs of the LGP and does not collect enough fees from borrowers, taxpayers will ultimately have to pay for any shortfalls. Under FCRA, DOE is required to update, or reestimate, the subsidy costs of LGP to reflect actual loan performance and changes in expected future loan performance. Shortfalls identified in annual reestimates are automatically funded by the federal government under the terms of the FCRA and are not subject to congressional scrutiny during the annual appropriation process.<sup>23</sup>

The likelihood of misestimates and the practice of charging fees to cover all the estimated costs may lead to biases in the projects that ultimately receive loan guarantees and tilt the portfolio of loan guarantees toward those that will not pay for themselves. In general, potential borrowers will know more about their projects and creditworthiness than DOE. As a result, borrowers will be more likely to accept loan guarantee offers if they believe DOE has underestimated the projects' risks and therefore set the fee too low, than if they believe DOE has overestimated risks. Underestimated fees amount to an implicit subsidy. The CBO reported that such a bias in applicants' acceptance of loan guarantees increases the likelihood that DOE's loan guarantee portfolio will have more projects for which DOE underestimated the fee. CBO evaluated the cost of the LGP and estimated that DOE would charge companies, on average, at least 1 percent lower than the likely costs of the guarantees.<sup>24</sup> To the extent that DOE underestimates the fee, and does not collect enough fees from borrowers to cover the actual subsidy costs, taxpayers will bear the cost of any shortfall.

---

<sup>22</sup>In 2003 we reported that a Maritime Administration (MARAD) loan guarantee program significantly underestimated the default rate of the projects and significantly overestimated how much the agency would recover in the event of defaults. Project uniqueness and size were also risk factors associated with the MARAD program. See GAO, *Maritime Administration: Weaknesses Identified in Management of the Title XI Loan Guarantee Program*, [GAO-03-657](#) (Washington, D.C.: June 2003).

<sup>23</sup>Congress recognized that data were limited or unreliable in the early years of credit reform and that this could impede the ability of agencies to make reliable estimates. Thus, Congress provided for permanent, indefinite budget authority for upward reestimates of subsidy costs. Agencies with discretionary credit programs then could reestimate subsidy costs as required without being limited by the constraints of budgetary spending limits.

<sup>24</sup>Congressional Budget Office Cost Estimate: S. 1321 Energy Savings Act of 2007, June 11, 2007.

---

Even if DOE estimates the subsidy cost with a reasonable degree of accuracy and charges the applicants fees to cover the true costs, there is a potential for a self-selection bias in the companies participating in the program toward those for which the fee is small relative to the expected benefits of the loan guarantee (such as more favorable loan terms or a lower interest rate). As CBO recently reported about the LGP, a loan guarantee would improve a project's financial viability if the cost of the guarantee is shifted to the federal government. However, when the borrower pays a fee to cover the subsidy cost, as is the case with the LGP, the cost and most of the risk stay with the project and the viability of the project may not be substantially improved. Therefore, for such projects, there is a practical limit to how large the fee can be without jeopardizing the project's financial prospects; these constraints add to the challenge of setting fees high enough to compensate for uncertainties. To the extent that some projects targeted by Title XVII are not financially viable without some form of federal assistance or favorable treatment by regulators, these projects will not pursue loan guarantees even though they are otherwise eligible. As a result, if this financial viability is not distributed evenly across technologies targeted by Title XVII, the projects that ultimately receive loan guarantees may not represent the full range of technologies targeted by Title XVII.

DOE officials noted that the borrower pays option may cause the more risky potential borrowers that would be required to pay a higher fee to either (1) contribute more equity to their projects to lower the fee or (2) abandon their projects and not enter the program. If potential borrowers contribute more equity, this could decrease default risk or improve potential recoveries in the event of a default.

---

## Conclusions

More than a year has passed since DOE received funding to administer the LGP and we recommended steps it should take to help manage the program effectively and maintain accountability. We recognize that it takes some time to create a new office and hire staff to implement such a program. However, instead of working to ensure that controls are in place to help ensure the program's effectiveness and to mitigate risks, DOE has focused its efforts on accelerating program operations. Moreover, because loan guarantee programs generally pose financial risk to the federal government, and this program has additional inherent risks, it is critical that DOE complete basic management and accountability activities to help ensure that it will use taxpayer resources prudently. These include establishing sufficient evaluation criteria and guidance for the selection process, resource estimates, and methods to track costs and measure

---

program progress. Without completing these activities, DOE is hampering its ability to mitigate risks of excessive or unnecessary losses to the federal government and American taxpayers.

The difficulties DOE will face in estimating subsidy costs could increase LGP's financial risk to the taxpayer. If DOE underestimates costs, the likely end result will be projects that do not fully pay for themselves and an obligation to taxpayers to make up the difference. Furthermore, the inherent risks of the program, along with the expectation that borrowers will cover the costs of their loan guarantees, may lead to self-selection bias that tilts the portfolio of projects toward those for which costs have been underestimated. Neither we nor DOE will be able to fully evaluate the extent or magnitude of the potential financial costs to the taxpayer until DOE has developed some experience and expertise in administering the program. Expanding the LGP at this juncture, when the program's risks and costs are not well understood, could unnecessarily result in significant financial losses to the government. Self-selection bias may also—under certain conditions—lead to less than the full range of projects of technologies targeted by Title XVII represented in the LGP. The likely costs to be borne by taxpayers and the potential for self-selection biases call into question whether the program can fully pay for itself; they also call into question whether the program will be fully effective in promoting the commercialization of a broad range of innovative energy technologies.

It is important to note that, while we found that inherent risks and certain features of the program may lead to unintended taxpayer costs and that self-selection biases may reduce the scope of participation in the program, this is not an indication that the overall costs of the program outweigh the benefits. Rather, it simply means that the costs may be higher and the benefits lower than expected. Finally, the extent to which these costs and benefits will differ from expectations over the life of the program is something that cannot be reasonably estimated until DOE gains some experience in administering the LGP. Even at the current planned pace of the program, it will take a number of years before we can observe the extent to which unintended taxpayer costs are incurred or the benefits of innovative energy technologies emerge.

---

## Matter for Congressional Consideration

To the extent that Congress intends for the program to fully pay for itself, and to help minimize the government's exposure to financial losses, we are suggesting that Congress may wish to consider limiting the amount of loan guarantee commitments that DOE can make under Title XVII until DOE

---

has put into place adequate management and internal controls. We are also making recommendations to assist DOE in this regard.

---

## Recommendations for Executive Action

To improve the implementation of the LGP and to help mitigate risk to the federal government and American taxpayers, we recommend that the Secretary of Energy direct the Chief Financial Officer to take the following steps before substantially reviewing LGP applications:

- complete detailed internal loan selection policies and procedures that lay out roles and responsibilities and criteria and requirements for conducting and documenting analyses and decision making;
- clearly define needs for contractor expertise to facilitate timely application reviews;
- amend application guidance to include more specificity on the content of independent engineering reports and on the development of project cost estimates to provide the level of detail needed to better assess overall project feasibility;
- improve the LGP's full tracking of the program's administrative costs by developing an approach to track and estimate costs associated with offices that directly and indirectly support the program and including those costs as appropriate in the fees charged to applicants;
- further develop and define performance measures and metrics to monitor and evaluate program efficiency, effectiveness, and outcomes; and
- clarify the program's equity requirements to the 16 companies invited to apply for loan guarantees and in future solicitations.

---

## Agency Comments and Our Evaluation

We provided a draft of this report to the Secretary of Energy for review and comment. DOE generally disagreed with our characterization of its progress to date in implementing the LGP. DOE stated two of our six recommendations were inapplicable to the LGP, indicated it has largely accomplished the remaining four recommendations, and disagreed with our matter for congressional consideration. DOE further stated that our report contains flawed logic, significant inaccuracies, and omissions; however, DOE did not provide evidence to support these assertions. Our

---

evaluation of DOE's comments follows. A more detailed analysis is presented in appendix III.

In particular, DOE stated that we placed disproportionate emphasis on activities that should be completed for a fully implemented loan guarantee program rather than one that is currently being implemented, and that we overlooked DOE's accomplishments to date. We disagree. We believe that our report accurately assesses the LGP in its early development stage and focused our report's analysis and recommendations on activities that should be completed before DOE begins to substantively review any applications. DOE states that it will have completed many of these activities before it issues loan guarantees, but we continue to believe these activities should be completed before DOE reviews applications and negotiates with applicants so that it can operate the program prudently. In several cases, DOE cites as complete documents and activities that were, and still are at the time of this report, in draft form. For example, in several instances DOE states that it has "implemented" its credit subsidy model. However, as of June 24, 2008, DOE indicated that OMB has not approved its model. Further, DOE illustrates in an updated timetable it provides in its appendix B of its comment letter that a majority of these activities are not yet complete and that several will not be complete until the end of the calendar year 2008. DOE's entire letter, including its appendixes, is reproduced as appendix III of this report.

Regarding our recommendation on policies and procedures for conducting reviews, DOE cites policies and procedures that it believes are adequate for continuing program implementation. We disagree. DOE is developing credit policies and procedures, but it does not have complete internal application policies and procedures, which it should have as it begins to review and negotiate its first loan guarantee applications. DOE also lacks any substantive information in its external application guidance on how it will select technologies. DOE has indicated that some of this information will be included in future solicitations.

