



United States Department of Agriculture

Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

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Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

MAIN INDEX

<u>Section</u>	<u>Description</u>
A	Introduction
B	Abbreviations & Acronyms
C	Definitions
D	Energy Efficiency Program a. Business Plan b. Quality Assurance Plan c. Environmental Toolkit
E	Energy Efficiency Work Plan
F	Utilizing Existing Loan Funds
G	Energy Efficiency Loan Application
H	Procedures for documenting completed projects and advancing loan funds
APPENDIX A	7 CFR 1710 Subpart H—Energy Efficiency and Conservation Loan Program
APPENDIX B	Energy Efficiency Programmatic Environmental Assessment and Finding of No Significant Impact



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

APPENDIX C Sample Board Resolutions

APPENDIX D Calculators

SAMPLE

Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

SECTION C - DEFINITIONS

British thermal unit (Btu) means the quantity of heat required to raise one pound of water one degree Fahrenheit.

Certified energy auditor for commercial and industrial energy efficiency improvements (1) An energy auditor shall meet one of the following criteria: (i) An individual possessing a current commercial or industrial energy auditor certification from a national, industry recognized organization; (ii) A Licensed Professional Engineer in the State in which the audit is conducted with at least 1 year experience and who has completed at least two similar type Energy Audits; (iii) An individual with a four-year engineering or architectural degree with at least 3 years' experience and who has completed at least five similar type Energy Audits; or (iv) Beginning in calendar year 2015, an energy auditor certification recognized by the Department of Energy through its Better Buildings Workforce Guidelines project. (2) For residential energy efficiency improvements, an energy auditor shall meet one of the following criteria: The workforce qualification requirements of the Home Performance with Energy Star Program, as outlined in Section 3 of the Home Performance with Energy Star Sponsor Guide; or an individual possessing a current residential energy auditor or building analyst certification from a national, industry-recognized organization.

Cost effective means the aggregate cost of an EE Program is less than the financial benefit of the program over time. The cost of a program for this purpose shall include the costs of incentives, measurement and verification activity and administrative costs, and the benefits shall include, without limitation, the value of energy saved, the value of corresponding avoided generation, transmission or distribution and reserve investments as may be displaced or deferred by program activities, and the value of corresponding avoided greenhouse gas emissions and other pollutants.

Demand means the electrical load averaged over a specified interval of time. Demand is expressed in kilowatts, kilovolt-amperes, kilovars, **amperes**, or other suitable units. The interval of time is generally 15 minutes, 30 minutes, or 60 minutes.

Demand savings means the quantifiable reduction in the load requirement for electric power, usually expressed in kilowatts (kW) or megawatts (MW) such that it reduces the cost to serve the load.



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

Eligible borrower means a utility system that has direct or indirect responsibility for providing retail electric service to persons in a rural area. This definition includes existing borrowers and utilities who meet current RUS borrower requirements.

Energy audit means an inspection and analysis of energy flows in a building, process, or system with the goal of identifying opportunities to enhance energy efficiency. The activity should result in an objective standard-based technical report containing recommendations for improving the energy efficiency. The report should also include an analysis of the estimated benefits and costs of pursuing each recommendation and the simple payback period.

Energy efficiency and conservation measures means equipment, materials and practices that when installed and used at a Consumer's premises result in a verifiable reduction in energy consumption, measured in Btus, or demand as measured in Btu-hours, or both, at the point of purchase relative to a base level of output. The ultimate goal is the reduction of utility or consumer energy needs.

Energy efficiency and conservation program (EE Program) means a program of activities undertaken or financed by a utility within its service territory to reduce the amount or rate of energy used by Consumers relative to a base level of output.

HVAC means heating, ventilation, and air conditioning.

Load means the Power delivered to power utilization equipment performing its normal function.

Load factor means the ratio of the average load over a designated period of time to the peak load occurring in the same period.

Peak demand (or maximum demand) means the highest demand measured over a selected period of time, e.g., one month.

Peak demand reduction means a decrease in electrical demand on an electric utility system during the system's peak period, calculated as the reduction in maximum average demand achieved over a specified interval of time.

Power means the rate of generating, transferring, or using energy. The basic unit is the watt, where one Watt is approximately 3.41213 Btu/hr.



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

Re-lamping means the initial conversion of bulbs or light fixtures to more efficient lighting technology but not the replacement of like kind bulbs or fixtures after the initial conversion.

SI means the International System of Units: the modern metric system.

Smart Grid Investments means capital expenditures for devices or systems that are capable of providing real time, two way (utility and Consumer) information and control protocols for individual Consumer owned or operated appliances and equipment, usually through a consumer interface or smart meter.

Ultimate recipient means a Consumer that receives a loan from a borrower under this subpart.

Utility Energy Services Contract (UESC) means a contract whereby a utility provides a Consumer with comprehensive energy efficiency improvement services or demand reduction services.

Utility system means an entity in the business of providing retail electric service to Consumers (distribution entity) or an entity in the business of providing wholesale electric supply to distribution entities (generation entity) or an entity in the business of providing transmission service to distribution or generation entities (transmission entity), where, in each case, the entities provide the applicable service using self-owned or controlled assets under a published tariff that the entity and any associated regulatory agency may adjust.

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Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

SECTION A - INTRODUCTION

Section 6101 of the 2008 Farm Bill added energy efficiency as an eligible loan purpose from the Rural Utilities Service. This Toolkit is designed to assist a potential borrower through the process of preparing the documents necessary to design and implement an Energy Efficiency Program to assist Electric Utilities serving consumers in rural areas.

This Toolkit is designed to assist potential borrowers so that they can comply with the requirements of 7 CFR 1710 Subpart H - Energy Efficiency and Conservation Loan Program. This Toolkit is not intended to conflict with or replace any part of that Regulation.

This Toolkit will take you through the various steps of creating an Energy Efficiency Program and its various components, then the preparation of a Work Plan which is designed to detail your plans for the next 2 to 4 years and be the basis for the loan, next to provide guidance for your loan application and finally to take you through the process of record keeping and obtaining loan funds.



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

ABBREVIATIONS AND ACRONYMS

EEBP	Energy Efficiency Business Plan
EEP	Energy Efficiency Program
EEQAP	Energy Efficiency Quality Assurance Plan
EEWP	Energy Efficiency Work Plan



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

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Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

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Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

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Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

SECTION D - ENERGY EFFICIENCY PROGRAM

RUS believes that the mission of rural electrification includes helping those that are served to use electricity efficiently. It is often those that can least afford it that pay much higher bills due to old and inefficient homes and businesses. An effective Energy Efficiency Program can not only assist the consumer but also lower the cost of power to the provider by decreasing the peak as well as avoiding the high cost of new generation.

RUS also is concerned with the success of the program itself so that it does not negatively affect the financial well-being of the provider. In order to provide the greatest chance for success, RUS believes that a well thought out plan should be in place. The plan should include several ingredients that will be discussed in the following sections in greater detail. It is expected that each part of the plan should be detailed in proportion to the complexity of the Program and the potential risk that may be involved.

There are a number of elements that must be addressed in an Energy Efficiency Plan (Plan) to qualify for financing:

- (1) It must be developed and implemented by an Eligible borrower and applied within its service territory. If the prospective applicant is not currently an RUS borrower they should first determine their eligibility by contacting the appropriate General Field Representative (GFR). The appropriate GFR can be identified through the following website: http://www.rurdev.usda.gov/UEP_GFR_map.html
- (2) The Plan must consist of only eligible activities and investments as provided in the code of Federal Regulations 7CFR 1710.406. Those eligible activities include electric facilities, equipment, appliances, or wiring located inside the premises of the Consumer, except for assets financed as a part of an Eligible EE Program, and qualifying items included in a loan for Demand



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

side management or energy resource conservation programs, or renewable energy systems.

Eligible program activities and investments must be cost effective in the aggregate after giving effect to all activities and investments contemplated in the approved EE Program; and may apply to all Consumer classes.

EE Program loan funds may be used for direct relending to Ultimate Recipients where the requirements of § 1710.405(b) are met.

Performance standards must be met. Borrowers are required to use Energy Star qualified equipment where applicable or meet or exceed efficiency requirements designated by the Federal Energy Management Program.

(3) Specifically from Section 7CFR 1710.406, the following activities are eligible program activities and investments may include, but are not limited to, the following:

(1) Energy efficiency and conservation measures where assets financed at an Ultimate Recipient premises can be characterized as an integral part of the real property that would typically transfer with the title under applicable state law. Where applicable, it is anticipated that the loan obligation would also be expected to transfer with ownership of the metered account serving that property.

(2) Renewable Energy Systems, including —

(i) On or Off Grid Renewable energy systems;

(ii) Fuel cells;

(3) Demand side management (DSM) investments including Smart Grid Investments; Note that these things are normally financed with the RUS Electric Program's regular loan program for existing borrowers.



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

- (4) Energy audits;
 - (5) Utility Energy Services Contracts;
 - (6) Consumer education and outreach programs;
 - (7) Power factor correction equipment on the Ultimate Recipient side of the meter;
 - (8) Re-lamping to more energy efficient lighting; and
 - (9) Fuel Switching as in:
 - (i) The replacement of existing fuel consuming equipment using a particular fuel with more efficient fuel consuming equipment that uses another fuel but which does not increase direct greenhouse gas emissions; or
 - (ii) The installation of non-electric fuel consuming equipment to facilitate management of electric system peak loads. *Fuel switching to fossil or biomass fueled electric generating equipment is expressly excluded.*
 - (10) Other activities and investments as approved by RUS as part of the EE Program such as, but not limited to, pre-retrofit improvements. Anything that has not been expressly listed should be detailed in the Program documentation and a specific request be made to include that activity.
- (4) As a part of developing a Program a prospective borrower should investigate the availability of State and local funds where available to supplement RUS loan funds. The Plan should provide a description of efforts to identify those State and local sources of funding and, if available, how they are to be integrated in the financing of the EE Program.
- (5) If the Plan includes some type of distributed resources, such as solar panels, then it should incorporate the applicant's policy applicable to the



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

interconnection of distributed resources (IDR). All current RUS borrowers are required to have a Board approved IDR Policy per 7 CFR 1730 Subpart C. Be sure that it is updated (and Board approved) to include any changes necessary for the planned Program.

