



2019 Energy Efficiency Program Offering Procedures Manual

Port of Stockton
July 1, 2019

Contents of This Manual

Introduction Summary of Program Rules

Section 1 Offering Overview and Policies

Section 2 Estimating Energy Savings and Incentives

Appendix A Port of Stockton Energy Efficiency Offering Agreement

Appendix B Table of Standard Fixture Wattages and Sample Lighting Table

Appendix C Minimum Equipment Efficiency Standards

Appendix D Tables of Approved LED Lighting, Fixtures and Approval Process

Appendix E Engineering Calculations Worksheet

Section 1: Offering Overview and Policies

1.1 Introduction	4
1.2 How the Port of Stockton Energy Efficiency Offering Works	4
1.3 Eligibility for Participation.....	5
1.4 Qualifying Energy Efficiency Measures.....	5
1.5 Direct Savings and Multiple Measures	10
1.6 Verification Requirements	10
1.7 Incentive Payments	11
1.8 How to Apply.....	14
1.9 Application Review	15
1.10 Project Installation.....	16
1.11 Installation Review.....	17
1.12 Operating Report (Measured Savings only).....	18
1.13 Other Important Terms and Conditions.....	19

1.1 Introduction

The 2019 Port of Stockton Energy Efficiency Program Offering provides financial incentives for the installation of high-efficiency equipment or systems. Tenants that install energy-saving technology are eligible for energy efficiency incentives based on calculated energy savings and permanent peak demand reduction.

Incentives are paid on the energy savings and permanent peak demand reduction above and beyond baseline energy performance, which include state-mandated codes, federal-mandated codes, industry-accepted performance standards, or other baseline energy performance standards as determined by the Port of Stockton. Commercial/Industrial Customers who wish to receive Port of Stockton incentives must submit a project application for the installation of eligible energy efficiency measure(s).

The 2019 enrollment begins July 1, 2019. Applications for the 2019 enrollment period are accepted until October 1, 2019 or until the Port of Stockton's Allocated Funds are fully committed.

Offering Materials. Incentive payments are based on careful adherence to offering requirements, please read the entire Section 1: Offering Overview and Policies before starting a project.

1.2 How the Port of Stockton's Energy Efficiency Program Offering Works

1.2.1 The Basic Process

The Port of Stockton's Energy Efficiency Program works as follows:

1. **Application Submission.** The Applicant submits an application to the Port's designated contact person. The application submission contains project details, a calculation of the proposed rebate and any other supporting documentation as deemed necessary by the Port.
2. **Application Review.** The Port will evaluate the application and conducts a pre-installation site inspection. At the Port's sole discretion, the pre-installation site inspection may be waived. The Port will evaluate and may revise the submitted energy savings and/or incentive calculation. The Port may require the Applicant to submit a Measurement & Verification (M&V) plan, if it determines, at its sole discretion, that an M&V process is appropriate for the proposed project.
3. **Application Approval.** If the application is approved by the Port and the Port and the applicant have entered into a fully executed Project Agreement that defines the energy savings for the project, the incentive payment for the proposed project will be reserved.
4. **Project Installation.** The Applicant shall notify the Port in writing and submits invoices after all project measure(s) have been **installed and are fully commissioned and fully operational.**
5. **Installation Review.** Upon receipt of Installation Notification, the Port will evaluate the submittal package and conduct a post-installation inspection to verify project installation and ensure the scope of work has not altered from the agreed-upon project. Based on special circumstances the Port, at its sole discretion, may waive the post-installation site inspection.
6. **Incentive Payment.** Upon Port's approval of the Installation Review, the Applicant receives the incentive payment. In most circumstances, Applicants will be paid 100 percent of the approved incentive upon project completion and Installation Review approval.

7. **Waiver** - Subject to all applicable federal, state, and local laws, the Port of Stockton reserves the right to approve otherwise eligible Energy Efficiency projects by waiving project approval steps and/or sequencing guidelines. If the Port determines and can establish appropriate baseline and post operating conditions, and including energy savings calculations, the Port reserves the right to make appropriate and reasonable business decisions regarding project eligibility and approvals.

1.3 Eligibility for Participation

1.3.1 Customer Eligibility

The Port of Stockton's Energy Efficiency Program is open to all Non-Residential Customers who (1) receive electric services from the Port, and (2) pay the Public Benefits Program (PBP) surcharge on the electric meter on which the energy efficient equipment is proposed for installation.

1.3.2 Project Sponsor and Authorized Agent Eligibility

Customers may install their own projects or projects can be installed by outside parties such as energy efficiency service providers (EESPs), which include energy service companies (ESCOs), lighting installers, HVAC contractors, consulting engineers, energy management companies or other entities. **The Port of Stockton will not qualify Project Sponsors or Authorized Agents; the Customer bears full responsibility for selecting a Project Sponsor or Authorized Agent if one is desired. The Customer will be responsible for all communications requirements and will be the point of contact for the Port during any reviews that may be required.**

1.3.3 Project Eligibility

In order for the project to be eligible to participate in the Port of Stockton's Energy Efficiency Program it must meet the following criteria:

1. Any existing equipment that is required to establish the project baseline must be operating and available for inspection.
2. New equipment/systems must not be installed. Installation cannot begin until the Port has the opportunity to inspect and approve the project.
3. When Non-Utility supply is involved, any energy savings for which incentives are paid cannot exceed the net potential benefit provided to the Port of Stockton. Non-utility supply, such as cogeneration or deliveries from another commodity supplier, does not qualify as usage from the Port.

Under special circumstances, the Port, at their sole discretion, may waive certain project eligibility conditions.

1.4 Qualifying Energy Efficiency Measures

The Port of Stockton accepts a wide variety of energy-saving projects related to lighting and motors, including a pre-defined list of common energy efficiency measures as well as custom-designed measures. All projects must meet the following criteria:

1. **Must Exceed Baseline Energy Performance.** Incentives are paid on the energy savings and demand reduction above and beyond baseline energy performance, which includes state-mandated codes, federal-mandated codes, industry-accepted performance standards, or other baseline energy performance standards as determined by the Port of Stockton.
2. **Must Meet Peak Demand Definition.** Incentives for demand reduction (kW) are paid only on permanent electrical demand which is reduced during peak periods. Peak periods are

defined as the average electric system impact for a measure on the Port of Stockton annual peak day and during the three consecutive weekdays either before or after the peak day. The Port of Stockton's peak day, historically, has occurred from August through February and is typically between 10 AM and Noon, although it has occurred during the early afternoon period.

