



State of California

M e m o r a n d u m

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Subject: DOCUMENTATION REQUIRMENTS FOR EXISTING CONDITIONS

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**Introduction**

This guidance memo clarifies how to deal with eight specific heat pump measure packages that have different offerings that depend on the capacity, fuel type or other property of the existing equipment. Specific guidance is provided for when the existing type of equipment is unknown. This is most often the case for upstream and midstream delivery types. New Measure Packages will include instructions for documentation requirements for existing conditions.

The Ex-Ante Review Team worked collaboratively with the EM&V team and investor-owned utilities (IOUs) to determine how to proceed. The requirements depend on if the delivery type is Upstream/Midstream or if it is Downstream/Downstream Direct Install.

This memo is intended to address any confusion and clarify when documentation is required for **existing conditions** on some measure packages. In general, this is only required for downstream programs, because this information may be difficult for an upstream or midstream (distributor) program to determine. This is often the case for fuel substitution measures. However, the data requirements for some measure packages indicate that existing conditions must be known for a claim to be valid. For this reason, we reserve the option to require existing equipment capacities, efficiencies and/or fuel type in measure packages were required.

Requirements and exceptions will be stated in a measure package or implementation plan. An example of an exception that would require existing information for an upstream/midstream measure would be if the offering description is dependent on the existing equipment being replaced. For example, some water heater measure descriptions require the new measure to replace an existing measure having a specified capacity and efficiency. While Resolution E-5221 states that existing conditions are not required to be documented for upstream and midstream delivery types it also states: *“Additional data requirements for specific measure packages may be required for inclusion and will be addressed as part of the measure package review process.”*

Other requirements such as building permits may continue to be required by regulations, but may not be required to be documented by upstream/midstream programs.

## **Background Information**

Excerpts from applicable Resolutions are copied below as background information.

## **Data Requirements in Resolution E-5152 Section 5.1 p. A-32 (DEER2023)**

### **UPSTREAM AND MIDSTREAM PROGRAM TRACKING DATA REQUIREMENTS**

*“Effective Program Year: 2023.* Tracking data issues were raised in last year’s DEER Resolution and encountered again for the PY2019 EM&V of Upstream Lighting (PY2017-2019), Upstream HVAC (PY2018-19), and Small/Medium Commercial Measures (PY2018-19).

CPUC reemphasizes the requirement for site information data for all claims for upstream and midstream delivery types. The general requirements are provided in the California EM&V Protocols<sup>[1]</sup> pages 209-210. The guidance in the EM&V protocols that PA’s should collect additional data for upstream and midstream resource programs and have them available for data requests remains in effect for IOU’s and third party implementers. CEDARS already requires site information for upstream or midstream claims, though the quality of the data provided may vary.

For PY2023, the CPUC directs the PAs to work with CPUC staff to develop more specific tracking data specifications for each measure via the measure package process or EM&V project coordination groups (PCGs). The data specification should also consider primary inputs and contextual data needed for proper application and evaluation of the savings such as building type and climate zone. The developed requirements should be posted into the “Data Collection Requirements” section of the deemed measure template. Although these data requirements might more typically be included in program implementation plans or manuals, placing them in the measure packages will ensure maximum visibility and communication to all stakeholders including implementers and evaluators.

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<sup>[1]</sup> “California Energy Efficiency Evaluation Protocols: Technical, Methodological, and Reporting Requirements for Evaluation Professionals,” April 2006, <https://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5212>.

For 2022 Workpapers and Claims: There is no change needed for 2022 workpapers (measure packages) nor the CEDARS data specification. PY2022 claims information must be provided in the existing Site Table related to the claim recipient. Commission Staff expect that the information will include the incentive recipient consistent with the referenced EM&V Protocols and not the customer/ratepayer. The site data will contain location and contact information for stores, contractors, or other service providers where the ultimate customer purchase occurs.