DOE partially agreed with our recommendation to define the expertise it will need to contract for and stated that it is developing descriptions of necessary contractor expertise on a solicitation-specific basis. Although DOE may plan to complete such descriptions and other preparatory work for future solicitations, DOE did not provide us with any information for contractor expertise for the 2006 solicitation. DOE's timetable provided in Appendix B indicates an August 2008 completion date for its acquisition strategy and contract vehicles; this target may be in time for future solicitations but it is not in time for the applications that companies are

---

now submitting and DOE is reviewing. DOE also states that it is not possible to develop generic definitions of needed contractor expertise because the department's needs will vary from solicitation to solicitation. We continue to believe it is both reasonable and feasible for DOE to develop estimates for the timing and type of resources the department will require. To be transparent and consistent in its review and negotiation processes, DOE's statements of work within sectors and across sectors should have similar frameworks and rationale. Specifically, DOE may need assistance in areas common to all technologies, such as cost and risk analysis, project management, and engineering and design reviews. DOE should be able to start defining these and other areas on the basis of past experience.

DOE disagreed with our recommendation to provide more specific application guidance on the content of independent engineering reports. DOE stated that this specificity is not required, necessary, or appropriate for LGP implementation. We disagree. Providing more specificity to companies on DOE's expectations for an application's content—and basic information about how it will review the projects—will help companies develop higher quality application materials and help ensure thorough, consistent, and efficient evaluations. Taking this step is also likely to decrease the number of requests for more analyses or information from the applicant. We also continue to believe it is reasonable for DOE to provide more specificity on how to develop project cost estimates, including a level-of-confidence estimate, so that it can better evaluate project cost estimates.

DOE disagreed with our recommendation that it track the administrative costs associated with the LGP. DOE stated it is appropriate to track the costs of the LGP office and that it plans to develop a methodology for doing so, but there is no reason to track the costs of certain support activities. We disagree. Title XVII requires DOE to charge and collect fees that the Secretary determines are sufficient to cover applicable administrative expenses. The federal accounting standard for managerial cost accounting requires agencies to determine and report the full costs of government goods and services, including both direct and indirect costs associated with support activities. Therefore, we believe it is appropriate for DOE to consider costs associated with support activities, such as costs associated with the time general counsel staff spend working on issues related to the LGP, to be "applicable administrative costs." If DOE does not consider support costs when setting fees, it cannot be assured that the fees it collects will fully cover all administrative costs incurred to operate the LGP.

---

Regarding our recommendation to further develop and define performance measures and metrics before substantially reviewing LGP applications, DOE stated it has developed initial draft performance measures and metrics with the aim of completing them by the end of calendar year 2008. We continue to believe such measures and metrics should be developed as soon as possible for the 16 projects DOE invited to apply for guarantees. In addition, DOE has emphasized its focus on selecting technologies and projects that will produce significant environmental benefits, in particular the avoidance of air pollutants and greenhouse gases. However, it is unclear how DOE will do so without gathering data to establish baseline measures and metrics associated with these benefits.

DOE stated that it did not need to take additional action to implement our recommendation that it clarify the LGP's equity requirements with the 16 companies invited to apply and in future solicitations because it informed the 16 companies invited to apply of DOE's equity position. However, DOE officials told us that they communicated this information orally and did not provide specific documentation to the 16 companies. We believe it is reasonable to provide potential applicants with key information, such as the LGP's equity requirement, in writing to help ensure that all potential applicants receive the same information. Furthermore, we continue to believe that this is appropriate information to include in future solicitations.

In commenting on our matter for congressional consideration, DOE disagreed with our findings that LGP does not have adequate management and internal controls in place to proceed and that it is well on the way to implementing the accepted recommendations contained in our report. We disagree. DOE has been slow to recognize the inefficiencies and inconsistencies it may face in not having key activities, policies, and procedures completed or in place before proceeding with its operations. While it is important that DOE make meaningful progress in accomplishing its mission under Title XVII, it is also important to operate the program prudently, given that billions of taxpayer dollars are at risk.

DOE also made minor technical suggestions, which we incorporated as appropriate. DOE's written comments and our more detailed responses are provided in appendix III.

---

We are sending copies of this report to congressional committees with responsibilities for energy and federal credit issues; the Secretary of

---

Energy; and the Director, Office of Management and Budget. We are also making copies available to others upon request. This report will be available at no charge on GAO's Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact Frank Rusco at 202-512-3841 or [ruscof@gao.gov](mailto:ruscof@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix IV.

A handwritten signature in black ink that reads "Frank Rusco" with a long, sweeping horizontal line extending to the right.

Frank Rusco  
Acting Director, Natural  
Resources and Environment

---

# Appendix I: Scope and Methodology

---

To assess the Department of Energy's (DOE) progress in issuing final regulations that govern the loan guarantee program (LGP), we reviewed and analyzed relevant provisions of Title XVII of the Energy Policy Act of 2005; the LGP's August 2006 guidelines and solicitation; its 2007 notice of proposed rulemaking; public comments on the proposed rulemaking; and final regulations published in the Federal Register. We compared the final regulations to applicable requirements contained in Title XVII and OMB Circular A-129 *Policies for Federal Credit Programs and Non-Tax Receivables*, which prescribes policies and procedures for federal credit programs. We also discussed the final regulations with DOE officials.

To assess DOE's progress in taking actions to help ensure that the program is managed effectively and to maintain accountability, we reviewed documentation related to DOE's implementation of the LGP. Specifically, we reviewed and analyzed the LGP's "concept of operations," technical and financial review criteria for the preapplication process, DOE's Application Process Overview Guidance, Preapplication Evaluation Procedural Guidance, minutes of Credit Review Board meetings held between April 2007 and February 2008, and other relevant documents. As criteria, we used our Standards for Internal Control in the Federal Government<sup>1</sup> and budget and accounting guidance. Further, to assess DOE's progress to develop measures and metrics, we applied GAO's Government Performance and Results Act guidance and analyzed information in Title XVII, DOE's budget request documents and other relevant documents.

When DOE had completed its preapplication review process, we obtained documentation from DOE's decision files related to the 140 preapplications for 143 projects. We reviewed all decision files DOE provided to us and analyzed the documentation for the preapplications that DOE considered responsive to the August 2006 solicitation to determine if DOE conducted its review process consistently and documented its decisions sufficiently. Responsive decision files generally contained a summary of the technology; separate technical and financial review scoring sheets; minutes documenting results of joint technical-financial meetings; and a DOE summary of its secondary review process. We also reviewed other preapplication materials that DOE provided to us. We did not evaluate the financial or technical soundness of the projects that DOE invited to submit full applications.

---

<sup>1</sup>[GAO/AIMD-00-21.3.1](#) (Washington, D.C.: November 1999).

Further, we interviewed cognizant DOE officials from the LGP office, detailees from the Department of the Treasury, and contractor personnel assisting DOE with the preapplication process, the development of policies and procedures, and the implementation of the program. In addition, we interviewed officials from DOE's Office of General Counsel; Office of the Chief Financial Officer; and program offices that participated in the technical reviews of the preapplications, including the Office of Energy Efficiency and Renewable Energy, the Office of Fossil Energy, the Office of Nuclear Energy, and the Office of Electricity Delivery and Energy Reliability. We also spoke with officials from the Departments of Agriculture and Transportation to discuss policies and procedures for managing their loan guarantee programs.

To examine the inherent risks associated with the LGP, including the "borrower pays" option of Title XVII, we reviewed our prior work on federal loan guarantee programs, including programs under the Maritime Administration, the Federal Housing Administration, and the Small Business Administration. We interviewed officials at and reviewed reports by the Congressional Budget Office. We also discussed risks with DOE officials.

We conducted this performance audit from August 2007 through June 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

# Appendix II: Title XVII Categories, DOE's First Solicitation, and Projects DOE Invited to Submit Applications for Loan Guarantees

The Energy Policy Act of 2005 (EPAct 2005) listed 10 categories of projects that would be eligible to apply for loan guarantees under Title XVII. In August 2006, DOE issued a solicitation inviting companies to submit preapplications for projects eligible to receive loan guarantees under Title XVII. The solicitation listed categories falling within 8 of the 10 Title XVII categories. The solicitation did not invite projects for two Title XVII categories: advanced nuclear energy facilities, and refineries, meaning facilities at which crude oil is refined into gasoline. Table 1 shows the 10 categories.

**Table 1: Project Categories for Title XVII and DOE Solicitation**

<b>EPAct 2005 Title XVII Categories</b> (August 2005)	<b>DOE Solicitation Categories</b> (August 2006)
Renewable energy systems	Biomass, solar, wind, and hydropower
Advanced fossil energy technology (including coal gasification meeting the criteria in subsection (d) <sup>a</sup> )	Fossil energy coal
Hydrogen fuel cell technology for residential, industrial, or transportation applications	Hydrogen
Carbon capture and sequestration practices and technologies, including agricultural and forestry practices that store and sequester carbon	Carbon sequestration practices and technologies
Efficient electrical generation, transmission, and distribution technologies	Efficient electricity transmission and delivery and energy reliability
Efficient end-use energy technologies	Industrial energy efficiency projects
Production facilities for the manufacture of fuel efficient vehicles or parts of those vehicles, including electric drive vehicles and advanced diesel vehicles	Alternative fuel vehicles
Pollution control equipment	Pollution control equipment
Advanced nuclear energy facilities	Not included in solicitation
Refineries, meaning facilities at which crude oil is refined into gasoline	Not included in solicitation

Source: DOE.

<sup>a</sup>Pub. L. No. 109-58, Title XVII Sec. 1703 (d) Emission levels. In addition to any other applicable federal or state emission limitation requirements, a project shall attain at least (1) total sulfur dioxide emissions in flue gas from the project that do not exceed 0.05 lb/MMBtu; (2) a 90 percent removal rate (including any fuel pretreatment) of mercury from the coal-derived gas, and any other fuel, combusted by the project; (3) total nitrogen oxide emissions in the flue gas from the project that do not exceed 0.08 lb/MMBtu; and (4) total particulate emissions in the flue gas from the project that do not exceed 0.01 lb/MMBtu.

On October 4, 2007, DOE announced that it had invited 16 projects to submit full applications for loan guarantees. Table 2 includes the projects' sponsors, types, descriptions, and their current proposed locations.