- (6) The elements that should be included in a business plan that meet the requirements of 7CFR 1710.407 are discussed in Section D – a. Energy Efficiency Business Plan.
 - (7) The Plan should also include a quality assurance plan that meets the requirements of 7CFR 1710.408. Those needed elements are discussed in Section D – b. Quality Assurance Plan.
 - (8) It should be demonstrated that the program can be expected to be Cost effective.
 - (9) Demonstrate that the program will have a net positive or neutral cumulative impact on the borrower's financial condition over the time period contemplated in the analytical support documents demonstrating that the net present value of program costs incurred by the borrower are positive. (ref. 7CFR 1710.411).
 - (10) Demonstrate energy savings or peak demand reduction for the service territory overall.
 - (11) Be approved in writing by RUS prior to the investment of funds for which reimbursement will be requested.
- (4) Financial Structures. Eligible EE Programs may provide for direct recoupment of expenditures for eligible activities and investment from Ultimate Recipients as follows:
- (1) Loans made to Ultimate Recipients located in a rural area where
 - (i) The Ultimate Recipients may be wholesale or retail;



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

- (ii) The loans may be secured or unsecured;
 - (iii) The loan receivables are owned by the Eligible Borrower;
 - (iv) The loans are made or serviced directly by the Eligible Borrower or by a financial institution pursuant to a contractual relationship between the Eligible Borrower and the financial institution;
 - (v) Due diligence is performed to confirm the repayment ability of the Ultimate Recipient;
 - (vi) Loans are funded only upon completion of the project financed or to reimburse startup costs that have been incurred;
 - (vii) The rate charged the Ultimate Recipient is less than or equal to the direct Treasury rate established daily by the United States Treasury pursuant to § 1710.51(a)(1) or § 1710.52, as applicable, plus the borrower's interest rate from RUS and 1.5 percent . Exceptions will be made on a case-by-case basis to ensure repayment of the government's loan and must be clearly articulated in the business plan RUS will not accept an exception request if the loan is feasible at 1.5 percent
 - (viii) Loans are not used to refinance a preexisting loan.
- (2) A tariff that is specific to an identified rural Consumer, premise or class of ratepayer; or
- (3) On bill repayment and other financial recoupment mechanisms as may be approved by RUS. State laws regarding on bill repayment should also be checked.
- (c) *Period of performance*—
- (1) *Performance standards.*
 - (i) Eligible EE Programs activities that are listed above under (2) and are taken from 1710.406(b) should be designed to achieve the applicable operating performance standards within one year of the date of installation of the facilities.



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

(ii) All activities other than those included in 1710.405 paragraph (c)(1)(i) should be designed to achieve the applicable operating performance targets within the time period contemplated by the analytic support documents for the overall EE Program as approved by RUS.

(2) *Cost effectiveness.* Eligible EE Programs must demonstrate that Cost effectiveness as measured for the program overall will be achieved within ten years of initial funding, except in cases where the useful life of the technology on an aggregate basis can be demonstrated to be longer than the ten year period. RUS will evaluate the useful life assumption on a case-by-case basis.

SAMPLE



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

SECTION D – a. Energy Efficiency Business Plan

The Energy Efficiency Business Plan (EEBP) will have multiple purposes. It is the plan the borrower intends to implement along with future direction based on the success or failure of the plan. It is expected to be a living document that is routinely reviewed and amended based on actual results. As a minimum it should be fully reviewed and updated with each new loan application, with changes and/or adjustments noted.

The EEBP is also one of the key documents used to establish an EE Program and is therefore a part of the basis for a loan application. As with the other needed documents for an EE Program it should reflect in greater detail the same period of time as the EE Program Work Plan (EEWP) but it should also consider a much longer term look at the planned program. Shorter term and long term goals should be stated.

It is expected that the EE Programs offered will vary considerably both as to the kind of consumers; residential, commercial, or industrial, and the extent of the programs offered to them. As such, it is anticipated that the EEWP and BP will include detail appropriate to the size and complexity of the EE Program.

Part 1710.407 of the Regulation provides detail on the basic ingredients of the BP. Note this is intended to list the minimum ingredients of a BP. Some plans are expected to include much more detail than others and the BP may have additional detail or sections based on the individual program.

While many of the sections are quite straight forward as to what should be included, the *Risk Analysis* might not be. RUS would like each plan to include a discussion of particular risks to the program as designed. Based on those risks, if negative results should occur, such as greater than expected defaults on loans



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

made to consumers, plans should be formulated as to when to suspend the program temporarily or permanently.

It is expected that the BP will provide answers and details on a number of issues raised elsewhere in the Regulation. Those things that should be addressed include:

(Please respond to each of the following points with either an n/a, a reference to where this item is addressed in the Business Plan, or

1. A discussion of how the proposed activities meet one or more of the five goals established for EE Programs:
 - a. Increase energy efficiency at the end user level
 - b. modify electric load such that there is a reduction in overall system demand
 - c. Effect a more efficient use of existing electric distribution, transmission and generation facilities
 - d. Attract new businesses and create jobs in rural communities
 - e. Encourage the use of renewable energy fuels.
2. A discussion and a detailed procedure of how title is held to any receivables funded by an RUS loan.
3. A description of the specific activities that are being included in the EE Program and confirming that they are authorized by this regulation.
4. It must be shown how the assets located at a Consumer's premises, whether or not title is to be held by the utility must, for the most part, be considered an integral part of the real property that would typically transfer with the title under applicable State law in order to be financed pursuant to an eligible program.
5. Eligible programs shall provide that the utility will recoup all or part of the costs from specific ratepayers on whose behalf an investment has been made. Recoupment may take the form of Consumer loan repayment or a dedicated tariff. This should be specifically described.



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

6. An eligible program must show that the payment terms and loan term offered to the Consumer are generally correlated with the expected life of the applicable assets.
7. An eligible program must also offer an undertaking that funds, collected from ratepayers, in excess of the current amortization requirements for the RUS loan will be redeployed for EE Program purposes or used to prepay the RUS loan. **These prepayments are in addition to scheduled principal and interest debt service payments.**
8. Costs for startup and maintaining an energy efficiency program must be limited to 5 percent. However, RUS must protect the Electric Program loan portfolio, and increasing the rate any higher may impair the productivity of the program, and subsequently the subsidy rate. Also, cooperatives may have the opportunity to rate-base certain energy efficiency costs. A proposed budget for startup costs and annual maintenance costs should be included. If there are costs that are not expected to be covered by the recipients then a statement should be included as to whether or not those costs will be included in the rate base.
9. Borrowers are limited to interest rates 1.5 percent above the cost of their RUS loan. Exceptions will be given on a case-by-case basis that must be clearly articulated in the business plan such as unavoidable program level costs. RUS will not accept an exception if the loan is feasible at 1.5 percent. This information, combined with all the other additional information, will allow RUS to determine the feasibility of the loan. If there is a compelling reason for a higher interest rate then a separate request should be made to RUS with supporting information.
10. The BP should state which energy efficiency standards or criteria are being used (borrowers are encouraged to use existing standards or criteria such as those from ENERGY STAR, FEMP, ANSI, or other voluntary consensus standards rather than performance thresholds to give Borrowers greater latitude). This will also directly relate to the Quality Assurance Plan.
11. The regulation allows fuel switching. As a more complex issue this will probably require more detail in the BP as to what will be allowable under the



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

program along with any limits to the number of consumers or dollars associated with this activity.

12. If the BP is to establish a partnership with one or more other organizations then those relationships should be defined along with the individual financial responsibilities of all involved. If multiple borrowers are working with each other to decrease costs, each borrower will be individually held responsible for providing the required level of information and oversight. The BP should assure that each organization includes individuals capable of monitoring the EE Program's progress and providing regular reports in order to monitor the costs compared to the budget.
13. Based on the type and size of the EE Program an appropriate Quality Assurance Plan may be of significant cost. The costs may be passed along to the Ultimate Recipient, but it needs to be explained in the submitted BP as to how that will be done.
14. All of RUS's loan programs are run on a reimbursable basis, though the regulation currently states that startup capital of up to 5 percent may be made available for an energy efficiency plan. For all costs beyond that initial 5% used for startup capital it should be documented as to how the documentation will flow through the organization and to be ultimately submitted to RUS for reimbursement.
15. If re-lending activity is a part of the EE Program then the BP should clearly state how the borrower will recover their expenses. The method of choice, such as on-bill financing, should be articulated in the BP. The ultimate decision as to how the costs are recovered is the borrowers.
16. § 1710.122 on Equal Opportunity and Nondiscrimination located in the overarching Electric Program regulation applies to any EE Program as well. Confirmation of this should be noted in the BP along with specific ways that it might be monitored.
17. The borrower is held accountable for paying off the loan, and as such needs to determine who their eligible Consumers are. The method of choice must be articulated in the business plan.