An example of the new data requirements for upstream and midstream programs is provided below:

- SiteID – A unique identifier for the installed location of the incentivized equipment
- EquipmentID - A unique identifier for each unit of incentivized equipment on the site
- Measure Size category – General size or capacity range specific to each measure type, for example HVAC equipment would be AHRI product type and size range
- Equipment manufacturer – Manufacturer of the incentivized equipment, e.g., Carrier, Trane, Nest, Philips, GE, etc.
- Equipment model number – Manufacturer number that can be used to lookup size, features, performance, etc. for the incentivized equipment
- Rated capacity – Actual size, capacity, load rating, etc. for the incentivized equipment
- Rated efficiency unit (EfficUnit) – The engineering unit basis for the efficiency or performance rating, e.g., Unit Energy Factor (UEF), thermal efficiency (TE), SEER (seasonal energy efficiency ratio)
- Rated efficiency (ref. EfficUnit) – Efficiency or performance rating value for the Rated efficiency unit basis
- Quantity per sales transaction, project, or site – Total units of incentivized equipment located at the site or project

Additional information verifying incentives or equipment are installed in ratepayer sites will continue to be required via data requests from Commission staff to the PAs.”

## **Data Requirements in Resolution E-5221 (DEER 2024)**

### **(B.7) DATA REQUIREMENTS FOR DISTRIBUTOR/CONTRACTOR-DELIVERED MEASURES**

“Multiple evaluation reports have recommended improvements in documentation quality to meet the measure data collection and evaluation requirements. Data requirements must be added to measure packages updated for PY2023 and PY2024—as relevant—for all offerings using the UpDeemed delivery type. At a minimum, the data collected through the program must allow identification of each piece of incented equipment for EM&V verification purposes. The specific data requirements will be reviewed on a case-by-case basis through the measure package review process. The following is an example of data requirements.

- SiteID – A unique identifier for the shipped location (upstream) or installed location (midstream) of the incentivized equipment. The site address can be used in cases where it uniquely identifies one building. If an address identifies a building complex then an additional building identifier must also be included.
- EquipmentID - A unique identifier for each unit of incentivized equipment, e.g., serial number
- Building Type – Commercial or residential building type, e.g., Asm, RSD, MFm
- Measure Size category – General size or capacity range specific to each measure type, for example HVAC equipment would be AHRI product type and size range

- Equipment manufacturer – Manufacturer of the incentivized equipment, e.g., Carrier, Trane, Nest, Philips, GE, etc.
- Equipment model number – Manufacturer number that can be used to lookup size, features, performance, etc. for the incentivized equipment
- Rated capacity – Actual size, capacity, load rating, etc. for the incentivized equipment
- Rated efficiency unit (EfficUnit) – The engineering unit basis for the efficiency or performance rating, e.g., Unit Energy Factor (UEF), thermal efficiency (TE), seasonal energy efficiency ratio (SEER)
- Rated efficiency (ref. EfficUnit) – Efficiency or performance rating value for the Rated efficiency unit basis
- Quantity per sales transaction, project, or site – Total units of incentivized equipment located at the site or project
- Control strategy – document the relevant control strategy to demonstrate compliance with measure specifications (e.g., for space-heating boiler measures, supply hot water temperature reset strategy based on outside-air temperature).

Additional data requirements for specific measure packages may be required for inclusion and will be addressed as part of the measure package review process.”

### **CPUC Guidance**

Measure package offerings can be dependent on existing equipment metrics to determine appropriate savings estimates as part of the ex-ante process. In particular, the following measure packages were identified to have data collection requirements on existing equipment metrics, which are feeding into the measure offerings:

- SWAP014-02 – Heat Pump Clothes Dryer, Residential, Fuel Substitution
- SWHC044-03 – Ductless HVAC, Residential, Fuel Substitution
- SWHC045-02 – Heat Pump HVAC, Residential, Fuel Substitution
- SWWH014-04 – Heat Pump Water Heater, Residential
- SWWH025-06 – Heat Pump Water Heater, Residential, Fuel Substitution
- SWWH027-03 – Heat Pump Water Heater, Commercial, Fuel Substitution
- SWWH028-02 – Large Heat Pump Water Heater, Com and MFM, Fuel Substitution
- SWWH031-02 – Heat Pump Water Heater, Commercial

The Ex-Ante Review Team worked collaboratively with the EM&V team and investor-owned utilities (IOUs) to determine how to proceed. The requirements depend on if the delivery type is Upstream/Midstream or if it is Downstream/Downstream Direct Install.