**Appendix II: Title XVII  
Categories, DOE's First  
Solicitation, and Projects DOE  
Invited to Submit Applications  
for Loan Guarantees**

**Table 2: Projects Invited to Submit Full Applications**

Company name	Project description	Proposed project location
<b>Advanced fossil energy</b>		
1. Mesaba Energy Project (MEP-I, LLC)	Integrated Gasification Combined Cycle (IGCC <sup>a</sup> ) plant that may allow for CO2 capture and storage in its design	Taconite, Minnesota
2. Mississippi Power Company	First IGCC <sup>a</sup> plant to generate electricity using lignite coal for fuel	Kemper County, Mississippi
3. TX energy, LLC	IGCC <sup>a</sup> plant that can isolate and sell CO2 while producing power and chemicals	Longview, Texas
<b>Industrial energy efficiency</b>		
4. GR Silicate Nano Fibers and Carbonates	In paper manufacturing, a more energy efficient process that replaces natural fibers from trees with synthetic fibers; may allow some CO2 reduction and capture	Hoquiam, Washington
5. Sage Electrochromics	Energy efficient windows for buildings that can change tint on demand	Faribault, Minnesota
<b>Solar energy</b>		
6. Bright Source Energy (Luz II, Ltd)	Large-scale power tower project using concentrated solar-thermal technology	Ivanpah, California
7. Solyndra, Inc	Thin-film cylindrical photovoltaic cells that collect sunlight from many angles	Fremont, California
<b>Electricity delivery and energy reliability</b>		
8. Beacon Power Corporation	Flywheel-based regulation technology that will balance loads of electric plants and enhance performance of the power grid	Stephentown, New York
<b>Hydrogen</b>		
9. Bridgeport Fuel Cell Park, LLC	Largest single-site installation of fuel cells for a power plant	Bridgeport, Connecticut
<b>Alternative fuel vehicles</b>		
10. Tesla Motors, Inc	Battery-electric car with enhanced range and acceleration for the consumer market	Albuquerque, New Mexico
<b>Biomass</b>		
11. Alico, Inc	Cellulosic ethanol plant that would produce several products from multiple feedstocks	Hendry County, Florida
12. BlueFire Ethanol, Inc	Cellulosic ethanol plant converting biomass at landfills to ethanol and other products	Riverside County, California
13. Choren USA	Gasification plant to produce synthetic automotive diesel and light distillates from biomass	Southeastern United States <sup>b</sup>
14. Endicott Biofuels, LLC	Plant that would feature feedstock flexibility and produce a range of biodiesel fuels	Louisiana <sup>b</sup>
15. Iogen Biorefinery Partners, LLC	Biorefinery to produce ethanol and other byproducts from cellulosic feedstocks	Bingham County, Idaho
16. Voyager Ethanol, LLC	Cellulosic ethanol plant using multiple feedstocks to produce ethanol and byproducts	Emmetsburg, Iowa

Source: DOE.

<sup>a</sup>Integrated Gasification Combined Cycle (IGCC) is an electric power generation plant that combines modern coal gasification technology with both gas turbine and steam turbine power generation. Gasification-based systems can process a wide variety of feedstocks, including coal, biomass, petroleum coke, refinery residues, and other wastes.

<sup>b</sup>Not all projects have known or public site locations.

# Appendix III: Comments from the Department of Energy

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



**Department of Energy**  
Washington, DC 20585

**JUN 13 2008**

Mr. Frank Rusco  
Acting Director, Natural Resources and Environment  
U.S. Government Accountability Office  
Washington, D.C. 20548

Dear Mr. Rusco:

This letter is in response to a draft report of the Government Accountability Office (GAO), entitled "New Loan Guarantee Program Should Complete Activities Necessary for Effective and Accountable Program Management" (GAO 08-750) (Draft Report), provided to the Department of Energy (DOE or Department) for review and comment on May 14, 2008.

#### **Summary**

The Draft Report contains six GAO recommendations for executive action by DOE to improve program management and one recommendation for Congressional action. As is the case in many instances, GAO has identified aspects of a new program in which more can be done to make the program in question function at a higher level once fully implemented. Here, GAO has placed a disproportionate emphasis on what should be done to improve all aspects of a fully implemented loan guarantee program (LGP) without adequately acknowledging the progress and accomplishments the Department has achieved in addressing the near term actions necessary to stand up the LGP. DOE believes it has appropriately and thoughtfully prioritized the resources available to it and has taken the first steps necessary to comply with the Congressional direction in Title XVII of the Energy Policy Act, 22 USC 16511, *et seq.*, to advance the commercialization of new and significantly improved technologies which will contribute to a cleaner environment. DOE is committed to insuring that all necessary actions have been taken and that all necessary policies and procedures are in place before the first loan guarantee is issued.

More specifically, as explained below, the Department has or is in the process of implementing four of the executive action recommendations and believes that the other two executive action recommendations are not required, necessary, or appropriate for implementation of the Loan Guarantee Program (LGP). Further, the Department believes that the recommendation to Congress is predicated upon a misapprehension that DOE does not already have in place adequate management and internal controls and may be counterproductive. The Department addresses the executive action recommendations in detail in Appendix A to this letter, entitled "Department of Energy's Response to GAO

See comment 1.

See comment 1.



Printed with soy ink on recycled paper

See comment 1.

Recommendations for Executive Action.” Also, as explained in Appendix B to this letter, entitled “DOE’s Detailed Comments on the GAO Draft Report,” the logic displayed in the Draft Report is often flawed; there are assertions without supporting facts; and there are significant inaccuracies and omissions.

**DOE Accomplishments**

Over the past 18 months, remarkable progress has been made implementing the LGP. From a field of 143 preapplications received in response to an August 2006 solicitation, 16 projects were invited to submit full applications. The Department rigorously reviewed each preapplication in accordance with criteria set forth in Guidelines issued in August 2006, as supplemented by detailed technical review standards established by the Department.

In conformity with Office of Management and Budget Circular A-129, the Department established a Credit Review Board (CRB), comprised of senior Department officials, on March 16, 2007. The CRB is the internal governing board with authority to oversee all policy matters affecting LGP operations.

The Department’s Loan Guarantee Program Office (LGPO) officially began operations on April 1, 2007 with the Director of the LGPO coming on board on August 6, 2007. Since August 2007, the Director has hired a cadre of seasoned professionals with extensive project finance experience complemented by particular experience in the Federal Government’s Overseas Private Investment Corporation (OPIC) and other agencies.

On October 4, 2007, DOE issued final regulations implementing Title XVII at 10 CFR Part 609. These regulations were issued less than eight months after Congress provided the first dedicated funds for operation of the LGPO and the first authority to actually issue loan guarantees.

The Department has made significant progress in establishing program regulations and developing internal administrative and management policies and procedures. The Department has completed several application guidance documents and internal management guidelines and is in the process of developing over five hundred pages of additional policies and procedures for the due diligence review of applications; established a sophisticated, user-friendly electronic data submission system for receipt of applications and supporting documents; installed Generally Accepted Accounting Principles (GAAP)-compliant accounting systems and procedures to monitor and manage the loans that will be guaranteed over the life of each related project; and designed, constructed, tested, and, on a pilot basis, operated, a state-of-the-art model for determining the credit subsidy cost for projects that will receive loan guarantees, as required by Title XVII and the FCRA.

See comment 1.

See comment 1.

Additional details of the accomplishments of the Department in implementing the Title XVII program and future plans are supplied in Appendix B and in the table which follows at page 3 *infra*, entitled "Summary of Planning Activities for the Loan Guarantee Program Office."

Importantly, all of the above-described accomplishments and measures will be achieved in advance of any issuance of loan guarantees. With these actions, the Department has sufficient policies in place, coupled with a growing staff of finance and technical professionals, to move forward with the next steps necessary to review the loan guarantee applications resulting from the August 2006 solicitation as they are received; perform a full due diligence review of those applications prior to recommending to the Secretary that any of them receive loan guarantees; and prepare to issue additional solicitations, as authorized by Title XVII and the Consolidated Appropriations Act, 2008.

**Response to the Draft Report**

Moving forward, the Department will continue to ensure all necessary and appropriate policies and procedures are in place to maintain the integrity of the LGP and to promote the objectives of the Title XVII program while protecting the American taxpayer. As the Department gains experience, it intends to further refine its policies and procedures to address new facts and circumstances as they develop. But this additional experience and insight and the fine-tuning of procedures and policies can only be gained by *executing* the program, not by remaining in a continuous planning mode.

See comment 1.

Unfortunately, the Draft Report completely overlooks many of the above-described accomplishments, notwithstanding the numerous documents provided to the GAO audit team and interviews conducted by the audit team with Departmental employees over a nine month period. Additional details regarding the incorrect statements contained in the Draft Report are discussed in the attached appendices.

**a. Recommendations for Executive Action**

The draft report contains six recommendations for executive action. The six actions address the following matters:

1. policies and procedures for conducting reviews
2. use of contractor expertise
3. content of independent engineering reports
4. tracking of administrative costs
5. performance measures
6. clarification of project equity requirements

See comment 1.

As further discussed in Appendix A, the Department believes that it has largely accomplished all but two of the recommendations (recommendations three and four) and it rejects those two recommendations because they are inapplicable to the LGP. Specifically:

- With respect to the first recommendation, the Department has established policies and procedures adequate to move forward with the processing and review of the applications relating to the 16 successful preapplicants from the August 2006 solicitation and to draft and issue solicitations for FY 2008.
- The Department is already fulfilling the second recommendation by developing descriptions of necessary contractor expertise on a solicitation-specific basis.
- Recommendation three is inapplicable because it indicates a need to establish generic contractor scope of work descriptions for independent engineers when the unique nature of each technology requires that descriptions be established on a solicitation-specific basis.
- Recommendation four is inapplicable because actions taken by other program offices relating to the LGP are in furtherance of the missions of the program offices and the costs of those actions are not properly assignable to the LGP.
- As for recommendation five, the Department already has developed a set of proposed performance measures; the Department hopes to complete full implementation by the end of 2008.
- With respect to recommendation six, the Final Rule clearly states that equity is cash and accordingly, no further clarification is required.