3. **Must Operate at Least Five Years.** The Project Agreement requires that the new equipment or system retrofit must guarantee energy savings for the effective useful life of the product or for a period of five years, whichever is less.
4. **Measures Cannot Overlap Other Incentive Programs.** Any measures included in the application cannot be applied through multiple California energy efficiency incentive or rebate programs. Other California end user energy efficiency programs include, but are not limited to, any program offered by or through an investor owned utility, California Energy Commission (CEC), and California Public Utilities Commission (CPUC), including PBP funded local programs, third-party programs, or local government partnerships. Applicants cannot receive incentives from more than one energy efficiency program for the same measures. Contact the Port of Stockton for further details.
5. **Baseline Equipment Must Be Decommissioned and Removed.** The baseline equipment must be decommissioned and removed from site prior to Installation Review approval. Under certain circumstances and subject to the Port of Stockton's discretion, baseline equipment may be kept for backup purposes. Additional documentation may be required in these cases.
6. **LED Fixtures.** LED fixtures must be specifically listed in or comply with the testing standards and requirements described in Appendix D. Table D2 includes approved EnergyStar rated, DesignLights Consortium (DLC) qualified, and Port of Stockton qualified LED fixtures.
 - EnergyStar - <https://www.energystar.gov/sites/default/files/Luminaires%20V2.1%20Spec%20Final%20with%20Partner%20Commitments.pdf>
 - DesignLights Consortium - https://www.designlights.org/default/assets/File/Workplan/DLC_Technical-Requirements-Table-V4-4.pdf
7. **Integral LED Lamps.** Integral LED lamps must be specifically listed in Appendix D. Table D1 includes Energy Star qualified integral LED lamps.
8. **T8 and T5 Fluorescent Lamps and Ballasts.** T8 and T5 Fluorescent Lamps must meet the Color Rendering Index (CRI) and Rated Lamp Life Standards described in Table 1-2. Additionally, T8 and T5 fluorescent ballasts must exhibit total harmonic distortion (THD) less than or equal to 20% and a power factor greater than 0.9.

Table 1-2 Eligible Fluorescent Lamp Characteristics

Lamp Type & Size	Ballast Type	CRI	Minimum Rated Lamp Life (3 hrs/start)
T8 – 2-ft, 3-ft, 4-ft	Programmed Start/ Programmed Rapid-start	>= 80	24,000 hours
T8 – All Sizes	Instant Start	>= 80	18,000 hours
T5 – All Sizes	Programmed Start/ Programmed Rapid-start	>= 82	20,000 hours

1.4.1 Examples of Eligible Measures

If a measure is not specifically excluded by the eligibility conditions and the Applicant can provide documentation supporting energy savings beyond baseline energy performance standards, then it may be eligible for the Port of Stockton's Energy Efficiency Program incentives (subject to the approval of the Port). Table 1-3 provides an illustrative (not a comprehensive) list of qualifying efficiency measures. Please note that the category of a given measure is important because the category determines the incentive rate that will be paid (see Section 1.8 of this manual).

Table 1-3. Examples of Eligible Measures

<p>Lighting</p> <p>Energy On-Peak \$0.042 /kWh</p> <p>Off-Peak \$0.036/kWh</p> <p>24 hour Operation \$0.040/kWh</p> <p>Peak Demand - \$39 / kW</p>	<ul style="list-style-type: none"> ▪ Interior and exterior lighting retrofits including linear fluorescent, HID, induction, cold cathode and compact fluorescent lamps (not including screw-in lamps) ▪ LED luminaire retrofits utilizing qualified fixtures (see Appendix E for qualification process and table of current qualified fixtures) ▪ Screw-in cold cathode and Integral LED Lamp retrofits utilizing qualified lamps - see Appendix E for LED qualification process and table of current qualified LED lamps (SCE and SDG&E only) ▪ High efficiency signage or architectural lighting ▪ Lighting control systems ▪ LED exit signs (SCE and PG&E only) ▪ Day lighting controls and dimmable ballast ▪ De-lamping measures performed as part of an integral lighting efficiency upgrade
<p>Motors and Other Equipment</p> <p>Energy - On-Peak \$0.042 /kWh</p> <p>Off-Peak \$0.036/kWh</p> <p>24 hour Operation \$0.040/kWh</p> <p>Peak Demand - \$39 / kW</p>	<ul style="list-style-type: none"> ▪ Motor upgrades (all sizes) ▪ Variable-speed drives (e.g., on industrial fans, industrial pumps, and on air compressor motors) ▪ Industrial process applications ▪ Industrial fan replacements ▪ Industrial pump replacements ▪ Trimming impellers on industrial fans and pumps ▪ Exhaust hood and fan projects ▪ Dairy Vacuum Pumps/ Variable-speed drives (VSDs)

1.4.2 Summary of Ineligible Measures

Table 1-4 summarizes the types of measures that do not qualify for program incentive funds. This table provides an illustrative (not a comprehensive) list of ineligible efficiency measures.

Table 1-4. Ineligible Measures

- T8 and T5 fluorescent lighting retrofits where the proposed equipment does not meet the CRI and Lamp Life requirements (Table 1-2)
- Compact fluorescent lamps not equipped with electronic ballasts.

- LED luminaires that are not listed or do not comply with the testing standards and requirements described in Appendix D. (The table of approved fixtures includes EnergyStar rated, DLC approved, and Utility Approved fixtures)
- Screw-In CFLs
- LED lamps that are not listed in Appendix D. (LED lamps intended to replace linear fluorescent or high-intensity discharge (HID) lamps are not eligible at this time).
- Incandescent to incandescent retrofits (including halogen incandescent)
- Packaged or split system air conditioning units and heat pumps of any size or units less than 63.3 Tons
- Water source heat pumps (WSHP) of any size
- Technologies where there is no significant replacement/installation of equipment or modification to existing equipment, as determined by the Port
- Measures that are not permanently installed and can be easily removed, as determined by the Port
- Measures that save energy because of operational changes
- Cool roof systems
- Fuel-switching measures that do not meet the Port's three-prong test. These tests include a source-BTU comparison, a benefit-cost ratio calculation, and an environmental impact analysis.
- Self-generation or cogeneration projects (i.e. measures that are replacing or installing self-generation or cogeneration equipment)
- Repair or maintenance projects. Exceptions are granted for specific measures listed in section 1.4.3.
- Re-commissioning activities
- Power correction or power conditioning equipment
- Pre-owned equipment that doesn't meet specific conditions (please contact the Port for eligibility)
- Plug Load Sensors
- Power Controllers for Non-Perishable Refrigerated Coolers

1.4.3 Non-Operational Existing Equipment Eligibility

Non-operational, existing equipment replaced with higher efficiency equipment will be eligible for incentives, if:

1. All proposed equipment meets all other requirements of the program and exceed Title 24 or industry standards;
2. The baseline is Title 24 or industry standards of the proposed equipment type; and
3. Measure costs are the incremental costs above similarly configured standard efficiency equipment.

1.4.4 New Load Project Eligibility

The 2019 Port of Stockton Energy Efficiency Program pays incentives for the installation of new, high-efficiency equipment to meet the expanded process needs of an existing facility or to accommodate new production loads. New Construction projects will be eligible for Energy Efficiency Program incentives.

Projects that involve modifying an existing operation, structure or process due to growth or expansion may be reviewed by the Port of Stockton for eligibility. This includes projects that are not direct, one-for-one replacements and enables the calculated process to capture and account for efficient increases in electric load. Customers are required to have an existing Port of Stockton

service account with at least 12 months of billing and usage history.

