**TIER 2 Advance Power Strip Data Collection Plan**

**Prepared For:** Lead Program Administrator (PA) name here

**Prepared by:** State program implementer name here

**Authored Date:** XX/XX/20XX

***Instructions: Please refer to the “RED” text in all sections below for instructions to prepare your response. Replace “RED” text with your response.***

**Executive Summary**

*Please briefly describe technical description of the product/s and its specifications. Describe the design of the program and how you plan to implement it.* *Please explain how this program’s data collection could assist in updating the current interim solution workpaper in the near future.*

**Program Design & Data Collection Approach**

*In this section, please provide details on the program sample size for data collection and targeted data collection sample size. Provide details on the data collection and sampling methodology and discuss data reporting procedure. Please report the targeted response rate of sampled households. Also, explain what delivery mechanism(s) you are choosing to deliver the product to the customer (program delivery type).*

**Verification of Measure Installation**

*In this section, describe which measures you intend to install and how they would be verified (simple observation, functional testing, etc.). Describe the required project or program-specific information that you intend to collect. Consider the following questions to develop this section:*

1. *How are you ensuring that the customer who purchased the product is going to install the product and utilize it?*
2. *How are you ensuring if the same devices that were connected previously to the baseline power strip are connected and controlled by the TIER 2 APS?*
3. *In cases where the connected and controlled devices with the TIER 2 APS have software-based controls or built-in timers, how are you verifying if those features are turned off so there is only one control i.e. power strips?*
4. *How are you ensuring that the customer is utilizing the software applications developed by the manufacturer to control the device?*
5. *In cases where the customer is self-installing the product, how are you ensuring the product is correctly installed?*
6. *How are you measuring the standby power usage?*

**Data Collection Period**

*In this section,* *demonstrate that data collected over this period can be extrapolated to represent the annual energy consumption, i.e. it captures the expected variability of the data including seasonal variation.* *Consider the following questions to develop this section:*

1. *Are the proposed data collection period start and end dates documented?*
2. *What is the duration for recording the baseline and installed measure data?*
3. *Explain how the duration is selected for data collection. Will you select random weeks during the year to record the baseline and installed measure data?*
4. *How are you ensuring that the recorded data is a good representative of year round operation? For example, collecting data over the Thanksgiving or Christmas weekends may not be a good fit as it may result in higher energy usage.*
5. *How are you taking into consideration the impact of seasonal use patterns for the equipment controlled by the advanced power strip?*
6. *How are you accounting for any changes in occupancy? For example, will you capture the changes in occupancy periodically to account for the shift in COVID response phases?*

**Impact Methodology**

*In this section, describe the baseline and installed measure data collection procedure. Consider the following questions to develop this section:*

1. *Are you installing any metering equipment to collect baseline data?*
2. *Are you recording the baseline data for individual equipment or combined load on traditional/standard power strip?*
3. *Are you recording the baseline data before the installation of the Advanced Power Strip? Or will it be recorded by disabling the APS controls post installation?*
4. *How are you accounting for any changes in plug loads due to shift in favor of more energy efficient equipment?*
5. *How will the baseline and installed measure case data be normalized and extrapolated to annual consumption?*

**Data Collection Sampling Methodology**

*In this section, describe the data collection sampling methodology. Consider the following questions to develop this section:*

1. *How are the participants selected?*
2. *Will the data be collected for a sample or a census of participants (census is preferred if it can be cost-effectively collected)?*
3. *What is the target confidence level and precision for the sample? (90/10 recommended)*
4. *If any, how will the possible biases in the sample be mitigated or avoided?*
5. *How will any outliers in the sample be identified and removed?*

**Base and Measure case Data Collection Variables**

*In this section, identify the variables which will be monitored and recorded during the baseline and installed measure data collection periods.*

***Program Data Collection***

1. *Which customers are you targeting via program delivery for this product? Please identify if the customer is single family, multifamily, low income qualified etc.*
2. *Are you capturing the income levels and vintage level of the building where the product is being installed?*
3. *Are you capturing which plug loads are being attached to the controlled outlets of the strip (TV, Laptop, Computer, Portable AC, other media systems)? If so, how will this be captured? Will it be captured one time, or periodically to capture any changes in connected equipment?*
4. *How are you capturing the number of these products installed in one home and the location where the product is being installed?*
5. *How are you capturing customer satisfaction with the product?*

***Evaluation, Measurement and Verification of Energy Savings Data Collection***

1. *It is required to capture the power, energy, usage hours, and occupancy status at a minimum.*
2. *Identify the intervals and accuracy at which these variables will be recorded or monitored.*
3. *Identify and document any deviations between the baseline and installed measure data collection periods.*

**Persistence of savings**

*In this section, please explain in detail how you are going to measure persistence of savings of the product that you plan to install. To elaborate, please explain how you are going to collect the data from the customer and submit to Program Administrator/s reflecting the customer choice on keeping and utilizing the product as intended per workpaper requirements. It is expected that the implementer use savings data streams (i.e., actual monitored data) to measure persistence in savings. Self-reported surveys for a sample of participates could be used to provide insights into why savings have changed, such as reasons that customers change connected loads or disable TIER 2 APS. You may refer to the following questions to develop this section:*

1. *How will you determine the length of time (months or years) that customers keep their APS installed?*
2. *How will you determine if customers remove the TIER 2 APS?*
3. *Will you be able to determine if the connected load (number and type of connected devices) to the APS changes? If so, how?*
4. *Will you be able to determine why the customer made changes such as turning off control from the TIER 2 APS or changing connected load? If so, how?*

**Data Reporting**

*How are you going to report the data to the Program Administrator/s (by giving access to independent website, FTP site etc.)? What data formatting do you plan to use? Please note that any tampering or modification of any site-specific energy usage data is disallowed**. Raw data shall be made available to the CPUC, if requested.*