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pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PENNSYLVANIA GREEN ENERGY LOAN FUND

Program Guidelines and Loan Application Instructions

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PART 1. OVERVIEW

A. Introduction

Reinvestment Fund has received funds from the Pennsylvania Department of Environmental Protection (“**DEP**”) to manage the Pennsylvania Green Energy Loan Fund (“**GELF**”) to provide low-cost financing for building energy efficiency retrofits and the installation of high-performance energy systems in buildings across Pennsylvania. This document presents information about GELF and the application process. Please review this entire document carefully before submitting an application to GELF.



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The objective of GELF is to reduce energy consumption in buildings, promote energy efficiency and conservation in buildings, create/retain jobs, stimulate economic development and leverage private investment in clean energy.

GELF will offer construction loans, term loans and lease financing to businesses, nonprofit organizations and local governments to support:

1. Projects involving limited energy retrofit measures or the replacement of equipment in an existing, occupied building.
2. Projects involving extensive energy retrofit measures in an existing, occupied building.
3. Projects involving the gut rehab of an existing building that is either currently unoccupied or will be renovated for a different usage.
4. Projects involving the new construction of a building or an addition to a building.

Loans will be awarded in the order they successfully complete the financial underwriting and energy analysis due diligence work and have their loan requests approved by the Reinvestment Fund loan committee.

B. Source of Funding

GELF is a program sponsored by the Commonwealth of Pennsylvania and the Pennsylvania Department of Environmental Protection (“**DEP**”) and is funded in large part by the U.S. Department of Energy (“**DOE**”) through the State Energy Program. The initial GELF funding came from the American Recovery and Reinvestment Act of 2009 (“**ARRA**”).

Because of the source of the funding, financing provided by GELF is subject to several important requirements from ARRA and DOE, as well as the Commonwealth of Pennsylvania. These requirements are addressed in PART 6 of this document (see pages 13-19). All of these required provisions will be part of all GELF loan agreements. A document entitled *Exhibit of Regulatory Provisions* is available on the GELF website that contains the actual contractual language..

C. Goals and Objectives

The goal of GELF is to provide financing for building energy projects in Pennsylvania that will reduce energy consumption. GELF loans will range in size between approximately \$100,000 and \$2,500,000 and will finance building energy efficiency retrofits, high-performance energy equipment or systems, and high-performance energy measures and systems in gut rehab projects or in new construction. GELF funding is for all building types except single-family residential homes.

In addition to promoting energy efficiency, GELF will further additional goals, including:

- Maximize job creation and economic benefits;
- Spur further economic investment;
- Stimulate the economy through measures that modernize Pennsylvania’s infrastructure;
- Expand educational opportunities and access to health care; and,
- Ensure that funded projects can be quickly implemented.

D. Energy Measures that can be Financed

GELF gives applicants great flexibility in selecting which energy measures to install. Examples of the different building energy measures that are eligible for financing under GELF include:

Building Envelope

Air Sealing
 Roof Insulation
 Exterior Wall Insulation
 White Roofs / Green Roofs
 Windows
 Exterior Doors

HVAC

Heating Equipment
 Cooling Equipment
 Ventilation Equipment
 HVAC Distribution
 Energy Recovery Systems
 HVAC Controls

Lighting

Interior and Exterior Lighting Fixtures
 Lighting Controls
 Daylighting Measures

Plumbing

Domestic Hot Water Heater
 WaterSense Water-Consuming Fixtures

Plug Loads

ENERGY STAR Appliances
 ENERGY STAR Office Equipment

Other Energy Measures

Solar PV and Hot Water Systems / Geothermal
 Combined-Heat-and-Power Systems
 Energy Storage / Demand Response Systems

E. Other Guidance

In addition to this document, GELF has on its website the following procedures manuals:

- Procedures Manual for Quantifying Energy Savings. This document is a stand-alone version of Part 5 of this document.
- Procedures Manual for the Six GELF Affidavits. This document addresses the six affidavits for the various regulatory provisions addresses in Part 6 of this document that GELF borrower will need to complete before loan closing.
- Procedures Manual for Measurement and Verification. This document provides templates for the utility release forms that GELF borrowers will need to complete before loan closing and provide information about ENERGY STAR’s Portfolio Manager benchmarking tool that borrowers will need to use to report energy consumption.

Applicants are urged to review these documents as well.

PART 2. INSTRUCTIONS FOR THE INITIAL FINANCING REQUEST FORM

Before an interested person completes the full GELF loan application form, they must first complete and submit the *GELF Initial Financing Request Form*. This two-page form is the first step in the process of applying for financing from the Pennsylvania Green Energy Loan Fund.

The *GELF Initial Financing Request Form*, a Microsoft Word form that can be complete by potential applicants, can be downloaded from the GELF website (www.reinvestment.com/GELF). The answer boxes of the form expand to the length of the answer given, so please do not feel limited to answers no larger than the current size of the answer fields. Only the fields for the answers can be edited, as all other parts of the form are locked.

Applicants are asked to complete every field of the application form. If the requested information is not yet known, please enter “Not Yet Known” in the field. If the question does not apply to the project being proposed, please enter “Not Applicable.” Applicants are not expected to wait until every aspect of a project has been decided before filing the *GELF Initial Financing Request Form*. Details about a project are expected to become known over the course of underwriting and the due diligence review of the application and the project.

Once the form has been filled out, save it as a Word document with a file name that includes the project name and the date. The completed *GELF Initial Financing Request Form* should then be emailed to PaGELF@reinvestment.com.

Reinvestment Fund staff will review the submitted *GELF Initial Financing Request* form and contact its author to discuss the project and its possible financing. After a discussion to determine whether GELF is a good fit for the project and vice versa, Reinvestment Fund staff will advise the applicant to complete and submit the full application form.

Any questions about the *GELF Initial Financing Request Form* should be submitted to PaGELF@reinvestment.com. Reinvestment Fund will respond to all questions.

PART 3. INSTRUCTIONS FOR THE BUILDING ENERGY LOAN APPLICATION FORM

A. Introduction

Before an interested person completes the *GELF Building Energy Loan Application Form*, they must first complete and submit the *Initial Financing Request* form, as described in PART 2 of this document. An applicant should not spend the time to complete and file the *GELF Building Energy Loan Application Form* unless advised to do so by Reinvestment Fund staff.