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

Once again, the actual content of an EE Program BP may include any or all of the above as is appropriate. The detail should be consistent with the size and complexity of the program. RUS needs to be able to determine that the plans and resources are appropriate for the program and that the program will not impair the borrower either financially or operationally by adding burdens beyond what the organization can handle without adverse effects.

Contents of your Business Plan

An Eligible EE Program must have a business plan for implementing the program. The business plan is expected to have a global perspective on the energy efficiency plan. Therefore, energy efficiency upgrades should be identified in aggregate. The business plan *must* have the following elements:

- (a) *Executive summary.* The executive summary shall capture the overall objectives to be met by the Eligible EE Program and the timeframe in which they are expected to be achieved.
- (b) *Organizational background.* The background section shall include descriptions of the management team responsible for implementing the Eligible EE Program.
- (c) *Marketing plan.* The marketing section should identify the target Consumers, promotional activities to be pursued and target penetration rates by Consumer category and investment activity.
- (d) *Operations plan.* The operations plan shall include but is not limited to:
 - (1) A list of the activities and investments to be implemented under the EE Program and the Btu savings goal targeted for each category.
 - (2) An estimate of the dollar amount of investment by the utility for each category of activities and investments listed under paragraph (d)(1) of this section.



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

- (3) A staffing plan that identifies whether and how outsourced contractors or subcontractors will be used to deliver the program.
 - (4) A description of the process for documenting and perfecting collateral arrangements for Ultimate Recipient loans, if applicable.
 - (5) The overall Btu savings and **any other targets** to be accomplished over the life of the EE Program.
- (e) *Financial plan.* The financial plan shall include but is not limited to:
- (1) A schedule showing sources and uses of funds for the program;
 - (2) An itemized budget for each activity and investment category listed in the operations plan;
 - (3) An aggregate Cost effectiveness forecast;
 - (4) Where applicable, provision for Ultimate Recipient loan loss reserves. These loan loss reserves will not be funded by RUS. Loan loss reserves are not required when a utility will not be relending RUS funds.
 - (5) Identify expected Ultimate Recipient loan delinquency and default rates and report annually on deviations from the expected rates.
- (f) *Risk analysis.* Include an evaluation of the financial and operational risk associated with the program, including an estimate of prospective Consumer loan losses consistent with the loan loss reserve to be established under paragraph (e)(4) above, if applicable.
- (g) Any other parts that are appropriate for the particular program selected.



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

SECTION D - b. QUALITY ASSURANCE PLAN

An eligible EE program must have a Quality Assurance Plan (QAP) as part of the Energy Efficiency and Conservation Loan program application. The quality assurance plan should have a global perspective of a borrower's energy efficiency plan, energy efficiency upgrades should be identified in aggregate; do not have to be identified on a project by project basis.

Borrowers will be responsible for administering their energy efficiency program through the standards specified in the Quality Assurance Plan. The QAP must be approved before loan funds are obligated.

The quality assurance plan must have the following elements:

1. Quality assurance assessments should identify the use of qualified energy managers or professional engineers to evaluate the energy efficiency program activities and investments;
2. The Quality Assurance plan's program evaluation activities, where applicable, should use/describe the use of the protocols for determining energy savings as developed by the U.S. Department of Energy in the Uniform Methods Project.
3. The QAP should include a description of the follow up audits that will be performed within one year after installation on a **sample** of investments made to confirm whether efficiency improvement expectations are being met. Energy audits shall be performed for energy efficiency investments involving the building envelope at an Ultimate Recipient premises
4. The plan should quickly describe the borrower's use of certified energy auditors to review the sampled investments.
5. Where applicable, the QAP must specify how the borrower will identify and use certified and insured professionals to install energy efficiency upgrades to a single system (such as a ground source heat pump).
6. The QAP should identify any industry or manufacturer standard performance tests, as applicable, for any system upgraded as a result of an EE Program. This testing shall indicate the installed system is meeting its designed performance parameters.
7. In some programs the utility may elect to recommend independent contractors who can perform energy efficiency related work for their customers. In these cases, the QAP should explain how the utilities will monitor the work done by the contractors and confirm that the



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

contractors are performing quality work. Utilities should remove substandard contractors from their recommended lists if the subcontractors fail to perform at a satisfactory level.

RUS recognizes the Quality Assurance Plan is a morphing document. Please pay attention to any subsequent publications that describe best practices for energy efficiency quality assurance plans.

SAMPLE



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

SECTION D - c. Environmental Toolkit

All actions funded by EECLP funds are subject to RUS's environmental policies and procedures. If borrowers receive EECLP loans they are expected to assist RUS in complying with any follow-on environmental review requirements. RUS has prepared a Programmatic Environmental Assessment (PEA) with this rule. The PEA analyzed the potential environmental impacts for the range of EE activities expected to be funded under the EECLP Program.

An environmental report (ER) is expected to accompany the energy efficiency work plan associated with the loan request. As part of the PEA, RUS developed an "Environmental Tool Kit" (ETK) that will represent the ER. The ETK is a fillable PDF that asks borrowers to outline the activities they intend to fund with their loan.

If the ETK indicates that all proposed EE activities have been considered in the PEA, no further analysis will be needed. If the ETK indicates some proposed EE activities need further review, the ETK provides information on what types of additional analysis may be needed.

RUS will periodically revise the ETK to integrate new information gained through reviews of EE work plans. During the initial EECLP rollout period, comments and questions about the ETK and follow-on environmental review requirements may be directed to Deirdre Remley at: deirdre.remley@wdc.usda.gov

The following pages show what the ETK looks like. The PEA and ETK are available at:

<http://www.rurdev.usda.gov/UWP-Energy%20Efficiency%20Program%20Rulemaking.html>



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit



U.S. Department of Agriculture
Rural Utilities Service

Energy Efficiency and Conservation Loan Program Environmental Compliance Tool Kit

The Rural Utilities Service (RUS) has developed this toolkit to streamline the environmental review process for applications authorized under the Environmental Efficiency (EE) and Conservation Loan Program. The tool kit should be used by the Primary Recipient (applicant) or their consultant to document that their EE work plan (EEWP) proposed activities either: 1) have already been reviewed under the EE program's Programmatic Environmental Assessment (PEA) (available online, [click here](#) to go to that page), or 2) that additional environmental review will be needed. If an applicant receives a loan award and if additional environmental review is needed, RUS will provide specific direction to the Primary Recipient to perform and complete that work prior to initiating any activities.

Once a Primary Recipient has answered the questions below, they can print and submit this tool kit with their EEWP, and it will serve as the Primary Recipient's Environmental Report (ER). This tool kit is a work in progress. If you encounter difficulty using it or if have suggestions for making it better, please contact send an email to deirdre.remley@wdc.usda.gov. In addition, if you have any questions on any part of this document, please contact Ms. Remley at the email address above or at 202-720-9640.

Applicant Utility Name	<input type="text" value="Choose from the List"/>		
Contact Person	<input type="text"/>		
Street Address	<input type="text"/>		
City	<input type="text"/>		
State/U.S. Territory	<input type="text" value="Alabama"/>		
Phone Number	<input type="text"/>	Alternate Phone	<input type="text"/>
Email	<input type="text"/>	Alternate Email	<input type="text"/>
From	<input type="text"/>	To	<input type="text"/>
<input type="radio"/> New EEWP <input type="radio"/> Amended EEWP			

Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit


EEWP Proposed Activities

Please choose from the following list(s) for each activity planned in the EEWP. This form, when completed, will serve as the Environmental Report (ER) to submit with your application package. The first list includes activities that have been reviewed in the PEA and do not need additional review unless there are extraordinary circumstances. If you do not find all of the activities proposed in your EEWP listed here, check the box indicating you have other activities not found on the first list. This will open up other activity lists from which to select additional activities.

Activities Covered by the PEA:

Choose from the following list of activity categories, which have already been evaluated in the PEA and found to not require case-by-case review, unless there are extraordinary circumstances that have the potential for environmental impacts (described below). If all of the activities proposed in your EEWP are covered in the following list, please check the certification boxes below the list, and you may submit this document as your completed ER with your EEWP package. If some of the activities proposed in your EEWP are not found in this list, please check the box indicating that you have other activities, and you will be provided additional lists from which to select other activities and applicable guidance for identifying whether or not additional review may be required for your EE activities. To view a table of activity types for each of the activity categories listed below, click the "view examples" button.

[Click to View Examples](#)

ACTIVITIES CATEGORY LIST	
Select from the Pulldown List - Click button below to add more activity categories	
Air Flow Efficiency - Interior - Add/Replace	
Appliance Replacement	
Audits	
Building Modifications - Interior - Not visible from exterior	
Building Modifications, Non-structural - Interior	
Building Modifications, Structural - Interior	
Cooling System - Interior - Add/Replace	
Education and outreach	
Electric Charging Station - Exterior, <100sf	
...	
...	
...	
...	

- activities for which there is scientific controversy about effects, or
- activities for which the effects are uncertain, or
- activities that may violate a state or local law

Examples of extraordinary circumstances include but are not limited to:

- new technology that is not consistent with technologies evaluated in the PEA
- state or local environmental laws not consistent with those considered in the PEA
- any activity proposed within the boundaries of Federal or Tribal land

If you are not sure if extraordinary circumstances apply to an activity proposed in your EEWP, please contact RUS for further guidance.

<input type="checkbox"/> By checking this box you certify that all EEWP activities are in the PEA list above and you are not aware of any extraordinary circumstances that could have environmental effects.
<input type="checkbox"/> Check this box if you have activities not listed PEA examples table above.



