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FOOD SERVICE

COMMERCIAL DECK OVEN – ELECTRIC

SWFS009-01

CONTENTS

MEASURE NAME

Commercial Deck Oven – Electric

STATEWIDE MEASURE ID

SWFS009-01

TECHNOLOGY SUMMARY

A commercial electric deck oven is an appliance that cooks food product within a heated chamber. The food product can be placed directly on the floor of the chamber during cooking and energy is delivered to the food product by convective, conductive, or radiant heat transfer. The chamber can be heated by electric forced convection, radiation, or quartz tubes. Top and bottom heat of the oven can be independently controlled.

Deck ovens are available in various sizes measured by the surface area of the oven cavity floor. Sizes range from approximately 1,000 in^2 to 2,200 in^2. Deck ovens are typically stackable to allow for multiple ovens on a single floor space.

Deck oven performance is determined by applying the American Society for Testing and Materials (ASTM) Standard Test Method for Performance of Deck Ovens F1965-99,[1] the industry standard for quantifying the efficiency and performance of commercial deck ovens.

The base case standard-efficiency oven is rated at approximately 40% efficiency and measure case energy-efficient oven are over 60% efficient. The heavy load cooking energy efficiency used to describe these ovens is the amount of energy imparted to the food product compared to the total consumed energy of the equipment during cooking during the heavy load test described by ASTM F1965-99 (2010).

MEASURE CASE DESCRIPTION

The measure case specification was developed from lab-based equipment performance tests (following the test procedures of ASTM F1965) conducted by the Pacific Gas & Electric (PG&E) Food Service Technology Center and the Southern California Edison (SCE) Food Service Technology Center. The measure case specification shown below represents the average values of all qualified models that were tested.

The tested equipment was split into three tiers (low, medium, high) based on cooking efficiency. The average efficiencies of the tiers (rounded to the tens place) are shown below. The rounded average efficiency of the Low tier was adopted for the baseline efficiency. The rounded average efficiency of the medium tier was adopted for the measure case efficiency. Thus, the measure case is defined as a commercial electric deck oven with a minimum of 60% cooking efficiency.

Since the measure case represents only the medium efficiency tier, the estimated energy savings and demand reduction of this measure represent a more conservative estimate in terms of oven efficiency

[1] American Society for Testing and Materials (ASTM). 2010. *ASTM F1965-99, Standard Test Method for the Performance of Deck Ovens.* West Conshohocken (PA): ASTM International.

and energy usage compared to the actual performance test data obtained from the Food Service Technology Center website.

Electric Deck Oven Equipment Performance Test Summary

Efficiency Tier	Average Cooking Efficiency (%)	Rounded Average Cooking Efficiency (%)	Source
Low	42%	40%	Southern California Edison (SCE). 2018. "SCE17CC012.1 A2 - Cost & Savings Calculations.xlsm." See Tested Oven Efficiencies tab.
Medium	57%	60%	
High	73%	70%	

Measure Case Specification

Oven Type	Idle Energy Rate (W)	Cooking Energy Efficiency	Production Capacity (lb/hr)	Source
Deck Oven (Elec)	1,300	60%	60	Southern California Edison (SCE). 2018. "SCE17CC012.1 A2 - Cost & Savings Calculations.xlsm." See Tested Oven Efficiencies tab.

BASE CASE DESCRIPTION

The base case is defined as a commercial electric deck oven with 40% cooking efficiency. Since commercial deck ovens are not covered by state or national codes, there is little incentive for equipment manufacturers to test their baseline equipment. Therefore, the base case efficiency for existing models was determined from a sample of economy-grade equipment tested by the Food Service Technology Center (FSTC). The tested equipment was split into three tiers (low, medium, high) based on cooking efficiency. The average efficiencies of the tiers (rounded to the tens place) are shown in the Measure Case Description. The rounded average efficiency (40%) of the Low tier was adopted for the base case efficiency.

Base Case Specification

Oven Type	Idle Energy Rate (W)	Cooking Energy Efficiency	Production Capacity (lb/hr)	Source
Deck Oven (Elec)	1,900 W	40%	60	Food Service Technology Center (FSTC). Proprietary database.

Standard Industry Practice Evidence. According to a California Energy Commission (CEC) study by Fisher-Nickel in October 2014,[2] deck ovens are among the least developed in the oven category. As other oven technologies have replaced older deck ovens, there has been little interest from manufacturers or end users to improve deck oven energy efficiency. There are no major studies or data available on the energy consumption and estimated savings for smaller deck ovens.

[2] Spoor, C., D. Zabrowski, and L. Mills. (Fisher-Nickel, Inc.) 2014. *Characterizing the Energy Efficiency Potential of Gas-Fired Commercial Food Service Equipment.* Prepared for the California Energy Commission. CEC-500-2014-095. Pages 70-75.