The following guidelines designate projects that fall under the 2019 Port of Stockton Energy Efficiency Program. In special circumstance, exceptions may be granted as deemed reasonable by the Utility Administrator:

- no walls are removed or constructed, or no significant impact to existing structures are affected to accommodate the new equipment
- no change in facility function/occupancy type
- footprint of the facility remains the same
- process enhancements where equipment or operations are moved, and minimal accommodations are made (e.g. building a new workstation to accommodate for a process change)

All eligible equipment must meet all other eligibility conditions set forth by the Port of Stockton. Measure costs are evaluated as the incremental costs above and beyond similarly configured standard-efficiency equipment.

1.4.5 Increased Load / Production Measures Project Eligibility

The 2019 Port of Stockton Energy Efficiency Program may pay incentives for retrofit of existing equipment/systems with larger high-efficiency equipment/systems to accommodate increased load/production. In general, the incentives for these measures will be based on the post-installation load/production rate. The energy savings will be calculated as:

Eligible Energy Savings = (Baseline Efficiency – Proposed Efficiency) * Proposed Production Rate or Load * Proposed Operating Hours

Examples of increased load measures:

- A building owner replaces a dedicated package rooftop HVAC unit with a larger more efficient unit to accommodate increased load of an existing computer room.
- A hospital energy manager replaces a 300 ton chiller with a high efficiency 450 ton chiller to accommodate and meet increased cooling needs.
- A water district replaces a 150 HP pump/motor with a premium efficiency 200 HP pump/motor to respond to increased system demand.

All equipment must meet all other requirements of the program, set forth by the Port, and exceed Title 24 or minimum industry standards to be eligible. The baseline is calculated at Title 24 or current minimum standards.

1.4.6 Early Retirement Feature

The early retirement feature is designed to accelerate the retirement of older, less efficient equipment with new, high efficiency replacements. Eligible measures are subject to an expanded definition of energy savings which may result in a larger incentive than would be possible using the traditional approach. This approach can be applied with one or more years of remaining useful life. Compelling evidence must exist that the program induced replacement of pre-existing equipment. **The new units must exceed baseline energy performance standards and Code/Regulation Industry standard as determined by the Port.**

Separate project costs must be provided under the early retirement feature. A project cost figure consistent with the description in 1.7.2.3.1 will be provided by the customer, as well as the cost of the code/industry standard baseline technology.

Applicants MUST use the Port's application and supporting material to determine the energy savings and incentive calculations for early retirement projects. If you need assistance, please contact the Port of Stockton.

A table of efficiencies for various types and sizes of motors (based on averages for a typical unit) is included in Appendix C. The baseline efficiencies for motors are developed from earlier NEMA standards.

Below is a simplified energy savings calculation for 10-year old, 350-ton water-cooled centrifugal chiller.

Assumptions

Existing Chiller 350 Ton, Efficiency = 5.612 COP, 8,760 hrs per year

Proposed Chiller 350 Ton, Efficiency = 6.39 COP, 8,760 hrs per year

Title 24 Standard Efficiency = 6.1; COP Useful Life = 23 years

Calculations

Pre-Existing Equipment Energy Usage = 2,167,292 kWh Code/Regulations

or Industry Standard Energy Usage = 2,108,115 kWh Proposed Energy

Usage = 2,077,122 kWh

kWh savings = 2,108,115 kWh - 2,077,122 kWh = 30,993 kWh

Energy Savings Incentive = 30,933 kWh x \$0.048 /kWh = \$1,485.

1.5 Direct Savings and Multiple Measures

A project must achieve significant energy savings, subject to the following provisions:

1. **Direct Savings Only.** Only direct energy savings—not indirect energy savings due to interactive effects—count in determining a project's incentive. Direct savings occur as the primary purpose of the retrofit. Indirect energy savings from interactive effects are those savings that occur from other than the primary purpose of the retrofit. For example, high-efficiency lighting typically lowers the air conditioning load. However, only the avoided lighting energy, not the avoided air conditioning energy, would count as energy savings in determining the energy savings and incentives for a lighting project.
2. **Either Single or Multiple Measures.** A project may be comprised of a single energy efficiency measure (e.g., a lighting upgrade) or a variety of measures (e.g., an air handler motor upgrade and a lighting measure).

1.6 Verification Requirements

As a performance-contracting offer, the Port of Stockton's Energy Efficiency Offering may require additional means of determining the energy savings from a given project and verifying that those energy savings have been achieved. Short-term monitoring, spot measurements, production data or other forms of verification may be requested to confirm savings estimates.

The measured approach utilizing the Measurement & Verification (M&V) process is only required if the Port determines that the energy savings cannot be reasonably substantiated without pre-and post-installation measurements. If the Port requires the M&V process, the Applicant is required to comply.

1.6.1 The Measurement & Verification Process (M&V)

The M&V process begins after the Port's Administrator reviews the submitted application **and has determined at its sole discretion that an M&V process is appropriate for the proposed project.**

The M&V process proceeds as follows:

1. **M&V Requirement Notification.** The Administrator contacts the Applicant and notifies them of the M&V requirement. The Administrator sends the Applicant the Measurement & Verification Guidelines.
2. **M&V Plan Development.** The Project Sponsor develops an M&V plan based on the M&V Guidelines. The Project Sponsor submits the M&V plan, and any required baseline data to the Port's Administrator.
3. **Application and M&V Plan Approval.** If the application and the M&V plan are approved, incentive funding for the project is reserved and the Project Sponsor and the Port's Administrator initiate the application approval review.
4. **Project Installation.** The Project Sponsor notifies the Port's Administrator in writing and submits invoices after all project measure(s) have been **installed and are fully commissioned and fully operational.**
5. **Installation Review.** Upon receipt of Installation notification and report, the Port of Stockton will evaluate the submittal package and conduct a post- installation inspection to verify project installation and ensure the scope of work and energy savings has not altered from the agreed-upon project.
6. **First Payment.** The designated Payee receives 50 percent of the Installation Report energy savings.
7. **Project Performance Period.** The Applicant performs the agreed-upon M&V activities on the new operating equipment for a period up to two years (at discretion of the Port's Administrator). At the end of the project performance period, the Project Sponsor submits the Operating Report.
8. **Operating Report.** The Applicant submits the Operating Report and operating data to the Port's Administrator. Upon receipt, the Administrator reviews the report and data.
9. **Final Payment.** The remaining 50% of the incentive based on the measured savings is paid at the end of the project performance period when the Operating Report is approved.

1.7 Incentive Payments

The incentive payment amount is based on a flat incentive rate (per kWh) applied to one year of energy (kWh) savings, plus a flat incentive rate (per peak kW) applied to the resultant permanent peak demand reduction.

For measures not requiring an M&V Process 100 percent of the incentive is paid after the Installation Review is approved.

For measures requiring M&V Process, the First Payment of 50% of the calculated incentive is paid upon approval of the Installation Review (Step 5), the remaining portion of the incentive, based on the measured savings determined in the Project Performance Period, is paid at the time of the Operating Report (Step 8).

