Work Paper SCE17CC004

**Revision 0**

**Short Form**

**Southern California Edison**

**Commercial Electric Fryers**

**Introduction**

This short form workpaper documents the values adopted from PGE’s WP entitled “Commercial Fryer-Electric and Gas” (PGECOFST102 R6). SCE adopts all the values in PGECOFST102 R6 with no changes.

# Document Revision History

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| --- | --- | --- | --- |
| **Rev** | **Date** | **Author** | **Summary of Changes** |
| 0 | 11/29/17 | Kara Vega (TRC) | * Transferred savings values to SCE Calculation template for the 2017 program year. * Mid-stream incentive method was added in this revision of the workpaper. * All 16 climate zones were used in this version. * Only electric measures from PGECOFST102 R6 are included in this version. |
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**Measure Summary**

Table : Measure Summary Table

| **Section** | **Value** |
| --- | --- |
| **Summary & Purpose** | This short form work paper documents the inputs for the high efficiency commercial electric fryers measure. The savings values are from PG&E’s workpaper PFECOFST102 R6 – Commercial Fryer-Electric and Gas document. Commercial fryers are among the most common pieces of cooking equipment in commercial food service facilities. Recent advances in equipment design have produced fryers that operate more efficiently, quickly, safely and conveniently. Energy efficient fryers that have earned the ENERGY STAR® qualification offer shorter cook times and higher production rates. |
| **1.1 Measure & Baseline** | Please refer to Attachment #1 Calculation Templates for the list of measure solution codes and baseline condition. |
| **1.2 Technical Description** |  |
| **Measures** | **FS-57892: Commercial Electric Fryer: Cooking Efficiency ≥ 80%** (PGE ID F205)  Commercial Electric Fryer that are ENERGY STAR® qualified or have a Cooking Efficiency ≥ 80% |
| **Code for All Measures** | This measure is not governed by either state or federal codes and standards.  ASTM Standard Test Method for the Performance of Open Deep Fat Fryers (F1361) and Large Vat Fryers (F2144) were used estimate the energy consumption of both the base and measure case. |
| **Requirements** | * This measure includes new commercial fryers that are ENERGY STAR® qualified or meet the qualifications listed in Table 1 of PGECOFST102 Rev6. * Used or rebuilt equipment is not eligible. * Customers must provide proof that the appliance is ENERGY STAR® qualified or meet the qualifications listed in Table 1 of PGECOFST102 Rev6. |
| **1.3 Installation Type and Delivery Mechanisms** |  |
| **Installation Type** | Replace on Burnout (ROB)  New Construction (NEW/NC) |
| **Delivery Mechanisms** | Down-Stream Incentive  Mid-Stream Incentive |
| **1.4.1 DEER Data** |  |
| **Net-Gross-Ratio** | Com-Default>2yrs |
| **Effective and Remaining Useful Life** | Cook- ElecFryer, EUL=12 years, RUL=4 years |
| **Section 2. Calculation Methodology** |  |
| **Energy savings/Peak Demand Reduction – All Measures** | Energy savings were developed using actual test data based on the calculation methods in ASTM Standard Test Method for the Performance of Open Deep Fat Fryers (F1361) and ASTM Standard Test Method for the Performance of Large Vat Fryers (F2144). Table 10 of PGECOFST102 Rev6 provides an example of the calculation results for electric fryers based on ASTM test results.  The UES (Unit Energy Savings) savings were adjusted based on Decision 11-07-030 and the final claimable UES numbers are provided in Table 9 of PGECOFST102 Rev6.  The demand reduction estimation is based on measured data for standard efficiency electric fryers (no fry pot insulation and mechanical or simple electronic controls) and for high efficiency fryers that meet Energy Star requirements (greater than 80% cooking efficiency, fry pot insulation, and advanced electronic controls). The measured data are derived from tests conducted under ASTM Standard Test Method for the Performance of Open Deep Fat Fryers (F1361) and ASTM Standard Test Method for the Performance of Large Vat Fryers (F2144). |
| **Section 3. Load Shapes** | DEER:Indoor\_Non-CFL\_Ltg  The load shape for commercial fryers differ among food service facilities. The measure load shape for this measure is determined by the E3 calculator based on the applicable non-residential market sector and the foodservice end-use. Please refer to Section 3 of PGECOFST102 R6 for additional details. |
| **Section 4. Costs** |  |
| **Section 4.1 Base and Measure Costs** | Please refer to Attachment #1 Calculation Templates for detailed baseline and measure costs. |

*No Changes were required for this short form. The savings were simply transferred to SCE’s 2017 Calculation Template.*

**Attachments:**

**A1 SCE17CC004.0 Calculation Template**