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

SECTION E - Energy Efficiency Work Plan

Background on CWPs. All capital construction planned at the utility over a defined planning period is described and justified in the Construction Work Plan (CWP). RUS Bulletin 1724D-101B “System Planning Guide, Construction Work Plans” describes this process for the electric plant. Specifically, it provides guidance to borrowers and engineers for the preparation, use, and approval of the CWP for the electric distribution system (ref. 1710.251). CWPs cover a planning period of 2, 3, or 4 years, are used as the engineering support document for a loan application, and are a component of an ongoing integrated planning system. Similarly, a Power Supply borrower is required to maintain a CWP for transmission and generation activities per 1710.252.

Purpose of an EEWP. The concept of an Energy Efficiency Work Plan (EEWP) was introduced in the Federal Register release dated 12/5/2013 “Energy Efficiency and Conservation Loan Program; Final Rule.” This rule allows RUS to loan funds for activities “designed to improve Energy Efficiency and/or Reduce Peak Demand on the Customer side of the meter”. If the activities you are contemplating for financing under the EECLP meet this definition, this EEWP Preparation Guide will help you justify and estimate the activities for loan purposes.

The EEWP was added into the existing CWP regulation (1710 Subpart F) by this rule under reference 1710.255. The EEWP is the specific planning document that executes the borrowers approved Energy Efficiency Program for a period of 2, 3, or 4 years. This Guide document will help the borrower and/or consultant prepare an EEWP. The Guide is written from the point of view as follows: the potential borrower has an approved EE Program in place and now wants to implement their EE Program for a 2, 3, or 4 year period using the RUS EECLP as a major, if not sole source of financing. The EEWP describes specific resource requirements and



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

estimates to be used over the planning period as authorized in your RUS approved EE Program. The EEWP will be used as the engineering support document for an EECLP loan application.

Preparation. The Borrower's EE Program describes, in general terms, the intent and goals of the program. The documents that comprise the EE Program will always be the starting point for planning the EEWP. A presentation titled "Develop Your EE Program", Guide documents for preparing the EE Program Business Plan and EE Program QA Plan, and other helpful guidance is found in the EECLP Toolkit. Your EE Program should:

- have all the components of an EE Program in place per 1710.405
- be approved by resolution by your Board, and
- have been, as a minimum, submitted to RUS (via your GFR) for approval

It is acceptable to start the detailed planning phase of an EEWP as soon as your management has approved the EE Program. Generally, these 2 activities will be separated in time and this Guide assumes the EE Program is already in place. Include the GFR in planning meetings whenever possible; when this is not practical, keep the GFR informed on the progress of the development of your EE Program and your intent to start the EEWP planning phase.

In preparation, proceed as follows:

1. If you have a current EEWP, review the activities authorized and completed in the current EEWP. Show the status of the completion progress of the current EEWP and determine if each scope of work will be continued into the new planning period.
2. Review the specific activities authorized in the EE Program and determine which (if any) new activities will be implemented during this EEWP planning period. Only activities included in your Board and RUS approved EE

Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

Program may be considered in your EEWP planning phase. If necessary, modify the EE Program documents and seek approvals before moving to the EEWP planning phase.

3. The EE Program Business Plan lists the utility investments for each category of potential activity and bounds the size in terms of dollars and activities to be supported in the EEWP planning period. The EEWP shall stay within the described framework of the EE Program Business Plan and be executed under the approved EE Program QA Plan.
4. Review your currently approved Load Forecast. Compare the existing LF with the resulting estimated energy requirements after EEWP projects are completed. This information will be used in preparing a Financial Forecast for a loan application and in preparing future Load Forecasts. Projects that reduce demand may result in lower wholesale power costs and should be discussed for use in the Financial Forecast. An EECLP loan application requires specific “analytical support documents (1710.411)” that must be thoroughly discussed in your EEWP, or be provided in parallel with the EEWP product to your GFR for approval. This Guide assumes you will incorporate these products into your EEWP document.
5. Review available substation, SCADA, and metering data to determine if EE implementation needs to be focused in a prioritized area of the system. The entire EE Program cannot be implemented simultaneously; use the available resources and funding caps defined in the EE Program Business Plan to achieve the most beneficial results for the investment/effort.
6. Describe your methodology for estimating/recording energy savings, consistent with your QA plan.
 - a. Where applicable, your activities should use the protocols for determining energy savings as developed by the DOE Uniform Methods Project:

http://www1.eere.energy.gov/office_eere/de_ump.html



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

- b. The RUS EE Worksheet program in the Toolkit has been in place and in use by borrowers with EEC programs since 2011. Developed primarily to help the borrower track investments, consumer participation, and energy savings over the life of the program for use in annual reporting, it also has estimation modules for many types of basic EEC projects as a function of geographic location; you may want to use this as a second check for your methodology.
7. Develop and implement processes to track your annual investments, energy savings, and consumer participation for annual reporting to RUS (Part P of the annual “Financial and Operating Report – Electric Distribution”). This report also requires you to compile the overall numbers for the life of your EE Program. If you have a tracking program in place to do this already, describe how this is to be done for new each technology deployed in the EEWP. The RUS EE Worksheet in the Toolkit has an imbedded spreadsheet that will create the current year Part P that can be used for these estimates, or adopt one of your own that can be verified using your EE Program defined Quality Assurance Plan. Remember, actual expenditures, consumer participation, and energy savings in BTUs must be reported in Part P.

Determine EE Construction Requirements. Define each activity planned for the period. Where an ongoing activity from a current EEWP will extend into the new planning period, re-cap the progress and proceed as described below for the new planning period.

1. Define the targeted system area, Consumer Classification, and appropriate price points as applicable.
2. Specific technology will be defined in terms of make, model, and technical specifications where appropriate. The criteria for selection will be discussed



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

here. Review 1710.406 to ensure the selected technology is an “eligible activity” for financing under the EECLP; a chart that crosses selected technology, approved cooperative EE Program citation, and eligibility paragraph under the EECLP regulation is appropriate and would provide the needed clarity necessary for the GFR to approve your EEWP.

3. Unit cost estimates will be provided and justified at the various price points for each individual event/occurrence for that activity, as applicable.
 - a. Execution as described in your EE Program Business Plan and QA Plan may involve the use of contractors to perform the work. Include your cooperative’s cost in specific event contract oversight in your estimate.
 - b. If your EE Program specifies an EEC audit on the premises before financing an event at the Ultimate Recipient premises, this cost should be included in the event estimate.
 - c. Likewise, follow-up inspections and audits after construction, when specified in your EE Program, may be included in your individual event estimate.
 - d. “Soft” costs are not to be included in your event estimate. Soft costs are limited to no more than 5% of the total EECLP loan, and should be added into the overall cost summary on this EEWP as a separate category to be considered for financing by RUS. Soft costs include:
 - i. Marketing your EE Program over the planning period.
 - ii. Handling, exchanging paperwork, and accounting for Ultimate Recipient loan activities.
 - iii. Board or Management activities necessary to review/approve Ultimate Recipient loans.
 - iv. Consumer education and outreach activities.



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

- v. The cost of energy audits performed by qualified professionals (described in your EE Program QA Plan) that do not result in execution of a construction event in your EEWP.
4. Energy savings per year per event or unit should be estimated. Impact on demand should be discussed where appropriate. Where applicable, use DOE Uniform Methods Project protocols. Include sample calculations in an Appendix as appropriate.
5. Based on the EE Program marketing plan and anticipated market penetration as a function of time, prepare a total dollar cost estimate for that particular technology for the work plan period. This will be the number of events for that activity times the cost for an individual event. This is crucial information, as it will become the basis for the EECLP loan.
6. A chart or table providing an anticipated breakout of the above activities and their summary cost estimates by year must be provided. This will help you prepare a financial forecast in support of a loan application later on in the EECLP process.
7. Useful life of the individual activity will be discussed and established. Based on your estimates calculated above for the EEWP period, calculate the weighted average useful life of the planned activities. Again, this is a crucial step in the EECLP loan process as the term of the loan will come from this useful life study. There is a sample spreadsheet in the Toolkit available through your GFR to help you calculate average useful life of the EEWP.
8. The RUS EE Worksheet in the Toolkit uses the following maximum useful life when tracking the energy savings in annual increments. Justify your useful life assumptions if significantly different from these estimates:
 - a. Ground Source Heat Pump Systems with Loop- up to 30 years
 - b. Building envelope improvements– up to 20 years
 - c. HVAC units, motors, VFDs, heating/cooling equipment- up to 15 years



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

- d. Water heaters, thermostats, smart grid equipment– up to 15 years
- e. Eligible Renewable Energy (load modifying) equipment- up to 15 years
- f. Energy Star rated appliances- up to 10 years
- g. LCD/LED Light bulbs- up to 8 years

Categorize the work activities by RUS Code. RUS and the borrower use RUS Form 740c “Cost Estimates and Loan Budget” at the time of loan approval to designate specific activities for financing over the loan period. The information determined as described in this Guide section above should be tabulated into an exhibit/attachment to the EEWP. We have designated RUS Codes 1504 – 1512 for Energy Efficiency and Conservation. This includes activities supported as an eligible purpose under 7CFR 1710 Subpart H. As previously discussed, these activities must be authorized in your RUS approved EE Program and be specifically justified and estimated in this EE Work Plan. Future Electric Plant Construction Work Plans may include a separate EEWP section for those cooperatives who wish to integrate EE activities into their normal work planning schedule. The point is, an EE Work Plan can be used as the technical support for a stand-alone RUS (EECLP) loan or be included as a separate budget purpose in the borrower’s next RUS loan. Refer to a later section of this guide for information on amending the EEWP and on amending the current CWP to include EEWP activities.

