Short Form Work Paper WPSDGENRCC0016

**Revision 2**

**San Diego Gas & Electric**

**Energy Efficiency Engineering**

**Commercial Griddle-Electric and Gas**

**December 20, 2016**

# SDG&E Commercial Griddle-Electric and Gas

## Introduction

This short form workpaper documents (WP) the values adopted from PGE’s WP entitled “Commercial Griddle-Electric and Gas” (PGECOFST103 R7-Com Griddle)). SDG&E adopts all of the values in PGECOFST103 R7-Com Griddle, with no exceptions.

## Document Revision History

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| --- | --- | --- | --- |
| **Rev** | **Date** | **Author** | **Summary of Changes** |
| 0 | 6/15/2012 | Max Twogood/SDG&E | Adopted from: Commercial Griddles PGECOFST103 R3-revised Apr 26 2012.doc. Dated April 26, 2012. Revised NTRG to 2011 DEER. Revised approvers with SDGE management. |
| 0.1 | 06/23/2014 | Judelson Enriquez / RMS Energy Consulting, LLC | INTERNAL REVISION ONLY – no material impact made  1. Updated to new template.  2. Generated calculation spreadsheet based on IOU statewide Calculation Template, with additional columns for Mark M. and removed CZ cost factors.  3. Incorporated PG&E’s PGECOFST103R5.docx WP revisions, dated April 7, 2014. |
| 1.1 | 12/08/2014 | Judelson Enriquez / RMS Energy Consulting, LLC | 1. Updated measure common units to “per foot” (from “per unit”) and the savings/costs accordingly, using PG&E’s PGECOFST103R6.docx WP revisions, dated October 8, 2014, as guidance.  2. Updated to new WP template and referenced Ex-Ante Database wherever possible.  3. Added Sections 2.4 Installation Rate and 2.5 READi Technology Fields |
| 2 | 12/20/2016 | Kelvin Valenzuela/SDG&E | Adopted from PGECOFST103 R7-Com Griddle. Impacts were revised to match lead PA workpaper. |

## Measure Summary

Table : Measure Summary Table

| **Section** | **Value** |
| --- | --- |
| **Summary & Purpose** | This short form workpaper documents ex-ante load impacts values for Commercial Griddle both electric and gas. The base energy consumption and measure energy consumption values are from PG&E’s workpaper, PGECOFST103, Revision 7. |
| **1.1 Measure & Baseline Data** | Measure:  462971 – Electric Griddle  462972 – Gas Griddle |
| **1.2 Technical Description** |  |
| Measures | See Requirements |
| Code for All Measures | **California Title 20**  State of California Title 20 Appliance Efficiency Regulation has a category for cooking appliances, but griddles are not included.  **California Title 24**  This measure does not fall under Title 24 of the California Energy Regulations.  Federal Standards: These measures do not fall under Federal DOE or EPA Energy Regulations.  **Federal**  There are no Federal energy efficiency requirements for commercial griddles.  **American Society for Testing and Materials (ASTM) Standards**  ASTM Standard Test Method for thePerformance of Griddles (F1275) is applicable for estimating energy use and cooking performance. It was used to estimate the energy consumption of the base case and measure equipment. |
| Requirements | The electric griddle must meet ENERGY STAR®[[1]](#endnote-1) specifications or have a tested heavy load cooking energy efficiency of ≥70% and an idle energy rate ≤ 355 watts per ft² of cooking surface utilizing ASTM Standard F1275[[2]](#endnote-2).  The gas griddle must meet ENERGY STAR® specifications or have a tested heavy load cooking energy efficiency of ≥38% and an idle energy rate ≤ 2,650 Btu/h per ft² of cooking surface utilizing ASTM Standard F1275. |
| **1.3 Installation Type and Delivery Mechanisms** |  |
| Installation Type | Replace on Burn-out (ROB) |
| Delivery Mechanisms | Downstream Rebate – Deemed  NOTE: Measures are offered in the SDG&E Direct Install program yet require a customer co-pay and are treated as downstream deemed. |
| **1.4.1 DEER Data** |  |
| Net-to-Gross Ratio | Com-Default>2yrs |
| Effective and Remaining Useful Life | Cook-ElecGriddle  Cook-GasGriddle |
| **Section 2. Calculation Methodology** | DEER 2016 |
| Energy Savings/Peak Demand Reduction – All Measures | **Electric Griddle (PG&E: FS002) (SDG&E: 462971)**  Base Case Energy Consumption: Source: PG&E Calculations – 5,902 kWh/yr; 4.04 kW  Measure Energy Consumption: Source: PG&E Calculations – 4,580 kWh/yr; 3.14 kW  Energy Savings (Base Case – Measure): Source: PG&E Calculations – 1,322 kWh/yr; 0.3 kW x 0.90 (CDF) = 0.27 kW  **Gas Griddle (PG&E: FS003) (SDG&E: 462972)**  Base Case Energy Consumption: Source: PG&E Calculations – 417 therms/yr  Measure Energy Consumption: Source: PG&E Calculations – 291 therms/yr  Energy Savings (Base Case – Measure): Source: PG&E Calculations – 126 therms/yr |
| **Section 3. Load Shapes** | SDG:35-OTI-OtherIndustrial-PROC\_OTH  Annual |
| **Section 4. Costs** |  |
| **Section 4.1 Base and Measure Costs** |  |
| Base Cost |  |
| 462971 | $750.00 (PG&E FS002) |
| 462972 | $1,026.00 (PG&E FS003) |
| Measure Cost |  |
| 462971 | $1,008.00 (PG&E FS002) |
| 462972 | $1,312.00 (PG&E FS003) |

1. 2003 Energy Star® Program Requirements for Commercial Griddles;

   [*https://www.energystar.gov/products/commercial\_food\_service\_equipment/commercial\_griddles/ key\_products\_criteria*](https://www.energystar.gov/products/commercial_food_service_equipment/commercial_griddles/%09key_products_criteria) [↑](#endnote-ref-1)
2. American Society for Testing and Materials; Standard Test Method for the Performance of Griddles; ASTM Designation F1361, in Annual Book of ASTM Standards, West Conshohocken, PA [↑](#endnote-ref-2)