B. Completing the GELF Building Energy Loan Application Form

The *GELF Building Energy Loan Application Form*, a Microsoft Word form, is available on the GELF website (www.reinvestment.com/GELF). Only the fields for the answers can be edited, as all other parts of the form are locked. Applicants are urged to complete every field of the application form. If the requested information is not yet known, please enter “Not Yet Known” in the field. If the question does not apply to the project being proposed, please enter “Not Applicable.” The answer boxes of the form expand to the length of the answer given, so please do not feel limited to answers no larger than the current size of the answer fields.



Section 1. Contact Information for Person Completing this Application

The first section of the *GELF Building Energy Loan Application Form* asks for the contact information of the person completing the form. The person completing the form should be someone able to discuss the prospective project.

Section 2. Information about the Applicant

The second section of the *GELF Building Energy Loan Application Form* collects information about the applicant.

The FEIN is the Federal Employer Identification Number. It is sometimes referred to as the Federal Tax Identification Number. More information is available at [www.irs.gov/uac/Form-SS-4.-Application-for-Employer-Identification-Number-\(EIN\)](http://www.irs.gov/uac/Form-SS-4.-Application-for-Employer-Identification-Number-(EIN)).

The DUNS (Data Universal Numbering System) number is a unique nine-digit number issued by Dun & Bradstreet. More information is available at www.dnb.com/get-a-duns-number.html.

The SAM (System for Award Management) number is the official U.S. government system for tracking entities doing business with the federal government, including receiving grants. More information is available at www.sam.gov.

The NAICS (North American Industry Classification System) code is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. More information is available at www.naics.com/search/.

The MBE/WBE/DBE status is the place to indicate whether the applicant has been recognized as a minority business, a woman-owned business or a disadvantaged business, or similar equal opportunity terms used by different agencies.

Section 3. Information about the Proposed Energy Project

Section 3 of the *GELF Building Energy Loan Application Form* asks for information about the building and proposed energy project. In completing the various fields, please provide as much information as you know about the building and the project. For the “Brief Project Description” field, please provide a short one or two paragraph description about the project.

Section 4. Project Budget

Section 4 of the *Building Energy Loan Application Form* asks for the budget of the building project. Key categories of project costs are provided. Please indicate how certain you are about each cost line. This can range between educated guesses to actual bids.

Section 5. Energy Loan Request and Other Project Financing

Section 5 of the *GELF Building Energy Loan Application Form* seeks information about how you plan to pay for the project. Please tell us the amount of GELF energy loan you are seeking. The table in this section should be completed by listing the various other sources for project financing, including other loans, grants, rebates from the electric utility and your equity (or cash) contribution.

Section 6. Exhibits That Must Accompany This Application

Section 6 of the *GELF Building Energy Loan Application Form* lists the six exhibits that must accompany this application. The six exhibits are:

- Exhibit 1. Project Narrative
- Exhibit 2. Business Narrative
- Exhibit 3. Detailed Project Budget (Sources and Uses)
- Exhibit 4. GELF List of Energy Measures Spreadsheet
- Exhibit 5. Operating Pro Forma
- Exhibit 6. Current-Year Interim Financial Statements and 3 Years of Audited Financial Statements (or 3 years of Unaudited Financial Statements plus 3 years of Federal Tax Returns)

Section 6 also lists the other exhibits that should accompany this application if available. During the underwriting process, Reinvestment Fund will likely ask for many of these exhibits if they are not provided when the application is submitted. These attachments are described in PART 4 of this *Instructions* document.

Section 7. Certification, Authorization and Signature

Section 7 of the *GELF Building Energy Loan Application Form* requires the applicant to certify that he or she has read and understands eight key statements about the energy lending. The form needs to be signed by someone with the legal authority to sign this application on behalf of the Applicant.

D. Submission of the Loan Application

A complete *GELF Building Energy Loan Application* package consists of the following:

1. Two paper copies of the completed application form and Exhibits 1 through 6;
2. One electronic copy of the completed application form and the exhibits, either sent by email or provided on a CD or flash drive; and,
3. The loan application fee of **\$250.00** (payable to “The Reinvestment Fund - GELF”).

Applicants should deliver or mail the two paper copies of the complete application package to:

Pennsylvania Green Energy Loan Fund
Reinvestment Fund
1700 Market Street – 19th Floor
Philadelphia, PA 19103

The electronic file of the completed application should be sent to:

PaGELF@reinvestment.com

GELF is accepting loan applications on a rolling basis. Incomplete applications will not be recognized for purposes of establishing the date of application. Loans will be awarded in the order Applicants successfully complete the financial underwriting and energy analysis due diligence work and have their loan requests approved by the Reinvestment Fund loan committee.

E. Questions

All questions and requests for information should be submitted via email to Reinvestment Fund at PaGELF@reinvestment.com. Reinvestment Fund will respond to all questions.



PART 4. APPLICANT’S RESPONSIBILITY TO PROVIDE ADDITIONAL INFORMATION DURING THE LOAN UNDERWRITING PROCESS

A. Introduction

When a GELF application is received, the underwriting process is just beginning. The due diligence review of applications has two main tracks – financial and energy. This PART describes the financial due diligence. PART 5 describes the energy analysis due diligence.

Factors that will be examined during the underwriting process include:

- The Applicant’s creditworthiness and ability to repay the GELF loan;
- The project’s satisfaction of the energy savings requirements;
- The qualifications, experience, and past performance of the Applicant and project team, including the ability to obtain financing and complete building projects;
- The Applicant’s ability to comply with the goals and regulations of the Recovery Act and the State Energy Program (described in PART 6 below); and,
- The project’s ability to promote the objectives outlined in PART 1.C above.

