Workpaper Submission   
Cover Sheet

**PURPOSE:** The information in this coversheet will be used by the Deemed Review Team to identify incoming workpapers using consistent information applicable to track key information needed for the workpaper review.

**INSTRUCTION:** This cover sheet should be completed by Program Administrators upon submitting a workpaper. Additional instructions are provided below.

### Program Administrator (PA) Information

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| **Parameter** | **Description** | **PA Entry** |
| **PA** | Please check one. | SCE  PG&E  SCG  SDG&E |
| **PA Lead based on Use Category** | Please check one. | SCE ☐ SCG  PG&E ☐ SDG&E |
| **Contact info** | Please provide name and email address of submitter | Andres Fergadiotti, [Andres.Fergadiotti@sce.com](mailto:Andres.Fergadiotti@sce.com) |

**Workpaper Information**

| **Parameter** | **Description** | **PA Entry** |
| --- | --- | --- |
| **Date of Workpaper Submission** | This entry should be date of upload to WPA (MM/DD/YYYY). Actual submission date will be noted as the subsequent first or third Monday of the month. | Submission with RACC Addendum |
| **Workpaper Title** | This entry should match the title on the workpaper. | HEAT PUMP, UNITARY AIR-COOLED HVAC, COMMERCIAL - FUEL SUBSTITUTION |
| **Source Description** | This entry should match the source description for the workpaper.  (e.g., SWHC099-01) | SWHC046-01 |
| **Workpaper Phase** | Please provide the phase and year for the workpaper.  (e.g., 2020 P2 Workpaper Revision) | Effective Year: 2021  ☒Phase 1 🞎Phase 2   * New workpaper   (new product or technology, new delivery type)  Workpaper revision  (new tiers, new costs, change in measure parameters such as EUL or NTG, measures added to workpaper)   * Workpaper adoption (IOU adoption with new Implementations, no change to Measures, Cost and EE Impacts)   Notes: Refrigerant Avoided Cost Calculations addendum based on  Resolution E-5152. |
| **Rationale for Workpaper Revision** | Please check all boxes that apply and include a brief description explaining why the workpaper is being revised. | * Not a revision but a new WP * Code ☐ DEER * Disposition   CPUC Resolution  Baseline Update  Cost Update   * Industry Standard Practice Study   Other: New Workpaper, CPUC “Fuel Substitution Technical Guidance for Energy Efficiency”   * WP Resubmission of Existing Revision (minor edits/corrections/new implementations)   Notes: |
| **Measure Impact Type**  **(DEER / CEDARS)** | Please check boxes that apply and include a brief description explaining measures types if using Custom. | * Cust-FuelSub * Cust-Gen * Cust-NMEC * Cust-RCT * Cust-SEM * Deemed-DEER * Deemed-WP * Deemed-DEER-FuelSub   ☒ Deemed-WP-FuelSub Notes: |
| **Effective Date** | Please provide the proposed earliest date of any claims to be made against this workpaper if it is approved. If this is a Phase 2 workpaper, please account for the submittal date as the first or third Monday of the month. Please add 90 days, where applicable.1 | Start Date: 12/27/2019  Notes: |
| **Total expected statewide net lifetime savings from workpaper measures in the year indicated.** | This value is expressed in kWh and therms for electric and gas, respectively. | Year: 2021  Electric: (kWh) N/A  Gas: (therms) N/A  Check which PAs are included in this  estimate of savings:  SCE ☐ PG&E  SCG ☐ SDG&E Notes: |
| **Change in net lifetime portfolio savings due to workpaper revision in the year indicated.** | This value is expressed in kWh or therms for electric and gas, respectively. Note a + indicates portfolio savings are expected to increase and a – indicates portfolio savings are expected to decrease. | Year: 2021  Gas: +(therms) Electric: – (kWh)  Describe the sources of the change: |
| **Stakeholder Communications** | Describe which stakeholders were notified and what was the outcome of the correspondence. For some workpapers this may not be applicable. Please include additional sheets if necessary.  (E.g., Manufacturer for SCT submitted comments on workpaper, see attached) | * 3P Implementer * Distributor(s) * Manufacture(s) * IOU Internal Stakeholders (Policy/Program Operations/Senior Leadership/Business Operation)   External Stakeholders (consultants, engineering SME, etc.)  Notes:  Workpaper is being coordinated through Cal TF |