#### **Downstream/Direct Install**

All data collection requirements, including the existing equipment metrics are expected to be collected for claims with downstream direct install (DnDeemDI) and downstream (DnDeemed) delivery types.

#### **Upstream/Midstream**

For midstream and upstream delivery type claims, the CPUC expects the collection of existing fuel type from the retailer, distributor, or end-user in all fuel substitution measure packages. In addition, the CPUC requests the attempt to collect the other existing equipment type. This information must be requested of

the retailer, distributor, or end-user. If the other existing equipment requirements cannot be collected, please follow the guidance.

SWAP014-02 – Heat Pump Clothes Dryer, Residential, Fuel Substitution:

1. Measure case offering type (dwelling vs common area) should assumed to be dwelling in an upstream or midstream delivery scenario where the offering type is unverifiable. If a common area can be verified, then it may be claimed in an upstream or midstream delivery scenario.
2. In a future measure package revision, for upstream and midstream permutations a new measure offering may be added to weight the savings based on the latest Residential Appliance Saturation Study (RASS) data by dwelling and common area end use location. If RASS data does not contain enough data to determine savings weights by end use, then the most recent complete year of downstream claims can be used as a proxy for common area vs. dwelling end use weightings. This update should occur once every two years to align with the biennial Resolution process. This additional offering can be used for upstream/midstream claims if the end use location is unverifiable.

SWHC044-03 – Ductless HVAC, Residential, Fuel Substitution:

1. If the base case equipment type cannot be verified in an upstream or midstream delivery scenario, upstream claims will assume the base case equipment type is a wall furnace only, unless a wall furnace with window AC baseline can be verified.
2. In a future measure package revision, an upstream and midstream measure offering may be added to weight the savings based on the latest RASS data by wall furnace only and wall furnace with window AC baselines. If RASS does not contain enough data to determine savings weights by baseline type, then the most recent complete year of downstream claims can be used as proxy for the two baseline weights to determine baseline weightings. This update should occur once every two years to align with the biennial Resolution process. This additional offering can be used for upstream/midstream claims if the baseline is unverifiable.

SWHC045-02 – Heat Pump HVAC, Residential, Fuel Substitution:

1. If the base case equipment type cannot be verified in an upstream or midstream delivery scenario, upstream claims will assume the base case equipment type is a gas furnace only, unless a gas furnace with split/package AC baseline can be verified.
2. In a future measure package revision, for upstream and midstream permutations a new measure offering may be added to weight the savings based on the latest RASS data by wall furnace only and wall furnace with window AC baselines. If RASS does not contain enough data to determine savings weights by baseline type, then the most recent complete year of downstream claims can be used as proxy for the two baseline weights to determine baseline weightings. This update should occur once every two years to align with the biennial Resolution process. This additional offering can be used for upstream/midstream claims if the baseline is unverifiable.

SWWH014-04 – Heat Pump Water Heater, Residential:

1. Heat pump water heater measure offerings between 45- and 55-gallons replacing electric storage water heaters in the upstream or midstream delivery channel will assume to replace a 40-gallon existing electric storage water heater if the existing equipment capacity is not able to be collected. This assumption is subject to change in future revisions if the market shows the typical capacity installed changes over time.
2. Heat Pump water heater measure offerings between 55- and 75-gallons replacing a heat pump water heater will assume to replace a 60-gallon heat pump water heater.