In the 3rd quarter of 2018, Southern California Edison (SCE) collected information from the leading oven manufactures (Revent, Inc. and MPM Food Equipment Group) on the past and projected sales trends for electric deck ovens, as well as other various product categories available in the market.[3] Additionally, SCE requested expected savings estimates for electric deck ovens, as well as cost and efficiency comparisons with the current gas deck ovens.

According to Revent, Inc., gas-heated deck ovens dominate the current U.S. market and represent over 90% of all deck oven sales. This is attributed to the lower purchase cost compared to an electric model, as well as the low price for gas energy compared to electricity. The Revent, Inc. representative estimated the size of the U.S. market for electric deck ovens is between 600 to 800 ovens, of which approximately 30 to 40 units are in California. Because almost all electric deck ovens are imported from Europe and China through authorized distributors in the U.S., these estimates might not account for the total market.

In addition to its high cost relative to its gas-fired counterpart and the relative high cost of electricity, there are notable market barriers to electric deck ovens that further substantiate the gas deck oven as industry standard practice. First, information from the manufacturers indicate that based on past product sales, the projected trend for electric deck ovens used for baking by retail and in-store baking establishments is projected to be slow. Moreover, due to the ubiquity of the gas ovens in the market, it is likely that a customer would already have existing gas ovens, with the gas utility and distribution system already installed. If a customer intended to increase their load with additional ovens, they would likely install gas deck ovens. Second, an electric deck oven requires high current and customers modify their existing electrical system to accommodate the added load. The customer would therefore incur additional installation costs if their existing electrical system could not handle the high amperage of the electric deck ovens, creating an additional barrier for adoption.

Due to the prevalence of gas deck ovens in the market, the market barriers associated with electric deck oven installation, and the projected slow market trend of electric ovens, it is determined that efficient electric deck ovens are *not* an industry standard practice (ISP) and gas deck ovens are expected to continue to dominate the U.S. market.

CODE REQUIREMENTS

This measure is not governed by either state or federal codes and standards.

Applicable State and Federal Codes and Standards

Code	Applicable Code Reference	Effective Date
CA Appliance Efficiency Regulations – Title 20 (2018)	None.	n/a
CA Building Energy Efficiency Standards – Title 24 (2016)	None.	n/a
Federal Standards	None.	n/a

[3] Southern California Edison (SCE). 2018. “SCE17CC012.1 Deck Oven ISP Documentation.zip”

Deck oven performance is determined by applying the American Society for Testing and Materials (ASTM) Standard Test Method for Performance of Deck Ovens F1965-99,[4] the industry standard for quantifying the efficiency and performance of commercial deck ovens.

NORMALIZING UNIT

Each (deck oven)

PROGRAM REQUIREMENTS

Measure Implementation Eligibility

All combinations of measure application type, delivery type, and sector that are established for this measure are specified below. Measure application type is a categorization based on the circumstances and timing of the measure installation; each measure application type is distinguished by its baseline determination, cost basis, eligibility, and documentation requirements. Delivery type is the broad categorization of the delivery channel through which the market intervention strategy (financial incentives or other services) is targeted. This table also designates the broad market sector(s) that are applicable for this measure.

Note that some of the implementation combinations below may not be allowed for some measure offerings by all program administrators.

Implementation Eligibility for Investor-Owned Utilities

Measure Application Type	Delivery Type	Sector
Normal replacement	NonUpStrm	Ag
Normal replacement	NonUpStrm	Ind
Normal replacement	NonUpStrm	Com
Normal replacement	PreRebDown	Ag
Normal replacement	PreRebDown	Ind
Normal replacement	PreRebDown	Com
Normal replacement	DirInstall	Ag
Normal replacement	DirInstall	Ind
Normal replacement	DirInstall	Com
Normal replacement	PreRebUp	Ag
Normal replacement	PreRebUp	Ind
Normal replacement	PreRebUp	Com
New construction	NonUpStrm	Ag
New construction	NonUpStrm	Ind
New construction	NonUpStrm	Com
New construction	PreRebDown	Ag
New construction	PreRebDown	Ind
New construction	PreRebDown	Com

[4] American Society for Testing and Materials (ASTM). 2010. *ASTM F1965-99, Standard Test Method for the Performance of Deck Ovens.* West Conshohocken (PA): ASTM International.

Measure Application Type	Delivery Type	Sector
New construction	DirInstall	Ag
New construction	DirInstall	Ind
New construction	DirInstall	Com
New construction	PreRebUp	Ag
New construction	PreRebUp	Ind
New construction	PreRebUp	Com

Eligible Products

This measure includes new commercial electric deck ovens that meet the criteria specified in the Measure Case Description. Eligible deck ovens must meet the following requirements:

- Have a heavy load cooking energy efficiency of 60% or greater based on the heavy-load pizza test in ASTM F1965-99(2010).[5]
- Have an idle energy rate of 1.3 kW or less.
- Be on the Food Service Technology Center (FSTC) pre-approved list, found at the website https://caenergywise.com/rebates/.
- For normal replacement measures, the new electric deck oven must be replacing an existing standard efficiency electric deck oven.