Code 1504 – Improvements to HVAC Systems (on the consumer premises): This category includes upgrading existing air conditioning and heating units to higher SEER ratings, or converting existing resistance heating systems to high efficiency heating systems. The financing of an event that includes a heat pump where the compressor is the major cost element falls into this category.

Code 1505 – Ground Source Heat Pump (GSHP) System: This category includes financing the GSHP and associated vertical loops or horizontal loops regardless of



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

ownership where the loop is the majority cost and the entire system is to be installed and financed.

Code 1506 – Appliance Replacements: This category includes financing for re-lending programs and rebates to consumers for appliance replacements within the utility’s service territory to Energy Star rated or FEMP designated electric appliances not covered under other codes. The borrower’s QA Plan will provide the details of how “replacement within the service territory” will be verified.

Code 1507 – Building Envelope Improvements: This category includes caulking, insulated doors and windows, roofing improvements, insulation in attics and walls, and circulation fans to improve EE.

Code 1508 – Load Modifiers: This category includes two types of load modifiers; active and passive. Active load modifiers include eligible Renewable Energy Systems such as fuel cells, solar panels and wind turbines. We envision most of these devices to be small in scale. If they are of a size that injects power into the grid in any significant way, they would more accurately be characterized as generation investments rather than load modifiers and are not eligible activities under an EECLP loan.

The EE Worksheet instruction included in the Toolkit defines a Load Modifier as follows: *“Any small renewable generator, such as a wind generator, should be treated as an energy saving Load Modifier if it is rated less than one half of the installed kVA capacity of the transformer serving the consumer owner with the renewable generator”*. EE lighting systems, batteries, fans, and commercial motor applications when part of the fixed property, are examples of passive load modifiers.

Code 1509 – Water Heater Upgrades: installation of more energy efficient water heaters and related controls.



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

Code 1510 – Consumer Controlled Home Energy Networks and Devices:

Hardware and software to control in-home energy consuming devices. This includes smart thermostats and smart grid investments on the consumer side of the meter, if applicable.

Code 1511 – Soft Costs: Soft costs, if you intend to finance these, go here and are limited to no more than 5% of the total EEWP estimate to be financed. Soft costs include EE Program marketing, consumer education and outreach, program administration, and energy audit services that do not result in an EEWP activity chargeable to one of the other Codes. Giveaway items in your EE Program marketing plan and planned in your EEWP period also go here, such as energy efficiency light bulb samples or EE-related gifts to consumer-members who come to the Annual Meeting.

Code 1512 – Miscellaneous/All Other: Energy efficiency improvements not included above will be included here. This code includes all other activities deemed eligible for financing under an RUS approved EE Program but not specifically called out in the Subpart H regulation and does not fit in any other category. Useful life will be discussed in the technical justification for the activity.

Determine the Overall Impact of EE Construction Activities on the Load Forecast.

The EECLP regulation requires analytical support documents be included with a loan (1710.411). The best place to perform and report this analysis is in the EEWP at the completion of the planning phase. The impact on Energy Requirements and Demand over the EEWP will be needed to complete a Financial Forecast in support of an EECLP loan. Proceed as follows:

1. Based on the summary estimates for the EE construction estimates obtained above, compare the Load Forecast projected annual growth in demand before and after execution of the EE Work Plan.



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

2. Based on the summary of construction, estimate the total energy savings and impact to the Total Energy Requirements projection for the system in the currently approved Load Forecast.
3. Based on the compilation of effects on demand and energy requirements, report on discussions and coordination conducted with the power supplier. If applicable, estimate of the amount of direct investment in utility-owned generation to be deferred as a result of the EE Work Plan.
4. For G&T borrowers, report impact on the current “cost of service” study or provide a new study as an attachment to the EEWP; see the 1710.303 citation in 1710.411.

Environmental Report. All actions proposed for financing using EECLP loan funds are subject to RUS environmental policies and procedures. If borrowers receive EECLP loans, they are expected to assist RUS in complying with any follow-on environmental review requirements. If you already completed this step when you submitted your EE Program documents to RUS for approval, then so state here. If not, finish your Environmental Report now and submit it with the EEWP. Proceed as follows:

RUS prepared a Programmatic Environmental Assessment (PEA) with this rule. The PEA analyzed the potential environmental impacts for the range of EE activities expected to be funded under the EECLP Program. An environmental report (ER) is expected to accompany the EEWP associated with the EECLP loan request. As part of the PEA, RUS developed an Environmental Tool Kit (ETK) that will represent the ER; this is included in the EECLP Toolkit. The ETK is a fillable PDF that asks borrowers to outline the activities they intend to finance in the EEWP. If the ETK indicates that all proposed EE activities have been considered in the PEA, no further analysis will be needed. If the ETK indicates some proposed EE activities need further review, the ETK provides information on what types of additional analysis may be needed. RUS will periodically revise the ETK to integrate new information gained through reviews of EEWP's. During the initial EECLP rollout period, comments and questions about the ETK and follow-on



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

environmental review requirements may be directed to RUS EES at the link provided on the RUS Electric Program web site. The PEA and ETK are available at:

<http://www.rurdev.usda.gov/UWP-Energy%20Efficiency%20Program%20Rulemaking.html>

EEWP Amendments. An Amendment to the EEWP will be required when an activity is authorized in the approved EE Program, is not included in the current period's EEWP, but is now is planned for implementation in this EEWP period.

1. An Amendment will always be required, regardless of dollar value, if the activity falls under an RUS Code of eligible activities not currently identified in the EEWP.
2. RUS does not envision using the Minor Project (Code 1600) designation for any re-lending activity to an Ultimate Recipient.
3. The standard RUS amendment form with technical justification and environmental review as described above will be forwarded to RUS via your GFR.

Minor variations in the planned use of loan funds within the EEWP defined RUS Code and current loan do not need an amendment. For example:

1. If you are planning to offer \$100 rebates under Code 1509 for installation of EE Water Heaters and now have determined that \$150 is more appropriate to drive demand, no amendment is required.
2. If your EEWP includes Code 1507 to accomplish Insulation improvements and you now desire to have the same contractor perform needed caulk-sealing around window/doors identified as needed during the same energy audit, then no amendment is needed.



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

3. If you offer smart thermostats under Code 1510 and now find a new, better product or version to accomplish the same function at a better outcome or lower price, then an amendment is not required.

Amending the CWP to include EE Work Plan Activities. Borrowers with small EE Programs wishing to initiate EEC activities but not wanting to incur the costs of establishing a separate EECLP loan may consider amending the EEWP work activities for the corresponding CWP period into their current CWP as a separate section and onto their current loan Form 740c for the remaining Electric Plant Loan period. In order to use this process, the following limitations must be satisfied:

1. The EEC activities proposed for the Amendment cannot exceed an amount that would cause the average weighted useful life of the original loan activities to be less than the previously determined loan period at closing. A Useful Life Certification for the total loan using the new mix of activities on the Form 740c would need to be completed using the useful life of all intended construction activities. As described in 7CFR 1710.115(b), the final useful life calculated will be given the 2-year allowance per that regulation. What does this mean to the borrower interested in proposing an Amendment?
 - a. With the assistance of your GFR, complete and average useful life study that shows the new mix of activities on the loan would/will not change the loan term. A Useful life calculation spreadsheet to calculate this is available via your GFR.
 - b. For example, suppose your current loan is \$30M and contains a project for AMR of \$1,250,000 (\$1M AMR Meters at a 25 year UL and \$250K substation equipment at a 15 year UL) with the balance at a UL of 35 years. You are 2 years into the 4-year CWP and Loan period. You now wish to amend Code 1507 (EEWP Building Envelope



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

Improvement) activities totaling \$250K/year into the loan and the average useful life of this \$500K activity (years 3 and 4 of the current CWP period) is 20-years. The average useful life of the resultant mix of financeable activities under the current loan is 33.5 years; with the 1710.115(b) allowance, your plans to pursue this amendment will not change the term of the current loan and may proceed with an amendment.

- c. If the calculation drops below what would be allowed for the current loan term, stop here; an amendment of this type/size cannot be approved. You need to apply for a stand-alone EECLP loan.
2. Since you survived step 1, continue as follows. You must have an RUS approved EE Program plus an EEWP developed for a comparable period of time to match the current CWP and loan period. If the EE Program is already approved by RUS, then attach the approval letter, the EEWP/ER, and the Useful Life Certification to the standard RUS Amendment form as justification for the amendment.
3. There is no relief based on size to having all required aspects of an EE Program and a fully developed EEWP prepared using this Guide. The complexity/content of said documents have a natural graded approach, based on the intended size of the Board approved EE Program. If the EE Program is small and simple in scope, it is acceptable to provide all of the appropriate documents (EE Program, EEWP, ER, and Useful Life Certification) along with the Amendment form to the GFR for recommended approval in writing to RUS Headquarters. Since RUS is the approval authority for EE Programs under this regulation, RUS HQ will be the final approving authority for an amendment of this type.
4. RUS will approve the EE Program and Amendment in writing.
5. EEWP work will be completed under Budget Purpose 6 (Codes 1504-1512). Post Loan Activities will be similar to any other Electric Plant loan in that



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

you will submit completed BP6 work for posting on RUS Form 605 for the current loan. You will need to complete a BP Transfer, RUS Form 595, and an FFB Advance Form (as applicable) to access loan funds under this new Budget Purpose. Work directly with your GFR on these post loan activities. If you do not desire to transfer funds into BP6 at this time to fund the EEWP amendment, any completed activities posted to BP6 will go onto the current loan Form 605 as Approved No Funds and be eligible for General Funds Reimbursement on a future RUS Loan, subject to the 24-month reimbursement eligibility rule. Work closely with your GFR and make sure you fully understand this rule going into your next planning cycle.