When reviewing the project application, the Port's Administrator will verify that the Applicant has designated the proper incentive category for each efficiency measure. As illustrated in Table 1-7, the incentive rate is dependent on the type of efficiency measure installed (Lighting or Motors).

Table 1-7. 2019 Energy Savings Incentive Rates

Measure Category	Annual Energy Savings Incentive Rate (kWh)	Permanent peak demand reduction Incentive Rate (kW)
Lighting (Fluorescent, Other Lighting, or Lighting Controls)	<p>Energy:</p> <p><u>On-Peak</u> \$0.042 /kWh</p> <p><u>Off-Peak</u> \$0.036/kWh</p> <p><u>24 hour Operation</u> \$0.040/kWh</p>	\$39 / kW
Electric Motors	<p>Energy:</p> <p><u>On-Peak</u> \$0.042 /kWh</p> <p><u>Off-Peak</u> \$0.036/kWh</p> <p><u>24 hour Operation</u> \$0.040/kWh</p>	\$39 / kW

1.7.1 Incentive Payment May Vary from Contracted Value Based on Performance

Measures not requiring M&V Process: The incentive may be less than contract amount, if actual equipment installation or operation differs from that described in the approved application. For example, if the installed equipment or operating schedule is different from the approved application, the incentive amount must be adjusted.

Generally the incentive amount cannot exceed the contracted amount; however, some exceptions may apply that increase the incentive up to 10%. The Port of Stockton's Administrator may approve an incentive that exceeds the contracted amount if one of the following conditions occurs:

1. Increased Measure Costs –The actual installed costs are higher than the application estimated costs approved at the application review and there are no other limiting customer project site caps. The incentive is capped at 45% of the actual measure costs.
2. Installation of More Efficient Equipment – The Customer has installed higher efficiency equipment than equipment indicated on the application and approved at the application review. If the scope of work changes after the contract is issued, but before the work is

completed, notify the Utility Administrator immediately.

Measures requiring M&V: The Energy Savings Incentive is based on actual performance and can vary between 0 and 100 percent of the approved incentive amount. In the event that actual energy

savings are higher than projected, the final incentive amount may include an additional incentive amount (up to 10 percent) above the contracted amount.

In some cases, the amount of the adjusted Operating Report incentive could drop below the amount that was paid out at installation. In such a situation, the Payee is responsible for reimbursement of the difference to the Port of Stockton.

1.7.2 Incentive Limits

1.7.2.1 First Come, First Served

The Port of Stockton budget's a maximum amount of funds per year available for the Energy Efficiency Program. Annual Program funds are available on a first-come, first-served basis. Incentive funds are reserved when the application is fully approved by the Port of Stockton's Administrator.

1.7.2.2 Incentives from other Programs

An incentive for any measure included in the application cannot be applied for through multiple California energy efficiency incentive or rebate programs offered by any other California utility program funded by the Public Goods Charge [PGC]. Further, incentives received for any measure cannot be in an amount greater than the total cost of the measure.

1.7.2.3 Customer Project Incentive Caps

The Port of Stockton's Energy Efficiency Program incentives are limited to the lesser of the following:

1) The incentive based on the energy savings and permanent peak demand reduction resulting from the installation of the new equipment on the meter(s) for which the utility collects the PBP surcharge;

Note: kWh, and kW savings are limited to the net potential benefit provided to the Port during the period of performance.

2) 45% of the total project costs for all installed measures. The Project Sponsor shall provide the project cost and a description of the cost items with the application.

3) The maximum incentive per site is \$33,750.

1.7.2.3.1 Project Cost

Project costs must be included on the application. Project costs may include audits, design, engineering, construction, equipment and materials, overhead, tax, shipping, and labor on a per measure basis. The cost of filling out Customized forms and conducting M&V may be included in the project cost. Project costs that do not directly pertain to measure installation such as bidding, marketing, and RFP labor expenses, are not eligible.

1.7.2.3.2 Customer Project Site

A Customer Project Site is defined as a single free-standing building/structure; an individual utility meter; or a service account number where the retrofit or installation is taking place.

1.7.3 Payment Schedule

For most projects, 100 percent of the approved incentive amount is paid after the Port of Stockton's Administrator approves the Installation Notification and Report. For measures requiring M&V Process,

refer to section 1.7.1.

Payments are made only after the Utility Administrator has approved the necessary submissions (as discussed in Sections 1.13 and 1.14 of this manual).

1.7.4 Payment Disbursement

The Port of Stockton’s Administrator will calculate the incentive payment based on its review of the submitted paperwork or site inspection. The Administrator will notify the Customer in writing of the final approved incentive payment amount upon approval of the Installation Review or Operating Report, as applicable, and will begin processing the incentive check. As soon as the check is processed, the Administrator will mail it to the Payee designated on the application. If the Customer disputes the findings of the review, the Customer should notify the Administrator as soon as possible. This should be done before the Payee receives the incentive payment.

1.8 How to Apply

The application process requires careful attention to detail. Incomplete or incorrect applications will be returned, so it is highly recommended to follow the program instructions carefully. Applicants can call their Utility Administrator for assistance in completing their applications and to obtain answers to specific program questions as well. Table 1-8 lists the Statewide Customized Offering contact information for each the Port of Stockton Administrator.

Table 1-8. Port of Stockton Energy Efficiency Program Administrator

Administrator	Program Contact Information
Port of Stockton www.portofstockton.com	Port of Stockton Physical Address: 2201 West Washington Street , Stockton, CA 95203 Mailing: P.O. Box 2089, Stockton, CA 95201 Phone: (209) 946-0246 Fax: (209) 465-7244 jvillanueva@stocktonport.com

1.8.1 Overview of Paperwork

To receive Port of Stockton Energy Efficiency Program incentives, the Applicant must perform certain actions and submit certain forms or applications/reports at specific project milestones:

1. First milestone: Application

The application describes the project and estimates the energy savings and permanent peak demand reduction. Supporting documentation and calculations must accompany the application forms. Additionally, all measure costs must be outlined.

2. Second milestone: Installation

After approval of the project by the Port of Stockton’s Administrator, the Project Sponsor notifies the Administrator that installation and commissioning are complete. The Project Sponsor also submits invoices and any other materials deemed relevant by the Administrator.

3. Third milestone: Operating Report (Projects requiring the M&V Process only)

This Operating Report is filed with the Port at the end of the project performance period to confirm that the project is still in operation as installed and is submitted with M&V Process results. The Operating Report is the basis for the final incentive payment for measured

savings.

1.8.2 Paper or Electronic Forms

There are two ways to fill out the Energy Efficiency Program paperwork:

1. **On paper**, using hardcopy forms (a) obtained from the Port of Stockton's Administrator.
2. **Electronically**, using the application form available on the Port's Website or from the Port's Administrator.

The electronic version of the form allows for easier editing and can save time in preparing multiple project applications.

