Table of Contents

1.0 Introduction .................................................................................................................. 4
2.0 Program Overview .......................................................................................................... 4
3.0 Definitions ..................................................................................................................... 4
4.0 How To Apply .................................................................................................................. 6
   4.1 Projects in the Proposal Stage ..................................................................................... 6
   4.2 Projects Under Contract ............................................................................................. 7
5.0 Eligibility for Participation ............................................................................................ 7
   5.1 Customer Eligibility ................................................................................................... 7
   5.2 Partner Firm Eligibility ............................................................................................. 7
   5.3 Project Eligibility ...................................................................................................... 8
6.0 Qualifying Energy Efficiency Measures ........................................................................ 8
7.0 Projects That Increase Load .......................................................................................... 9
8.0 Baseline Identification .................................................................................................. 10
9.0 Direct and Indirect Savings .......................................................................................... 10
10.0 Peak Period ................................................................................................................ 10
11.0 Program Alternatives ................................................................................................ 10
12.0 Aggregating Customer Project Sites .......................................................................... 11
13.0 Projects at Sites with Multiple Metered Accounts ..................................................... 11
14.0 Incentive Payments ..................................................................................................... 11
15.0 Project Cost Documentation for Final Application Submittal .................................... 11
   15.1 Acceptable Methods of Demonstrating Project Cost: .............................................. 11
   15.2 Eligible Components of Project Cost ....................................................................... 12
   15.3 Combining Measures to Increase Project Cost ....................................................... 12
16.0 Incentive Limits .......................................................................................................... 13
   16.1 First Come, First Served ......................................................................................... 13
   16.2 Incentives/Rebates from other Programs .................................................................. 13
   16.3 Utilizing Multiple Programs on a Single Project ..................................................... 13
   16.4 Customer Project Incentive Caps ............................................................................ 14
   16.5 Multi-Year Projects ................................................................................................. 14
   16.6 Changes to Project Scope ....................................................................................... 14
17.0 Installation Deadline and Delays ................................................................................. 15
18.0 Post-Installation Inspection ......................................................................................... 15
19.0 Application Termination .................................................................................................................. 15
19.1 Application Expiration ...................................................................................................................... 15
19.2 Agreement Termination Conditions ............................................................................................... 15
19.3 Appeal of Termination ...................................................................................................................... 16
20.0 Billed Peak Demand Adjustment .................................................................................................. 16
21.0 Contractor or Payee Suspension ...................................................................................................... 16
22.0 Contact Information ........................................................................................................................ 17
   Appendix A: Air Conditioning, Refrigeration, and Controls ............................................................... 18
   Appendix B: Retrocommissioning (RCx) ............................................................................................. 19
   Appendix C: Pump Energy Assessment Program .............................................................................. 20
   Appendix D: Networked Lighting Controls (NLC) ............................................................................ 21
   Appendix E: Lighting and Lighting Controls .................................................................................... 22
   Appendix F: Process Improvement with Added Load .......................................................................... 24
   Appendix G: Electrification .................................................................................................................. 25
   Appendix H: Ineligible Measures ......................................................................................................... 26
1.0 Introduction

The 2020 Custom Energy Efficiency Incentives Program ("Custom Program") provides calculated incentives to support the installation of qualifying energy efficiency equipment ("Measure") at non-residential customer sites. Financial incentives help cover the cost difference between efficient and standard equipment.

Please note that changes to incentives and the program rules may occur between revisions of this procedures manual. Please visit www.smud.org to ensure that your version of the procedures manual and application are the most recent.

2.0 Program Overview

- The Custom Program uses a paper application available upon request at CustomEnergyEfficiency@smud.org, or call 916-732-5095.
- Preapproval is required before construction and/or installation of Measure begins.
- Most incentives are calculated. If the scope of the project doesn’t change after funds are reserved, and the initial assumptions (hours of operation for example) are accurate, the incentive value is fixed regardless of actual performance.
- Incentives are calculated and are dependent on annual energy savings (kWh).
- A peak-demand reduction incentive (kW) is also available for most non-lighting projects.
- Special incentives are available for surface and ground water pumping equipment to offset the cost of monitoring.
- Electrification incentives are available for projects that reduce gas use through the use of efficient electric technologies.
- Depending on the path your project chooses within the Custom Program, incentives can be paid on new permanently installed equipment or the optimization of existing equipment. Since the calculation methodology can vary between different paths, a summary of each incentive type can be found in the Appendices.

3.0 Definitions

Agreement – Once an Application has been accepted by SMUD and agreed to via a confirmation of Incentive amount from SMUD to Applicant, technical data has been reviewed, and required documentation is submitted, the Application is converted to an Agreement, and the parties agree to be bound by the terms and conditions of the Agreement. Funds are reserved for Agreements.
Applicant – The party who submits the Application is the Applicant. The Applicant is most frequently the Customer of Record or an installing Contractor, but energy services companies (ESCOs), equipment vendors, or others may also apply for the incentive.

Application – The Custom Energy Efficiency program application is available upon request from CustomEnergyEfficiency@smud.org. This will include contact information for the Applicant, Site Contact, and Payee, as well as the Terms & Conditions.


Contractor – The Customer’s agent who maintains the appropriate licenses in good standing and will perform the installation of the Measure.

Customer – The “Customer of Record” who receives a SMUD bill and will be the beneficiary of any energy efficiency improvements.

Custom Energy Efficiency Incentives Program / Custom Program – SMUD’s incentive program that pays incentives based upon energy savings calculations.

Hard Measure – Physical equipment purchased for the purpose of optimizing efficiency. In some cases, equipment licenses and other tangible costs can be considered hard measures. Reprogramming energy management systems, changing thermostat setpoints, etc. are examples of soft measures.