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| **CalTF Development** | During development of this workpaper were there any specific flagged issues from CalTF pertaining to technical methodology or approach? | * Yes  No   If Yes, then select issues types:   * Savings model approach and or assumptions require updating (baseline, ISP, non-DEER building protypes, data files, extrapolation, weather data, etc.) * Measured savings calculations approach and or assumptions require updating (M&V plan, NMEC, Non- Routine Events (NRE), independent 3P validation) * Sample size may not representative of all climate zones, building types, HVAC, etc. * Issue with Savings Calculations (Interactive Effects, HOU, Code, Baseline, ISP, proprietary NDA, etc.)   Notes: |
| **Potential Market Impacts or Controversies** | Describe any responses to the stakeholder communications and any other sources of stakeholder or PA implementation concern with this workpaper revision regarding negative market impacts or controversies. | * Yes  No   If Yes, then please check appropriate boxes:   * 3 Party Direct Install (DI) inventory * Existing contractual commitments * Lead time procurement issues * Market Disruption (ramp down/re- start) * Delivery channel changes (UpDeemed/DnDeemed/DnDeemDI) * PA Program ramp down (no longer cost effective) * Other (please detail) Notes: |
| **Associated Dispositions** | Is there a disposition associated with this workpaper?  If yes, please include the file name. (e.g., SWFS007-  02\_HotHoldCab\_02\_19\_2020.pdf) | * Yes ☒ No Notes: |
| **Additional Notes** |  | Fuel substitution measures face market barriers, including consumer market failures and supplier market failures.[[1]](#footnote-1) Deployment of the program may require rebates or financial incentives to participants that exceed the measure cost. The program may pass the TRC test but fail the PAC test. Incentives or rebates that exceed the TRC cost for a measure may be requested in workpaper submissions, to be approved by Commission Staff.[[2]](#footnote-2) SCE requests CPUC approval allowing incentives or rebates that exceed the TRC cost for this workpaper.  **Refrigerant Avoided Cost**  This submission complies with Resolution E-5152’s requirement for an addendum for the reporting of refrigerant avoided cost for measure packages where retrofits involving adding or replacing equipment refrigerant.  This submission includes reporting of refrigerant leakage avoided costs based on CPUC’s refrigerant avoided cost calculator (RACC), version 1b.  Supporting documentation includes the RACC calculator in spreadsheet format with cover sheet explaining specific adjustments to the CPUC calculator for deemed measures (without deviating from CPUC’s calculation methodology) and research supporting the user specified inputs in the calculator. The tool outputs the unit refrigerant costs and unit refrigerant benefits to be used for CET reporting.  Additionally, an “Addendum to Report Refrigerant Leakage Avoided Cost” word document is included as part of the submission package explaining the overall compliance process and high-level assumptions coordinated and agreed with Commission for the December 01, 2021, submissions. |

### Cover Sheet Revision History

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| **Revision Number** | **Revision Date** | **Implementation on Start Date** | **Author** | **Summary of Changes** |
| 02 | 12/15/2020 | 1/01/2021 | Lacey Tan | Added measure base case for only an existing Gas Furnace and no AC load |
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1. Energy+Environmental Economics. April 2019. “Residential Building Electrification in California

   <https://www.ethree.com/wp-content/uploads/2019/04/E3_Residential_Building_Electrification_in_California_April_2019.pdf>

   Consumer economics, greenhouse gases and grid impacts”. [↑](#footnote-ref-1)
2. Originally defined in D.92-09-080, the dual test was last modified in D.05-04-051 [↑](#footnote-ref-2)