1.9 Application Review

The project application (first submittal) consists of the application document and supporting attachments. The application process is different between the utilities so please consult with the Port of Stockton's website for forms and instructions. Table 1-8 shows the website address.

The information required for the application consists of:

1. Incentive Application (information regarding Applicant, Project Type, and Payment, Customer Project Site, Property Type, and Project Sponsor)
2. Savings Summary (Information regarding Energy Savings)
3. Energy savings calculations showing how the energy and peak savings were determined using the engineering calculations. If possible, please provide an electronic copy of the energy savings calculations.

1.9.1 Project Application Review Schedule

Review of an Energy Efficiency Program application not requiring the M&V process (including the site inspection) may be completed within 30 days. Complex projects may require more time. Projects can only be reviewed when documentation is complete.

If deemed necessary, the Port of Stockton's Administrator will contact the Customer for additional information or clarification.

If the Administrator determines that the M&V process is required (see Section 1.8), the Administrator will advise the Customer. The Project Sponsor will then be required to develop and submit a Measurement & Verification (M&V) plan within 30 days. The application will not be approved until the M&V plan has been received and approved.

1.9.2 Pre-Installation Inspection

Upon receiving a complete Port of Stockton Energy Efficiency Program application, the Administrator may contact the Customer to schedule a pre-installation site inspection as soon as possible. The purpose of this inspection is to verify:

1. The application accurately reflects the existing project baseline.
2. All existing equipment listed in the application is still operational (if not, the associated measures may be deemed ineligible).
3. Installation has not yet occurred (if field preparations for installation have begun, the project may be deemed ineligible).
4. Take spot measurements, if applicable.

The Customer should be flexible in scheduling such inspections and provide complete access to

customer project sites.

A representative of the Customer who is familiar with the project, e.g. the facility manager or other responsible representative of the Customer, should attend the inspection. When electrical measurements are necessary, the Customer may be required to disrupt equipment operation, open any electrical connection boxes, and/or install current and power transducers, as needed. If the inspection cannot be completed in a timely manner, the Customer Project Site may fail the inspection.

If the project fails the inspection, the Administrator may decline the application. Also, the Administrator may assess a re-inspection fee if additional site inspections are conducted.

1.9.3 Notice of Application Review Results

The Port of Stockton's Administrator will provide the Customer written notice of the pre-installation inspection results and overall review of the project application as follows:

- **Approved.** The approval letter/email informs the Customer that the project is accepted under the terms of the Port of Stockton's Energy Efficiency Program Offering outlining the approved energy savings and incentive. Included with the letter/email is an official Program Agreement, which is to be signed and returned within 10 business days. If the Customer does not sign and return the Project Agreement within the designated time, the Administrator reserves the right to rescind the Project Agreement. Project Agreement is included in Appendix A.
- **On Hold.** The review may be placed on hold if circumstances do not allow for the project to proceed. Upon resolution of the issue(s), the Administrator will resume the review process.
- **Suspended.** The review may be suspended when repeated attempts for information are ignored. At this point the Customer has 30 days to respond or the application may be withdrawn and will need to reapply.
- **Declined.** An application may be declined if any of the following conditions apply:
 - the project fails inspection;
 - the application is missing information that the Project Sponsor is unwilling or unable to provide;
 - the existing equipment has been removed prior to inspection;
 - the project otherwise fails to meet program criteria;
 - the application does not include an acceptable M&V plan (M&V process projects only).

If declined, the Customer may re-apply to the program, or the application may be reactivated once the information is provided.

1.10 Project Installation

1.10.1 Wait for Approval

As a general rule, actual project implementation should not begin until after the project application has been approved. However, sometimes based on special circumstances the Port of Stockton's Administrator, at their discretion, may allow installation to begin immediately after the pre-installation inspection. The Administrator pre-approval does not mean the application has been approved and will receive funding, but rather that proceeding with installation will not impair the Customer's chances for the application's approval. The Customer is to request this notification in writing from the Administrator. Verbal notification is not binding.

"Installation" includes, but is not limited to, decommissioning and/or removal of existing equipment,

demolition, facility alterations to prepare for new equipment, and installation of new equipment.

1.10.2 Change in Project Scope

If the scope of the project changes substantially from what was identified in the project application review, the project may require resubmittal. Substantial changes include significant modifications to the proposed equipment type, size, quantity, configuration, or the expansion of project to include additional retrofits. The revised project scope and supporting calculations are subject to an additional review and may require a new agreement – prior to the removal of existing equipment/systems or the installation of the replacement equipment/systems. Exceptions may be granted as deemed reasonable by the Port of Stockton's Administrator.

1.10.3 Installation Deadline

All projects must be installed and fully operational one year from application approval. If project is not fully installed and operational by the specified installation deadline, the agreement is subject to cancellation. Extensions may be requested and granted at the Administrator's discretion.

1.11 Installation Review

The Customer notifies the Port of Stockton's Administrator and submits project invoices once the project has been installed and is fully commissioned and fully operational. This Installation Report/Notification should confirm the estimated energy savings, or identify any changes to the project that were made during installation. In this later case, the anticipated energy savings and demand reduction should be recalculated as necessary. The Customer also attaches any required data and analysis from spot metering that may have been performed before or after installation.

The Installation Review approval is the basis for initiating the incentive payment.

1.11.1 Installation Review Timeline

The Customer should notify the Port of Stockton's Administrator within 30 days of equipment installation.

The Administrator will typically review the form within 30 days for non-M&V projects and 45 business days for M&V projects. Complex projects may take longer.

1.11.2 Post-Installation Inspection

Upon receipt of the Installation Notification, the Port of Stockton's Administrator will schedule a post-installation inspection at the customer project site as soon as possible. The Reviewer will verify that the new equipment (project) is completely installed and operational, and may conduct spot measurements, if applicable.

The Applicant should be flexible in scheduling such inspections and provide complete access to customer project sites.

A representative of the Customer who is familiar with the project, e.g. the facility manager or other responsible representative of the Customer, should attend the inspection. When electrical measurements are necessary, the Customer may be required to disrupt equipment operation, open any electrical connection boxes, and/or install current and power transducers, as needed. If the inspection cannot be completed in a timely manner, the Customer Project Site may fail the inspection.

If the project fails the inspection, the Administrator may decline the application. Also, the Administrator may assess a re-inspection fee if multiple site inspections are conducted.

1.11.3 Notice of Installation Review Results

The Port of Stockton's Administrator will provide the Customer written notice of the post-installation inspection results and overall review of the project application, typically within 30 days of receipt of the completed Installation Report/Notification, as follows:

- **Approved.** The approval letter/email informs the Project Sponsor that the project has been approved for incentive payment processing under the terms of the Port of Stockton's Energy Efficiency Program Offering.
- **On Hold.** The review may be placed on hold if circumstances do not allow for the project to proceed. Upon resolution of the issue(s), the Port of Stockton's Administrator will resume the review process.
- **Suspended.** The review may be suspended when repeated attempts for information are ignored. At this point the Customer has 30 days to respond or the application may be withdrawn and will need to reapply.
- **Declined.** An application may be declined if any of the following conditions apply:
 - the installation is not consistent with the Project Agreement;
 - the project fails inspection;
 - the project is missing information that the Project Sponsor is unwilling or unable to provide;
 - the installed equipment is not fully commissioned and fully operational prior to inspection;
 - the project otherwise fails to meet program criteria.