3. Heat Pump water heater measure offerings above 75 gallons replacing a heat pump water heater will assume to replace a 75-gallon heat pump water heater.

SWWH025-06 – Heat Pump Water Heater, Residential, Fuel Substitution:

1. Heat Pump water heater measure offerings between 45- and 55-gallons replacing storage natural gas water heaters in the upstream or midstream delivery channel will assume to replace a 40-gallon existing storage natural gas water heater if the existing equipment capacity is not able to be collected. This assumption is subject to change in future revisions if the market shows the typical capacity installed changes over time.
2. Heat Pump water heater measure offerings between 55- and 75-gallons replacing storage natural gas water heaters in the upstream or midstream delivery channel will assume to replace a 50-gallon existing storage natural gas water heater if the existing equipment capacity is not able to be collected. This assumption is subject to change in future revisions if the market shows the typical capacity installed changes over time.
3. Heat Pump water heater measure offerings > 75 gallons in the upstream or midstream delivery channel will assume the replacement of a 60-gallon storage natural gas water heater if existing equipment capacity is not able to be collected. This assumption is subject to change in future revisions if the market shows the typical capacity installed changes over time.

SWWH027-03 – Heat Pump Water Heater, Commercial, Fuel Substitution:

1. Heat Pump water heater measure offering between 45- and 55-gallons replacing storage natural gas and tankless water heaters in the upstream or midstream delivery channel will assume to replace a 40-gallon existing storage natural gas water heater if the existing equipment capacity is not able to be collected. The assumption of base case water heater type and capacity is subject to change in future revisions if the market shows the typical water heater type and capacity installed changes over time.
2. Heat Pump water heater measure offerings between 55- and 75-gallons will assume to replace a 60-gallon storage natural gas water heater.
3. Heat Pump water heater measure offerings greater than 75-gallons will assume to replace a 75-gallon storage natural gas water heater.

SWWH028-02 – Large Heat Pump Water Heater, Commercial and Multifamily, Fuel Substitution:

1. Multifamily central heat pump water heater system measure offerings in the upstream or midstream delivery channel will assume to replace a > 75kBtu/hr central gas storage water heater if the base case definition is not able to be collected. This assumption is subject to change in future revisions if the market shows the typical capacity installed changes over time.
2. Commercial heat pump water heater offerings replacing an instantaneous natural gas water heater in the upstream or midstream delivery channel will assume to replace a 76-200 kBtu/hr base case description if the base case definition is not able to be collected. This assumption is subject to change in future revisions if the market shows the typical capacity installed changes over time.

SWWH031-02 – Heat Pump Water Heater, Commercial:

1. Heat Pump water heater measure offering between 45- and 55-gallons replacing heat pump water heaters in the upstream or midstream delivery channel will assume to replace a 40-gallon existing electric storage water heater if the existing equipment capacity is not able to be collected. This assumption is subject to change in future revisions if the market shows the typical capacity installed changes over time.

The above measure packages will require language updates in the Measure Implementation Eligibility section to describe this approach. These measure package narrative updates can take place at any time and will not change version number or effective dates as no permutations or savings values are being impacted.

The language above should be a guide to update measure package narratives. If there are any additional measure package changes (such as adding new offerings) beyond the updated language specifying the data needed or assumptions on existing equipment, will require version changes and can be considered a mid-cycle measure package update.

Because the upstream delivery type scenario has difficulty collecting all the existing equipment data collection requirements for these measure packages, the CPUC encourages the IOU lead for the above measure packages to update the above language in the measure package during future revisions. For instance, if RASS (Residential Appliance Saturation Survey) or claims data shows the typical existing equipment capacity in the water heater market is changing from a 40-gallon existing equipment capacity to 50-gallon existing equipment capacity, then the measure package assumption should align with that change. If RASS data is robust enough to update the baseline assumptions every two years that is the preferred method and data source. Otherwise, the last complete year of downstream claims can be used as a proxy.