No other actions are required to meet the executive action recommendations.

**b. Recommendation for Congressional Consideration**

In addition to the recommendations for executive action, the Draft Report recommends that "Congress may wish to consider limiting the amount of loan guarantee commitments that DOE can make under Title XVII until DOE has put into place adequate management and internal controls."

See comment 1.

DOE strongly disagrees. If DOE thought it did not have in place "adequate management and internal controls," it would not proceed at this time. The Draft Report fails to acknowledge and account for most of the procedures and policies that DOE has already implemented or is in the process of implementing as well as the limitations that Congress already has placed on the Department in Title XVII and in the Consolidated Appropriations Act, 2008. The Department is well on the way to implementing the accepted executive action recommendations contained in the Draft Report. Continued implementation of the executive actions, in parallel with execution of the program, will

enable the Department to apply lessons learned on a continuing basis rather than to remain static in a continuous planning mode. The ability to move forward is especially important if the Department is to make meaningful progress in accomplishing its mission under Title XVII.

**c. Errors and Omissions in the Body of the Draft Report**

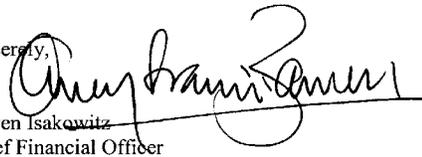
The Draft Report:

- Mischaracterizes the operation of the Federal Credit Reform Act of 1990;
- Uses flawed logic to speculate on the potential for underestimates of credit subsidy costs;
- Offers other suppositional assertions or assumptions that are inaccurate;
- Contains a number of factual inaccuracies; and
- Omits pertinent information on the current operations of the LGPO.

Specific line-by-line comments that document the Draft Report's errors and omissions are provided in Appendix B of this letter, entitled "DOE's Detailed Comments on the GAO Draft Report." In addition, the LGPO has provided "Supplemental Technical Comments" in Appendix C in order to correct factual inaccuracies within the Draft Report. The Department would be pleased to provide any additional information that is desired in this matter.

Thank you for the opportunity to review the Draft Report. We look forward to your favorable consideration of the comments and recommendations contained in this letter and attached appendices.

Sincerely,

  
for Steven Isakowitz  
Chief Financial Officer

Attachments:

Response to GAO Recommendations for Executive Action (Appendix A)

Detailed Comments on the GAO draft Report (Appendix B)

Supplemental Technical Corrections (Appendix C)

See comments 5-8 and  
10-13.

See comment 1.

See comments 2-20.

See comments 21-25.

Appendix A

**U.S. Department of Energy  
GAO-08-750 – “Department of Energy: New Loan Guarantee Program  
Should Complete Activities Necessary for Effective and Accountable  
Program Management”**

**Response to GAO Recommendations for Executive Action**

***Recommendation 1:*** Complete detailed internal loan selection policies and procedures that lay out roles and responsibilities and criteria and requirements for conducting and documenting analyses and decision making.

***DOE Response:*** In large measure, this recommendation has been completed. To the extent it is not completed, the Department is well on the way toward completion.

First, the internal roles and duties of responsible Departmental officials relevant to the loan guarantee decision-making process are already well defined. These are set out in the Charter of the Credit Review Board as well as in a memorandum from the Chairman of the Credit Review Board to the Chief Financial Officer and other heads of offices. To the extent the above recommendation suggests that the Department has not established uniform internal decision-making procedures, the Department disagrees.

Second, with respect to the loan selection policies and procedures used by the LGPO, the Department likewise has accomplished a great deal that the Draft Report appears to overlook or downplay. Specifically, the Department:

- Based on a thorough technical, environmental, financial, and legal review, has selected 16 of 143 pre-applicants from its initial solicitation to receive invitations to submit full loan guarantee applications
- Has completed several application guidance documents and internal management guidelines that are being applied to the 16 successful pre-applicants from the initial solicitation and will be applied in future solicitations
- Is in the process of developing additional credit review and loan guarantee processing manuals that, when completed, will comprise policies and procedures for the application and due diligence review of applications
- Has established a sophisticated, user-friendly electronic data submission system for receipt of loan guarantee applications and supporting documents
- Has installed GAAP-compliant accounting systems and procedures to monitor and manage loan guarantees over the life of the project

See comment 1.

See comment 1.

- Has designed, constructed, tested, and implemented a state-of-the-art model for determining the credit subsidy cost for all projects that will receive loan guarantees, as required by Title XVII and the Federal Credit Reform Act of 1990
- Pursuant to the authority granted in the Consolidated Appropriations Act, 2008, on April 11, 2008, has submitted an implementation plan for the issuance of three additional solicitations in 2008, and has prepared drafts of each of those solicitations that include detailed due diligence selection criteria for each of the technologies covered by the solicitation.

Additional details regarding the Department's policies and procedures established to date as well as those still under development are presented in the table in Appendix B at page 3.

**Recommendation 2: Clearly define needs for contractor expertise to facilitate timely application reviews.**

**DOE Response:** The Department agrees that contractor expertise must be defined so that it is available when needed. However, the precise contractor expertise needed by the Department in reviewing applications for loan guarantees is going to vary from solicitation to solicitation. Accordingly, it is not possible to develop generic definitions of needed contractor expertise. Insofar as the Draft Report and the above recommendation in particular suggest otherwise, the Department disagrees.

See comment 1.

To the extent the recommendation is directed toward the establishment of criteria for needed contractor expertise on a solicitation-specific basis, the Department is already implementing the recommendation in an appropriate manner. By August 2008, the Department will finalize comprehensive statements of work and contractor qualifications under a "sources sought" procurement procedure that will provide for the technical, financial, legal and marketing expertise needed during the due diligence process with the aim of securing qualified contractors by the end of the summer, 2008. This effort will include expertise needed to review the applications being received from the 16 successful pre-applicants from DOE's August 2006 solicitation as well as the anticipated FY 2008 solicitations for renewable energy, nuclear power, and nuclear "front end" (*i.e.* uranium enrichment) project applications.

DOE also expects to have additional expertise available when needed in the application review process. If for any reason adequate resources or needed specialized expertise is not available to review applications on a timely basis, the Department will adjust its review schedules accordingly, rather than reduce the quality of its underwriting process.

See comment 1.

**Recommendation 3: Amend application guidance to include more specificity on the content of independent engineering reports and the development of project cost estimates to provide the level of detail needed to better assess overall project feasibility.**

**DOE Response:** The Department does not concur with this recommendation and believes that the discussion in the Draft Report in support of this recommendation does not reflect a full understanding of the Department's activities or industry underwriting practices with respect to independent engineering reports.

First, the Draft Report does not adequately credit the fact that the Department has issued generic application guidance documents that appropriately stress the necessity of a comprehensive independent engineer's report, including consideration of factors such as environmental impact and infrastructure requirements, as a means of assessing the technical efficacy of each proposed project. The generic application guidance document states that the determination of the technical merit of the project will be influenced by the quality of the independent engineering report, including the credentials of the consultant, scope of the undertaking, and strength of the opinions provided. These generic application guidance documents were provided to GAO staff and discussed with the GAO audit team over the course of the audit. In particular, as the LGPO staff explained to the audit team, each solicitation and each project will have unique characteristics and, therefore, it is not possible or appropriate to provide more specificity regarding necessary engineering reports in generic application guidance documents.

See comment 1.

Second, because of the unique nature of each project, the Department will specify more detailed requirements for the independent engineering report that it will require in the course of preliminarily reviewing application submissions. It is not reasonable or even possible to develop detailed job instructions for the independent engineer retained by DOE at any earlier time.

DOE notes that, despite its making efforts to explain industry practices to the GAO audit team, the Draft Report appears to ignore the fact that two independent engineering reports will be separately prepared. Consistent with prevailing underwriting standards, the applicant will retain an independent engineer to prepare a study of the project to meet the demands of potential lenders and investors; this independent engineering report will be part of the required application submission and it will furnish much of the basis for the Department's development of instructions for a second independent engineering firm. This second independent engineering firm will develop a report at the request of the Department that will include a review of technical efficacy and the applicant's project cost estimates.

Third, the Draft Report appears not to consider that all of the information provided by the two independent engineering firms will be reviewed and analyzed for a third time by the LGPO underwriting team. On the basis of the detailed reports and multiple reviews, DOE will ascertain whether, all other things being equal, the application process should

move forward or whether applicants require additional guidance. Accordingly, the GAO recommendation for the development of more specific guidelines for independent engineers is unnecessary and is not being adopted.

**Recommendation 4: Improve the LGP’s full tracking of the program’s administrative costs by developing an approach to track and estimate costs associated with offices that directly and indirectly support the program and including those costs as appropriate in the fees charged to the applicants.**

See comment 1.

**DOE Response:** The Department rejects this recommendation. While it is appropriate for the LGPO to develop a means of tracking its own staff and other internal administrative expenses,<sup>1</sup> the Department does not agree that the LGPO should attempt to track or estimate costs incurred by program offices that provide a supportive role to the loan guarantee application and review process. This is because the activities of the LGPO are in furtherance of the missions of the program offices. For example, the eventual issuance of loan guarantees for nuclear power and “front end,” i.e. uranium enrichment, projects will further the mission of the Department’s Office of Nuclear Energy. There is no reason, therefore, why the LGPO should attempt to track the cost of the supportive activities provided by other offices within the Department.

