



**Program Guidance Manual**  
**Section 1.1 Program Executive Summary**

**State of Minnesota, Department of Administration**  
**Real Estate and Construction Services**  
**St. Paul, MN**

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## 1.0 Overview

The Public Buildings Enhanced Energy Efficiency Program, PBEEEP, is a ReCommissioning/RetroCommissioning (RCx) and Retrofit program for Minnesota public buildings. PBEEEP is unique compared to traditional ReCommissioning/RetroCommissioning and Retrofit programs in that the program offers a rigorous and neutral quality assurance component and access to project funding options. Quality is controlled and engaged in all aspects of project work in PBEEEP, through the technical guidelines; review processes; and the organizational structure, which institutes neutral-party, technical reviews and feedback processes. Project funding is offered in the form of both stimulus funding and lease purchase financing, which provides low interest loans to State Agencies. These loans allow State Agencies the means to move forward with the implementation of identified energy saving opportunities at their sites without increasing their total annual budget by matching the loan payments with reduced energy expenses.

Some of the key features of PBEEEP, in addition to integrated quality assurance and funding options, include:

- Utilization of Energy Star Portfolio Manager and the Public Buildings Benchmarking system, B3, for cost-effective targeting of candidate buildings and on-going performance tracking
- Coordination with utility programs to take advantage of existing CIP and/or modified CIP offerings for project co-funding.
- Comprehensive technical services that are integrated into all aspects of project work to ensure rigorous investigation, implementation, and verification protocols are executed.
- On-going performance tracking to ensure savings persist and State Agency support in the event that troubleshooting and/or mediation is required to address deficient savings.

Any State Agency (public) building is eligible to participate in PBEEEP with the objective of initiating projects to improve the efficiency of energy-consuming equipment (chillers, motors, boilers, etc.) and/or equipment that affect energy consumption (building envelope, etc.).

The *Guidance Manual* is intended to serve as the guidebook to PBEEEP. It is written primarily for State Agency and Provider audiences participating in the Program.

*Volume 1* provides Program overview information for all parties working within PBEEEP,

*Volume 2: Book 1* contains the project phase guidelines that Providers will be required to follow when working PBEEEP projects, and *Volume 2: Book 2* contains Program Administration forms and guides.

## 1.1 Background

PBEEEP originated from legislative actions with the enactment of Minnesota Statutes §16B.321 through 16B.322 in 2008. The statute covers public building efficiency and addresses two fundamental, as well as historical, constraints to reducing energy consumption in state buildings:

- 1) Access to expert technical assessment and oversight in the identification of measures that reduce energy consumption
- 2) Access to financing to implement the recommended measures

The Department of Administration (ADMIN) was tasked with the development of an energy improvement financing program to specifically address these constraints. \$1M of Petroleum Violation Escrow Funds was provided to ADMIN to develop and administer the program, which evolved into the Public Buildings Enhanced Energy Efficiency Program or PBEEEP.

Center for Energy and Environment (CEE) in partnership with Portland Energy Conservation, Inc. (PECI) developed PBEEEP through a contract with ADMIN. The development outcomes included the delivery of a 4-phase project process with all technical standards, guidelines, and processes required to execute and operate the program. Key technical guidelines - the project phase guidelines, are included in *Volume 2: Book 1*.

## 1.2 Purpose

The State of Minnesota (State) has a unique opportunity to be a national leader in achieving exceptional performance, reducing energy costs and cutting greenhouse gas emissions in existing state-owned facilities through PBEEEP. By demonstrating success in implementing the PBEEEP plan, the State can help promote progressive thinking on energy conservation and trigger market transformation throughout the building industry. Critical to achieving this ambitious goal is a rigorous framework with robust analytical tools for identifying, analyzing, selecting, and measuring the success of a wide range of strategies for reducing building energy consumption and increasing renewable energy use, which is an integral part of PBEEEP design.

The primary purpose PBEEEP serves is to achieve several efficiency goals for Minnesota public buildings. The following Program goals will be tracked and reported for each PBEEEP project:

- Reduction in Energy Use
- Reduction in Operating Costs
- Reduction in Green House Gas (GHG) Emissions
- Creation and Retention of Jobs
- Promotion of Renewable, Alternative Energy Sources

## 2.0 PBEEEP Framework

Projects conducted within PBEEEP are required to follow a 4-phase project process: Screening, Investigation, Implementation, and Verification. Providers working on projects in PBEEEP will complete project work according to the guidelines detailed in *Volume 2: Book 1*.

### 2.1 Application

The application provides the PBEEEP administration team, CEE, with general information on the site and/or individual building, as well as high-level information on site energy use, equipment, and systems.

A PBEEEP project is initiated by the submission of the Program Application. State Agencies complete the application online at the Program website, [www.pbееep.org](http://www.pbееep.org). Once processed, the project would be in queue for the first phase, Screening.

### 2.2 Screening

The first formal project process phase is the screening phase. Key activities of screening include documenting details of the site including attributes of the building, its mechanical equipment, systems, operations practices, and energy use. Prior to the start of the Screening Phase, the Program would provide a detailed orientation to Providers performing their first Screening Phase project. For experienced Providers, the Program may provide a refresher orientation.

There are two prescribed approaches to screening, one for small (standalone) buildings and one for large buildings and campuses (which may include multiple small buildings). Building sites generally under 50,000 ft<sup>2</sup> would be categorized for small building screening, while buildings (or campuses) greater than 50,000 ft<sup>2</sup> would follow the large building screening process.