Certifications and Approval. Unlike your Electric Plant CWP, your EEWP does not always require certification by your Board-assigned Professional Engineer. The level of certification of this document should be discussed in your EE Program Business Plan approved by the Board and RUS. If the intent of your EE Program is to achieve significant Demand Side Management goals, offer significant interconnected Load Modifier activities, or offer fuel switching capabilities at the consumer level as a financeable activity, you will want to have the EE Program reviewed by an industry professional and have the EEWP certified by your PE.

If your EE Program is primarily geared towards offering EEC activities as a benefit or service to consumer members where this type of service is not generally available in the region or service area, then an EEWP could be developed using in-house staff approved by management.

Regardless, it is appropriate to have a Manager's Certification of the EEWP, like the one attached below. The EEWP also needs Board approval by resolution. A sample resolution is in the Toolkit.



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

The EEWP based on a previously RUS approved EE Program may be approved by the GFR. Provide 2 copies of the certified EEWP and Board resolution or an electronic copy of the same to the GFR for processing.

SAMPLE



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

EEWP and ER (for time period, for example 2014-2017)
Utility Legal Name
RUS Borrower Designation

Manager's Certification:

I have reviewed this Energy Efficiency Work Plan (EEWP) and associated borrower's Environmental Report (ER) and, to the best of my knowledge, it accurately describes all projects proposed for the designated time period, the listed projects are in accordance with the Board and RUS approved EE Program (dated:), and the associated environmental impacts are fully described. Only the activities authorized in the EEWP will be implemented. We intend to carry out the environmental commitments, mitigation measures and monitoring efforts presented in the ER. Our personnel and those of any involved contractor will be made aware of such environmental commitments before the initiation of construction. If any information relevant to the environmental effects of the proposed projects comes to our attention subsequent to the submission of the ER, such material will be provided promptly to RUS.

(Signature - Manager)



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

APPENDIX A

Title 7: Agriculture

PART 1710—GENERAL AND PRE-LOAN POLICIES AND PROCEDURES COMMON TO ELECTRIC LOANS AND GUARANTEES

Subpart H—Energy Efficiency and Conservation Loan Program

Contents

§1710.400	Purpose.
§1710.401	RUS policy.
§1710.402	Scope.
§1710.403	General.
§1710.404	Definitions.
§1710.405	Eligible energy efficiency and conservation programs.
§1710.406	Eligible activities and investments.
§1710.407	Business plan.
§1710.408	Quality assurance plan.
§1710.409	Loan provisions.
§1710.410	Application documents.
§1710.411	Analytical support documentation.
§1710.412	Borrower accounting methods, management reporting, and audits.
§1710.413	Compliance with other laws and regulations.
§§1710.414-1710.499	[Reserved]

§1710.400 Purpose.

(a) This subpart establishes policies and requirements that apply to loans and loan guarantees to finance Energy Efficiency and Conservation programs (EE Programs) undertaken by an eligible utility system to finance Demand side management, energy efficiency and conservation, or on-grid and off-grid renewable energy system programs that will result in the better management of their system load growth, a more beneficial load profile, or greater optimization of the use of alternative energy resources in their service territory. These programs may be considered an essential utility service.

(b)(1) The goals of an eligible Energy Efficiency project eligible for funding under this program and Subpart H include:

- (i) Increasing energy efficiency at the end user level;
- (ii) Modifying electric load such that there is a reduction in overall system demand;
- (iii) Effecting a more efficient use of existing electric distribution, transmission and generation facilities;



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

(iv) Attracting new businesses and creating jobs in rural communities by investing in energy efficiency; and

(v) Encouraging the use of renewable energy fuels for either Demand side management or the reduction of conventional fossil fuel use within the service territory.

(2) Although not a goal, RUS recognizes that there will be a reduction of green house gases with energy efficiency improvements.

§1710.401 RUS policy.

EE Programs under this subpart may be financed at the distribution level or by an electric generation and transmission provider. RUS encourages borrowers to coordinate with the relevant member systems regarding their intention to implement a program financed under this subpart. RUS also encourages borrowers to leverage funds available under this subpart with State, local, or other funding sources that may be available to implement such programs.

§1710.402 Scope.

This subpart adapts and modifies, but does not supplant, the requirements for all borrowers set forth elsewhere where the purpose of the loan is to finance an approved EE program. In the event there is overlap or conflict between this subpart and the provisions of this part 1710 or other parts of the Code of Federal Regulations, the provisions of this subpart will apply for loans made or guaranteed pursuant to this subpart.

§1710.403 General.

EE Programs financed under this subpart may be directed at all forms of energy consumed within a utility's service territory, not just electricity, where the electric utility is in a position to facilitate the optimization of the energy consumption profile within its service territory and do so in a way that enhances the financial or physical performance of the rural electric system and enables the repayment of the energy efficiency loan.

§1710.404 Definitions.

For the purpose of this subpart, the following terms shall have the following meanings. In the event there is overlap or conflict between the definitions contained in §1710.2, the definitions set forth below will apply for loans made or guaranteed pursuant to this subpart.

British thermal unit (Btu) means the quantity of heat required to raise one pound of water one degree Fahrenheit.

Certified energy auditor for commercial and industrial energy efficiency improvements. (1) An energy auditor shall meet one of the following criteria:

(i) An individual possessing a current commercial or industrial energy auditor certification from a national, industry-recognized organization;



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

(ii) A Licensed Professional Engineer in the State in which the audit is conducted with at least 1 year experience and who has completed at least two similar type Energy Audits;

(iii) An individual with a four-year engineering or architectural degree with at least 3 years experience and who has completed at least five similar type Energy Audits; or

(iv) Beginning in calendar year 2015, an energy auditor certification recognized by the Department of Energy through its Better Buildings Workforce Guidelines project.

(2) For residential energy efficiency improvements, an energy auditor shall meet one of the following criteria: The workforce qualification requirements of the Home Performance with Energy Star Program, as outlined in Section 3 of the Home Performance with Energy Star Sponsor Guide; or an individual possessing a current residential energy auditor or building analyst certification from a national, industry-recognized organization.

Cost effective means the aggregate cost of an EE Program is less than the financial benefit of the program over time. The cost of a program for this purpose shall include the costs of incentives, measurement and verification activity and administrative costs, and the benefits shall include, without limitation, the value of energy saved, the value of corresponding avoided generation, transmission or distribution and reserve investments as may be displaced or deferred by program activities, and the value of corresponding avoided greenhouse gas emissions and other pollutants.

Demand means the electrical load averaged over a specified interval of time. Demand is expressed in kilowatts, kilovolt amperes, kilovars, amperes, or other suitable units. The interval of time is generally 15 minutes, 30 minutes, or 60 minutes.

Demand savings means the quantifiable reduction in the load requirement for electric power, usually expressed in kilowatts (kW) or megawatts (MW) such that it reduces the cost to serve the load.

Eligible borrower means a utility system that has direct or indirect responsibility for providing retail electric service to persons in a rural area. This definition includes existing borrowers and utilities who meet current RUS borrower requirements.

Energy audit means an inspection and analysis of energy flows in a building, process, or system with the goal of identifying opportunities to enhance energy efficiency. The activity should result in an objective standard-based technical report containing recommendations for improving the energy efficiency. The report should also include an analysis of the estimated benefits and costs of pursuing each recommendation and the simple payback period.

Energy efficiency and conservation measures means equipment, materials and practices that when installed and used at a Consumer's premises result in a verifiable reduction in energy consumption, measured in Btus, or demand as measured in Btu-hours, or both, at the point of purchase relative to a base level of output. The ultimate goal is the reduction of utility or consumer energy needs.

Energy efficiency and conservation program (EE Program) means a program of activities undertaken or financed by a utility within its service territory to reduce the amount or rate of energy used by Consumers relative to a base level of output.



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

HVAC means heating, ventilation, and air conditioning.

Load means the Power delivered to power utilization equipment performing its normal function.

Load factor means the ratio of the average load over a designated period of time to the peak load occurring in the same period.

Peak demand (or maximum demand) means the highest demand measured over a selected period of time, e.g., one month.

Peak demand reduction means a decrease in electrical demand on an electric utility system during the system's peak period, calculated as the reduction in maximum average demand achieved over a specified interval of time.

Power means the rate of generating, transferring, or using energy. The basic unit is the watt, where one Watt is approximately 3.41213 Btu/hr.

Re-lamping means the initial conversion of bulbs or light fixtures to more efficient lighting technology but not the replacement of like kind bulbs or fixtures after the initial conversion.

SI means the International System of Units: the modern metric system.

Smart Grid Investments means capital expenditures for devices or systems that are capable of providing real time, two way (utility and Consumer) information and control protocols for individual Consumer owned or operated appliances and equipment, usually through a Consumer interface or smart meter.

Ultimate recipient means a Consumer that receives a loan from a borrower under this subpart.

Utility Energy Services Contract (UESC) means a contract whereby a utility provides a Consumer with comprehensive energy efficiency improvement services or demand reduction services.

Utility system means an entity in the business of providing retail electric service to Consumers (distribution entity) or an entity in the business of providing wholesale electric supply to distribution entities (generation entity) or an entity in the business of providing transmission service to distribution or generation entities (transmission entity), where, in each case, the entities provide the applicable service using self-owned or controlled assets under a published tariff that the entity and any associated regulatory agency may adjust.

Watt means the SI unit of power equal to a rate of energy transfer (or the rate at which work is done), of one joule per second.

§1710.405 Eligible energy efficiency and conservation programs.