Incentive – The energy efficiency reimbursements payable to Payee may vary depending on several factors including, but not limited to, baseline, projected costs, pre-approval, and calculated savings values. All payments through the Custom Program are referred to as Incentives.

Installation – Applications to the Custom Program require approval prior to the installation of energy efficiency measures. Installation is presumed to be initiated at the time that reversing a measure or upgrading a system is no longer feasible. For catalog and off the shelf items (common lighting fixtures for example), installation is assumed to have been initiated at the time the existing equipment is mechanically or electrically detached. For large, engineered or complex systems, installation is assumed to have been initiated at the time the system is shipped from the factory/distributor.

Letter of Authorization to Release Utility Data – SMUD is unable to release customer data (incentive status, interval data, billing history, etc.) to contractors, or other parties without a written letter of authorization (LOA) from Customer on file. The LOA will include the customer’s name, phone number, e-mail address, title, and signature. The LOA will specifically indicate what information SMUD is eligible to share, for example: incentive status, incentive amount, billing history, interval data, etc.
Measure – A SMUD recognized technology eligible for the Custom Program where upgrade or enhancement reduces annual energy consumption or improves production efficiency.

Partner Firm – A contractor, vendor, or third party who registers with SMUD and subsequently receives a unique vendor business agreement number in order to receive an incentive.

Payee – The Payee accepts the Custom Program terms and conditions and will receive the Incentive payment. The Payee can be either the Customer or Partner Firm (contractor, vendor, or ESCO). In all cases, the Customer must agree to the Agreement terms and conditions and be aware of potential incentives.

Project – The scope of work contained within a Customer’s contract with a Partner Firm at a single site.

Project Costs – Costs of qualifying equipment, including related direct costs, like engineering, installation, materials, removal of old equipment, recycling, pro-rated overhead, tax, shipping, and direct labor. These costs must be detailed in the Contractor’s invoice and included in the Application as supporting documentation.

Project Incentive Cap – The maximum Incentive that can be paid on a Project is the lesser of: 1) kWh & kW Savings, 2) 50% of Project Cost, or 3) or $150,000. For illustrative purposes, if the calculated incentive based on energy savings is $500 with a Project Cost of $10,000, then the incentive paid is capped at $500. If the calculated incentive based on energy savings is $500 with a Project Cost of $800, then the incentive paid is capped at $400.

Reservation of Funds/Approval to Proceed – Custom Program Projects must receive pre-approval before starting work. Once SMUD reviews and approves the Application, funds will be reserved, and the Applicant will be notified of Approval to Proceed with Installation.

Self-Install – Projects that do not require a licensed contractor, or are performed by self-inspecting municipal agencies, may use Customer’s employees to perform the work.

Site Contact – Customer representative who can provide knowledge of energy-consuming system and its operation to SMUD

Specific Consumption – Energy consumed per unit of production. “Kilowatt-hours consumed per ton” is an example of Specific Consumption.

4.0 How To Apply

Request a copy of the Custom Program application (Form 2387) at CustomEnergyEfficiency@smud.org or call 916-732-5095.

4.1 Projects in the Proposal Stage

If an Incentive estimate is required, and the Applicant does not have a contract with a Customer, Contractor or vendor:
1) Complete application (Form 2387) Step 1 on page 2.
2) Sign terms and conditions (Form 2387) on page 3.
3) Provide a scope of work, hours of operation, details of Measures being considered, and any technical specifications or data sheets.
4) Return the signed, scanned application to CustomEnergyEfficiency@smud.org
5) SMUD will contact the Applicant, visit the job site, and provide an incentive estimate to the Applicant.

4.2 Projects Under Contract
Once a contract, purchase order, or other financial commitment has been established:

1) Complete application (Form 2387) Steps 1 and 2 on page 2.
2) Sign Terms and Conditions on page 3.
3) Provide a signed copy of a contract or purchase order.
4) If not already given, provide a scope of work, hours of operation, details of Measures being considered, and any technical specifications or data sheets.
5) Provide a Project timeline for any projects that either require more than 120 days to complete or are expected to continue beyond December 15 of the current year.
6) Return a signed, scanned copy of the application to CustomEnergyEfficiency@smud.org
7) SMUD will calculate an incentive, reserve funds for the Project, and provide a written approval to proceed.

5.0 Eligibility for Participation

5.1 Customer Eligibility
The Custom Program is open to all SMUD customers receiving electricity under a non-residential rate who have annual energy purchases (kWh) that exceed the proposed savings claimed by the energy efficiency project. In the event the Customer has less than one year of billed consumption, the annual consumption will be projected.

Multi-family and mixed-use buildings may use the Custom Program for areas served by a commercial “house” meter. Custom Program retrofits can typically be applied to common areas, sport courts, landscape lighting, roadway lighting, and parking. Areas controlled by individual residents are not eligible for the Custom Program, but rebates are available through the Express Energy Solutions program (www.smud.org/ees).

5.2 Partner Firm Eligibility
Third parties (Partner Firms) including contractors and energy services companies (ESCOs) may apply for incentives on a customer’s behalf.

Partner Firms who receive an incentive payment will be required to enroll as a vendor with SMUD and will be required to submit a W9 and a CA590, if applicable. The Payee and/or Customer (if different) for any Incentive is responsible for signing the Application and accepting the terms and conditions.
The SMUD Customer receiving the benefit of the installed Measures will be made aware of the existence of an incentive as well as its value.