If an Installation Review is not approved, the Port of Stockton's Administrator may terminate the Project Agreement and release the incentive funding reserved for the project.

1.11.4 Incentive Payment

Upon approval of the Installation Review, the Port of Stockton's Administrator will pay the Project Sponsor the approved incentive amount. For projects requiring M&V, refer to section 1.8.1.

1.12 Operating Report (Measured Savings only)

For the projects requiring Measurement & Verification Process (M&V), the third and final paperwork submittal stage comes at the end of the project performance period. After the new equipment (project) has been operating for the predetermined project performance period, the Customer submits the Operating Report. This form confirms that the equipment is still in operation as installed or notes any changes (e.g., equipment pulled out of service, changed operating hours, etc.). The Customer is to attach the M&V data and analyses to the Operating Report.

1.12.1 Operating Report Timeline

The Operating Report is due within 30 days following the end of the project performance period. The Utility Administrator will typically finish reviewing the Operating Report within 45 business days. The process may take longer for complex and multiple-site projects.

1.12.2 Operating Report Inspection

Upon receipt of the Operating Report — or at any time during the performance period — the Port of Stockton's Administrator may request a site inspection, subject to the same provisions as the post-installation inspection. If the project fails the inspection, the Administrator may decline the application. Also, the Administrator may assess a re-inspection fee if multiple site inspections are conducted.

If the inspection reveals that the M&V Process activities are different from those described in the M&V plan, the Administrator may deny any further incentive payments and may request repayment of the previous incentive payment.

1.12.3 Notice of Operating Report Review Results

The Port of Stockton's Administrator may provide the Customer written notice of the Operating Report review results. If approved, the notice will include the approved incentive amount based on the Administrator's evaluation of the Operating Report and indicate that the final incentive check is being processed.

A project may be denied further incentive funds if:

- The installation is not consistent with the Project Agreement (fails inspection); or
- The project otherwise fails to meet program criteria.

If an Operating Report is declined, the Administrator may terminate the Project Agreement and request that the previous payment be returned.

1.12.4 Final Incentive Payment (Projects requiring the M&V process)

The Port of Stockton's Administrator will pay the remaining 50% percent of the incentive upon approval of the Operating Report.

If measurements show that the installation achieved greater energy savings than predicted, the Administrator will pay up to 10 percent higher than the Energy Savings Incentive amount estimated on the approved project application, or the applicable percent of the measure cost, whichever is the lesser amount. Similarly, if the installation achieved lower energy savings than anticipated, the Applicant will not receive the full incentive, and is responsible for returning to the Administrator, any overpayment that may have been made in the first installment.

1.13 Other Important Terms and Conditions

By virtue of participation in the program, Customers, Project Sponsors, and Authorized Agents agree to the following terms and conditions:

1. All parties consent to participate in any evaluation of the program. The Port of Stockton or its representatives may contact participants to answer questions regarding their Port of Stockton Energy Efficiency Program Offering experience and/or request a site visit. All participants agree to comply with such program evaluations.
2. The Port of Stockton's Administrator expressly reserves all its rights, which include, but are not limited to, the right to use others to perform or supply work of the type covered by the Port's Offering, as well as the unrestricted right to contract with others to perform the work or to perform any such work themselves. The Administrator may employ or contract with third-party engineering firms to conduct site inspections, review calculations, and make recommendations

for project status. The information reviewed is considered confidential and is not shared with any party outside the application.

Notice of Public Record

Participants should be aware that, because the program is funded by the PBP surcharge, the Port of Stockton's Energy Efficiency Program projects are a matter of public record and may be reviewed by the public at any time. The estimated total project costs will be part of the public record. The Port of Stockton may discuss projects and disclose project information among its staff to ensure accuracy and eligibility, as necessary.

The Port of Stockton's Administrator is not liable to any Project Sponsor, Customer, Authorized Agent or other party as a result of any public disclosure.

Change in Sponsorship

If a change in sponsorship occurs after the application is submitted, a new Port of Stockton Energy Efficiency Program Offering application is required. Please indicate the change request in writing to the Port's Administrator, and resubmit the required forms. Written notification is also required from the original Customer or Authorized Agent. If written notification is not possible, (i.e. the sponsor is no longer in business or non-responsive) the Customer must submit a letter in writing requesting termination of the Authorized Agent to act on their behalf.

Contract Termination

The Port of Stockton's Energy Efficiency Program Offering contracts may be terminated at the Administrator's discretion, under the following conditions but not limited to:

- The Administrator determines that significant information was purposely withheld or falsely stated in the Project Application.
- The project fails to be installed, fully commissioned, or fully operational prior to the installation deadline.
- The Customer formally requests withdrawal from the program.

For more information see sample Customized offering agreements in Appendix A.

Section 2: Estimating Energy Savings and Incentives

2.1	Estimating Energy Savings and Incentives.....	22
2.2	Customized Measures	22
2.2.1	Lighting - Lighting Retrofit.....	22
2.2.2	Lighting - Lighting Controls	23
2.2.3	High Efficiency Motors	25
2.3	Customized Measures - Engineering Calculations.....	26
2.4	Measurement & Verification (M&V) Process	29

2.1 Estimating Energy Savings and Incentives

This section of the *2019 Energy Efficiency Program Offering Procedures Manual* describes the customized approach utilized to estimate the expected energy savings and incentives for your proposed energy efficiency project(s).

Under this approach you will need to estimate the kWh savings and the permanent peak demand (kW) reduction achieved as a result of your high efficiency upgrade. This can be done using either the estimation software or using engineering calculations.

- **Estimating software.** . Use of simulation software such as Engage, eQUEST, or another DOE2 based software package is acceptable as long as the inputs and associated assumptions (if any) are clearly stated and can be verified. Software is available from the Department of Energy for calculating the saving of various types of motors. It is available at the following website:
<http://www.doe2.com/>
- **Engineering calculations.** If your proposed energy efficiency measures are not addressed by the estimation software, you can calculate the energy savings by using accepted engineering procedures. This option is acceptable with supporting documentation and substantiation of your savings claims and is subject to review by third party reviewers.

2.2 Calculating the Impact of Energy Efficiency Measures

2.2.1 Lighting - Lighting Retrofit

2.2.1.1 Description

Lighting systems are found throughout various facilities both internally and externally and are used for illumination purposes of all types. As such, lighting systems vary in the equipment that is employed. Replacing antiquated lighting systems with higher efficiency equipment provides significant opportunities for energy savings. The Table of Standard Fixture Wattages that is included as Appendix B of the Procedures Manual and included at the end of this document.

Proposed equipment for T8 and T5 linear fluorescent lighting upgrades must meet the Color Rendering Index and Lamp Life specifications listed in Table 1-2, Section 1.4 for definition. LED fixtures must be specifically EnergyStar and Utility approved LED fixtures. LED lamp-only replacements are not eligible.