(a) *General.* Eligible EE Programs shall:

(1) Be developed and implemented by an Eligible borrower and applied within its service territory;



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

- (2) Consist of eligible activities and investments as provided in §1710.406
- (3) Provide for the use of State and local funds where available to supplement RUS loan funds;
- (4) Incorporate the applicant's policy applicable to the interconnection of distributed resources;
- (5) Incorporate a business plan that meets the requirements of §1710.407;
- (6) Incorporate a quality assurance plan that meets the requirements of §1710.408;
- (7) Demonstrate that the program can be expected to be Cost effective;

(8) Demonstrate that the program will have a net positive or neutral cumulative impact on the borrower's financial condition over the time period contemplated in the analytical support documents demonstrating that the net present value of program costs incurred by the borrower are positive, pursuant to §1710.411;

(9) Demonstrate energy savings or peak demand reduction for the service territory overall; and

(10) Be approved in writing by RUS prior to the investment of funds for which reimbursement will be requested.

(b) *Financial Structures.* Eligible EE Programs may provide for direct recoupage of expenditures for eligible activities and investment from Ultimate Recipients as follows:

(1) Loans made to Ultimate Recipients located in a rural area where —

(i) The Ultimate Recipients may be wholesale or retail;

(ii) The loans may be secured or unsecured;

(iii) The loan receivables are owned by the Eligible Borrower;

(iv) The loans are made or serviced directly by the Eligible Borrower or by a financial institution pursuant to a contractual relationship between the Eligible Borrower and the financial institution;

(v) Due diligence is performed to confirm the repayment ability of the Ultimate Recipient;

(vi) Loans are funded only upon completion of the project financed or to reimburse startup costs that have been incurred;

(vii) The rate charged the Ultimate Recipient is less than or equal to the direct Treasury rate established daily by the United States Treasury pursuant to §1710.51(a)(1) or §1710.52, as applicable, plus the borrower's interest rate from RUS and 1.5 percent . Exceptions will be made on a case-by-case basis to ensure repayment of the government's loan and must be clearly articulated in the business plan RUS will not accept an exception request if the loan is feasible at 1.5 percent; and



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

(viii) Loans are not used to refinance a preexisting loan.

(2) A tariff that is specific to an identified rural Consumer, premise or class of ratepayer; or

(3) On bill repayment and other financial recoupment mechanisms as may be approved by RUS.

(c) *Period of performance*—(1) *Performance standards*. (i) Eligible EE Programs activities that are listed under §1710.406(b) should be designed to achieve the applicable operating performance standards within one year of the date of installation of the facilities.

(ii) All activities other than those included in paragraph (c)(1)(i) of this section should be designed to achieve the applicable operating performance targets within the time period contemplated by the analytic support documents for the overall EE Program as approved by RUS.

(2) *Cost effectiveness*. Eligible EE Programs must demonstrate that Cost effectiveness as measured for the program overall will be achieved within ten years of initial funding, except in cases where the useful life of the technology on an aggregate basis can be demonstrated to be longer than the ten year period. RUS will evaluate the useful life assumption on a case-by-case basis.

§1710.406 Eligible activities and investments.

(a) *General*. Eligible program activities and investments:

(1) Shall be designed to improve energy efficiency and/or reduce peak demand on the customer side of the meter;

(2) Shall be Cost effective in the aggregate after giving effect to all activities and investments contemplated in the approved EE Program; and

(3) May apply to all Consumer classes.

(b) *Eligible activities and investments*. Eligible program activities and investments may include, but are not limited to, the following:

(1) Energy efficiency and conservation measures where assets financed at an Ultimate Recipient premises can be characterized as an integral part of the real property that would typically transfer with the title under applicable state law. Where applicable, it is anticipated that the loan obligation would also be expected to transfer with ownership of the metered account serving that property.

(2) Renewable Energy Systems, including —

(i) On or Off Grid Renewable energy systems;

(ii) Fuel cells;

(3) Demand side management (DSM) investments including Smart Grid Investments;



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

- (4) Energy audits;
- (5) Utility Energy Services Contracts;
- (6) Consumer education and outreach programs;
- (7) Power factor correction equipment on the Ultimate Recipient side of the meter;
- (8) Re-lamping to more energy efficient lighting; and
- (9) Fuel Switching as in:

(i) The replacement of existing fuel consuming equipment using a particular fuel with more efficient fuel consuming equipment that uses another fuel but which does not increase direct greenhouse gas emissions; or

(ii) The installation of non-electric fuel consuming equipment to facilitate management of electric system peak loads. Fuel switching to fossil or biomass fueled electric generating equipment is expressly excluded.

(10) Other activities and investments as approved by RUS as part of the EE Program such as, but not limited to, pre-retrofit improvements.

(c) *Intermediary lending.* EE Program loan funds may be used for direct re-lending to Ultimate Recipients where the requirements of §1710.405(b) are met.

(d) *Performance standards.* Borrowers are required to use Energy Star qualified equipment where applicable or meet or exceed efficiency requirements designated by the Federal Energy Management Program.

§1710.407 Business plan.

An Eligible EE Program must have a business plan for implementing the program. The business plan is expected to have a global perspective on the borrower's energy efficiency plan. Therefore, energy efficiency upgrades should be identified in aggregate. The business plan must have the following elements:

(a) *Executive summary.* The executive summary shall capture the overall objectives to be met by the Eligible EE Program and the timeframe in which they are expected to be achieved.

(b) *Organizational background.* The background section shall include descriptions of the management team responsible for implementing the Eligible EE Program.

(c) *Marketing plan.* The marketing section should identify the target Consumers, promotional activities to be pursued and target penetration rates by Consumer category and investment activity.



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

(d) *Operations plan.* The operations plan shall include but is not limited to:

(1) A list of the activities and investments to be implemented under the EE Program and the Btu savings goal targeted for each category;

(2) An estimate of the dollar amount of investment by the utility for each category of activities and investments listed under paragraph (d)(1) of this section;

(3) A staffing plan that identifies whether and how outsourced contractors or subcontractors will be used to deliver the program;

(4) A description of the process for documenting and perfecting collateral arrangements for Ultimate Recipient loans, if applicable; and

(5) The overall Btu savings to be accomplished over the life of the EE Program.

(e) *Financial plan.* The financial plan shall include but is not limited to:

(1) A schedule showing sources and uses of funds for the program;

(2) An itemized budget for each activity and investment category listed in the operations plan;

(3) An aggregate Cost effectiveness forecast;

(4) Where applicable, provision for Ultimate Recipient loan loss reserves. These loan loss reserves will not be funded by RUS. Loan loss reserves are not required when a utility will not be relending RUS funds.

(5) Identify expected Ultimate Recipient loan delinquency and default rates and report annually on deviations from the expected rates.

(f) *Risk analysis.* The business plan shall include an evaluation of the financial and operational risk associated with the program, including an estimate of prospective Consumer loan losses consistent with the loan loss reserve to be established pursuant to paragraph (e)(4) of this section.

(g) The borrowers are strongly encouraged to follow a bulletin or such other publication as RUS deems appropriate that contains and describes best practices for energy efficiency business plans. RUS will make this bulletin or publication publicly available and revise it from time-to-time as RUS deems it necessary.

§1710.408 Quality assurance plan.

An eligible EE program must have a quality assurance plan as part of the program. The quality assurance plan is expected to have a global perspective on the borrower's energy efficiency plan. Therefore, energy efficiency upgrades should be identified in aggregate. Every effort is made to fund only EE programs that are administered in accordance with quality assurance plans meeting standards designed to achieve the purposes of this subpart. However, RUS and its employees assume no legal



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

liability for the accuracy, completeness or usefulness of any information, product, service, or process funded directly or indirectly with financial assistance provided under this subpart. Nothing in the loan documents between RUS and the energy efficiency borrower shall confer upon any other person any right, benefit or remedy of any nature whatsoever. Neither RUS nor its employees makes any warranty, express or implied, including the warranties of merchantability and fitness for a particular purpose, with respect to any information, product, service, or process available from an energy efficiency borrower. The approval by RUS and its employees of an energy efficiency borrower's quality assurance plan is solely for the benefit of RUS. Approval of the quality assurance plan does not constitute an RUS endorsement. The quality assurance plan must have the following elements:

(a) Quality assurance assessments shall include the use of qualified energy managers or professional engineers to evaluate program activities and investments;

(b) Where applicable, program evaluation activities should use the protocols for determining energy savings as developed by the U.S. Department of Energy in the Uniform Methods Project.

(c) Energy audits shall be performed for energy efficiency investments involving the building envelope at an Ultimate Recipient premises;

(d) Energy audits must be performed by certified energy auditors; and

(e) Follow up audits shall be performed within one year after installation on a sample of investments made to confirm whether efficiency improvement expectations are being met.

(f) In cases involving energy efficiency upgrades to a single system (such as a ground source heat pump) the new system must be designed and installed by certified and insured professionals acceptable to the utility.

(g) Industry or manufacturer standard performance tests, as applicable, shall be required on any system upgraded as a result of an EE Program. This testing shall indicate the installed system is meeting its designed performance parameters.

(h) In some programs the utility may elect to recommend independent contractors who can perform energy efficiency related work for their customers. In these cases utilities shall monitor the work done by the contractors and confirm that the contractors are performing quality work. Utilities should remove substandard contractors from their recommended lists if the subcontractors fail to perform at a satisfactory level. RUS does not endorse or recommend any particular independent contractors.

(i) Contractors not hired by the utility may not act as agents of the utility in performing work financed under this subpart.

(j) The borrowers are strongly encouraged to follow a bulletin or other publication that RUS deems appropriate and contains and describes best practices for energy efficiency quality assurance plans. RUS will make this bulletin or publication publicly available and revise it from time-to-time as RUS deems it necessary.

