

## PSO Business Rebates Custom Application Technical Requirements

The custom application must be used for all energy conservation upgrades that are not covered by the other PSO Business Rebates application forms. A single application form may be submitted for multiple custom energy conservation upgrades that are considered part of the same project. In these situations, a project summary, cost estimate and energy impacts must be presented for each upgrade individually, not in total. Custom applications require supporting documentation on equipment performance and calculations documenting the energy and demand savings that are expected to result from each upgrade. There are several methods that can be used to determine the baseline used to develop the savings for a given project.

Required supporting documentation for each energy efficiency upgrade submitted with a custom application includes:

- 1) **Project Overview:** Provide a brief overview of the proposed project. Include a basic description of the facility and its function, location of affected equipment, and typical facility operation hours.
- 2) **Existing System or Base Case Description:** For retrofit projects, describe the existing system or equipment that will be modified under this application and state how the current system is operating. For new construction or end-of-life replacement projects, applications should provide information for the base-efficiency system or other equipment that would be installed. This should include:
  - Detailed description of the affected equipment including system capacity, age, load profiles, production rate, and hours of operation.
  - Number of existing units.
  - Manufacturer data sheets with equipment performance ratings (BHP, CFM, PSI, kW, Efficiency rating, U-value). Provide nameplate data if manufacturer data sheets are unavailable.
  - Part-load performance data (where applicable).
  - Description of controls and sequence of operations.
- 3) **Proposed System Description:** Describe in detail the upgrades that are proposed. Include:
  - Detailed description of high-efficiency system or equipment and operating conditions.
  - Manufacturer data sheets for the materials or performance ratings for equipment being installed (BHP, CFM, PSI, kW, Efficiency rating, U-value).
  - Description of controls and sequence of operations.
  - One line diagrams (where applicable).
- 4) **Cost Estimates:** Include an upgrade-by-upgrade summary of the estimated costs associated with the project. For retrofit projects, provide a detailed cost breakdown associated with the project, including written proposals from vendors and contractors or itemized estimates of components from up-to-date estimating manuals. For new construction or end-of-life replacement projects, include cost data for base high-efficiency systems or equipment.
- 5) **Energy Impacts:** Include an upgrade-by-upgrade summary of the calculated energy and demand savings associated with the project. Clearly indicate all assumptions and variables used in the analysis. This includes all engineering formulas and documentation of all the

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factors, values, and assumptions used in the formulas (Microsoft Excel® spreadsheet preferred).

- In cases where energy modeling is used to determine savings, approved modeling software must be used. Input and output data from the model must be provided.
- Show calculations used to determine baseline and proposed estimated electricity usage including:
  - Annual energy (kWh) consumption.
  - Summer peak demand (kW).

If a project consists of multiple custom upgrades, sections A-C in the tables on the following page must be completed for each proposed energy conservation upgrade. These sections are intended to provide a summary of each individual upgrade with supporting documentation attached as appropriate.

### A. PROJECT SUMMARY

Attach project study, including energy savings information and costs for each energy conservation upgrade separately. Briefly describe the project below.

#### Project Overview

#### Existing System or Base Case Description

#### Proposed System Description

### B. COST ESTIMATES

Provide back-up documentation for all equipment, material and labor costs, categorized by energy efficiency upgrade. Sales tax may not be included. Adjust for salvage/resale value of equipment being replaced. Enter summarized costs in the table below.

| Measure                  | Baseline Costs | Proposed Costs |
|--------------------------|----------------|----------------|
| Estimated Material Cost  |                |                |
| Estimated Equipment Cost |                |                |
| Estimated Labor Cost     |                |                |
| Estimated Total Cost     |                |                |

### C. ENERGY IMPACTS

Provide estimated annualized energy (kWh) usage and demand (kW) for each category listed below. Attach full documentation supporting energy and demand estimates. When a computer model is used for energy and demand calculations, provide a complete description of input conditions for baseline and efficient states in addition to model outputs for both states.

| Estimated Annual Energy Consumption |                |                 | Estimated Summer Peak Demand                        |               |               |                |
|-------------------------------------|----------------|-----------------|---|---------------|---------------|----------------|
| Baseline (kWh)                      | Proposed (kWh) | Reduction (kWh) | Time Period   | Baseline (kW) | Proposed (kW) | Reduction (kW) |
|                                     |                |                 | Jun - Sept,<br>2pm - 9pm,<br>M - F, Non-<br>Holiday |               |               |                |

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