# Short Form Work Paper PGECOPRO114

# Revision 0

**Pacific Gas & Electric**

**Customer Energy Solutions**

**Commercial Steam Traps**

# PG&E Commercial Steam Traps

## Introduction

This short form workpaper documents (WP) the values adopted from SCG’s WP entitled “Deemed Program for Commercial Steam Traps” (SCGWP100310A\_Rev10\_CommercialSteamTraps.docx). PG&E adopts all of the values in SCGWP100310A Rev 10 Deemed Program for Commercial Steam Traps, with some exceptions (SCG Workpaper do not specify any measures codes, PG&E has selected to offer only one measure code – PR087)

## Document Revision History

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| --- | --- | --- | --- |
| Rev | Date | Author | Summary of Changes |
| 0 | 06/14/2018 | Steve Fok (PG&E) | Adopted SCG Workpaper SCGWP100310A Rev 9 dated August 12, 2011 (authored by Chan Paek and created by EEA) with changes. |
| 1 | 01/28/2019 | Adan Rosillo (PG&E) | Adopted SCG Workpaper SCGWP100310A Rev 10 dated November 12, 2018. |
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## Measure Summary

Table 1: Measure Summary Table

| **Section** | **Value** |
| --- | --- |
| **Summary & Purpose** | This short form workpaper documents details a steam trap replacement measure based on the Commercial 12-24 hours day market segment and steam trap operating pressure. The base energy consumption and measure energy consumption values are from SCG’s workpaper, SCGWP100310A, Revision 10. |
| **1.1 Measure & Baseline Data** | Measures:   |  |  |  | | --- | --- | --- | | PG&E Measure Codes | SCG  Measure Codes | Description | | PR087 | TBD | Steam Trap Replacement – Commercial 12-24 hr/day | |
| **1.2 Technical Description** |  |
| Measures | See Requirements |
| Code for All Measures | As cited per SCG workpaper   * There is no code or other jurisdictional requirement. |
| Requirements | ***Terms and Conditions***   * **Eligibility requirements (Measure)**: New steam traps designed for any pipe sizes are eligible. * **Eligibility requirements (Baseline)**: Limited to the replacement of steam traps that are failed open (in either the leaking failure or the blow-through failure mode). * **Implementation and installation requirements**: New Construction is not eligible. |
|  |  |
| **1.3 Installation Type & Delivery Mechanisms** |  |
| Installation Type | RC – PG&E do not offer BRO-Op currently, which is the measure used by SCG. MAT will be updated to BRO-Op in future updates for Q1/Q2 2019 |
| Delivery Mechanisms | Downstream Rebate – Deemed |
| **1.4.1 DEER Data** |  |
| Net-to-Gross Ratio | 0.68 (NTG\_ID = NonRes-sAll-mStmTrp-dn) |
| Effective and Remaining Useful Life | |  |  |  |  |  | | --- | --- | --- | --- | --- | | EUL ID | Description | Sector | UseCategory | EUL ( years) | | NonRes-RCx-Operational | Steam Trap Replacement – Large Commercial 12-24 hour/day | Com | ProcHeat | 3 | |  | | | |  | |
| **Section 2. Calculation Methodology** | As cited per SCG workpaper |
| Energy Savings/Peak Demand Reduction – All Measures | **As cited in SCG’s workpaper the Savings are:**   |  |  | | --- | --- | | Measure Codes |  | | Measure Description | Steam Trap Replacement – Commercial 12-24 hour/day | | Base Case Description | Failed existing steam traps | | Units | Steam trap | | Energy Savings | 119 therms/year | |
| **Section 3. Load Shapes** | Not applicable. |
| **Section 4. Costs** | The Gross Measure Cost is obtained from costs documented by SCG work paper “SCGWP100310A Rev10” section 4 - Base Case & Measure Costs |
| **Section 4.1 Base & Measure Costs** |  |
| Base Cost | Base case cost is $0.00 |
| Measure Cost | Gross measure cost is $287.67 per steam trap per unit |
| Incremental  Measure Cost | Full measure cost is $287.67 per steam trap per unit (i.e., Material $223, Labor $64.67\*)   * Per RSMeans Building Construction Cost Data 2017 adjusted by Location Factor of 1.408 and Labor Factor of 1.267) |