5.3 Project Eligibility
Custom Program projects must meet the following criteria:

1. Preapproval is required prior to the construction and/or installation of energy efficiency Measures.
2. Contractor must be licensed and qualified to perform the work specified in the Application.
3. All applicable permits must be finalized.
4. All products must be UL, CSA, or ETL. SMUD may request confirmation that products are listed. The CE mark (Conformite Europeenne) is not an accepted substitute.
5. New equipment must meet all applicable codes including the State of California Title 24 part 6 and Title 20.
6. As a condition of receiving an Incentive, Customer must be willing to participate in SMUD’s future review of the Project’s performance for the purpose of determining the Custom Program’s performance. Customer may be requested to answer questions regarding the installed Measures’ performance and agrees to the release of Customer’s billing data to SMUD or its consultant. (Note that in the event the modification does not perform as well as expected, SMUD will not seek the return of incentives paid for projects negotiated in good faith)
7. Customer site must be occupied, or Payee must provide a signed copy of a lease agreement demonstrating occupancy scheduled within 90 days of the date of the Application.
8. Applicant, Customer, and Payee are not suspended from participating in the Custom Program.

6.0 Qualifying Energy Efficiency Measures

Requirements of technologies applying for Custom Program include:

1. Must not be listed on the “Ineligible Measures” list (Appendix H).
2. Cannot overlap other incentive/rebate programs – Any measures included in the Application cannot apply for multiple California energy efficiency incentives or rebate programs. SMUD, at its sole discretion and with preapproval, may make exceptions for projects using SMUD PowerDirect®, Electrification, or R&D programs. Cost caps will need to be observed when utilizing multiple programs.
3. If equipment is being installed or modified, it must be permanently installed. If controls optimizations are being claimed (RCx), they must be automated.
4. Existing equipment must be decommissioned and removed – The baseline equipment must be decommissioned and removed from the site. Under certain circumstances and subject to SMUD’s discretion, baseline equipment may be kept on
site and rendered permanently inoperable. Additional documentation or verification may be required in these cases to verify the need or the circumstances for retaining the baseline equipment.

5. **Equipment must meet a minimum specification** – At a minimum, all equipment must meet the efficiency requirements of Title 24 and Title 20. Many equipment types have additional requirements detailed in the Custom Program Procedures Manual Appendices.

6. **Equipment must be new** – Remanufactured equipment, repurposed equipment, or equipment relocated from another site is ineligible for incentives. Integrating new efficiency-enhancing technologies into existing systems is permitted. Common examples of permissible partial retrofits (Retrofit Add Ons) include lighting retrofit kits, chiller compressor upgrades, and variable frequency drives (VFDs) integrated into existing systems. Certain types of equipment, including well pumps, can integrate new long-lived components as part of system improvements identified through the pump energy assessment program. In special cases, with preapproval, SMUD may consider including refurbished industrial equipment provided it is effectively treated as new equipment, is long-lived, and includes a manufacturer’s warranty or service contract.

7. **No equivalent Express Energy Solutions offering** – Except for the rare case where a project exceeds the Express Energy Solutions rebate cap, any equipment eligible for the Express Energy Solutions program must use that program.

8. **Fuel substitution measures** – Incentives are available for projects that reduce gas use through the use of efficient electric technologies. See Appendix G.

9. **Savings must not be reliant on behavioral changes** – Projects are required to have permanent energy efficient modifications and/or automated controls. See the Appendices for exceptions.

### 7.0 Projects That Increase Load

Incentives are available to process improvement projects resulting in greater overall consumption provided that the Specific Consumption (kWh per unit) decreases. For example, if due to improvements in technology, a manufacturer adds a second manufacturing line that has lower specific consumption than the first manufacturing line, it would be considered energy efficiency for the purposes of calculating an incentive.

To be eligible for incentives, a project that adds load must demonstrate greater incremental cost for the efficient option when compared to the industry standard or other actual alternatives the customer considered. The incentive is intended to help bridge the cost gap. In the unlikely event that the more-efficient option is less expensive than the baseline option, the project will not be eligible for incentives.
8.0 Baseline Identification

Incentives are calculated by determining the difference in annual energy consumption between the proposed efficient system, and a baseline system.

Replace on Burnout: If the Custom Program project is being pursued to replace equipment that is non-functional, a “replace on burnout” (ROB) baseline is used. For common commercial equipment (HVAC, Lighting and Appliances for example), the minimum efficiency required by Title 24 or Title 20 is the baseline.

For engineered products and systems, the replace on burnout baseline will be an identified industry standard.

Operational Replacement: If equipment being replaced is still functional, the baseline is the existing condition.

Retrofit Add On: If a component is added to an existing system to improve its efficiency, the baseline is the existing condition. A typical retrofit add on is the addition of a VSD/VFD to a motor driven process.

9.0 Direct and Indirect Savings

Incentives are available on both the savings calculated for the retrofit (direct savings) and savings calculated from interactive effects (indirect savings). For example, new light fixtures will consume less power (direct savings), and the air conditioning system will have to remove less heat from the space (indirect savings).

10.0 Peak Period

Some non-lighting retrofits include a peak demand reduction incentive. The demand (kW) reduction incentive will be paid only for projects that reduce electrical demand for at least one hour daily between 4 p.m. and 7 p.m. on summer weekdays (peak). Incentives paid for peak demand reduction will be pro-rated for projects that do not reduce electrical demand for the entire peak time period. For example, if a business that closes at 6 p.m. receives a retrofit that is eligible for the peak demand reduction incentive, it will only receive 2/3 of the peak demand reduction incentive.

11.0 Program Alternatives
Common lighting, HVAC, refrigeration, and food service energy efficiency upgrades are likely eligible for the Express Energy Solutions program (EES, www.smud.org/ees).

New buildings, additions, and the first tenant improvement to a space should consider SMUD’s commercial new construction program, Integrated Design Solutions.

https://www.smud.org/IntegratedDesign

Large projects that exceed the Project Incentive Cap and realize extraordinary utility benefits may be eligible for special incentives, at SMUD’s sole discretion.