**Recommendation 5: Further develop and define performance measures and metrics to monitor and evaluate program efficiency, effectiveness, and outcomes.**

See comments 1, 4, and 15.

**DOE Response:** As noted in the Draft Report, DOE has developed an initial draft set of performance measures and metrics. The Department will continue to refine these measures with the aim of completing the effort by the end of calendar year 2008.

**Recommendation 6: Clarify the program’s equity requirements to the 16 companies invited to apply for loan guarantees and in future solicitations.**

See comment 1.

**DOE Response:** The Department maintains that no further action is required to implement this recommendation. With respect to the definition of “equity,” DOE’s Final Rule at 10 CFR 609.2 is clear. Equity is “cash contributed by borrowers.” The Department is adhering to that definition, as it must. The Department is also adhering to the clearly stated requirement in the Final Rule at 10 CFR 609.10(d)(5) that applicants must make a contribution of “significant” equity in the form of cash in order to obtain a loan guarantee commitment.

<sup>1</sup> Before the end of the calendar year, the Department will initiate an effort with OMB to develop a methodology to estimate and track the LGPO’s administrative costs. Utilizing this cost tracking system, the Department intends to refine its fee structure. Additionally, the Department believes that a revolving fund may facilitate the implementation of this recommendation, and is planning to study its feasibility.

On the other hand, the Department understands that the above recommendation is not directed at the definition of equity *per se* but at the fact that DOE has indicated that it will also consider certain limited classes of non-cash items as contributed assets when it evaluates the financial commitment made by loan guarantee applicants to their respective projects. This acceptance of non-cash items for consideration brings the Department closer in line with established commercial practices without altering its adherence to the terms of the Final Rule. In this regard, the Department has taken the position that non-cash contributions may be considered for loan guarantee purposes only if they evidence a commitment of known and certain assets that can be readily and reliably appraised or evaluated and monetized (*e.g.* using Generally Accepted Accounting Principles or GAAP). The infusion of non-cash contributions, however, will not substitute for the clearly stated requirements in the Final Rule regarding equity. This position has already been communicated to the 16 successful preapplicants from the August 2006 solicitation.

Appendix B

**U.S. Department of Energy  
GAO-08-750 – “Department of Energy: New Loan Guarantee Program  
Should Complete Activities Necessary for Effective and Accountable  
Program Management”**

**DOE’s Detailed Comments on the GAO Draft Report:**

The following are the Department’s detailed responses to the GAO findings in the draft Report.

**MANAGEMENT OF THE LOAN GUARANTEE PROGRAM OFFICE:**

**1. Draft Report:** On pages 5, 12, 13 of the draft Report, GAO states “DOE is not well positioned to manage the LGP effectively and maintain accountability because it has not completed a number of management and internal control activities key to carrying out the program. As a result, DOE may not be able to process applications efficiently and effectively....The key activities that DOE has not sufficiently completed include (1) clearly defining its key milestones and its specific resource needs, (2) establishing policies and procedures for operating the program, and (3) agreeing upon key measures to evaluate program progress.”

**DOE Response:** In making these statements, the Draft Report fails to acknowledge the Department’s significant accomplishments in establishing program regulations and developing internal administrative and management policies and procedures. The Department has completed several application guidance documents and internal management guidelines and is in the process of developing over five hundred pages of additional policies and procedures for the due diligence review of applications; established a sophisticated, user-friendly electronic data submission system for receipt of applications and supporting documents; installed GAAP-compliant accounting systems and procedures to monitor and manage the loans that will be guaranteed over the life of each related project; and designed, constructed, tested, and implemented a state-of-the-art model for determining the credit subsidy cost for projects that will receive loan guarantees, as required by Title XVII and FCRA. Also, the Draft Report fails to credit the fact that, in accordance with DOE’s Final Rule at 10 CFR 609.2, the Credit Review Board will ensure appropriate polices and procedures are in place before loans are approved.

The table on page 3, *infra*, provides an even more detailed illustration of the Department’s policies and procedures established to date as well as those still under development. Based on these actions, the Department maintains that it has sufficient policies in place, coupled with a growing cadre of finance and technical professionals, to effectively manage the projects from the 2006 solicitation and to design the next round of

See comment 1.

solicitations. As the program proceeds, the Department will continue to develop and refine all necessary and appropriate policies and procedures, including those for underwriting loan guarantees.

Furthermore, all of the above-described accomplishments and measures have been achieved long in advance of the submission of recommendations for and approval of the issuance of any loan guarantees. The Department considers itself well-prepared to move forward with the next steps necessary to review the 16 loan guarantee applications resulting from the August 2006 solicitation as they are received; commit to a full due diligence review of those applications prior to recommending that any of them receive loan guarantees; and prepare to issue additional solicitations to implement the authority provided to the Department by Title XVII and current budgetary authority, as set forth in the Consolidated Appropriations Act, 2008. In fact, pursuant to the authority granted in the Consolidated Appropriations Act, the Department submitted an implementation plan for the issuance of three additional solicitations on April 11, 2008, and is in the process of finalizing the details of each of those solicitations for FY 2008.

**Appendix III: Comments from the Department of Energy**

**SUMMARY OF PLANNING ACTIVITIES FOR THE LOAN GUARANTEE PROGRAM OFFICE  
AS OF JUNE 2008**

LGPO PLANNING ACTIVITIES	ESTIMATED FINISH DATE OR COMMENT
<b>GAO Finding: Develop policies and procedures for operating the program</b>	
Concept of Operations (draft)	June 2008
Customer Relations Strategy and Communications and Reporting Plan	Initiate by June 2008
Deploy E-docs Repository	Completed March 2008
<b>GAO Finding: Develop detailed policies and procedures to evaluate applications</b>	
Pre-Application Policies & Procedures - No longer required, pre-application process no longer contemplated.	Completed December 2007
Application Policies & Procedures	FY 2006: Completed December 2007 FY 2008: Estimated June 2008
Loan Origination Policies and Procedures	August 2008
Solicitation Development and Procurement Support for Round 2 and 3	June 2008 - Completed for FY 2008 Solicitations
Acquisition Strategy and Contract Vehicles for Obtaining Legal, Engineering, Environmental and Financial Advisory Support	August 2008
Environmental Policies and Procedures	September 2008
Model Term Sheet	July 2008
Model Credit Approval Memorandum	July 2008
<b>GAO Finding: Monitor loans and lenders</b>	
Lender and Loan Management Including Lender Selection and Loan Servicing (necessary only if borrower uses private lender)	Delayed to January 2009 - no indications that borrowers will use private lenders
Monitoring and Oversight of Loan Recipients and Loan Performance	December 2008
Comprehensive Process for Handling and Enforcing Agreements Including Restructuring, Managing and Disposing of Assets	December 2008
Complete the design and implementation of necessary IT systems to support the LGPO Mission through the full life-cycle of a loan guarantee.	Implementing STARS based System and Procedures
<b>GAO Finding: Estimate program costs</b>	
Financial and Programmatic Risk Management	June 2008
Fee Schedule	Completed for FY 2008 Solicitations
Estimating Subsidy Costs	Ongoing negotiations with OMB - model developed in 2007
<b>GAO Finding: Account for the program</b>	
Accounting Policies and Procedures	July 2008
Collections Policies and Procedures	September 2008
Scope Document for FY 2008 Audit	IG Audit: Begin May 2008 Financial Audit: Begin June 2008
Internal Controls Test and Execution Plan	November 2008
Estimating Administrative Costs	No later than December 2008
<b>GAO Finding: Define goals and metrics to measure program progress and effectiveness</b>	
Performance Management and Monitoring	No later than December 2008

See comments 1, 2, 15,  
and pages 14 through 17  
of report.

**2. Draft Report:** The GAO states on page 13 that DOE has not sufficiently determined the type and timing of resources it will need to review the applications from the 2006 and 2008 solicitations. Furthermore, on pages 5, 14, and 15 of the Draft Report, GAO notes that DOE has not sufficiently determined the resources it will need or completed detailed policies, criteria, and procedures for evaluating applications, selecting lenders, monitoring loans and lenders, estimating program costs or accounting for the program.

**DOE Response:** The Department believes that it has sufficient resources and policies in place to effectively manage the projects from the 2006 solicitation, and to release the FY 2008 solicitations while simultaneously addressing the recommendations and findings identified in the GAO Draft Report. It is also important to note that the Department is adequately staffed and prepared to perform the credit underwriting and due diligence processes associated with the 16 projects invited to submit full applications pursuant to the 2006 solicitation, as well as to prepare and issue new solicitations this year. This staff has utilized its extensive experience in organizing the office, initiating all of the requisite policies and procedures necessary to execute the program, commencing due diligence reviews of the applications received from the 2006 solicitation, and formulating and constructing the FY 2008 solicitations. As of May 2008, there are 11 full time equivalent employees on board which are complemented by two detailees and a contractor staff of 5. The Department also continues to recruit people with significant relevant experience to meet the challenges posed in satisfying the requirements of the planned FY 2008 solicitations.

**3. Draft Report:** The draft Report on Page 5 states “although DOE has developed guidance for applicants to follow in submitting applications, it has not developed detailed policies and procedures including roles and responsibilities and criteria that demonstrate how DOE plans to evaluate the applications.”

**DOE Response:** The above statement from the Draft Report glosses over the ongoing effort to develop complete and thorough underwriting guidelines. The table on page 3 fills in many of the details. As illustrated in the table and as conveyed to the audit team, policy and procedures for underwriting the applications from the 2006 solicitation are being developed and will be completed by September 2008 with the exception of policies and procedures regarding monitoring of loan guarantees which will only apply after the Department begins to close loan guarantees. These policies and procedures, in order of priority, will be completed by December 2008. The FY 2008 solicitations will contain the criteria demonstrating how DOE plans to evaluate new applications for selection.

See comment 1.