§1710.409 Loan provisions.



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

(a) *Loan term.* The maximum term for loans under this subpart shall be 15 years unless the loans relate to ground source loop investments or technology on an aggregate basis that has a useful life greater than 15 years. Ground source loop investments as the term is used in this paragraph do not include ancillary equipment related to ground source heat pump systems.

(b) *Loan feasibility.* Loan feasibility must be demonstrated for all loans made under this subpart. Loans made under this subpart shall be secured.

(c) *Reimbursement for completed projects.* (1) A borrower may request an initial advance not to exceed five percent of the total loan amount for working capital purposes to implement an eligible EE Program;

(2) Except for the initial advance provided for in paragraph (c)(1) of this section, all advances under this subpart shall be used for reimbursement of expenditures relating to a completed activity or investment; and

(3) Advances shall be in accordance with RUS procedures.

(d) *Loan amounts.* (1) Cumulative loan amounts outstanding under this subpart will be determined by the Assistant Administrator of the Electric Program and based on an applicant's business plan; and

(2) Financing for administrative costs may not exceed 5 percent of the total loan amount.

(3) The Rural Utilities Service reserves the right to place a cap on both the total amount of funds an eligible entity can apply for, as well as a cap on the total amount of funds the Energy Efficiency and Conservation Program can utilize in the appropriations.

§1710.410 Application documents.

The required application documentation listed in this section is not all inclusive but is specific to Eligible borrowers requesting a loan under this subpart and in most cases is supplemental to the general requirements for loan applications provided for in this part 1710:

(a) A letter from the Borrower's General Manager requesting a loan under this subpart.

(b) A copy of the board resolution establishing the EE Program that reflects an undertaking that funds collected in excess of then current amortization requirements for the related RUS loan will be redeployed for EE Program purposes or used to prepay the RUS loan.

(c) Current RUS-approved EE Program documentation that includes:

(1) A Business Plan that meets the requirements of §1710.407;

(2) A Quality Assurance Plan that meets the requirements of §1710.408;

(3) Analytical support documentation that meets the requirements of §1710.411;



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

- (4) A copy of RUS' written approval of the EE Program.
- (d) An EE program work plan that meets the requirements of §1710.255;
- (e) A statement of whether an initial working capital advance pursuant to §1710.409(c)(1) is included in the loan budget together with a schedule of how these funds will be used.
- (f) A proposed draft Schedule C pursuant to 7 CFR part 1718 that lists assets to be financed under this subpart as excepted property under the RUS mortgage, as applicable.

§1710.411 Analytical support documentation.

Applications for loans under this subpart may only be made for eligible activities and investments included in an RUS-approved EE Program. In addition to a business plan and operations plan, a request for EE program approval must include analytical support documentation that demonstrates the program meets the requirements of §1710.303 and assures RUS of the operational and financial integrity of the EE Program. This documentation must include, but is not necessarily limited to, the following:

- (a) A comparison of the utility's projected annual growth in demand after incorporating the EE Program together with an updated baseline forecast on file with RUS, where each includes an estimate of energy consuming devices used by customers in the service territory and a specific time horizon as determined by the utility for meeting the performance objectives established by them for the EE Program;
- (b) Demonstration that the required periods of performance under §1710.405(c) can reasonably be expected to be met;
- (c) A report of discussions and coordination conducted with the power supplier, where applicable, issues identified as a result, and the outcome of this effort.
- (d) An estimate of the amount of direct investment in utility-owned generation that will be deferred as a result of the EE Program;
- (e) A description of efforts to identify state and local sources of funding and, if available, how they are to be integrated in the financing of the EE Program; and
- (f) Copies of sample documentation used by the utility in administering its EE Program.
- (g) Such other documents and reports as the Administrator may require.

§1710.412 Borrower accounting methods, management reporting, and audits.

Nothing in this subpart changes a Borrower's obligation to comply with RUS's accounting, monitoring and reporting requirements. In addition thereto, the Administrator may also require additional management reports that provide the agency with a means of evaluating the extent to which the goals and objectives identified in the EE Plan are being accomplished.

§1710.413 Compliance with other laws and regulations.



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

Nothing in this subpart changes a Borrower's obligation to comply with all laws and regulations to which it is subject.

§§1710.414-1710.499 [Reserved]



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

APPENDIX B Energy Efficiency Programmatic Environmental Assessment and Finding of No Significant Impact

Department of Agriculture, Rural Utilities Service (RUS), has prepared a Programmatic Environmental Assessment (PEA) for a new program that will implement the Energy Efficiency and Conservation Loan Program (EE). The PEA can be found at the following location*:

http://www.rurdev.usda.gov/SupportDocuments/Energy_Efficiency_Programmatic_EA.pdf

The PEA was made available for a 30-day public review and comment period. Subsequent to the comment period, RUS issued a finding of no significant impact which can be found at the following location*:

<http://www.rurdev.usda.gov/SupportDocuments/uwpEEprogramFONSI.pdf>

*Please note that these links to the locations of these documents may change. If they do, please revisit the RUS Website to find the documents at their new location.



United States Department of Agriculture

Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit



Rural Utilities Service, Electric Program Energy Efficiency and Conservation Program Toolkit

APPENDIX C Sample Board Resolutions

Included in this appendix are sample Board Resolutions that have been prepared for use by those seeking financing through the Rural Utilities Service for an Energy Efficiency Program. The following sample board resolutions have been included:

- Energy Efficiency Program Approval
- Energy Efficiency Work Plan Approval
- Request For a Budget Purpose Transfer

Note that copies of these Board Resolutions are available from your GFR as MS WORD documents



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

RESOLUTION

ENERGY EFFICIENCY PROGRAM APPROVAL

WHEREAS, [insert name of borrower] has [retained Consulting Service name or tasked in-house Engineering], to complete an Energy Efficiency Program for our service territory, and

WHEREAS, the Energy Efficiency Program includes a comprehensive Business Plan and Quality Assurance Plan, and

WHEREAS, the Energy Efficiency Program has been reviewed by the Board of [Directors or Trustees] of [insert name of borrower] at a regular meeting.

NOW, THEREFORE BE IT RESOLVED, that the Board of [Directors or Trustees] of [insert name of borrower] hereby approves and accepts the Energy Efficiency Program as presented,

CERTIFICATION OF SECRETARY

I, [insert applicable name], Secretary of [insert name of borrower], do hereby certify that the above is a true and correct copy of a resolution adopted at the meeting of the Board of [Directors or Trustees] of [insert name of borrower] on [insert date], at which a quorum was present and voted.

[insert applicable name], Secretary

[SEAL]



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

RESOLUTION

ENERGY EFFICIENCY WORK PLAN APPROVAL

WHEREAS, [insert name of borrower] has an RUS approved Energy Efficiency Program, and

WHEREAS, [insert name of borrower] Board of [Directors or Trustees] has [retained Consulting Service name or tasked in-house Engineering], to complete a [2-, 3-, or 4-]year Energy Efficiency Work Plan covering the years [2014 – 2017], and

WHEREAS, the [2-, 3-, or 4-]year Energy Efficiency Work Plan has been reviewed with the Board of [Directors or Trustees] of [insert name of borrower] at a regular meeting.

NOW, THEREFORE BE IT RESOLVED, that the Board of [Directors or Trustees] of [insert name of borrower] accepts the [2-, 3-, or 4-]year Energy Efficiency Work Plan.

CERTIFICATION OF SECRETARY

I, [insert applicable name], Secretary of [insert name of borrower], do hereby certify that the above is a true and correct copy of a resolution adopted at the meeting of the Board of [Directors or Trustees] of [insert name of borrower] on [insert date], at which a quorum was present and voted.

[insert applicable name], Secretary

[SEAL]



Rural Utilities Service, Electric Program
Energy Efficiency and Conservation Program Toolkit

**RESOLUTION
REQUEST FOR BUDGET PURPOSE TRANSFER
ENERGY EFFICIENCY PROGRAM**

WHEREAS, [insert name of borrower] has [retained Consulting Service name or tasked in-house Engineering], to complete an Energy Efficiency Program for our service territory, and

WHEREAS, the Energy Efficiency Program includes a comprehensive Business Plan, Quality Assurance Plan, and Work Plan, and

WHEREAS, [insert name of borrower] has requested and received approval from the Rural Utilities Service (RUS) for the financing and construction of work designated in an approved Construction Work Plan and RUS "[Insert Loan Designation]" Loan under Budget Purpose [No. 1 - Distribution or Budget Purpose No. 2 – Transmission], and

WHEREAS, it was subsequently determined that existing "[Insert Loan Designation]" Loan funds in the amount of \$_____ under the [Distribution or Transmission] Budget could be better utilized for approved and completed construction under the Energy Efficiency Budget, if a Budget Transfer were requested,

NOW, THEREFORE, BE IT RESOLVED, that , [insert name of borrower] hereby requests RUS' approval of a Budget Transfer of approximately \$_____ of current "[Insert Loan Designation]" Loan funds from Budget Purpose [No. 1 - Distribution or Budget Purpose No. 2 – Transmission], to Budget Purpose No. 6 Energy Efficiency as needed for financing completed construction of RUS approved Energy Efficiency activities that qualify for RUS loan funds.

CERTIFICATION OF SECRETARY

I, [insert applicable name], Secretary of [insert name of borrower], do hereby certify that the above is a true and correct copy of a resolution adopted at the meeting of the Board of [Directors or Trustees] of [insert name of borrower] on [insert date], at which a quorum was present and voted.

[insert applicable name], Secretary

[SEAL]