12.0 Aggregating Customer Project Sites

The Custom Program is not able to combine incentives from multiple non-contiguous sites. Contiguous sites (a campus) that are included in a single construction contract can be permitted, but each account number must be identified.

13.0 Projects at Sites with Multiple Metered Accounts

The Custom Program Project Incentive Cap is applied “per customer site per year”. The customer site reflects all buildings on a parcel or contiguous parcels that have a common customer of record.

14.0 Incentive Payments

Provided the Measure(s) has/have been installed, the Payee indicated on the Custom Program Application can expect to receive a single Incentive payment, by check, within 30 days of submission of ALL required invoices, technical data sheets and other documentation.

15.0 Project Cost Documentation for Final Application Submittal

Prior to an Incentive payment, SMUD requires the Applicant to submit a final accounting of the Project Cost.

15.1 Acceptable Methods of Demonstrating Project Cost

- All invoices, receipts, etc. must include adequate detail of the new equipment/Measures.
- Copy of Contractor’s final invoice indicating overall contract value.
- Copy of Contractor’s partial payment invoice indicating both the overall contract cost as well as reflecting enough invoiced payments to cover all Project Incentive Caps.
• Unitary equipment not requiring permits and not having special installation requirements. (Many types of foodservice equipment or drop-in tubular LED lamps for example) can provide a copy of a receipt from the equipment vendor.
• SMUD may require additional documentation in cases where invoicing is unclear, or deficient in some way.

15.2 Eligible Components of Project Cost

Allowable Project Costs may include: engineering, construction, equipment, materials, removal, recycling, overhead, tax, shipping, and labor.

When an efficiency project is a component of a larger project, SMUD reserves the right to request documentation verifying the value of only the tasks related to the efficiency project. For example, a customer replaces a swimming pool and associated equipment, and is eligible for a rebate on the pump upgrade. SMUD may request the material and labor costs of the pump installation only.

Labor (self-install): Assuming all relevant codes and standards are complied with, and program rules are otherwise complied with, SMUD permits customers to include their own employees’ labor in the project cost. In this case, some substantiation of labor rates and labor hours shall be provided, and may be negotiated. SMUD reserves the right to reduce or remove self-install labor from projects claiming unreasonably high labor rates or labor hours to perform a retrofit.

Labor required for self-install projects may be excluded from the project cost if the installation is piecemeal over a long period and is performed during normal work hours. A common example would be the installation of a few lamps every day over a month. In this case, the labor to perform the retrofit is considered part of normal operations and has negligible impact on the Project Cost.

Project cost may not include: spare parts, maintenance supplies, maintenance contracts, standby/backup equipment, or other equipment that does not contribute to the realization of energy savings. Project Cost may not include any costs incurred in advance of an executed contract or order such as sales, marketing, audits, or assessments.

15.3 Combining Measures to Increase Project Cost

To avoid stranding difficult measures, SMUD will permit the combination of project costs between cost effective and expensive measures subject to the following guidelines:

• The combined projects must be related (HVAC + Retrocommissioning for example).
• The projects must be completed simultaneously.
• The projects are all considered energy efficiency measures (you can’t increase the cost of an HVAC roof-top unit (RTU) by including the cost of the simultaneous re-roofing.)
For example:

<table>
<thead>
<tr>
<th>Projects Performed Separately</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed HVAC Rooftop Unit Replacement</td>
<td>Economizer Service On Otherwise Properly Functioning Units</td>
</tr>
<tr>
<td><strong>Project Cost</strong>: $20,000</td>
<td><strong>Project Cost</strong>: $2,500.</td>
</tr>
<tr>
<td><strong>Savings</strong>: 10,000 kWh/yr</td>
<td><strong>Savings</strong>: 100,000 kWh/yr</td>
</tr>
<tr>
<td><strong>Incentive</strong>: $0.15/kWh, or 50% of project cost – whichever is lower.</td>
<td><strong>Retrocommissioning Incentive</strong>: $0.08/kWh or 50% of project cost, whichever is lower.</td>
</tr>
<tr>
<td><strong>Incentive = $1,500.00 ($0.15/kWh)</strong></td>
<td><strong>Incentive = $1,250. (50% of project cost)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Projects Performed Together</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Replace HVAC RTU with high efficiency unit and perform economizer service on two adjacent units. Economizers have been identified as malfunctioning. Contractor provides a study to SMUD and receives approval prior to starting work.</td>
<td></td>
</tr>
<tr>
<td><strong>Project Cost</strong>: $22,500</td>
<td></td>
</tr>
<tr>
<td><strong>Savings</strong>: 10,000 kWh + 100,000 kWh = 110,000 kWh</td>
<td></td>
</tr>
<tr>
<td><strong>Incentive</strong>: 10,000 kWh * $0.15/kWh + 100,000 * $0.08/kWh = $9,500 OR 50% of project cost- whichever is lower.</td>
<td></td>
</tr>
<tr>
<td><strong>Incentive = $9,500.00</strong></td>
<td></td>
</tr>
</tbody>
</table>

Note: All custom retrocommissioning projects require SMUD review and approval prior to starting work.

### 16.0 Incentive Limits

#### 16.1 First Come, First Served
Program funds are available on a first-come, first-served basis. Incentive budgets are finite and could potentially be exhausted. Only projects receiving a Reservation of Funds/Approval to Proceed are guaranteed an incentive if the project is completed within the stated timeframe.

#### 16.2 Incentives/Rebates from other Programs
Once an application is submitted to one of SMUD’s energy efficiency programs, an application may not be resubmitted to a different program – even if the terms of the second program are more favorable.

#### 16.3 Utilizing Multiple Programs on a Single Project
To avoid encouraging splitting projects into phases and discourage attempts to obscure project scope, SMUD has an allowance for projects that are eligible for multiple programs but reach the incentive cap in a program. The applicant may submit an application for one program, and any materials not included in that application may apply under another program.
The applicant selects the materials and program that would realize the most favorable incentive/rebate. The combination of all incentives and rebates must be less than the Custom Program Project Incentive Cap.