**4. Draft Report:** On page 13 of the draft Report, the GAO stated it was unclear whether LGP will follow its timelines and milestones in the “Concepts of Operations” document or transparently set other timelines for implementing key program activities.

**DOE Response:** The timelines in the Concepts of Operations will be transparent and will provide the basis for implementing key activities as well as measuring overall success of the program. The Concepts of Operations is a living document and will be updated on a regular basis to represent changes in program requirements, in the priority of individual activities and the continuing addition of qualified staff to support these activities.

With regard to the planning activities identified in the Concepts of Operations document, only two activities have not been initiated: 1) a customer relations strategy; and 2) a method for estimating administrative costs. The Department intends to commence the design of a customer relations strategy in June 2008. Also, before the end of the calendar year, the Department will initiate an effort with OMB to develop a methodology to estimate and track the LGPO’s administrative costs. The timelines for completion of these two activities are set out in the table on page 3.

**5. Draft Report:** On page 21 GAO states “DOE will not gain significant experience in each technology because the program’s objective is to commercialize a limited number of each type of innovative technologies.”

**DOE Response:** The purpose of hiring independent, highly experienced, licensed, and certified engineering, marketing, legal, and financial consultants to assist with the due diligence and underwriting processes, is to ensure that DOE will have the expertise needed to support the multi-disciplinary reviews of the different types of technologies that will be represented in loan guarantee applications. This plan of approach is intended to offset the difficulty in building experience in any limited number of technologies. The difficulty, in turn, arises from the fact that the Department’s mandated mission is to periodically assist in the commercial development of new and innovative technologies rather than to settle on a limited set of established technologies. As new and innovative technologies become commercial successes as a result of having received loan guarantees, the Department is required under Title XVII to seek out still other newer or more innovative technologies.

**6. Draft Report:** On Page 21 GAO states “However, it has not yet gathered and analyzed the necessary data on, for example, existing capacity or current emission levels for categories of LGP project technologies.”

**DOE Response:** Technical selection criteria, including metrics for capacity and emission levels, will be determined on a solicitation-specific basis.

See comment 3.

See comments 1 and 4.

See comment 5.

See comment 6.

**7. Draft Report:** The Draft Report states at pages 5, 18, 19, and 21 that “risks inherent to the LGP will make it difficult for DOE to estimate subsidy costs with a reasonable degree of accuracy and implies that DOE may be biased toward under-estimating the appropriate credit subsidy cost, which could lead to financial losses and may introduce biases in the projects that ultimately receive loan guarantees.”

**DOE Response:** The Draft Report’s statements regarding potential mis-estimates or bias in the credit subsidy cost calculation methodology are not supported by any demonstrated analysis and are otherwise conjectural. Given the fact that the Department has not yet even issued a loan guarantee under the Title XVII program and that, by working with OMB, the Department is obtaining independent support for the effort to derive an objective methodology, GAO’s statements are unwarranted.<sup>1</sup> Moreover, the Draft Report, while emphasizing the risks inherent in developing a sound methodology for calculating credit subsidy costs, does not adequately credit the fact that, in the absence of appropriated funds to cover the cost of guarantees, the Department is statutorily obligated under FCRA and EPCA 2005 to develop a method of calculating the credit subsidy cost of the loan guarantees that it plans to issue. Insofar as portions of the draft Report might create the impression that the Department could choose not to develop a credit subsidy cost calculation methodology or not even to collect the credit subsidy cost, that impression also is not factually accurate.

In particular, each applicant will be required to undergo a detailed analysis and evaluation by several entities external to the Department, including:

- An initial credit assessment developed by a recognized, independent credit rating agency as part of their initial application submission.
- A full credit rating, an exhaustive investigation and report, developed by a rating agency prior to closing on a loan guarantee.
- Two independent engineering studies which, as described in Appendix A, *supra*, are performed by separate engineering firms
- Multiple marketing, appraisal, legal, and other financial reviews performed by and obtained from private consultants and attorneys.

See comment 7.

<sup>1</sup> It is particularly jarring that the Draft Report raises these concerns regarding bias since no member of the audit team raised a concern related to this issue when, on January 16, 2008, Departmental staff made a detailed presentation to the auditors regarding how the proposed methodology likely would work.

See comment 8.

**8. Draft Report:** The Draft Report, at page 23, states that the Congressional Budget Office (CBO) “evaluated the cost of the LGP and estimated that DOE would charge companies, on average, at least 1 percent lower than the likely costs of the guarantees.” In footnote 23, the Draft Report cites to Congressional Budget Office Cost Estimate: S.1321 Energy Savings Act of 2007, June 11, 2007.

**DOE Response:** Neither the Draft Report nor the source document from the CBO sets forth reasons adequate to support the conclusion that DOE is likely to undercharge companies by an average factor of 1 percent of the cost of the guarantees.

**9. Draft Report:** On page 19, GAO states “while DOE has prepared a schedule of fees to be charged for the first solicitation, it could not provide support for how it calculated the fees.”

**DOE Response:** The current fee structure was developed following consultation between Department personnel and officials from the U.S. Department of Treasury with experience in reviewing fees related to similar governmental programs. In the absence of prior agency experience, this was a reasonable method of complying with Title XVII’s requirement that fees be used to cover related agency administrative expenses.

**10. Draft Report:** On page 21, the Draft Report states “DOE’s metric to assess the effectiveness of financing decisions – containing the loss rate to 5 percent – may not be realistic; it is far lower than the estimated loss rate of over 25 percent that we calculated using the assumptions included in the fiscal year 2009 president’s budget.”

**DOE Response:** The Department submits that the Draft Report is erroneous in its reliance on and use of the 25 percent figure as a metric for assessing effectiveness of financing decisions. The 25 percent figure came from the Appendix to the FY 2009 President’s Budget. But, on page 408, the Budget document clearly states that the 25 percent figure in not intended to be used except as a “placeholder”:

Because DOE has not yet evaluated the potential subsidy costs for any projects that might be eligible for Title XVII loan guarantees, the fiscal year 2009 budget reflects *placeholder* estimates for borrower paid loan guarantee subsidy costs, based on an illustrative portfolio. These estimates are not related to any specific project proposals (emphasis added).

Because the 25 percent figure was thus intended only to be a “placeholder” until additional work was performed, there is no factual basis for the Draft Report’s reliance on that figure as a “realistic” metric for the likely loss rate on guaranteed loans.

See comment 9.

See comment 10.

**11. Draft Report:** On page 22, the Draft Report states “Under FCRA, DOE is required to update, or reestimate, the subsidy costs of the LGP to reflect actual loan performance and changes in expected future loan performance. Shortfalls identified in annual reestimates are automatically funded by the federal government under the terms of the FCRA and are not subject to congressional scrutiny during the annual appropriations process.”

**DOE Response:** This discussion inaccurately characterizes the operation of FCRA. Once a loan guarantee is issued, FCRA provides for both ‘re-estimates’ and ‘modifications’. In addition, in certain circumstances, a new guarantee may be issued. The Draft Report only discusses one of three possible scenarios and thereby incorrectly assumes that any and all changes in loan guarantees will be re-estimates and the re-estimates can only be higher.

- Re-estimates of subsidy costs are based largely on changes in technical assumptions. As noted in OMB Circular A-11, re-estimates can account for a change in the projection of future cash flows. For a re-estimate that increases the budget subsidy cost, permanent indefinite budget authority is available to cover this budgetary accounting transaction. For a re-estimate that decreases the budget subsidy cost, the savings can be credited back to the program or to a negative subsidy receipt account. In this circumstance, DOE (and the taxpayers) would receive the benefit of the savings, since DOE currently has no provision to refund the savings to the project.
- By comparison, a modification involves a change in the credit subsidy estimate due to a changed action that was not assumed in the original baseline estimate. According to Circular No. A-11, examples of actions that would trigger modifications would include forbearance, interest rate reductions, extensions of maturity and prepayments. For a modification or a new loan guarantee agreement, permanent indefinite budget authority is not available, and the increased cost must be paid by appropriations or an additional payment from the project.
- Finally, any change that would require an increase in the loan guarantee amount, such as a change to due to cost growth above the level of contingency assumed in the original loan guarantee agreement, would require either a modification to the loan guarantee agreement or issuance of a new guarantee in the amount of the additional coverage.

**12. Draft Report:** On page 23, the Draft Report states “To the extent that DOE underestimates the fee, and does not collect fees from borrowers to cover the actual subsidy costs, taxpayers will bear the cost of any shortfall.”

**DOE Response:** The assertion that “taxpayers will bear the cost of any shortfall” is inaccurate, imprecise and misleading. Under the provisions of FCRA, taxpayers only

See comment 11.

See comment 12.

bear a cost if the project defaults on a loan guarantee. And, in that instance, the cost borne by the taxpayer is largely determined by the amount of the loan balance outstanding at the time of the default and the level of the recovery that the government can obtain from the collateral pledged under the loan guarantee agreement. Fees paid by the project will offset the net loss, but the effect of the size of the credit subsidy fee on the net loss will be much less significant than the other factors.

Specifically under FCRA, the payment for the subsidy cost for a loan guarantee is held in a "Financing Account." OMB Circular No. A-11 defines a financing account as "a non-budgetary account (its transactions are excluded from the budget totals) that records all of the cash flow resulting from post-1991 direct loans or loan guarantees."<sup>2</sup> Thus any transactions involving payments made into or from the financing account are non-budgetary.

If there is an upward re-estimate in the credit subsidy cost, that re-estimate is recorded in the non-budgetary financing account from the application of permanent indefinite budget authority as authorized by FCRA. But again, this is a non-budgetary transaction.

Finally, the Draft Report fails to note that all of these transactions involving the loan guarantee financing accounts do not result in any cash outlay to the public, and thus do not add to the deficit or require any additional Treasury borrowing from the public.

