**Technical Report and Technical Merit Summary**

**Energy Efficiency Improvements (EEI)**

*Per 7 C.F.R. 5001: 5001.3, 5001.107 (d), and 5001.307 (e)*

*Per 7 C.F.R. 4280-B: 4280.103, 4280.110 (g ), 4280.113 (c ) and 4280.117-.120*

**Technical Merit Process (5001.107 (d) and 4280.117):**

1. The EEI project must have technical merit based on information provided with the complete application. The Agency will evaluate the technical merit of the application as follows:
2. The Agency will assign each area of the technical report a “pass,” “pass with conditions,” or “fail.” An area will receive a “pass” if the information provided for the area has no weaknesses and meets or exceeds any requirements specified for the area. An area will receive a “pass with conditions” if the information provided for the area has minor weaknesses which could be conditioned and reasonably resolved by the borrower. Otherwise, if the information provided for the area is conclusively deemed to be a major weakness, the area will receive a fail.
3. The Agency will compile the results for each area of the technical report to determine if the Project has technical merit. A project whose technical report receives a “pass” in each of the applicable areas will be considered to have “technical merit. A project whose technical report receives a “pass with conditions” in one or more the applicable areas will be considered to have “conditional technical merit.” A project whose technical report receives a “fail” in any one area will be considered to be “without technical merit.”
4. A project that is determined to have “technical merit” or “conditional technical merit” is eligible for further consideration for funding. Projects with “conditional technical merit” would be subject to funding conditions that would need to be met to ensure full technical merit prior to completion of the project. A project that is determined to be “without technical merit” is not eligible to compete for funding.

 d.) For EEI Projects with Total Project Costs of $80,000 or less the Agency will evaluate the following areas to determine the technical merit: (A) Project description; (B) Qualifications of EEI provider(s); and (C) Vendor/Installer certification, energy assessment, or energy audit.

 e.) For EEI projects with total project costs of greater than $80,000 the Agency will evaluate the following areas to determine the technical merit:(A) Project information; (B) Energy assessment or energy audit; and (C) Qualifications of the contractor or installers.

**Technical Merit Documentation (5001.307 (e) and 4280.118-.120):**

1. Information provided must be in sufficient detail to enable the Agency to determine the technical merit of the Project. Design drawings and process flowcharts are encouraged as exhibits. The technical report requirements can be provided in the technical feasibility section of a feasibility study, instead of completing a separate technical report. Each application must:

 a.) Provide sufficient information to enable the calculation of simple payback, defined as, total project costs ÷ dollar value of energy saved. Simple payback does not allow EEI to monetize benefits other than the dollar amount of the energy savings the agricultural producer or rural small business realizes as a result of the improvement.

 (i) **Energy saved** will be determined by:

 **subtracting the projected energy to be consumed**, (projected energy use if the proposed EEI project had been in place for the original building and/or equipment, as applicable, for the same time period used to determine that actual energy use),

 **from the historical energy consumed,** (actual energy used in the original building and/or equipment, as applicable, prior to the EEI project, must be based on the actual average annual total energy used in british thermal units (BTU) over the most recent 12, 24, 36, 48, or 60 consecutive months of operation.),

 **and converting the result to a monetary value using a constant value or price of energy,** (value or price of energy must be the actual average price paid over the same time period used to calculate the actual energy used. When calculating the actual average price of energy, only include energy charges directly reduce by the unit of energy being replaced or saved. Do not include monthly service, demand, or other similar charges that will not be replaced or saved.)

 (b) Demonstrate that the EEI project will operate or perform over the project’s useful life in a reliable, safe, and a cost-effective manner, which may include but is not limited to addressing project design, installation, operation, maintenance, and warranties.

 **(c) For total project costs in the amount of $80,000 or less,** each EEI technical report must provide:

 (*1*) A description of the proposed EEI, including its intended purpose;

 (*2*) Vendor/Installer certification that the EEI project uses Commercially Available technology;

 (*3*) Vendor/Installer certified projections on the quantity of energy to be saved;

 (*4*) Certification by Vendor/Installer that they are qualified to complete the Project as intended;

 (*5*) Vendor/Installer certification that the EEI system will operate and perform over the Project’s useful life in a reliable and cost-effective manner; and

 (*6*) An estimate of simple payback, including all calculations, documentation, and any assumptions.

 **(d) For total project costs greater than $80,000**, each technical report must provide the information outlined in (c ) above, except that Appendix C *(guaranteed loans)* or Appendix A *(grants and combinations)* of this part is to be followed to prepare the report.

(3) Modifications. If the technical report is prepared prior to the borrower’s selection of a final design, equipment vendor, or contractor, or other significant decision, the borrower may modify the report and resubmit it to the Agency, provided that the overall scope of the project is not materially changed as determined by the Agency. Changes in the technical report may require additional environmental documentation in accordance with 7 CFR part 1970.

**Vendor/Installer Certification**

**Energy Efficiency Improvements (EEI)**

*Per 7 C.F.R. 5001: 5001.3, 5001.107 (d), and 5001.307 (e)*

*Per 7 C.F.R. 4280-B: 4280.103, 4280.110 (g ), 4280.113 (c )and 4280.117-.120*

I hereby certify that I have the necessary qualifications to complete the proposed energy efficiency improvements project as intended and certify that the proposed energy efficiency equipment and systems for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (applicant name),

1. uses commercially available technology;
2. will save \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(amount and unit of measurement) of energy, at

 $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (price per unit of the energy efficiency equipment to be installed);

 c.) will operate and perform over the project’s useful life in a reliable and cost-effective manner.