Very large lighting projects are the most common use of multiple programs’ incentives on a single project. The applicant selects the products that result in a rebate that meets or exceeds the Express Energy Solutions cap, then applies the remainder of the products in the Custom Program.

16.4 Customer Project Incentive Caps
Caps are subject to change. Current SMUD caps can be reviewed at www.smud.org.

Maximum Custom Program incentives are limited to the lesser of the following:

- 50% of Project Cost
- $150,000

Incentive Caps are per program year (the current calendar year) and incentive payments are cumulative when compared to caps. Dividing a project to avoid Project Incentive Caps will not result in multiple Project Incentive Caps unless the two phases apply in different program years. Any project phases that apply in future years will be subject to the rules in place at the time that application is received, and the project must be completed within 120 days after the Reservation of Funds are set aside.

16.5 Multi-Year Projects
To assist customers with large projects having extensive development periods, SMUD can reserve funds past the current calendar year. Special SMUD approvals are required and can add additional processing time. Multi-year projects also have special requirements including:

- Project Schedule prior to Reservation of Funds
- Potential incentive reduction for delays beyond the anticipated calendar year
- Demonstration of substantial work prior to advancing incentive into following calendar year

These and other additional terms will be confirmed upon Reservation of Funds.

16.6 Changes to Project Scope
If the project scope changes significantly between the Reservation of Funds stage and the post-installation inspection, SMUD reserves the right to reduce the incentive. If scope changes are brought to SMUD’s attention prior to installation, SMUD will evaluate the change for incentive increases or reductions.
17.0 Installation Deadline and Delays

The Reservation of Funds/Approval to Proceed will include an installation window. Unless negotiated in advance, the installation window is either 120 days, or the end of the program year, whichever is sooner. Incentives for projects that miss the installation window are not guaranteed.

Projects delayed beyond the installation window stated in the Reservation of Funds/Approval to Proceed can still receive an incentive provided funds are still available and it is the current program year.

Applications for projects delayed beyond the end of the program year will be cancelled. If the program continues to exist, a new application for the new program year can be submitted, and all existing preapprovals will be honored. The program incentive rates and caps are subject to change, and the most recent program rates and rules will be applied to the new application.

18.0 Post-Installation Inspection

Most Custom Program Projects will be subject to a post-installation inspection.

19.0 Application Termination

19.1 Application Expiration

Applications that do not result in a notice to proceed/reservation of funds will expire without notice one year after the original application date. Expired applications can be restored at any time to the current program rules provided the program still exists and the project is still eligible.

19.2 Agreement Termination Conditions

SMUD values all customers who endeavor, in good faith, to participate in SMUD’s programs and will make every effort to renegotiate completion dates or incentives prior to the expiration or termination of Agreements, however Agreements (projects receiving notice to proceed) may be terminated (cancelled) at SMUD’s discretion, under the following conditions:

- SMUD determines that significant information was purposely withheld or falsely stated in the Application.
- Installation commences prior to the Reservation of Funds/Approval to Proceed.
- The Project fails to be installed, fully commissioned, or fully operational prior to the installation deadline.
- The Applicant formally requests to withdraw from the program.
- Applicant is unable to provide appropriate and complete documentation (technical data sheets, signed contracts, etc.) prior to the Reservation of Funds/Approval to Proceed.
• Applicant fails to provide complete documentation (payment request, technical data sheets, invoices, etc.) within 90 days of Project completion or prior to the close of the current program year, whichever comes first.
• The Agreement is a duplicate.

19.3 Appeal of Termination
Prior to terminating or cancelling an Agreement, SMUD will email a notice to the Payee at the email address on the Application. The Payee has seven (7) days to provide a written appeal to the program manager at CustomEnergyEfficiency@smud.org with reasoning for an extension request. Note that failure to complete the Project or provide the required documentation does not constitute a valid reason for extension.

After the seven (7) day appeal period, the Agreement will be cancelled.

20.0 Billed Peak Demand Adjustment

Customers who implement a Custom Program Project may request, in writing, within 30 days of the Project completion and commissioning, an adjustment to their billing demand based upon the anticipated reduction in kW resulting from the Project. The calculated demand reduction will be determined using the Peak Period methodology described in Section 10.0.

21.0 Contractor or Payee Suspension

Should SMUD determine that a Contractor or Payee has acted in a manner to indicate an intent to defraud SMUD, SMUD will restrict participation in its programs. Any project installed during the suspension period is ineligible for incentives or rebates.

SMUD will ask the party being suspended to acknowledge the suspension. Regardless of the acknowledgement, the suspension period begins on the date of the notice of suspension. Legitimate incentives for projects found to be erroneous will be forfeit in all cases except those warranting a warning letter.

SMUD may apply suspensions to individuals, businesses, customers, equipment distributors, and vendors.

Infractions are removed one year from the notice of suspension. The following table contains guidelines. SMUD reserves the right to accelerate or lengthen the suspension period in clear cases of fraud.