B. Documents that an Applicant will Need to Provide during the Underwriting of a Loan

To help the GELF team evaluate the applications and proposed projects, Applicants will very likely be asked, during the course of the underwriting process, to submit some or all of the following written materials:

1. Resumes of Project Team Members, with contact information, qualifications, and experience for Project Manager, Architect (submit AIA form), Engineers, General Contractor, consultants, etc. Describe how these members relate to each other.
2. Personal Financial Statements of principals owning 20% or more of the company/organization.
3. Most recent year Personal Tax Returns of principals.
4. Schedule of Aging of Receivables and Payables, up-to-date within 30 days of application filing date.
5. List of outstanding obligations, including all lenders, current loan balances or credit limits and monthly payments.
6. Support for assumptions of Applicant’s operating expenses and revenues used in Project Operating Pro forma.
7. Detailed Project Budget, showing Sources and Uses.
8. Construction Cost Estimates / Contractor Bids / Equipment Quotes
9. Quotes for soft costs, *i.e.* for lawyers, accountants, bank fees, permits, architect fees, etc.
10. Bank Financing Commitment Letter(s) if applicable.
11. Appraisal of real estate collateral (as-improved basis).
12. For project with tenants, a description of potential tenants and copies of letters of intent (“LOI”) and leases, as applicable.
13. Proof of site control (e.g. Agreement of Sale for project site or a copy of the lease agreement).
14. Phase I Environmental Audit (or Phase II if available) of project site.



15. Equipment Schedule - Include type, function, useful life, and age (if used) of equipment to be purchased.
16. Energy audit report or building energy simulation modeling report.
17. Architectural plans or construction documents.
18. Project specifications document.
19. Any grant application, utility rebate application or award notices that the project has submitted or received.

During the underwriting process, Reinvestment Fund reserves the right to request additional or clarifying information from the Applicant for a GELF energy loan.

PART 5. GUIDELINES AND REQUIREMENTS FOR QUANTIFYING ENERGY SAVINGS

A. Introduction

A building project applying for a GELF energy loan must demonstrate that it will result in a reduction in energy consumption equal to the GELF savings goals, which differ for different project types. This reduction must be confirmed by an energy professional and be based on sound engineering principles for analyzing and estimating savings.

An “**energy professional**” is a registered architect, professional engineer, or individual with a current certification by the Building Performance Institute, the Association of Energy Engineers, the U.S. Green Building Council or comparable certification.

Each Applicant will need to submit a written energy analysis report. The contents of those reports depend on the specific type of project. As noted above, GELF recognizes four different categories of building projects likely to be interested in a GELF energy loan:

1. Projects involving limited energy retrofit measures or the replacement of equipment in an existing, occupied building.
2. Projects involving extensive energy retrofit measures in an existing, occupied building.
3. Projects involving the gut rehab of an existing building that is either currently unoccupied or will be renovated for a different usage.
4. Projects involving the new construction of a building or addition to a building.

Each of these categories of projects has a different approach for determining the energy reduction goal and for establishing that the proposed building project meets that goal. The contents of each energy analysis process and report for each project category will be discussed in the following sections.

For GELF applicants who are unable to provide the needed technical analysis of energy savings, GELF has contracted with Practical Energy Solutions (“**PES**”) of West Chester, PA to provide such analysis. GELF will cover 75% of the cost of the analysis and the applicant covers 25% of the cost. PES will provide a proposal for the applicant that specifies the services to be performed and the 25% cost share of the applicant. Applicants should indicate their interest in applying for such a recoverable grant on the *GELF Initial Financing Request Form*.



The List of Energy Measures Spreadsheet

It is critical that the Applicant and Reinvestment Fund have a clear understanding about the specific energy measures (and their installed costs) that will be implemented with GELF financing. It is also critical that the actual measures installed be identical to the energy measures that were analyzed so the estimates of energy savings are accurate for the building at the conclusion of the project. Because the scope of work of a project often changes during the final design process and during construction, the Applicant is under a continuing duty to both update Reinvestment Fund as to the actual measures being installed and to submit revised energy analysis that reflects the actual energy measures being installed in the project. The project's final estimate of energy savings must be based on of the energy measures present in the building at the conclusion of construction. To help ensure this happens, an Applicant must complete and submit the *List of Energy Measures* spreadsheet as an exhibit to the *GELF Building Energy Loan Application* and must amend this form up through loan closing and construction. The *List of Energy Measures* spreadsheet is shown as Exhibit 1 on page 20 of this document and the Excel version is available on the GELF website (www.reinvestment.com/GELF).

While GELF is focused primarily on energy efficiency and conservation measures, it may also provide financing for distributed generation such as solar photovoltaic systems and combined-heat-and-power systems when such measures are part of a larger building energy conservation project. Please contact Reinvestment Fund for more information about financing these kinds of measures.

Review of the Applicant's Energy Analysis

DOE program guidelines require that all estimates of energy savings be reviewed and accepted by an independent energy expert. GELF has contracted with Practical Energy Solutions (“PES”) of West Chester, PA to serve as Technical Reviewer for the energy analysis submitted by GELF applicants. PES will review the energy audits, energy modeling and other engineering analysis to confirm the energy savings estimates are reasonable. The Technical Reviewer will also review construction documents and specifications to ensure the energy audits, energy modeling and other engineering analysis accurately reflects the project that is to be constructed. Applicants' energy professionals must cooperate with the Technical Reviewer in answering questions and providing requested information and revisions. Acceptance of the energy savings estimates by the Technical Reviewer is a condition of the loan.

B. Limited Energy Retrofits in an Existing Occupied Building

Energy retrofits in existing occupied buildings can occur either when a piece of energy-consuming equipment reaches the end of its useful life or when a building owner decides to take a proactive approach to reducing the energy consumption of a building. In either case, the building owner replaces an existing piece of equipment or an energy system with a more energy-efficient model. Examples of energy retrofits covered by this project category could include replacement of HVAC equipment, lighting systems or other building systems. A more complete list of energy measures eligible for GELF financing is contained in the *List of Energy Measures* spreadsheet, available on the GELF website (www.reinvestment.com/GELF).

The distinction between “limited” energy retrofits and “extensive” energy retrofits (see the next section) is subjective, but in general, limited energy retrofits involve one or two separate Energy Conservation Measures (“ECMs”) or pieces of equipment or energy systems. Three or more ECMs are considered an Extensive Energy Retrofit and are covered in the next section of the *Guidelines*.

For limited energy retrofits in an existing occupied building, the GELF energy savings requirement is that the energy consumption of the new equipment is **25%** less than the energy consumption of the existing equipment. When the Applicant is financing a limited energy retrofit, the energy consumption of the entire building need not be reduced by 25%, but only the energy consumption of the energy equipment or system being replaced.