**13. Draft Report: On Page 22 the Draft Report states "...the experience and data that DOE contains may not be applicable to evaluating the risks of projects applying in the future."**

See comment 3.

**DOE Response:** The current cadre of Departmental staff working on the LGP have spent their careers in assessing risk for similar type programs. In addition to the underwriting expertise of the LGPO staff, each applicant will be required to furnish an initial credit assessment developed by a recognized, independent credit rating agency as part of their initial application submission. Additionally, all projects will be required to supply a full credit rating, an exhaustive investigation and report, developed by a rating agency prior to closing on a loan guarantee. Each project will also be reviewed by independent engineering, marketing, legal, and other financial consultants. The loan evaluation process thus involves a detailed analysis and evaluation by several bodies external to the Department. Furthermore, prior to a final decision by the Secretary to issue a loan guarantee, the Department will be asked to review and certify that all conditions precedent to the execution of a loan guarantee agreement have been fulfilled.

<sup>2</sup> OMB Circular No. A-11, Section 85.3(h).

See comment 13.

**14. Draft Report:** On page 22, the Draft Report finds “... project risks and loan performance could depend heavily on regulatory and legislative actions, as well as future economic conditions, including energy prices and economic growth, which generally can not be predicted accurately. These factors combine to make it difficult for DOE to prepare reliable estimates of subsidy costs.”

**DOE Response:** The Department’s due diligence process will include, among other evaluations, assessments of political and regulatory risk and market and off-take risk through both an internal Departmental risk assessment as well as through assessments by independent, highly experienced, consultants. Furthermore, the credit underwriting process will include 'stress-tests' under various scenarios to determine a project's ability to service debt under 'downside' assumptions. Where there is evidence of exposure to risk, the LGPO will develop and negotiate risk mitigation strategies with each project under consideration for a loan guarantee. Where unmitigated risk exists, these factors would increase the overall risk assessment of a project and would lead to either a higher credit subsidy payment calculation, in which case the risk would be covered through the risk reserve, or a denial of a project from receiving a loan guarantee depending on the level of risk exposure.

**PREAPPLICATION REVIEW**

See comment 14.

**15. Draft Report:** The draft Report on page 24 states “projects in DOE’s portfolio may not represent the full range of technologies targeted by the program.”

**DOE Response:** The GAO does not have a basis in fact to make this assertion. The response to the 2006 solicitation represented the full range of the technologies solicited. The LGPO can expect the same diverse response to the FY 2008 solicitations based on input received from the Requests for Information (RFIs) issued in April and May.

See comment 15.

**16. Draft Report:** On pages 14-15, GAO found that “during the preapplication review process, DOE did not always clearly document why it ultimately selected projects that reviewers did not score highly or recommend initially.” In addition, the draft Report states that “DOE’s documentation for deciding which projects to recommend to the Credit Review Board did not always provide clear justification.” Furthermore, on page 15, the GAO states “After the initial review process was completed, DOE further defined what it considers “new and significantly improved” in its final regulations, but has not correspondingly updated the review criteria. In addition, when DOE conducted its financial reviews, it evaluated projects by assigning scores between zero and four – with zero being the weakest score and four being the strongest score. However, DOE did not define what the possible scores signified.”

**DOE Response:** While the preapplication process did involve some level of subjectivity, the Department conducted a rigorous evaluation that involved several layers of

independent validation reviews to ensure sound decision making. Based on the reviewers' extensive backgrounds in project finance and federal loan guarantee programs, they used their best professional judgments to conduct financial reviews and evaluate the projects.

**17. Draft Report:** The draft Report on page 15 states “60 percent of a preapplicant’s financial score was based on creditworthiness, yet DOE did not require preapplicants to submit pertinent financial and credit information such as audited financial statements or credit histories.”

See comment 16.

**DOE Response:** The Department disputes this statement. Pro-forma financial statements were required in every preapplication. However, when the information was not provided, the LGPO was able to obtain detailed financial information, on projects with high technical recommendations, through other independent sources. The inclusion of detailed sources and uses of project funds and additional supporting information was, in the LGPO’s opinion, sufficient to invite full applications in which this information could be verified. Furthermore, this assertion refers to 60% of 50% which is actually 30% of the total gross weighting. The financial review composed 50% of the total gross weighting while technical review composed the remaining 50%. It is important to note that selection of a preapplication does not result in the approval of a loan.

**18. Draft Report:** The draft Report at page 16 states “DOE does not delineate how it will evaluate how a project achieves substantial environmental benefits and employs new or significantly improved technologies.”

See comments 5, 15, and 17.

**DOE Response:** During the preapplication process, reviewers did take into consideration how individual projects achieved environmental benefits and employed new or significantly improved technologies. Moving forward, the LGPO is taking steps to formalize its standards and procedures to identify the extent to which each project achieves these environmental benefits and employs new technologies.

**19. Draft Report:** On page 17, the draft Report states that “DOE is likely to lose efficiency and effectiveness when it uses [applicants’] project reports to aid in underwriting loan guarantees.”

See comment 18.

**DOE Response:** The applicants’ project reports will in no way impair the efficiency and effectiveness of the underwriting process. Instead, the reports will contribute to overall risk mitigation. The due diligence process includes a thorough investigation and analysis of each project’s financial, technical, and legal strengths and weaknesses as well as all identifiable risks. In addition to the underwriting expertise of the LGPO, each project will be reviewed in consultation with independent, licensed and certified engineering, marketing, legal and financial consultants.

See comment 19.

**20. Draft Report:** On page 15 of the draft Report, the GAO stated "...a consultant DOE hired to review the preapplication process found that although the files were in "good working order," DOE did not consistently conduct and document its technical evaluations and did not document financial evaluations in depth."

**DOE Response:** The program offices consistently applied the review criteria that was set forth in the Credit Review Board memo dated April 23, 2007. However the program offices provided their responses to the LGPO in different formats, which were interpreted incorrectly in the audit conducted by the consultant DOE hired. Each review that was conducted by the program offices was consistent and addressed the review criteria set forth by the Credit Review Board.

See comment 1.

**21. Draft Report:** On Page 16 the GAO cites "However, in some cases the guidance lacks specificity for applicants.....we determined that it does not contain criteria or guidance that would be sufficient for DOE reviewers. Specifically it lacks instruction and detail regarding how DOE will determine project eligibility and review applications, such as roles and responsibilities, criteria ...."

**DOE Response:** Building upon lessons learned from the preapplication review process, policy and procedures for underwriting the applications from the 2006 solicitation are being developed and will be completed by September 2008 with the exception of policies and procedures regarding monitoring of loan guarantees which will only apply after the LGPO begins to close loan guarantees. These policies and procedures, in order of priority, will be completed by December 2008. The FY 2008 solicitations will contain the criteria demonstrating how DOE plans to evaluate new applications for selection.

See comment 20.

**22. Draft Report:** On page 17 the GAO states "In addition, while DOE's guidance requests applicants to submit more complete information, such as credit assessment, it does not provide details regarding how DOE will evaluate the information to determine creditworthiness."

**DOE Response:** The preapplication guidelines from the 2006 solicitation are completely and unequivocally superseded by DOE's Final Rule at 10 CFR 609.2. All future solicitations are governed by the Final Rule.

See comment 1.

**23. Draft Report:** On Page 17 the GAO states "DOE's guidance for the application process instructs applicants to indicate if their cost estimates are firm or subject to change but it does not request applicants to report a level of confidence in their total project estimates."

**DOE Response:** As explained during the course of the audit, each project has unique characteristics and scopes of work that will be assessed separately by two engineering

---

**Appendix III: Comments from the Department  
of Energy**

---

firms: (1) the applicants' assessment as required by the Final Rule, which represents a routine report prepared by the firm's engineers and required by their shareholders and investors; and (2) an independent assessment by experts in the field engaged by the LGPO. Project cost estimates will be reviewed and analyzed for a third time by the LGPO underwriting team. DOE will ascertain whether potential applicants require additional guidance on the scope of the independent engineering reports, and will provide additional guidance if appropriate.

**Appendix C**

**U.S. Department of Energy  
GAO-08-750 – “Department of Energy: New Loan Guarantee Program  
Should Complete Activities Necessary for Effective and Accountable  
Program Management”**

**Supplemental Technical Comments**

See comment 21.

At page 1, lines 8-9, strike “with more favorable terms than they may otherwise obtain” and replace with “when not otherwise available”

See comment 22.

At page 5, line 12, strike “select lenders”. The Loan Guarantee Program Office (LGPO) will not select lenders.

At page 9, move header at the bottom of the page 9 to next page.

See comment 23.

At page 11, lines 1-2, the following should be added to the first full sentence on the page: “on a project by project basis.” This will help to clarify that the overall risk to the government may not change because the total budget authority to issue loan guarantees has been fixed; while an increase in the maximum guarantee percentage was adopted in the Final Rule, this only means that there will be a commensurate reduction in the amount of loan guarantees for other projects but there will be no change in the total available budget authority.

See comment 24.

At page 14, line 4, strike “seven” and replace with “five”. As of May 2008, there are 11 full time equivalent employees on board with a ceiling of 16.

See comment 22.

At page 14, lines 13-14, strike “select lenders”. The LGPO will not select lenders.

See comment 25.

At page 16, lines 2-3, strike “In April 2008, DOE officials told us that they were in the process of hiring two staff to begin developing credit policies and procedures specific to the LGP” and replace with “As of May 2008, the LGPO has hired one full time equivalent employee to fully establish the credit policy function within the LGPO and to develop credit policies and procedures specific to the LGP.”

---

The following are GAO's comments on the Department of Energy's letter dated June 13, 2008.

