Short Form Work Paper WPSDGENRHC1020

**Revision 4**

**San Diego Gas & Electric**

**Energy Efficiency Engineering**

**Commercial Condenser Coil Cleaning**

**January 1, 2019**

**SDG&E Commercial Condenser Coil Cleaning**

## Introduction

This short form workpaper documents the values adopted from PGE’s workpaper entitled “Condenser Coil Cleaning” (PGE3PHVC156 Revision 4). SDG&E adopts all the values in PGE3PHVC156 Revision 4, with the following exceptions:

1. Measure Application Type was adjusted to BRO-RCx from Retro-Commissioning (RC) per E-4818.
2. SDG&E is in the process of simplifying its internal Ex Ante data and tracking data warehouse.   Part of that process requires that there be savings values for all potential climate zone and building type combinations READi v2.5.1 did not include all impacts for building types ECC, EUn, Gro, Hsp, Mtl, SUn nor WRf so the data tables include Gro, SUn or WRf for all climate zones with zero savings. The following building types ECC, EUn, Hsp, SUn and WRf were only missing location 15 climate zone so the ex-ante data adopted SCG energy efficiency impacts for climate zone 15.

## Document Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Rev** | **Date** | **Author** | **Summary of Changes** |
| 0 | 06/04/2012 | Charles Harmstead / SDG&E | - Adopted from Matrix WPMSDGECC0408 Revision 1 dated April 25, 2008.  - Updated NTG to DEER 2011 |
| 1 | 06/19/2014 | Rocaciano Vega /RMS | INTERNAL REVISION ONLY – no material impact made  - Updated to new workpaper template  - Added GSIA  - Revised Measure Cost language to indicate that cost is from the program due to it being a Direct Install measure |
| 2 | 06/29/2016 | Martin Vu /RMS | - Updated workpaper with using the DNV GL Energy Impact Evaluation of 2013-14 HVAC3 Commercial Quality Maintenance Programs Ex-Post Realization Rates for kWh and kW. |
| 3 | 01/21/2017 | Eduardo Reynoso /SDG&E | -Adopted short form workpaper and removed negative therm impacts from previous revision. |
| 2 | 1/1/2019 | Keith Valenzuela (AESC) | - Adopted PGE3PHVC156 Revision 4 energy impact and cost values. |

## Measure Summary

Table : Measure Summary Table

| **Section** | **Value** |
| --- | --- |
| **1.1 Measure & Baseline Data** | Please reference PGE3PHVC156 Revision 4 Section 1.1 Measure Description & Background. |
| **1.2 Technical Description** | Please reference PGE3PHVC156 Revision 4 Section 1.2 Technical Description |
| Measures | Measures and Codes   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Measure Codes** | | | | **Measure Name** | | SCG | SDG&E | SCE | PG&E | | N/A | 465665  465666 | N/A | HV393 | Condenser Coil Cleaning on Small Pkg AC system with No TXV | | N/A | 465667  465668 | N/A | HV394 | Condenser Coil Cleaning on Small Pkg AC system with TXV |   Note: SDG&E has two measure codes per measure to account for each available delivery type (Direct Install and Downstream Incentive) |
| Code for All Measures | Please reference PGE3PHVC156 Revision 4 Section 1.4.2 Codes and Standards Analysis |
| Requirements | Please reference PGE3PHVC156 Revision 4 Section 1.1 Measure Description & Background.  Note: Contractor must be SDG&E approved. |
| **1.3 Installation Type and Delivery Mechanisms** | |
| Installation Type | BRO-RCx |
| Delivery Mechanisms | Please reference PGE3PHVC156 Revision 4 Section 1.3 Installation Type and Delivery Mechanisms and the SDG&E Ex-ante database tables. |
| **1.4 DEER Data** | |
| Net-to-Gross Ratio | Please reference PGE3PHVC156 Revision 4 Section 1.4.1 DEER Data and the SDG&E Ex-ante database tables. |
| Effective and Remaining Useful Life | Please reference PGE3PHVC156 Revision 4 Section 1.4.1 DEER Data and the SDG&E Ex-ante database tables. |
| GSIA | Please reference PGE3PHVC156 Revision 4 Section 1.4.1 DEER Data the SDG&E Ex-ante database tables. |
| **Section 2. Calculation Methodology** | |
| Energy Savings/Peak Demand Reduction – All Measures | Please reference PGE3PHVC156 Revision 4 Section 2 Calculation Methodology |
| **Section 3. Load Shapes** | |
| Load Shape | Please reference PGE3PHVC156 Revision 4 Section 3 Load Shapes and the SDG&E Ex-ante database tables submission.  E3 ElecImpLoadProfile = “SDGE:DEER:Com:HVAC\_Split-Package\_AC” |
| **Section 4. Cost** | |
| **Section 4.1 Base and Measure Costs** | |
| Base Cost | Please reference PGE3PHVC156 Revision 4 Section 4.1 Base Case Cost for details on how baseline cost estimates were determined.  SDG&E adopts all cost and created SDG&E measure cost IDs for reporting purposes. SDG&E measure cost IDs are included in Ex-Ante tables submission.  Base CostID= BaseCostZero = $0.00 |
| Measure Cost | Please reference PGE3PHVC156 Revision 4 Section 4.2 Measure Case Cost for details on how measure cost estimates were determined.  SDG&E adopts all cost and created SDG&E measure cost IDs for reporting purposes. SDG&E measure cost IDs are included in Ex-Ante tables submission. Units = “Cap-Tons”  Measure CostID = “SDG-CondCoilCleanCom” = $19.51/Unit |