To demonstrate compliance with the 25% reduction goal, GELF requires an energy professional to perform an energy analysis and submit a written report for each retrofit measure that addresses the following:

1. The description of the existing equipment/system.
2. The estimated annual energy consumption of the existing equipment/system (in units of energy - kW and kWh of electricity, ccf of natural gas, gallons of heating oil, etc.).
3. The description of the new proposed equipment/system or retrofit. Cut sheets of the equipment/systems should be included as an attachment to the analysis.
4. The estimated total cost (both hardware and installation) of the new equipment/system or retrofit and any rebates, grants, tax credits or other financial incentives available.
5. The estimated annual energy consumption of the new equipment/system or retrofit (in units of energy, not costs).
6. The useful life of the new equipment/system or retrofit.
7. The estimated annual O&M cost savings or increase of the new equipment/system or retrofit.
8. The estimated annual and lifetime energy cost savings of the new equipment/system or retrofit (including any assumptions regarding future energy costs).

The energy professional must, as part of the written analysis, provide a description of and documentation for all tools used to perform energy use and energy savings estimates. Manual calculations should disclose essential data, assumptions, formulas, etc. so that a reviewer could replicate the calculations based on the data provided. All assumptions and estimates must be clearly identified.

As noted above, this energy savings analysis is subject to review and acceptance by GELF's Technical Reviewer.

C. Extensive Energy Retrofits in an Existing Occupied Building

As noted in the prior section, projects in an existing, occupied building involving three or more ECMs are considered an extensive energy retrofit.

For extensive energy retrofits in an existing occupied building, the GELF energy savings requirement is that the ECMs are predicted to reduce total annual energy consumption of the building by **25%** from historical usage. The necessary energy analysis needed to support the energy saving claims of comprehensive energy retrofits in existing buildings is a whole building energy audit report by an energy professional that addresses the following elements:

1. Historic Energy and Water Consumption:

- a. Compile energy and water usage and costs for the building for the 24 months prior to the audit. Provide the data showing monthly consumption and costs for electricity (show both kW and kWh), natural gas (ccf), fuel oil (gallons), steam (thousand pounds), propane (gallons), solid fuels (BTUs) and water (gallons). Show the billing meter readings that corroborate usage.
- b. Identify the utility rate schedule under which services are provided to each meter.
- c. Develop a load profile for each electric and natural gas account.

2. Facility Description

- a. Describe the building's size, age, construction type and features.
- b. Describe the building usage and occupancy profiles.



3. **Building Envelope.** Describe the building envelope (roof, exterior walls, windows, exterior doors). Assess the building's air tightness, U-values and solar reflectance.
4. **Systems and Equipment.** Analyze all the major electrical and mechanical systems at the building. The analysis shall address the loads, hours of operation, proper sizing, current condition, operating efficiencies and expected remaining life for the following building systems:
 - a. HVAC system and controls (heating, air conditioning, ventilation).
 - b. Lighting (interior and exterior).
 - c. Water consumption end uses (such as restroom fixtures, kitchen equipment, laundry equipment, etc.) and water heating equipment.
 - d. Plug loads (computers, office equipment, medical equipment, etc.).
5. **Energy Conservation Measures:** Identify and propose potential ECMs for installation or implementation at the building. For example, for lighting recommendations, for each area of each building, provide proposed fixture type, proposed lamp type, proposed lamp count, proposed ballast type, total watts per proposed fixture, projected energy savings, projected energy cost savings and before and after lighting levels. Similar detail should be provided for other measures. Clearly document the key assumptions made in analyzing each measure and describe the method of analysis. Provide the following for each recommended ECM:
 - a. Description of the ECM.
 - b. Estimated installation cost of the ECM and source of cost estimate.
 - c. Life expectancy of the ECM.
 - d. Estimated annual and lifetime energy savings of the ECM (kW, kWh, therms, etc.).
 - e. Estimated annual and lifetime energy cost savings from the ECM (including any assumptions regarding future energy costs).
 - f. Estimate of any rebates, grants, tax credits or other financial incentives available.
 - g. Estimated annual and lifetime operating cost savings.
 - h. Simple payback of the ECM.
 - i. Estimated return on investment of the ECM.

The energy professional must, as part of the written analysis, provide a description of and documentation for all tools used to perform energy use and energy savings estimates. Manual calculations should disclose essential data, assumptions, formulas, etc. so that a reviewer could replicate the calculations based on the data provided. All assumptions and estimates must be clearly identified.

As noted above, the energy audit is subject to review and acceptance by GELF's Technical Reviewer.

D. Energy Measures in the Gut Rehab of an Existing Unoccupied Building

A full gut rehab generally involves the complete stripping of a building down to its walls and floors, followed by the rebuilding of the walls and roof and the installation of new HVAC systems, lighting and other energy systems.

For gut rehab projects, the GELF energy savings requirement is predicted energy use **10%** less than allowed under the applicable building code. For commercial buildings in Philadelphia, the applicable building code is the 2018 International Energy Conservation Code. For commercial buildings outside of Philadelphia, the applicable building



code is the 2015 International Energy Conservation Code. For low-rise residential buildings throughout Pennsylvania, the applicable building code is the 2015 International Residential Code.

Once the correct building code has been identified, the second step is to show that the rehabbed building is designed to require 10% less total energy than the code-compliant project. GELF's process is modeled after the U.S. Green Building Council's Leadership in Energy and Environment Design ("LEED") process for deciding the number of energy points a project earns, except that GELF focuses on BTU savings rather than dollar savings. There are three parts to showing the building will meet its energy goal:

1. The Applicant will need to identify the specific energy measures and systems that are to be included in the building. This is done by submitting the most current set of construction drawings that are available and by completing and submitting the *List of Energy Measures* spreadsheet that is available on the GELF website. GELF needs specific information about the high-performance energy systems and measures for the following:
 - a. Building envelope (including air tightness, U-values, roof solar reflectance, windows and doors)
 - b. HVAC system and controls (heating, air conditioning, ventilation)
 - c. Lighting (interior and exterior)
 - d. Water consumption end uses (such as restroom fixtures, kitchen equipment, laundry equipment, etc.) and water heating equipment
 - e. Plug loads (appliances, computers, office equipment, medical equipment, etc.).
2. The Applicant must produce and submit an energy modeling report by a qualified energy consultant that estimates the building's total annual energy consumption with the energy systems and measures that will be used in the rehabbed building. The Applicant must also submit all input assumptions that were used in the modeling. The acceptable energy models include DOE-2.2, EnergyPlus, eQuest, HAP and Trace. The complete list of building energy modeling software accepted by the federal government for commercial building tax deductions is available at <http://energy.gov/eere/buildings/qualified-software-calculating-commercial-building-tax-deductions>.
3. The submitted energy model, construction drawings and supporting documents will be reviewed by GELF's Technical Reviewer. The Technical Reviewer will work with the applicant's design team to evaluate the project's energy savings and to recommend changes to the project design to improve energy performance.