De-lamping measures are eligible only as an integral part of a lighting efficiency upgrade. The removal of bulbs and/or the disabling of fixtures alone are not eligible for the program. Lighting retrofits that include the retention of existing ballasts are eligible only if the ballasts have at least five year of useful life remaining. The Port may require the Applicant to certify the remaining useful life of the existing ballast.

Multiple line items (i.e. groupings of similar fixtures and similar usage patterns) can be entered as a

single measure. Lighting fixtures and the associated savings are grouped by usage. Usage groups may include offices, restrooms, hallways/stairs, display lights, sales floor, process areas, and parking areas or structures. Inputs for each usage group should include a brief description of the area affected by the lighting, as well as specifications for both existing and new equipment.

You may include a copy of the manufacturer's specification sheet along with the submittal documents. For measures involving partial delamping (e.g., removing two lamps from a three-lamp fixture), spot measurements used to verify fixture loads. For lighting measures you may estimate the operating hours, but you should be able to support the estimate. Typically proposed operating hours should not differ from existing operating hours.

2.2.2 Lighting - Lighting Controls

2.2.2.1 Description

The energy savings is achieved when the energy consumed by lighting equipment is reduced through the use of an automated system or control devices, such as sensors, time clocks or EMS systems.

2.2.2.2 Energy Savings Explanation

The energy savings for this measure is calculated as the difference between the energy usage of the lighting equipment in an uncontrolled (Baseline) and controlled (Proposed) state. The power demand (kW) of a lighting system is calculated based on the specifications ballast and the lamp that comprise the lighting fixture. The Table of Standard Fixture Wattages contains average kW draw for a range of lighting fixtures and is located in the 2019 Program Manual. Since power is assumed to be unchanged from the baseline, the energy savings are determined by the reduction in the number of hours that the fixture is energized;

*Energy Savings (kWh) = Power Demand, (kW) * (Uncontrolled Operating Hours – Controlled Operating Hours)*

EMS and time clocks type measures, utilize a scheduling capability that reduces the amount time (hours) that a fixture is energized based on a pre-determined schedule. Please note that these values must correspond to actual hours the lights are energized prior to the installation of the controls and the proposed hours from the scheduled operation. The programmed schedule in the EMS will be independently verified by the Port's Administrator/Inspector.

Occupancy sensors work in a different fashion than EMS systems in that they control operation based on occupant activity and do not schedule equipment operation for particular times. Provide an estimate of the amount of savings from these controls based on the space type and reduction rate to the baseline operating hours.

These reduction rates and space types are based on empirical data from a variety of governmental sources. Table 2-1 lists these reduction rates of operating time based on space type.

Table 2-1. Occupancy Sensors Reduction in Operating Time

Space Type	% Savings	Space Type	% Savings	Space Type	% Savings
Assembly	45	Industrial	45	Restroom	45
Break room	25	Kitchen	30	Retail	15
Classroom	30	Library	15	Stair	25
Computer Room	35	Lobby	25	Storage	45
Conference	35	Lodging (Guest Rooms)	45	Technical Area	35
Dinning	35	Open Office	15	Warehouses	45
Gymnasium	35	Private Office	30	Other	15
Hallway	25	Process	45	Parking Garage	15
Hospital Room	45	Public Assembly	35		

The following calculation method is used to determine energy savings of the project for each of the measure types:

Baseline Calculation:

$$QTY \times FW \times BOPHR = \text{baseline annual kWh} \quad (\text{Eq. 1})$$

$$QTY \times FW = \text{baseline kW} \quad (\text{Eq. 2})$$

Where;

QTY = number of fixtures

FW = fixture wattage

BOPHR = baseline annual hours of operation

Proposed Calculation:

$$QTY \times FW \times POPHR = \text{proposed annual kWh} \quad (\text{Eq. 3})$$

$$QTY \times FW = \text{proposed kW} \quad (\text{Eq. 4})$$

Where;

POPHR = proposed annual hours of operation

For EMS and time clock measures, POPHR is entered by the user. For occupancy sensors, the user enters a "Space Type" which references Table 5 above and calculates POPHR from the following equation:

$$BOPHR \times (1 - \% \text{ savings}) = POPHR \quad (\text{Eq. 5})$$

Where;

% savings = value obtained from Table 1

Energy savings are obtained by taking the difference between the baseline cases and the proposed cases.

$$\text{Baseline kWh} - \text{Proposed kWh} = \text{Annual kWh savings} \quad (\text{Eq. 6})$$

$$\text{Baseline kW} - \text{Proposed kW} = \text{kW saved} \quad (\text{Eq. 7})$$

$$\text{Annual kWh savings} \times \$0.051/\text{kWh} = \text{Incentive payment} \quad (\text{Eq. 8})$$

Defined Peak Demand Savings

The average demand savings is calculated by dividing the annual kWh savings by the baseline annual hours of operation. The resulting average demand savings approximates the Peak demand savings because it is assumed the equipment's average kW demand is typical during all operating periods. Calculated demand savings and timing of savings must be at the time of the Port of Stockton's Annual Peak as described in Section 1.4.

2.2.3 High Efficiency Motors

The Port of Stockton will permit the use of the Department of Energy's Motor Master+ software tool to determine the savings resulting from the installation of improved efficiency motors.

The MotorMaster+ International free online software tool includes many of the capabilities and features of MotorMaster+. However, users can evaluate repair/replacement options on a broader range of motors, including 60 hertz (Hz) motors tested under the Institute of Electrical and Electronic Engineers(IEEE) standard, and 50 Hz motors manufactured and tested in accordance with International Electrotechnical Commission (IEC) standards. This tool allows users to:

- Conduct analyses in different currencies
- Calculate efficiency benefits for utility rate schedules with demand charges based upon monthly kilowatt (kW) or kilo volt amps (kVA) readings
- Edit and modify motor rewind efficiency loss defaults
- Determine best available or most cost-effective replacement motors
- Compute annual greenhouse gas emission reductions as a result of selecting a National Electrical Manufacturers Association (NEMA) Premium[®] efficiency motor.

See the following website for further information:

<http://www.doe2.com/>

See Appendix C for Minimum Efficiency Standards

2.3 Engineering Calculations

If you cannot find an existing program savings calculation method that adequately represents your measure you can choose to submit your own savings estimate (Engineering Calculations). The purpose of this section is to provide basic guidelines in preparing your savings estimate that will help ensure a timely and successful review by the Port of Stockton Administrator. An engineering calculation worksheet is available (see Appendix E) to assist in the documentation process.

