APPENDIX G: RENEWABLE ENERGY GENERATION PROJECT TECHNICAL REQUIREMENTS

I. Application Submission

On-site, renewable energy generation project must include: (1) a complete description of the renewable energy project and an analysis of the proposed renewable energy project; and (2) a Monitoring and Verification (M&V) plan for how the project will be inspected and commissioned, along with how the renewable energy production from the project will be measured and reported once the project is built.

II. Project Review

The review process for this type of project begins with a review to verify that the proposed renewable energy production can be achieved with the specified equipment along with other siting specific factors. Once a project successfully completes this stage of the review there is a review of the metering or monitoring plan that may adhere to the recommendations in ASHRAE Guideline 14-2014 (ASHRAE 2014) and/or the Uniform Methods Project (UMP 2020). Then a review of the construction plan and commissioning plan will also occur. Successful completion of all these plans is then followed by the project construction and project commissioning report. Satisfactory review of the construction and commissioning report is then followed by permit to allow the system to begin producing energy. Once the generation permit is issued, then the data collection begins, or annual monitoring plan is initiated.

After a sufficient period of data collection, then the project is reviewed to determine if the measured renewable energy production is equal to or greater than the estimated renewable energy production. At the discretion of OAQDA, a calibrated model may be developed that represents the renewable energy production as estimated by the project design. This calibrated model of the renewable energy production can then be used to determine whether the system is performing adequately in the future, if significant degradation has occurred, and any remedial measures that need to be taken to ensure the projects meets the renewable energy production estimated during the system design.

III. Measurement & Verification

In general, the measurement and verification process for projects consists of three stages: (1) the Application Submittal and Review stage as described in Section IV, A; (2) the M&V Plan Submittal and Review stage as described in Section IV, B; and (3) the Project M&V Process stage as described below during the term of the bond financing. All projects need to comply with each stage in sequence to qualify as an Air Quality Facility. OAQDA may also request the use of ENERGY STAR Portfolio Manager as a free industry-standard tool to assist in benchmarking the project's impact on the building's performance.

ASHRAE Guideline 14-2014 (ASHRAE 2014) *Project M&V Process.* Data collection efforts and required information is submitted to the OAQDA at least annually and must comply with the M&V Plan submitted by the applicant and reviewed by OAQDA. The review begins before the installation and proceeds throughout the project period. These measurements are necessary to ascertain that end-use energy use quantities agree with design estimates to assist in the project verification process. In addition, adherence to the recommendations in ASHRAE Guideline 14-2014 (ASHRAE 2014) and/or the Uniform Performance Measurement (UMP) guidelines (UMP 2020) is important to ensure accurate measurement and reporting.