Because the scope of work of a project often changes during the final design process and during construction, the Applicant is under a continuing duty to both update GELF as to the actual measures being installed and to submit revised energy modeling that reflects the actual energy measures being installed in the project. The project's final estimate of energy savings must be based on of the energy measures present in the building at the conclusion of construction.

E. Energy Measures in New Construction

GELF financing can be provided for new construction and on building additions.

For new construction projects, the GELF energy savings requirement is predicted energy use **15%** less that allowed under the applicable building code. For commercial buildings in Philadelphia, the applicable building code is the 2018 International Energy Conservation Code. For commercial buildings outside of Philadelphia, the applicable building code is the 2015 International Energy Conservation Code. For low-rise residential buildings throughout Pennsylvania, the applicable building code is the 2015 International Residential Code.



Once the correct building code has been identified, the second step is to show that the rehabbed building is designed to require 15% less total energy than the code-compliant project. GELF's process is modeled after the U.S. Green Building Council's Leadership in Energy and Environment Design ("LEED") process for deciding the number of energy points a project earns, except that GELF focuses on BTU savings rather than dollar savings. There are three parts to showing the building will meet its energy goal:

A GELF energy loan for new construction of a high-performance building or building addition will require a building energy simulation modeling report by a qualified energy professional that addresses the following three elements:

1. A brief narrative describing the high-performance energy systems and measures that will be installed in the building, including:
 - a. Building envelop (including air tightness, U-values, roof solar reflectance, windows and exterior doors)
 - b. HVAC system and controls (heating, air conditioning, ventilation)
 - c. Lighting (interior and exterior)
 - d. Water consumption end uses (such as restroom fixtures, kitchen equipment, laundry equipment, etc.) and water heating equipment
 - e. Plug loads (computers, office equipment, medical equipment, etc.).
2. The building's predicted energy consumption on an annual basis were it built to applicable energy code.
3. The building's predicted energy consumption on an annual basis as designed with the higher-than-code energy systems and measures.

The Applicant must produce and submit an energy modeling report by a qualified energy consultant that uses recognized software to estimate the proposed building's total annual energy consumption - under the building code and as proposed. The acceptable energy models include DOE-2.2, EnergyPlus, eQuest, HAP and Trace. The complete list of building energy modeling software accepted by the federal government for commercial building tax deductions is available at <http://energy.gov/eere/buildings/qualified-software-calculating-commercial-building-tax-deductions>. The Applicant must also submit all input assumptions that were used in the modeling

As noted above, the energy model is subject to review and acceptance by GELF's Technical Reviewer.

Because the scope of work of a project often changes during the final design process and during construction, the applicant is under a continuing duty to both update GELF as to the actual measures being installed and to submit revised energy modeling that reflects the actual energy measures being installed in the project. The project's final estimate of energy savings must be based on of the energy measures present in the building at the conclusion of construction.

F. Reporting Energy Consumption Data with *Portfolio Manager*

All projects must also use ENERGY STAR's *Portfolio Manager*, a free, web-based benchmarking program, to report both the building's pre-retrofit Energy Performance Rating and an estimated post-retrofit Energy Performance Rating. Post-construction energy consumption data is required because GELF is required to report both the estimated energy savings and the actual energy savings realized by projects following their completion and occupancy.

Portfolio Manager is available at www.energystar.gov/benchmark. Practical Energy Solutions, GELF's Technical Reviewer, is available to help all GELF borrowers set up their Portfolio Manager accounts and to master the process for entering ongoing energy consumption data. GELF Borrowers must provide Reinvestment Fund and the Pennsylvania Department of Environmental Protection permission to access the *Portfolio Manager* account for the building.



PART 6. FEDERAL, STATE AND LOCAL GOVERNMENT REQUIREMENTS FOR GELF

A. Introduction to SEP and ARRA

The U.S. Department of Energy supports energy work in Pennsylvania through State Energy Program (“**SEP**”) grants to the Pennsylvania Department of Environmental Protection (“**PaDEP**”). The American Recovery and Reinvestment Act of 2009, Pub. L. 111-5, (“**ARRA**”) provided greatly expanded funding for a variety of energy efficiency programs and PaDEP, on behalf of the Commonwealth of Pennsylvania, received a ARRA-SEP grant of \$99.7 million, of which \$12.0 million was awarded to Reinvestment Fund for GELF. Subsequent to that, the Department of Environmental Protection awarded additional SEP funding to GELF. Reinvestment Fund is leveraging additional capital from private and public sources.

This Part will address the program requirements that apply to GELF loans because federal ARRA and SEP dollars provide a portion of GELF’s capital and because the Commonwealth of Pennsylvania is responsible for ensuring the SEP funds are lent to projects that comply with all of program requirements. The list of these provisions is provided below and discussed in following Sections to this PART.

Section B.	Prohibited Uses
Section C.	Non-Discrimination Provisions
Section D.	Equal Opportunity Provisions
Section E.	Davis-Bacon Act and Prevailing Wages
Section F.	National Environmental Policy Act (NEPA) Provisions
Section G.	Historical Preservation Provisions
Section H.	Waste Stream Requirements
Section I.	Buy American Provisions
Section J.	Access to Records
Section K.	Record Retention
Section L.	Access to Information
Section M.	Disclosure of Political Contributions
Section N.	Prohibition on Lobbying
Section O.	Monthly and Quarterly Reporting Requirements
Section P.	Requirements for Reporting Future Energy Consumption

Borrowers from GELF will be required to comply with all of the terms, conditions, requirements and limitations identified in this PART.

Applicants need to understand the ramifications of all of these program provisions. Applicants unable or unwilling to comply with all of these provisions should not apply for a GELF energy loan.