<table>
<thead>
<tr>
<th>Example of issue (not a comprehensive list)</th>
<th>Suspension period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carelessness or unintentional</td>
<td></td>
</tr>
<tr>
<td>• Minor error in fixture count</td>
<td>• First infraction: Warning Letter</td>
</tr>
<tr>
<td>• Minor error in determining fixture wattage</td>
<td>• Second infraction: 90 Days</td>
</tr>
<tr>
<td></td>
<td>• Third infraction: 180 Days</td>
</tr>
<tr>
<td>Variance</td>
<td>Deliberate miscalculation</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>• Substantially overstating wattage/horsepower/tonnage of existing equipment (ex: claiming 250W HID as 400W HID, 3 lamp fixtures as 4 lamp fixtures, claiming T8 fixtures as T12 fixtures, etc.)&lt;br&gt;• Major overstatement of fixture count (&gt;10%)&lt;br&gt;• Improperly claiming project completion</td>
</tr>
<tr>
<td></td>
<td>• First infraction: 90 Days&lt;br&gt;• Second infraction: 1 Year (12 months)</td>
</tr>
</tbody>
</table>

### 22.0 Contact Information

A representative of the Custom Program team can be reached at: CustomEnergyEfficiency@smud.org or (916) 732-5095.
Appendix A: Air Conditioning, Refrigeration, and Controls

- $0.15/kWh Energy Reduction Incentive
- $200/kW Peak Demand Reduction Incentive
- Limited to 50% of Project Cost or $150,000, whichever is less

Partial list (not comprehensive) of qualifying measures:

<table>
<thead>
<tr>
<th>Equipment Efficiency</th>
<th>High efficiency chillers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Packaged HVAC Equipment &gt; 62 Tons</td>
</tr>
<tr>
<td></td>
<td>Subsystem replacements (condensers, evaporators, cooling towers, compressors)</td>
</tr>
<tr>
<td></td>
<td>Direct or indirect evaporative coolers and pre-cookers</td>
</tr>
<tr>
<td></td>
<td>Water- or air-side economizers</td>
</tr>
<tr>
<td></td>
<td>CAV to VAV conversions</td>
</tr>
<tr>
<td>Controls</td>
<td>Refrigeration evaporator fan controls</td>
</tr>
<tr>
<td></td>
<td>Demand controlled ventilation controls</td>
</tr>
<tr>
<td></td>
<td>New reset strategies (supply air temp, duct static, chilled water, etc.)</td>
</tr>
<tr>
<td></td>
<td>Optimized start/stop</td>
</tr>
<tr>
<td>Energy Management Systems</td>
<td>Pneumatic to DDC conversions</td>
</tr>
<tr>
<td></td>
<td>New controls functionality</td>
</tr>
<tr>
<td>Variable Speed Drives</td>
<td>Air handler fan VFDs</td>
</tr>
<tr>
<td></td>
<td>Chilled water, hot water, and condenser water pump VFDs</td>
</tr>
<tr>
<td></td>
<td>Cooling tower fan VFDs</td>
</tr>
<tr>
<td>Data Center Cooling Optimization</td>
<td>Blanking panels</td>
</tr>
<tr>
<td></td>
<td>Hot aisle/cold aisle containment</td>
</tr>
<tr>
<td></td>
<td>CRAH/CRAC fan control strategies</td>
</tr>
<tr>
<td></td>
<td>EC (electronically commutated) fan motors</td>
</tr>
<tr>
<td></td>
<td>Water- or air-side economizers</td>
</tr>
</tbody>
</table>
Appendix B: Retrocommissioning (RCx)

- $0.08/kWh Energy Reduction Incentive
- $150/kW Peak Demand Reduction Incentive
- Limited to 50% of Project Cost or $150,000, whichever is less

The Retrocommissioning program is a controls optimization incentive intended to capture optimization of existing energy management systems. Automated improvements to commercial and industrial facilities are also supported with this incentive.

Retrocommissioning incentives are calculated and paid after confirmation is received that operational changes (EMS programming for example) are implemented, accepted and operating properly.

When applicable, SMUD can partner with PG&E on Retrocommissioning projects to allow a one-stop solution to your electrical AND natural gas energy efficiency needs.

Other requirements of the Retrocommissioning incentive:

- Commercial buildings must have centralized EMS with some trending capability.
- A detailed analysis shall be submitted for incentive approval. The analysis shall contain transparent savings calculations, or use common energy modeling software with transparent reporting of assumptions. Note that the audit can be broad (holistic), or can be focused on specific measures. Buildings that meet a minimum size or annual energy consumption may be eligible for a SMUD funded assessment and/or audit (if applicable)
- Prior to incentive approval, a Measurement and Verification plan shall be submitted for approval that details the methodology that will be used to monitor and validate the actual building/system performance.
- Existing system must be reasonably modern and maintained.

Retrocommissioning measure eligibility is complex. Contact SMUD early to discuss your project.

<table>
<thead>
<tr>
<th>Examples (Partial List) of Eligible Retrocommissioning Measures (Commercial)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Correct actuator/damper operation</td>
</tr>
<tr>
<td>• Correct economizer operation</td>
</tr>
<tr>
<td>• Adjust or implement condenser water reset</td>
</tr>
<tr>
<td>• Adjust or implement supply air temperature reset</td>
</tr>
<tr>
<td>• Adjust zone temperature deadbands</td>
</tr>
<tr>
<td>• Adjust equipment scheduling</td>
</tr>
<tr>
<td>• Adjust or implement duct static pressure reset</td>
</tr>
<tr>
<td>• Adjust or implement hot/cold deck reset</td>
</tr>
<tr>
<td>• Optimize variable frequency drive on fans or pumps</td>
</tr>
<tr>
<td>• Reduction in simultaneous heating and cooling</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Examples (Partial List) of Eligible Retrocommissioning Measures (Industrial)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Compressed air system optimization</td>
</tr>
<tr>
<td>• Process heating or process cooling optimization</td>
</tr>
</tbody>
</table>
Appendix C: Pump Energy Assessment Program

- $0.15/kWh Energy Reduction Incentive
- $200.00/kW Peak Demand Reduction Incentive
- $500 (per pump) provided for pre- and post- monitoring of pumps successfully completing the program
- Limited to 50% of Project Cost or $150,000, whichever is less

SMUD’s Pump Energy Assessment Program is a monitored incentive designed to encourage optimizing the performance of ground water and surface water pump systems. Pre- and post-monitoring incentive is paid following installation and monitoring of all qualifying energy-saving pump or system improvement.