 Warranties include: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 (Name of Vendor/Installer)

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 (Representatives Signature)

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 (Date)

**Appendix C** **to Subpart D of 7 C.F.R. 5001 or Appendix A to Subpart B of 7 C.F.R. 4280**

**Technical Reports for Energy Efficiency Improvement (EEI) Projects with Total Project Costs of more than $80,000**

For all EEI projects with Total Project Costs of more than $80,000, provide the information specified in Sections A and D and in Section B or Section C, as applicable. If the application is for an EEI project with Total Project Costs of $80,000 or less, please see § 5001.307 (e) *(guaranteed loans)* or4280.120 (b)(3) *(grants or combinations)* for the technical report information to be submitted with your application.

If the application is for an EEI project with Total Project Costs of $200,000 and greater, you must conduct an Energy Audit (EA). However, if the application is for an EEI project with a Total Project Costs of less than $200,000, you may conduct either an Energy Assessment or an Energy Audit. Energy Audits that meet the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHREA) Level II Energy Survey; Analysis and American National Standards Institute (ANSI); or American Society of Agricultural and Biological Engineers (ASABE)\_ S162 Standard for performing on farm Energy Audits will be considered by the Agency to be acceptable audits.

*Section A. Project Information*

Describe how all the improvements to or replacement of an existing building and/or equipment meet the requirements of being Commercially Available. Describe how the design, engineering, testing, and monitoring are sufficient to demonstrate that the proposed project will meet its intended purpose, ensure public safety, and comply with applicable laws, regulations, agreements, permits, codes, and standards. Describe how all equipment required for the EEI(s) is available and able to be procured and delivered within the proposed project development schedule. In addition, present information regarding component warranties and the availability of spare parts.

*Section B. Energy Audit*

If conducting an EA, provide the following information.

*(1) Situation Report*. Provide a narrative description of the existing building and/or equipment, its energy system(s) and usage, and activity profile. Also include average price per unit of energy (electricity, natural gas, propane, fuel oil, renewable energy, etc.) paid by the customer for the most recent 12 months, or an average of 2, 3, 4, or 5 years, for the building and equipment being audited. Any energy conversion should be based on use rather than source.

*(2) Potential Improvement Description*. Provide a narrative summary of the potential improvement and its ability to reduce energy consumption or improve energy efficiency, including a discussion of reliability and durability of the improvements.

(i) Provide preliminary specifications for critical components.

(ii) Provide preliminary drawings of project layout, including any related structural changes.

(iii) Identify significant changes in future related operations and maintenance costs.

(iv) Describe explicitly how outcomes will be measured.

*(3) Technical Analysis*. Give consideration to the interactions among the potential improvements and the current energy system(s).

(i) For the most recent 12 months, or an average of 2, 3, 4, or 5 years, prior to the date the application is submitted, provide both the total amount and the total cost of energy used for the original building and/or equipment, as applicable, for each improvement identified in the potential project. In addition, provide for each improvement identified in the potential project an estimate of the total amount of energy that would have been used and the total cost that would have been incurred if the proposed project were in operation for this same time period.

(ii) Calculate all direct and attendant indirect costs of each improvement;

(iii) Rank potential improvements measures by cost-effectiveness; and

(iv) Provide an estimate of Simple Payback, including all calculations, documentation, and any assumptions.

*(4) Qualifications of the Auditor*. Provide the qualifications of the individual or entity which completed the Energy Audit.

*Section C. Energy Assessment*

If conducting an Energy Assessment, provide the following information.

*(1) Situation Report*. Provide a narrative description of the existing building and/or equipment, its energy system(s) and usage, and activity profile. Also include average price per unit of energy (electricity, natural gas, propane, fuel oil, renewable energy, etc.) paid by the customer for the most recent 12 months, or an average of 2, 3, 4, or 5 years, for the building and equipment being evaluated. Any energy conversion shall be based on use rather than source.

*(2) Potential Improvement Description*. Provide a narrative summary of the potential improvement and its ability to reduce energy consumption or improve energy efficiency.

*(3) Technical Analysis*. Giving consideration to the interactions among the potential improvements and the current energy system(s), provide the information specified in paragraphs (3)(i) through (iii) of this appendix.

(i) For the most recent 12 months, or an average of 2, 3, 4, or 5 years, prior to the date the application is submitted, provide both the total amount and the total cost of energy used for the original building and/or equipment, as applicable, for each improvement identified in the potential project. In addition, provide for each improvement identified in the potential project an estimate of the total amount of energy that would have been used and the total cost that would have been incurred if the proposed project were in operation for this same time period.

(ii) Document baseline data compared to projected consumption, together with any explanatory notes on source of the projected consumption data. When appropriate, show before-and-after data in terms of consumption per unit of production, time, or area.

(iii) Provide an estimate of Simple Payback, including all calculations, documentation, and any assumptions.

*(4) Qualifications of the Assessor*. Provide the qualifications of the individual or entity that completed the assessment. If the Energy Assessment for a project with Total Project Costs of $80,000 or less is not conducted by Energy Auditor or Energy Assessor, then the individual or entity must have at least 3 years of experience and completed at least five Energy Assessments or Energy Audits on similar type projects.

*Section D. Qualifications*

Provide a resume or other evidence of the contractor or installer’s qualifications and experience with the proposed EEI technology. Any contractor or installer with less than 2 years of experience may be required to provide additional information in order for the Agency to determine if they are qualified installer/contractor.