---

## GAO Comments

1. See "Agency Comments and Our Evaluation," pages 27-30 of this report.
2. DOE's comments incorrectly cite GAO's finding. We specifically refer to DOE's determination of the type or timing of *contractor* resources. As we stated in the draft report, LGP's director told us he has enough resources for reviewing and negotiating the loan guarantee applications related to the 2006 solicitation that companies are submitting.
3. We recognize DOE is in the process of hiring experienced staff. Nevertheless, the nature of the program may not allow DOE to develop significant expertise for any particular technology.
4. DOE has not yet developed final metrics and measures or gathered the data necessary to establish meaningful sector-specific baselines for its 2006 solicitation, from which it formally invited 16 solar, biomass, advanced fossil energy coal, and other projects to apply for loan guarantees.
5. We do not imply that DOE may be biased toward underestimating the subsidy costs of the program. Rather, we point out that the LGP's inherent risks due to its nature and characteristics could cause DOE to underestimate its subsidy costs and therefore not collect sufficient fees from borrowers.
6. We do not believe that our report creates the impression that DOE could choose not to develop a methodology to calculate the credit subsidy cost. On the contrary, we state that it is critical that DOE develop a sound and comprehensive methodology to estimate subsidy costs because inherent risks due to the nature and characteristics of the program will make estimating subsidy costs difficult.
7. DOE did not provide us with a detailed presentation of the LGP's credit subsidy model. On several occasions, the LGP director told us that we would be given a detailed presentation once the Office of Management and Budget (OMB) approved the credit subsidy model. As of June 24, 2008, DOE stated that OMB had not approved the model.

8. We believe that our report and the Congressional Budget Office (CBO) report DOE cites adequately explain the rationale for potential biases in applicants' acceptance of loan guarantees that may increase the likelihood that DOE's loan portfolio will have more projects for which DOE underestimated the fee.
9. The fiscal year 2009 President's budget states that the assumptions related to the LGP reflect an illustrative portfolio; that is, the assumptions do not apply to a specific loan. Nevertheless, the 25-percent loss rate assumption from the budget does call into question whether the 5-percent loss rate draft metric DOE established to assess the effectiveness of financing decisions is realistic.
10. We have not inaccurately characterized the operation of the Federal Credit Reform Act of 1990 (FCRA). Instead, we specifically discuss reestimates to explain that even though DOE is proceeding with LGP under the provision that borrowers pay for the subsidy cost of the program, taxpayers will bear the cost of any shortfall, depending on the extent to which DOE underestimates the risks (subsidy cost) and therefore does not collect sufficient fees from borrowers. DOE correctly states that reestimates that increase the subsidy costs are funded by permanent indefinite budget authority, but DOE does not explain that these funds come from taxpayers. Furthermore, because of the nature and characteristics of the program, we believe it is unlikely that the program as a whole will result in savings associated with the subsidy cost because, to the extent that any loans default, the cost of the default will likely be much larger than the fee collected. Lastly, we did not discuss modifications under FCRA because DOE has not completed its policies and procedures on estimating subsidy costs. We would expect one component of these policies and procedures to explain how DOE will identify, estimate the cost of, and fund modifications.
11. If a project defaults, the cost of the default will likely be greater than the fee collected, thus creating a shortfall. Under FCRA, this shortfall would be identified during the reestimate process and would ultimately be subsidized by taxpayers.
12. OMB Circular A-11, *Preparation, Submission and Execution of the Budget*, describes the budgetary treatment for credit programs under FCRA requirements. While DOE explains that the financing accounting is nonbudgetary (its transactions are excluded from the budget totals), DOE fails to explain the sources of the financing account funds. According to OMB Circular A-11, "an upward reestimate indicates that insufficient funds had been paid to the financing account, so the

increase is paid from the program account to the financing account to make it whole.” The program account is a budgetary account, and its transactions do affect the deficit and may require Treasury to borrow from the public.

13. We recognize that DOE plans to take steps to assess risk and develop mitigation strategies; however, we continue to believe that the nature and characteristics of the LGP result in certain inherent risks that, by definition, DOE is unlikely to be able to mitigate or accurately quantify. As a result, there are likely to be many cases in which the risks will not be covered by the borrower fee or a risk reserve. In addition, even in instances where DOE’s estimates of subsidy costs are reasonably accurate, the “borrower pays” option may cause some potential borrowers to not pursue loan guarantees because the fee is too high relative to the benefits to the borrower of the loan guarantee.
14. As stated in the report, the inherent risks of the program, along with the expectation that borrowers will cover the costs of their loan guarantees, may lead to self-selection bias that tilts the portfolio of projects toward those for which costs have been underestimated. To the extent that some projects targeted by Title XVII are not financially viable without some form of federal assistance or favorable treatment by regulators, these projects will not pursue loan guarantees even though they are otherwise eligible. As a result, if this financial viability is not distributed evenly across technologies targeted by Title XVII, the projects that ultimately receive loan guarantees may not represent the full range of technologies targeted by Title XVII.
15. We changed “clearly” to “sufficiently.” We distinguish between the technical and financial reviews that staff conducted, and the rational and clarity of documentation that management provided for its decision-making processes. We observed from our file review that, when preapplications contained sufficient information, reviewers applied the criteria LGP provided, and in some cases applied additional criteria in their assessments. These assessments were specific to the preapplication process, not the application process. At times the preapplications lacked meaningful information for reviewers to assess. The cases we highlight in our report are those in which the LGP office did not provide sufficient justification for inviting projects.

GAO welcomes the LGP’s office efforts to establish formal standards and procedures. In recommending that LGP complete its measures and metrics associated with achieving benefits and employing new and

significantly improved technologies, we believe this effort will also help inform future selection processes.

16. DOE did not require preapplications to include proforma “financial statements.” Rather, preapplicants were required to submit financing plans, estimated project costs, and a financial model detailing the projected cash flows over the life cycle of the project. We believe that audited financial statements and credit ratings would be more useful in assessing creditworthiness. In addition, when evaluating preapplications, DOE did not combine technical and financial scores. Therefore, it is accurate to state that creditworthiness comprised 60 percent of the preapplicant’s financial score.
17. DOE erroneously refers to the preapplication process here. This analysis on project evaluation is specific to our discussion of project eligibility, and DOE’s use of external guidance as a proxy for internal policies and procedures for applications.
18. The statement DOE cites is in context with the prior sentence, “While DOE recognizes these reports serve an important due diligence function, DOE has not provided applicants with specific instructions on what to include.” This sentence is also prefaced with “as a result” in the draft report. We changed the word “underwriting” to “evaluating” and added “applications” after “loan guarantees” to clarify our statement.
19. We generally agreed with the consultant’s finding. Specifically, we found that DOE program offices used Credit Review Board-approved criteria as well as other criteria. In one case, these criteria were appropriate to differentiate projects in accordance with Title XVII. We could not fully determine whether the use of these additional criteria had any impact on the selection process.
20. See also comment 17. DOE’s response does not address our report’s analysis; specifically, we are referring to DOE’s application guidance. In addition, while DOE’s final rule states what applicants should submit, it and the application guidance do not indicate how DOE will evaluate these submissions.
21. Federal loan guarantees do help borrowers obtain more favorable terms than they may otherwise obtain. For example, a borrower may be able to get a lower interest rate, an extended grace period, or a longer repayment period when the loan is guaranteed by the federal government.

22. For clarification, we revised the report to indicate that DOE needs to “identify eligible lenders.”
23. For clarification, we incorporated DOE’s suggested revision.
24. We revised the report to reflect this update of information.
25. We revised the report to state “According to DOE, as of May 2008, DOE has hired one staff person to develop credit policies and procedures specific to LGP, and to fully establish its credit policy function.”

---

# Appendix IV: GAO Contact and Staff Acknowledgments

---

## GAO Contact

Frank Rusco (202) 512-3841 or [ruscof@gao.gov](mailto:ruscof@gao.gov)

---

## Staff Acknowledgments

In addition to the individuals named above, Marcia Carlsen and Karla Springer, Assistant Directors; Abe Dymond; Richard Eiserman; Jeanette M. Franzel; Carol Henn; Jason Kirwan; Kristen Kociolek; Steve Koons; Sarah J. Lynch; Tom McCool; Madhav Panwar; Mehrunisa Qayyum; Carol Herrnsstadt Shulman; Emily C. Wold; and Barbara Timmerman made key contributions to this report.

---

## GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

---

## Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's Web site ([www.gao.gov](http://www.gao.gov)). Each weekday, GAO posts newly released reports, testimony, and correspondence on its Web site. To have GAO e-mail you a list of newly posted products every afternoon, go to [www.gao.gov](http://www.gao.gov) and select "E-mail Updates."

---

## Order by Mail or Phone

The first copy of each printed report is free. Additional copies are \$2 each. A check or money order should be made out to the Superintendent of Documents. GAO also accepts VISA and Mastercard. Orders for 100 or more copies mailed to a single address are discounted 25 percent. Orders should be sent to:

U.S. Government Accountability Office  
441 G Street NW, Room LM  
Washington, DC 20548

To order by Phone: Voice: (202) 512-6000  
TDD: (202) 512-2537  
Fax: (202) 512-6061

---

## To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Web site: [www.gao.gov/fraudnet/fraudnet.htm](http://www.gao.gov/fraudnet/fraudnet.htm)

E-mail: [fraudnet@gao.gov](mailto:fraudnet@gao.gov)

Automated answering system: (800) 424-5454 or (202) 512-7470

---

## Congressional Relations

Ralph Dawn, Managing Director, [dawnr@gao.gov](mailto:dawnr@gao.gov), (202) 512-4400  
U.S. Government Accountability Office, 441 G Street NW, Room 7125  
Washington, DC 20548

---

## Public Affairs

Chuck Young, Managing Director, [youngc1@gao.gov](mailto:youngc1@gao.gov), (202) 512-4800  
U.S. Government Accountability Office, 441 G Street NW, Room 7149  
Washington, DC 20548