Smaller buildings generally have less equipment than larger buildings and reduced system and operational complexity. Because of this, the screening process will be more cost effective and streamlined if completed by in-house Agency Owner staff. The process includes the completion and submittal of the *Small Building Screening Form*, which documents information on systems, equipment, and operations at the site. The *Small Building Screening Form* is customized for the types of systems and issues that are likely to be encountered in smaller public buildings. There may also be cases where the optimal process or required process based on resource or site constraints is for the Agency Owner to contract with a Provider to complete some or all of the screening work. Due to the variable nature and specific needs and requirements of small building screening, the Program will be actively involved in the detailed process from the start and will assist in identifying and executing the best option for the project to proceed in the Program and realize cost effective energy savings whenever possible.

In general, the larger building screening will be initiated with a Request for Proposal (RFP), developed using data from the application. The RFP will be supplied to PBEEEP qualified providers. Upon award of contract, the Provider will conduct screening utilizing the PBEEEP Screening Guidelines and submit to the Program the *Screening Form*, which documents all findings and data from the screen. During the Screen Phase, the Provider is also responsible for updating or generating the B3 and Energy Star Portfolio Manager accounts with baseline benchmark data for the site/building.

The Program may process projects individually or in pools, depending on the availability of resources. Once a pool of screened projects is compiled, the Program will conduct a scoring and ranking of the collective list based on several factors, including equipment and systems characteristics and energy-use benchmarking. Once all reviews are complete for a cycle of screened projects, a master list of projects, ranked primarily on energy savings opportunity is the output of the screen phase.

## 2.3 Investigation

Projects that are determined to be good candidates for application of the PBEEEP process (as measured by energy saving opportunity) will move forward to the second formal project process phase, Investigation. The investigation phase includes a detailed investigation of energy affecting and/or energy consuming operations practices, equipment, and systems. In this phase, Providers identify findings, which are opportunities to reduce energy waste, and determine recommended measures, which are energy conservation opportunities. Measures address findings by describing how to remediate the issues. Prior to the start of the Investigation Phase, the Program would provide a detailed orientation to Providers performing their first Investigation Phase project. For experienced Providers, the Program may provide a refresher orientation.

Investigation is initiated with an RFP, which is based on data reported on the *Screen Form*. The RFP is issued to PBEEEP qualified Providers, and once a contract is awarded, the Provider would complete the investigation per the PBEEEP Investigation Guidelines. It is expected that the Investigation Phase would, on average, extend through a 6 month period in order to accommodate data collection requirements for all seasons, winter/summer/shoulder.

The Provider documents all work, including supporting data and information, calculations, assumptions, and costs, in the Findings Workbook. The Findings Workbook is an Excel tool that tracks the majority of project information, data, and analysis associated with the Investigation, Implementation, and Verification phases.

The Investigation Phase is initiated with a kick-off meeting that introduces the integrated team (program representative(s), owner representatives, contractors, provider, state or consulting firm project manager, and if applicable, utility representative).

Throughout the Investigation, the Program supports the Agency Owner and the Provider with administrative and technical support and services. These could include, but are not limited to, training and orientation, resourcing, and technical guidance. There are two formal program reviews, the mid-point review and the final review.

Upon completion of Investigation, the Provider presents the measures in a formal meeting with the Agency Owner in which measures for implementation are selected with support from the Program (as requested).

## 2.4 Implementation

The third formal project process phase is the Implementation phase. In this phase, approved measures are implemented. This is also the point at which the lease-purchase project financing agreement would be arranged. Prior to the start of the Implementation Phase, the Program would provide a detailed orientation to Providers performing their first Implementation Phase project. For experienced Providers, the Program may provide a refresher orientation.

The process would be initiated similarly to the Investigation Phase, by the issuance of an RFP that includes summary information from the prior Investigation Phase including the specific information on all measures selected by the owner for implementation. In some cases, Agency Owners may request a preferred or primary Provider that would be directly contracted to complete the Implementation work. Additionally, an Agency Owner may complete an amended contract with the Investigation Phase Provider for continuation of project work in the Implementation Phase to provide design (and project oversight) services. Thus the Provider may serve as a general contractor, or have a more limited role in this phase at the option of the Agency Owner.

A kick-off meeting would be conducted by the Provider at the start of the phase. All contractors, the Provider, State project manager or consulting firm project manager, Agency Owner representatives, and if applicable, a Program representative, would attend.

Once the Implementation Phase is underway, the Provider manages the Implement phase per the PBEEEP Implementation Guidelines and is responsible to oversee that all work is performed to PBEEEP standards.

The Program provides support throughout the Implementation Phase in a similar fashion to the Investigation Phase through both technical and administrative services and support. As in the Investigation Phase, there are two formal Program reviews, the mid-point and final review.

## **2.5 Verification**

The fourth and final project phase is the Verification Phase, where performance of measures is verified through trending, functional test, visual inspection, or another approved method.

The Verification Phase is initiated with the *Verification Planning Meeting (VPM)*, organized by the Provider. At the VPM, the Provider presents the verification plan for approval by the Agency Owner and Program. The Program ensures rigor and quality by setting agreed upon expectations of the process and outcomes of measure verification.

At the completion of the Verification Phase, the Provider submits final Findings Workbook with all updated calculations and final edits for a review by PBEEEP staff. At this time, the Provider will also supply the Implementation Report, which documents all outcomes of the project work, compiling both the Investigation and Implementation Phase work.

The Provider will also perform approved hand-off activities, including all documentation and training required to maintain systems, equipment, and operating practices to ensure that the savings of implementation are persistent. Training and support are required functions of Providers to ensure that site staff is prepared to support the implemented measures.

Upon completion of the Verification Phase, the project is formally completed and from this point forward the full savings will be realized.

Additionally, the Program will provide and/or support on-going performance monitoring, primarily through the use of interval utility data.