Program applies to systems using pumps larger than 25 HP.

Pump test reports must include specific measurements specified below:

1) Monitoring must be performed by a qualified third-party provider
2) The pump test report shall contain the following:
   a. Contact Information of both the pump technician and SMUD customer
   b. Test Date, Test Location, Pump Tag/Identifier, and SMUD meter number
   c. Motor Nameplate Data (Manufacturer, Model, HP, Voltage, Full Load Amps, Power Factor, RPM, Efficiency)
   d. Pump Nameplate Data (Manufacturer, Model, Serial Number, Rated Flow, Rated Head, Pump Type, Discharge Flange Size, Pump Length)
   e. Measured Hydraulic Data (Starting water level, drawdown, discharge pressure, total lift, well yield)
   f. Measured Flow Data (Measured flow, measured discharge pressure)
   g. Discharge Pipe System (Regulator nameplate and settings, pipe size, opportunities for system improvement)
   h. Measured Electrical Data (Amps, Voltage, Power Factor, KW input)
   i. Calculated Data (Horsepower input to motor)
   j. Hours of operation
   k. Calculated Efficiency Data (Actual motor load, hydraulic horsepower, overall plant efficiency)
   l. Recommendations and opportunities
   m. Description of test equipment

Use of motor nameplate data to calculate plant efficiency is not adequate for this program. Motor load and energy consumption shall be determined through the use of suitable electrical testing equipment or a dedicated SMUD energy meter if available.

Determination of motor performance by attempting to disaggregate the pump energy from other loads on a SMUD meter is not adequate for this program.
Appendix D: Networked Lighting Controls (NLC)

- $0.20/kWh Energy Reduction Incentive
- Limited to 70% of Project Cost or $100,000, whichever is less
- Incentive rate is applied to both the light fixture technology improvement and the controls savings.

Savings calculations are performed using a Microsoft Excel workbook available upon request at CustomEnergyEfficiency@smud.org.

Proposed products must appear on the latest revision of the Design Lights Consortium’s Qualified Products List (QPL) for Networked Lighting Controls. The complete QPL can be downloaded from https://www.designlights.org/lighting-controls/download-the-qpl/. Note that compliance with individual capabilities can be determined by using the “Detailed Capability List” tab.

All products must satisfy the “Required” interior system capabilities

- Networking of Luminaires and Devices
- Occupancy Sensing
- Daylight Harvesting/Photocell Control
- High-End Trim (Tuning)
- Zoning
- Luminaire and Device Addressability
- Continuous Dimming

To be eligible for SMUD’s Custom Energy Efficiency incentives for networked lighting controls, proposed systems must be capable of:

- Demand response via and OpenADR protocol
- Graphic user interface (GUI) accessible through a web-based application, or web browser
- Energy monitoring
Appendix E: LED Lighting and Lighting Controls

- LED Lighting: $0.10/kWh Energy Reduction Incentive
- Non-LED Lighting: $0.10/kWh Energy Reduction Incentive
- Non-Networked Lighting Controls: $0.10/kWh Energy Reduction Incentive
- $0.01/kWh incentive bonus for color tunable LED products
- Limited to 50% of Project Cost or $150,000, whichever is less

<table>
<thead>
<tr>
<th>Program Eligibility for Lighting Projects</th>
<th>Custom Energy Efficiency</th>
<th>Express Energy Solutions</th>
<th>Integrated Design Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>One for one replacement of light fixtures appearing in the EES Procedures Manual</td>
<td>Only if rebate exceeds $20,000</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Tenant Improvements</td>
<td>Only if rebate exceeds $20,000</td>
<td>YES</td>
<td>Multi-year projects only</td>
</tr>
<tr>
<td>Substantial Redesign of Lighting Layout or Change of Occupancy (Warehouse to Office for example)</td>
<td>YES</td>
<td>NO</td>
<td>Multi-year projects only</td>
</tr>
<tr>
<td>DLC Qualified Fixtures that do not appear in the EES Procedures Manual</td>
<td>Apply to EES program and request “Custom calculation”</td>
<td>Apply to EES program and request “Custom calculation”</td>
<td>Multi-year projects only</td>
</tr>
<tr>
<td>Fixtures used in applications other than general illumination including cannabis cultivation, process heating, tennis court and high-mast sports lighting, UV sterilization, etc.</td>
<td>YES</td>
<td>NO</td>
<td>New construction only</td>
</tr>
<tr>
<td>Roadway Lighting (Government owned/maintained)</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

- Products eligible for the Express Energy Solutions Program are not eligible for participation in the Custom Program. If the Express Energy Solutions Program reaches the determined
Project Incentive Cap, the remaining project scope is used to apply to the Custom Program. *Only one application is necessary to participate in both programs.*

- Solid state fixtures and retrofit kits must appear on either the Design Lights Consortium Qualified Products List ([www.designlights.org](http://www.designlights.org)) or Energy Star ([www.energystar.gov](http://www.energystar.gov)).
- Fixtures intended for horticulture, cultivation and cannabis manufacturing are included in the Custom Program.
- Screw-in, medium base (E26) products are not eligible.
- Mogul base (E39) LED products are eligible.
- Controls assumptions are found in the California Municipal Utilities Agency Technical Reference Manual. (CMUA-TRM, [http://www.cmua.org](http://www.cmua.org)).
- Incentives for controls (daylighting, occupancy, etc.) are calculated in a second step. The incentive rates ($/kWh) are not additive.

