

verify that site designers are qualified and/or certified. Provide evidence that the system and installation plans conform to all applicable national, State, and local standards. Provide a list of the same or similar systems designed, installed, or supplied currently operating and with references if available. Discuss spare parts and service availability for life of the system. Describe the knowledge, skills, and abilities needed to install, service, operate, and maintain the system.

(7) Professional services required. Describe professional services and qualifications, expected professional service costs required to design, construct, operate, and maintain the system. This may include a professional engineer, an agricultural engineer, a design engineer, an environmental engineer, a lawyer, accounting, project construction, project management, or any other needed professional services.

(8) Equipment installation. Fully describe the management and plan for site development and system installation. All systems must be installed and interconnected in conformance with the system manufacturer specifications, utility system requirements, and any applicable national, State, or local codes and standards. A general contractor or a turnkey system provider must install the proposed system.

(9) Startup, shakedown, and steady state operation. Provide the appropriate start up testing procedures and test criteria. Describe testing and inspection procedures necessary before system startup and monitoring of initial operation. Estimate needed time to complete startup testing and shakedown period for system to obtain design-operating parameters at a steady state operating level. Verifiable and empirical information must be provided at startup, end of shakedown, and end of steady state operation test period.

(10) Operations and Maintenance. Describe the routine operations and maintenance requirements of the proposed system, including feedstock acquisition, transportation and handling, maintenance for the mechanical and electrical system, system monitoring and control requirements, output delivery systems, and on-going environmental compliance. Include in the discussion, costs and labor associated with operations and maintenance of system and plans for in or outsourcing.

(11) Potential vendor qualifications. For each vendor, provide the type of services provided, number of years they have provided the proposed services,

technical support programs, and availability of spare parts.

(12) Performance assurance. Describe vendor standard warranty and performance bonds where available. The owner operator shall commit to keep the system in operating order for the design life of the system identified above. Obtain a commitment from the vendor to supply and service for the design life of the system provided. Describe available training and operation assistance available from the vendor and other sources. Construction contracts in excess of \$100,000 will require a performance and payment bond for 100 percent of the contract price.

(13) A qualified professional engineer must certify numbers 1–10 of the technical requirements for renewable energy system projects exceeding \$100,000 in total project cost. Vendors may prepare numbers 11 and 12 of the technical requirements. Qualifications of any preparer or certifier must be submitted with the application.

B. Energy Efficiency Improvement Technical Requirements. The application must demonstrate that the energy efficiency improvements perform over the design life as expected. Information should be supported by the energy audit, required elsewhere in this NOFA, whenever applicable. The following are technical requirements for energy efficiency improvement projects and will be addressed independently, in narrative form, and in the following order:

(1) Detailed Description of Energy Efficiency Improvement Project. Describe the components, materials or systems to be installed and how they improve the energy efficiency of the process or facility being modified. Discuss passive improvements such as improving the thermal efficiency of a storage facility and active improvements such as replacing high efficiency energy consuming equipment as separate topics. If synergisms are anticipated between active and passive improvements or other energy systems discuss these as an additional topic. Any change in on-site effluents or other byproducts shall be included in the discussion.

(2) Performance. Describe the expected energy savings of the energy efficiency improvement project. The expected energy savings must be supported by an authoritative energy audit as described elsewhere in this NOFA. Energy savings must be addressed on an annual basis. Performance may also be addressed on a seasonal basis or other periodic basis as determined and stated by the energy auditor. Discuss performance in a

similar topical manner as required in paragraph 1 above.

(3) Design Life. Provide information that supports expected design life of passive and active improvements. Describe the scope and timing of major component replacement or rebuilds.

(4) Project Costs and Timeline. Identify and itemize major energy efficiency improvement project costs and a timeline and milestones for key activities, including project design, permitting, materials and equipment purchase, site preparation, and installation.

(5) Design qualifications. Discuss needed designer qualifications and/or certifications with commonly accepted or recognized organizations or bodies. If applicable, verify that designers are qualified and/or certified. Provide evidence that the energy efficiency improvement project and installation plans conform to all applicable national, State, and local standards. Describe the knowledge, skills, and abilities needed to install, service, operate, and maintain the installed materials, equipment and systems.

(6) Professional services required. Describe professional services and qualifications, expected professional service costs required to design, construct, operate, and maintain the energy efficiency improvement project. This may include a professional engineer, an agricultural engineer, a design engineer, an environmental engineer, a lawyer, accounting, project construction, project management, or any other needed services.

(7) Equipment, system and material installation. Fully describe the plan for site development, and equipment, system and materials installation. All equipment, systems and materials must be installed in conformance with applicable national, State or local codes, and standards. A general contractor or a turnkey provider must install the proposed energy efficiency improvement project.

(8) Operations and maintenance. Describe the routine operations and maintenance of the proposed energy efficiency improvement project. Include in the discussion, costs and labor associated with the operations and maintenance of the energy efficiency improvement project and plans for in and outsourcing.

(9) Potential vendor qualifications. For each vendor, discuss the type of service provided, number of years they have provided the proposed services, availability of spare parts and post sale customer support.

(10) Performance assurance. Describe vendor standard warranty and