The remaining sections of this Part are provided for your guidance. They do not address all of the terms and conditions that may be applicable to a particular loan request or individual Borrower.

Applicants must also understand that these requirements may be revised by DOE through the ongoing guidance documents DOE issues for the SEP program. The current version of all SEP guidance documents can be found at <http://energy.gov/eere/wipo/state-energy-program-guidance>.

The requirements established by the Commonwealth of Pennsylvania may also change. All GELF loan recipients must abide by any such revisions upon receipt of written notification from DOE, the Commonwealth or Reinvestment Fund.



The sections below are not to be considered legal advice. Specific legal language addressing these requirements will be provided to successful Applicants when the loan agreement documents are being negotiated. Borrowers are encouraged to research, to seek legal counsel and advice and to ask questions about these provisions early in the loan underwriting process.

B. Prohibited Uses of Funds

GELF energy loans may not be used to finance any projects at a casino or other gambling establishment, aquarium, zoo, golf course, or swimming pool, or any other items prohibited by ARRA.

C. Nondiscrimination Provisions

GELF borrowers must covenant and agree that no person shall be denied benefits of, or otherwise be subjected to discrimination in connection with the Contractor's performance under this Agreement. GELF borrowers must agree that in the hiring of any employees or contractors for any activity supported by the GELF loan, the borrower, any subcontractor or any person acting on behalf of the borrower shall not by reason of gender, race, creed, or color discriminate against any citizen of this Commonwealth who is qualified and available to perform the work to which the employment relates.

Accordingly, and to the extent applicable, the Contractor covenants and agrees to comply with the following:

1. On the basis of race, color or national origin, in Title V I of the Civil Rights Act of 1964 (42 U.S.C. §§2000d *et seq.*) as implemented by applicable regulations.
2. On the basis of race, color, religion, sex, or national origin, in Executive Order 11246 (3 CFR §§1964-1965), as implemented by applicable regulations.
3. On the basis of sex or blindness, in Title IX of the Education Amendments of 1972 (20 U.S.C. §§1681, *et seq.*), as implemented by applicable regulations.
4. On the basis of age, in The Age Discrimination Act of 1975 (42 U.S.C. §§6101 *et seq.*), as implemented by applicable regulations.
5. On the basis of handicap, in Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. §794), as implemented by applicable regulations.

D. Equal Opportunity Provisions – Small Diverse Businesses

Pennsylvania's Small Diverse Business Program for Construction encourages and ensures open and equitable contracting practices are used by prime contractors in soliciting and contracting with Minority Business Enterprises ("MBE"), Women Business Enterprises ("WBE"), Veteran Business Enterprises ("VBE"), and Service-Disabled Veteran Business Enterprises ("SDVBES") together referred to hereafter as Small Diverse Businesses ("SDBs").

The specific policies and guidelines for the Small Diverse Business Construction program are outlined in the department's Statement of Policy, Small Diverse Business Opportunities within Construction Contracts [4 PA. Code Ch. 68] as published on August 11, 2012 in the PA Bulletin (see www.pabulletin.com/secure/data/vol42/42-32/1522.html). These provisions are administered by the Bureau of Small Business Opportunities in the Pennsylvania Department of General Services and the procedures for compliance are listed at www.portal.state.pa.us/portal/server.pt/community/construction_small_diverse_business_program/21230). As detailed there, Borrowers will need to look for contractors in the Small Diverse Businesses database (see www.dgs.internet.state.pa.us/SmallDiverseBusinessSearch/), submit a Small Diverse Business Utilization Report (www.portal.state.pa.us/portal/server.pt/gateway/PTARGS_0_2_151259_21230_1315745_43/http%3B/pubcontent.state.pa.us/publishedcontent/publish/cop_general_government_operations/dgs/community_content/doing_business_with_the_common

[wealth/subcommunities/bmwbo/document_management/forms/sdb_utilization_rept_dgs.xls](#)), and document its efforts to contract with Small Diverse Businesses.

GELF has a Small Diverse Business Participation Affidavit regarding the project’s compliance with Pennsylvania’s Small Diverse Business rules that is available on the GELF website and must be completed by the Applicant prior to loan closing.

E. Davis-Bacon Act and Prevailing Wages

GELF is subject to the Davis-Bacon Act, 40 U.S.C. §§3141 *et seq.* and GELF energy loan recipients will be required to comply with prevailing wage guidelines as specified in the Davis Bacon Act and related directives from the U.S. Department of Labor (“**DOL**”). The Davis Bacon Act (“**DBA**”) requires that all laborers and mechanics employed on projects involving construction, alteration, and/or repair valued in excess of \$2,000 must be paid at a rate not less than the minimum wages specified in a wage determination made by the Secretary of Labor. Information and guidance about DBA compliance will be available to GELF loan recipients from the Pennsylvania Department of Labor and Industry.

DOE has issued *Guidance on Implementation of the Davis-Bacon Act Prevailing Wage Requirements for State Energy Program Grant Recipients Under the American Recovery and Reinvestment Act of 2009* on April 7, 2010. State Energy Program Notice 10-003A is available at <http://energy.gov/eere/wipo/downloads/state-energy-program-notice-10-003a>.

Upon receiving a GELF energy loan, a GELF loan recipient will be required to meet a number of conditions to ensure DBA compliance, including but not limited to the following:

1. Participation in a briefing session with the Pennsylvania Department of Labor and Industry’s Bureau of Labor Law Compliance (see <http://www.portal.state.pa.us/portal/server.pt?open=514&objID=553543&mode=2>) on the application of Davis Bacon requirements, which will include detailed enumeration of requirements, orally and in writing, and a focused application of requirements to the Ultimate Recipient’s specific project and scope of work;
2. Submission of weekly certified payrolls to the entity named by Reinvestment Fund staff; and,
3. Opening of work sites to unscheduled inspections by staff from the Bureau of Labor Law Compliance, including but not limited to interviews with workers and management staff, audits of payrolls or other records consistent with the inspectors’ mandate to ensure compliance with the requirements of the Davis Bacon Act.

GELF has an affidavit regarding the project’s compliance with the Davis Bacon Act that is available on the GELF website and must be completed by the Applicant prior to loan closing.