For color tunable LEDs only:

- Existing non-LED lights must be replaced (ie, new LED products replacing existing LED products is ineligible for incentives)
- All products must be DLC-listed
- Incentives are limited to the following applications:
  - Healthcare
  - Special education classrooms
  - Daycare/childcare facilities

**Example:** A customer wants to replace a 1000W HID (1100W with ballast) fixture in a warehouse with a 350W LED fixture and an occupancy sensor. The warehouse is occupied 3,120 hr/yr.

**Step 1: Calculate Lighting Incentive**

\[
(1,100W - 350W) \times (1kW/1,000W) \times 3,120 \text{ hr/yr} = 2,340\text{kWh saved per year}
\]

At $0.10/kWh incentive rate, the incentive will be $234.00

**Step 2: Calculate Controls Incentive**

Occupancy sensor savings in a warehouse (per CMUA-TRM) is 31%.

New fixture annual usage: \(350W \times (1kW/1,000W) \times 3120\text{ hr/yr} = 1,092\text{kWh}\)

Energy savings from occupancy sensor: \(0.31 \times 1092 = 338\text{kWh}\)

At $0.10/kWh incentive rate, the incentive will be: $33.80

**Step 3: Calculate Total Incentive**

The total incentive is $234.00 + $33.80 = $267.80
Appendix F: Process Improvement with Added Load

Manufacturing process improvements that reduce the Specific Consumption (kWh per unit of production) of a process yet result in additional metered demand (or overall consumption), are permitted in the Custom Program.

For added load to be eligible for the Custom Program, it must meet the following criteria:

- **The new system, process line, or retrofit add-on must be installed within an existing manufacturing area.** New manufacturing facilities, the first tenant improvement within a space, or manufacturing enhancements requiring building expansions, can apply for a similar program catering to new construction called Integrated Design Solutions.

- **The new system or modification must have greater installed cost than the baseline.** The installed cost, per unit of production, must be greater for the more efficient alternative.

  1. *Example 1:* A manufacturer is considering a second process line. The second process line uses twice as much energy as the first but results in three times the production. The second process line under consideration must not be a less expensive alternative than the installed cost of three of the first process line.

  2. *Example 2:* A manufacturer adds an improved controls package to a piece of processing equipment. With the improved controls, the equipment production is tripled, but the energy consumption is doubled. Since the Specific Consumption has improved, and the new controls add cost, the project is eligible for Custom Energy Efficiency incentives.

- **The baseline is the specific consumption of the existing process multiplied by the annual production of the new line.**

- **The baseline equipment must still be available for purchase and code compliant.** For example, if the first process line in example 1 is no longer commercially available, or would not meet minimum code requirements, the baseline would be a commercially available “industry standard” or alternatives which were actually considered.

- **Applicant must have adequate monitoring and be willing and able to provide credible record of the production rates before and after the retrofit.**
Appendix G: Electrification

- Electrification Incentive: $0.30/kWh equivalent (site)\(^1\)

Processes that replace gas-fired systems with efficient electric equipment are eligible for electrification incentives. The savings calculation converts the energy content of the gas consumed at the site to kWh. The energy consumption (kWh) of the proposed electrical equipment subtracted from the energy consumption (kWh-equivalent) of the existing gas fired equipment is the energy savings.

Processes that simultaneously reduce an electric and gas consumption can claim incentives for both electrification and energy efficiency. For example, converting to a heat pump water heater in a kitchen can claim the energy efficiency incentive ($0.15/kWh) associated with a reduction in air conditioning while simultaneously claiming the electrification incentive ($0.30/kWh-equivalent) to switch from gas to heat pump water heating.

Electric resistance water or space heating is not eligible for incentives, but may be included as supplemental heating on heat pump based systems. Overall kWh equivalent savings will include both the electric resistance and heat pump consumption when determining the proposed system’s energy consumption.

Industrial processes that realize energy savings by converting gas end uses to electric resistance end uses will be evaluated for incentives on a case by case basis.

Electrification savings calculation:

<table>
<thead>
<tr>
<th>Proposed Equipment kWh Consumption (Per Year – At Site)</th>
<th>Existing Equipment kWh Equivalent Consumption Avoided (Per Year – At Site)</th>
<th>kWh Savings (At Site)</th>
</tr>
</thead>
<tbody>
<tr>
<td>kWh Electric</td>
<td>(Avoided Therms * 100 kBtu/Therm * .293 kWh/kBtu)</td>
<td>kWh Equivalent Savings</td>
</tr>
</tbody>
</table>

1. Note that kWh-equivalent used for incentive calculations is a “site” metric used for convenience, and is not the same metric as kWh savings claimed at the program level. Program-level electrification “source” metrics are carbon based, and time dependent, and include transmission and distribution losses, renewable content, power plant heat rate and other conversion factors.
## Appendix H: Ineligible Measures

### Measures and products ineligible for SMUD’s Custom Program:

- Measures installed prior to application approval
- Building Envelope Measures:
  - Cool Roofs
  - Windows/Glazing
  - Added Insulation
- Power factor correction and power conditioning equipment
- Compact fluorescent lamps (CFLs)
- Lamps and fixtures that qualify for the Express Energy Solutions program
- Screw-in, medium base (E26) LED lamps
- Technologies that fail to meet state and federal standards including the State of California Title 24 and Title 20
- Measures that are not permanently installed and can be easily replaced such as:
  - Refrigerant additives
  - High performance hydraulic fluid
- Solar water heating for pools and spas
- Fluorescent products not meeting performance standards.
- Incandescent lighting used for general illumination
- Duty cyclers
- Measures that save energy solely due to behavior changes (changing the hours of occupancy for example)
- Self-generation
- Repair or maintenance of existing equipment unless participating in a Retrocommissioning incentive or pump energy assessment project
- Coil cleaning
- Filter changes
- Server virtualization
- Networked desktop power management software
- LED products that do not appear on either the Design Lights Consortium Qualified Products List or Energy Star certified products list.