Preparation Basics

When preparing your application assume that the reviewer, while having a technical background, *will not have direct knowledge of your specific project*. Therefore, the description(s) that you provide should contain sufficient detail to clearly understand the processes involved, the proposed savings measure, and how the measure will achieve the stated savings. To facilitate the review process, please consider the following:

- Break up your calculations and associated descriptions into smaller steps, since this will make your thought process easier to follow,
- Fully describe how you obtained any data used in the calculations (i.e., equipment load, operating hours including on or off peak hours of operation, etc.),
- On –peak hours are hour ending 0600 through 2000 Monday through Saturday**
Off-Peak Hours are hour ending 0000 through 0500 and 2100 through 2400,
Sundays and Holidays.
- Fully describe any simulations/software used,
- Attach (and be able to electronically submit) printouts/reports summarizing both the inputs and results of simulations or other software used in preparing the calculation(s), and
- Attach any manufacturer’s data, production data and/or other documentation that supports the inputs and assumptions used in your calculations or descriptions. *Note that spot measurements of load, whether in kW or amps, under realistic operating conditions are preferred over assumed loads and or use of manufacturer’s design values.*

The process of preparing and documenting your savings estimate can be divided into four basic steps, which are described in detail in the following sections.

Step 1. Process / Measure Description

The importance of providing a detailed description of the process and associated energy saving measure cannot be overstated, since it provides the reviewer with the necessary background information to understand the calculations that follow. Your description should be divided into the following three sections:

1. Existing process/equipment (w/o measure),
2. Proposed new equipment retrofit or enhancement, and
3. Resultant equipment and/or process (post installation).

In each section include sufficient information on the process and equipment involved making it clear to the reviewer how the proposed measure will be implemented and how it will achieve the stated savings. *For instance, if energy savings will be achieved using an energy management system (EMS) that implements a new control strategy, then you provide a complete description of the EMS, the existing and proposed control strategies, and the controlled equipment.*

Step 2. Establish Baseline Annual Energy Use and Demand

The Port of Stockton's Energy Efficiency Program Offering incentives are based on equipment/improvements that go beyond standard efficiency or "baseline" equipment. "Standard efficiency" refers to equipment that meets either State/Federal efficiency requirements or current industry practice. The baseline for any given project is the standard efficiency or Title 24 requirement for an individual measure. Baseline energy use is established using accepted standards for currently available equipment. For instance, the Energy Policy Act of 1992 established Federal guidelines for electric motor efficiency (See Appendix D for a list of equipment types and applicable standards, or contact your Port of Stockton Administrator).

The simplified equation used for the baseline energy use calculation is shown below.

$$\text{Baseline Energy Use (kWh/year)} = (\text{Op Hours} * \text{Equipment Load (kW/hr)})_{\text{base}}$$

Note that it may be necessary to develop a table of equipment loads and the annual operating hours at each load to arrive at an annual energy use estimate (see Appendix E for engineering calculation worksheet).

To obtain the baseline value, it may be necessary to adjust the energy use estimate for the existing equipment to account for "standard equipment" efficiency. For example, a customer that proposes to replace an existing 50-hp motor with a nominal full-load efficiency of 90.2% with a premium efficiency motor having an efficiency of 94.1% must establish the baseline energy using the accepted standard motor efficiency. In this case, the previously mentioned Energy Policy Act of 1992 guideline for a 50-hp motor is 93%. The baseline energy use of the existing motor must therefore be calculated based on the higher 93% efficiency value, which reduces the baseline (and associated savings) value.

The baseline energy use and demand calculations are critical to the savings calculations, so it is important that your calculations and associated descriptions provide sufficient information on the process, equipment and applicable standards to justify the proposed baseline energy use and demand.

Step 3. Establish Post-Installation Annual Energy Use and Demand

The simplified equation used for the post-installation energy use calculation is essentially the same as for the baseline calculation.

$$\text{Post Install Energy Use (kWh/year)} = (\text{Op Hours} * \text{Equip Load (kW/hr)})_{\text{post}}$$

Note that it may be necessary to develop a table of equipment loads and the annual operating hours at each load to arrive at an annual energy use estimate (see engineering calculation worksheet, Appendix E).

While the baseline energy use calculation is based on "standard efficiency" equipment, the post-installation calculation is based on the projected performance of the new equipment or process. Use of simulation software such as Engage, eQUEST, or another DOE2 based software package is acceptable as long as the inputs and associated assumptions (if any) are clearly stated and can be verified. Use of a manufacturer-specific simulation product can be acceptable but will require additional information on the underlying principles used by the software. Again, it is important that your description provides sufficient detail so that the reviewer will understand the basis for your projection. It is important to note that the reviewer has the option of substituting an alternative method of estimating the post-installation energy use and/or may require monitoring to confirm the estimate.

Step 4. Calculate Energy Saving, Demand Savings, and Incentive Amount

Once the baseline and post-installation annual energy use and demand estimates are completed then the savings estimate is simply the difference between the annual baseline and post installation use and demand estimates.

Savings (kWh/year) = Baseline Energy Use - Post-Installation Energy Use

The peak demand savings (kW) are based on the Peak Definition (see section 1.4.8). The total incentive amount is then calculated by multiplying the savings estimate by the appropriate program incentive multiplier (see Section 1, Table 1-3).

Incentive (\$) = program Incentive Multiplier (\$/ (kWh)) * Savings (kWh/year)

*Note that the calculated incentive is limited to 40% of the installed measure cost or incremental cost depending on the project type.
– see Section 1.8.2.*

2.4 Measurement & Verification (M&V) Process

The M&V process begins after the Port of Stockton Administrator reviews the submitted application **and has determined at its sole discretion that an M&V process is appropriate for the proposed project.**

The M&V process proceeds as follows:

1. **M&V Requirement Notification.** The Port of Stockton Administrator contacts the Customer and notifies them of the M&V requirement. The Port of Stockton Administrator sends the Project Sponsor the Measurement & Verification Guidelines.
2. **M&V Plan Development.** The Customer develops an M&V plan based on the M&V Guidelines. The Customer submits the M&V plan, and any required baseline data to the Port of Stockton Administrator.
3. **Application and M&V Plan Approval.** If the application and the M&V plan are approved, incentive funding for the project is reserved and the Project Sponsor and Port of Stockton Administrator initiate the application approval review.
4. **Project Installation.** The Customer notifies the Port of Stockton Administrator in writing and submits invoices after all project measure(s) have been **installed and are fully commissioned and fully operational.**
5. **Installation Review.** Upon receipt of Installation notification, the Port of Stockton Administrator will evaluate the submittal package and conduct a post- installation inspection to verify project installation and ensure the scope of work has not altered from the agreed-upon project.
6. **First Payment.** The designated Payee receives 50 percent of the Installation Report approved incentive, upon approval of the Installation Report.
7. **Project Performance Period.** The Customer performs the agreed-upon M&V activities on the new operating equipment for a period up to two years (at discretion of Port of Stockton Administrator). At the end of the project performance period, the Customer submits the Operating Report.
8. **Operating Report.** The Customer submits the Operating Report and operating data to the Port of Stockton Administrator. Upon receipt, the Port of Stockton Administrator reviews the report and data.
9. **Final Payment.** The remaining 50% of the incentive is paid at the end of the project performance period when the Operating Report is approved. The energy savings incentive is based on actual performance as indicated by the M&V results.