F. National Environmental Policy Act (NEPA)

Recipients of GELF energy loans shall comply with all applicable Federal, State, and local environmental requirements, including: National Environmental Policy Act, National Historic Preservation Act, Endangered Species Act, the Clean Air Act, the Federal Water Pollution and Control Act, and Executive Orders on Floodplains (11988), Wetlands (11990) and Environmental Justice (12898). Failure of the GELF loan recipient to meet Federal, State, and local environmental requirements and obtain applicable permits may jeopardize Federal funding.

Formal SEP guidance on environmental compliance issues was issued on December 17, 2009. This guidance, SEP Program Notice 10-001, is available at https://www.energy.gov/sites/prod/files/2014/01/f71/nepa_program_guidance_notice_10-003.pdf.

DOE has concluded that many types (or classes) of actions *normally* do not have the potential to cause significant environmental impacts and, thus, are categorically excluded from the need for additional NEPA review. The list of



DOE's Categorical Exclusions is contained in Appendices A and B to Subpart D of DOE's NEPA regulations (10 CFR Part 1021), which can be found at <http://energy.gov/nepa/downloads/10-cfr-1021-department-energy-national-environmental-policy-act-implementing>.

GELF will give strong preference to projects that meet DOE guidelines for categorical exclusions from NEPA environmental review. If a project does not fully qualify for the categorical exclusion or if the project involves new construction, the GELF loan recipient will assist Reinvestment Fund and the DEP in completing and filing an EF-1 form to obtain from DOE a *Finding of No Significant Impact*.

GELF has an affidavit regarding the project's compliance with NEPA that is available on the GELF website and must be completed by the Applicant prior to loan closing.

G. Historical Preservation Provisions

The American Recovery and Reinvestment Act requires that GELF funding must be used in ways consistent with the National Historic Preservation Act of 1966 ("NHPA"). The U.S. Department of Energy has created a web page that addresses the Section 106 review under the NHPA and other historic preservation issues that can be found at <http://energy.gov/eere/wipo/downloads/historic-preservation-doe-program-guidance>. GELF is subject to the DOE guidance on the historic preservation issued as SEP Program Notice 10-006, effective as of February 11, 2010 and available at http://energy.gov/sites/prod/files/2014/01/f7/historic_preservation_program_guidance.pdf. The federal regulation implementing the Section 106 review process appear in the U.S. Code of Federal Regulations at 36 CFR Part 800 (see <http://www.achp.gov/regs-rev04.pdf>).

DOE and the federal Advisory Council on Historic Preservation have negotiated and approved a prototype agreement that concludes that many energy measures do not have the potential to negatively affect historic properties and make those measure exempt from further Section 106 review. Both the Bureau of Historic Preservation of the Pennsylvania Historical and Museum Commission and the Pennsylvania Department of Environmental Protection has signed this prototype agreement, which can be found at http://energy.gov/sites/prod/files/2014/01/f7/historic_preservation_doe_prototype_pa.pdf. Appendix B contains the list of energy measures that are exempt for purposes of GELF. In general, energy measures which are not visible from a public right-of-way are acceptable. For example, a new boiler in the basement is fine, but new windows will need to be reviewed and approved by the State Historic Preservation Office ("SHPO"), which in Pennsylvania is the Bureau of Historic Preservation of the Pennsylvania Historical and Museum Commission. Information about the Bureau and its Section 106 review process is available at www.portal.state.pa.us/portal/server.pt/community/historic_preservation/3741.

GELF has an affidavit regarding the project's compliance with historic preservation laws that is available on the GELF website and must be completed by the Applicant prior to loan closing.

H. Waste Stream Requirements

GELF loan recipients must comply with all federal, state and local laws and regulations pertaining to the generation, storage, treatment, transportation, and disposal of sanitary or hazardous wastes generated by the financed building project. Sanitary and hazardous wastes include, but are not limited to, old light bulbs, lead ballast, piping, roofing material, discarded equipment, debris, asbestos, etc.

The GELF loan recipient must prepare a Project Waste Management Plan for all demolition, construction and other solid wastes from that addresses the following elements:

1. The name(s) and contact information of the individual(s) responsible for managing the project wastes.
2. Identify all local, state and federal permits or approvals related to the solid waste from the project that must be obtained. Show that these permits have been issued.



3. Describe the actions that will be taken to minimize waste generation. This includes the packaging materials for equipment and supplies brought to the project and whether the supplier can eliminate or recycle packaging.
4. Describe the types and estimated quantities of wastes that will be generated by the project:
 - a. List the likely project wastes, including removed lamps and ballasts, equipment, fixtures, roofing material, lumber, drywall, insulation, asbestos, metals, masonry (brick, concrete), pipe, carpet, plastic, paper, cardboard and all other debris and waste.
 - b. For each waste listed, estimate the quantity and the timing when the waste will be generated.
 - c. Special attention should be paid to anticipated hazardous waste. Describe how such materials will be identified, assessed, handled, stored, treated and removed.
5. Describe the material handling procedures that will be used as the work site. Describe how materials to be recycled will be sorted, segregated, protected from contamination and transported.
6. Describe the waste materials that will be recycled:
 - a. Identify and quantify the waste materials to be recycled.
 - b. Identify the recycling facilities to be used
 - c. Estimate the percentage of total project waste that will be diverted to recycling.
7. Describe the disposal of the balance of the waste stream:
 - a. Identify and quantify the waste materials that cannot be recycled.
 - b. Identify the landfill and the tipping costs.
8. Describe the record keeping procedures for project wastes.
9. Describe the plan to educate the workforce about the waste handling procedures.
10. Show the expected budget for the project waste management, including the anticipated net cost or savings.

GELF has an affidavit regarding the project's waste compliance plan that is available on the GELF website and must be completed by the Applicant prior to loan closing.

I. Buy American Provisions

If a Borrower is a government entity, the GELF is subject to the Buy American provision in the American Recovery and Reinvestment Act of 2009 (§1605 of Title XVI). Borrowers that are not a government entity are not subject to the Act. The Buy American provision requires that all the iron, steel, and manufactured goods used for the construction, alteration, or repair of a public building or public work must be produced in the United States, subject to three listed exceptions.

Important information about section 1605 of Title XVI of the Recovery Act (the Buy American provision) is available on a dedicated section of the website of DOE's Office of Energy Efficiency and Renewable Energy (EERE): <http://energy.gov/eere/wipo/downloads/buy-american-program-guidance>. This section will be updated regularly with new documents pertaining to the Buy American provision (e.g., Frequently Asked Questions (FAQs), formal guidance, and waivers).

The U.S. Department of Energy issued a guidance document, effective December 17, 2009, entitled *Guidance on the Buy American Provisions as Applied to Energy Efficiency and Renewable Energy Projects Funded by the American Recovery and Reinvestment Act of 2009 and Administered by the Office of Energy Efficiency and Renewable Energy*. This Guidance is located at http://energy.gov/sites/prod/files/2014/01/f7/eere_program_guidance_buy_american_121709.pdf.

GELF has an affidavit regarding the project's compliance with the Buy American provisions that is available on the GELF website and must be completed by the Applicant prior to loan closing.



J. Access to Records

GELF loan recipients must agree that a representative of an appropriate U.S. Inspector General or the U.S. Comptroller General is authorized to:

1. examine any records of the Contractor, any of its subcontractors, or any state or local agency administering such contract that pertain to, and involve transactions relating to the contract; and,
2. interview any officer or employee of the contractor, subcontractor or agency regarding such transactions.

K. Records Retention

GELF loan recipients must maintain all loan and project records intact in a form, if not original documents, as may be approved by the Federal Government, for at least three years following termination of a project funded by ARRA or for such longer period of time as required by the Commonwealth.

L. Access to Information

GELF loans agreements and any records or expenditures related thereto may be subject to disclosure under the Pennsylvania Right to Know Law 65 P.S. §§67.101 *et seq.* and the Freedom of Information Act, 5 U.S.C. §552. Authorized representatives from DOE, the Commonwealth and Reinvestment Fund have the right to make site visits at reasonable times to review project accomplishments and management control systems. GELF loan recipients must provide, and must require their contractors to provide, reasonable access to facilities, office space, resources, and assistance for the safety and convenience of authorized representatives in the performance of their duties.

M. Disclosure of Political Contributions

Since a GELF borrower is considered the recipient of a non-bid contract under Section 1641 of the Pennsylvania Election Code, 25 P.S. 3260(a), GELF borrowers must disclose any contributions in excess of \$1,000 they made to:

1. a candidate for nomination or election in any public office in the Commonwealth of Pennsylvania;
2. an incumbent in any public office in the Commonwealth of Pennsylvania;
3. a political committee or state party in the Commonwealth of Pennsylvania;
4. a group, committee, or association organized in support of any candidate, office holder, political committee, or
5. a state party in the Commonwealth of Pennsylvania.

The form for reporting contributions can be found at www.dos.pa.gov/VotingElections/CandidatesCommittees/CampaignFinance/Documents/o5o_forms_online/dseb_504.pdf

N. Prohibition on Lobbying

Contractors who apply or bid for an award of more than \$100,000 shall file the certification required by the Byrd Anti-Lobbying Amendment (31 U.S.C. §§1352 *et seq.*) that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352.



O. Quarterly Reporting Requirements



The Commonwealth of Pennsylvania is required to submit quarterly reports to the DOE and quarterly reports to the U.S. Office of Management and Budget which include the information described in §1512(c) of the ARRA. The Commonwealth and Reinvestment Fund may request certain information from the GELF loan recipients in order to fulfill these requirements. The Commonwealth and Reinvestment Fund may also require GLEF Borrowers to submit backup documentation for expenditures of ARRA funds including such items as timecards and invoices.

DOE has issued SEP Program Notice 10-07A , entitled *DOE Recovery Act Reporting Requirements for the State Energy Program*, on February 4, 2013, that details the reporting requirements that GELF loan recipients must follow. See http://energy.gov/sites/prod/files/2014/01/f7/sep_02-04-13.pdf.

P. Requirements for Reporting Future Energy Consumption

As noted in PART 5.F above, loan recipients will also need to report their building's energy consumption data for the first 24 months of building operations following implementation of the energy measures. This information will be submitted via *Portfolio Manager* (see <https://www.energystar.gov/istar/pmpam/>), with permission given for Reinvestment Fund and the PA Department of Environmental Protection to access the Portfolio Manager account. Post-construction energy consumption data is required because the GELF is required to report both the estimated energy savings and the actual energy savings realized by projects in the first 12 months of occupancy. GELF will be using its Technical Reviewer to prepare individual project reports that present this energy data and address any changed use or other factors that must be understood when evaluating project performance.

List of Energy Measures Spreadsheet

 REINVESTMENT FUND	Pennsylvania Green Energy Loan Fund List of Energy Measures	
Project Name:		
Project Address:		
Borrower:		
ENERGY MEASURE	DESCRIPTION / SPECIFICATIONS / MANUFACTURER / MODEL	TOTAL INSTALLED COST
Building Envelope		
Air Sealing		
Roof Insulation		
Exterior Wall Insulation		
ENERGY STAR certified roofing		
Windows		
Exterior Doors		
Exterior Shading Devices		
Other Building Envelope		
<i>Sub-Total:</i>		\$0
HVAC		
Heating Equipment		
Ventilation Equipment		
Cooling Equipment		
HVAC Distribution		
HVAC Control System		
Energy Recovery System		
Other HVAC		
<i>Sub-Total:</i>		\$0
Lighting		
Interior Lighting Fixtures		
Exterior Lighting Fixtures		
Lighting Controls		
Daylighting Measures		
Other Lighting		
<i>Sub-Total:</i>		\$0
Plumbing		
Domestic Hot Water Heater		
Low-Flow Plumbing Fixtures		
Hot water pipe insulation		
Other Plumbing		
<i>Sub-Total:</i>		\$0
Plug Loads		
Kitchen Appliances	ENERGY STAR dishwashers / refrigerators	
Laundry Appliances	ENERGY STAR clothes washers	
Office Equipment	ENERGY STAR office equipment	
Other Plug Loads		
<i>Sub-Total:</i>		\$0
Other Energy Measures		
Solar photovoltaics (PV)		
Combined Heat and Power (CHP)		
Energy Storage Systems		
Demand Response Systems		
3rd Party Building Commissioning		
Stormwater Retention Measures		
Other Energy Measures		
<i>Sub-Total:</i>		\$0
Energy Project Soft Costs		
Energy Audit or Modeling		
Other Energy Soft Costs		
<i>Sub-Total:</i>		\$0
Grand Total:		\$0