Eligible Building Types and Vintages

This measure is applicable to any nonresidential building type of any vintage.

Eligible Climate Zones

This measure is applicable in any California climate zone.

PROGRAM EXCLUSIONS

Used or rebuilt equipment is not eligible.

DATA COLLECTION REQUIREMENTS

Data collection requirements are to be determined.

USE CATEGORY

Food service (FoodServ)

[5] American Society for Testing and Materials (ASTM). 2010. *ASTM F1965-99, Standard Test Method for the Performance of Deck Ovens.* West Conshohocken (PA): ASTM International.

ELECTRIC SAVINGS (KWH)

The annual electric unit energy saving (UES) is calculated as the difference between the baseline and measure case unit energy consumption (UEC).

Annual Electric Unit Energy Consumption

The daily electric UEC (baseline or measure case) is equal to the sum of the energy required for cooking, preheat, and idle modes of oven operation.[6] These calculations and the inputs are provided below.

$$UEC\_DAY = cooking\ energy + idle\ energy + preheat\ energy$$

Cooking energy is a function of the pounds of food cooked per day, the energy absorbed per pound of food product during cooking, and the measured heavy load cooking energy efficiency.

$$cooking\ energy = \left[\frac{LBFOOD \times EFOOD}{EFFICIENCY \times Btu/kWh}\right]$$

LBFOOD =	*Estimated pounds of food cooked per day (lb)*
EFOOD =	*ASTM energy to food ratio, the energy absorbed by food during cooking (Btu/lb)*
EFFICIENCY =	*Measured heavy load cooking efficiency (%, decimal format)*
Btu/kWh =	*Btu to kWh conversion factor*

Preheat energy is calculated as the product of the assumed number of preheats per day and the energy required per preheat mode.

$$preheat\ energy = (nP\ x\ EP)$$

nP =	*Estimated number of preheats per day (#)*
EP =	*Measured preheat energy (kWh)*

Idle energy is a function of the idle energy rate, operating hours per day, and production capacity; idle energy does not include preheat time.

$$idle\ energy = \left[IDLERATE \times \left(EHOUR - \frac{LBFOOD}{PC} - (nP\ \times\ TP/MinHr)\right)\right]$$

IDLE RATE =	*Measured idle energy rate (kW)*
EHOUR=	*Estimated operating hours per day (hrs)*
LBFOOD =	*Estimated pounds of food cooked per day (lbs)*
PC =	*Measured production capacity (lbs/hr)*
nP =	*Estimated number of preheats per day (#)*
TP =	*Estimated preheat time (min)*
MinHr =	*Constant, 60 minutes per hour (min)*

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[6] American Society for Testing and Materials (ASTM). 2010. *ASTM F1965-99, Standard Test Method for the Performance of Deck Ovens.* West Conshohocken (PA): ASTM International.

The **annual UEC** is calculated as the daily UEC multiplied by the number of operating days per year.

$$UEC\_YEAR = UEC\_DAY \times EDAYS$$

UEC_DAY = *Daily unit energy consumption (kWh)*
EDAYS= *Estimated operating days per year (days)*

Annual Electric Unit Energy Savings

The **annual UES** is calculated as the difference between the baseline and measure case annual UEC.

$$UES_{YEAR} = [UEC\_YEAR_{Base} - UEC\_YEAR_{Measure}]$$

UEC_YEAR = *Annual UEC, baseline or measure (kWh/year)*
UES_YEAR= *Annual UES (kWh/year)*

Inputs and Assumptions

The inputs for the calculation of the UES of an electric deck oven are specified below.

UEC Inputs

Input	Base Case Model	Measure Case Model	Source
Preheat Time (min)	30	30	Professional judgement.
Preheat Energy (kWh)	6.50	3.00	Base Case: Food Service Technology Center (FSTC). Proprietary database. Measure Case: Southern California Edison (SCE). 2018. "SCE17CC012.1 A2 - Cost & Savings Calculations.xlsm." See Tested Oven Efficiencies tab.
Idle Energy Rate (kW)	1.90	1.30	
Heavy Load Cooking Energy Efficiency (%)	40%	60%	
Production Capacity (lbs/hr)	60	60	
Pounds of Food Cooked per Day	200	200	
ASTM Energy to Food (kWh/lb)	0.0732	0.0732	
Operating Hours/Day	12	12	Spoor, C., D. Zabrowski, and L. Mills. 2014. *Characterizing the Energy Efficiency Potential of Gas-Fired Commercial Food Service Equipment.* Prepared for the California Energy Commission. CEC-500-2014-095. Appendix E Table E-4.
Operating Days/Year	365	365	

A sample calculation of the UES of a commercial electric deck oven is provided below.

$UEC\_YEAR_{base} = [(200 \times 0.0732/0.40)] + [1.90 \times (12 - 200/60 - 1 \times 30/60)] + (1 \times 6.50) = 58.62\ kWh$

$UEC\_YEAR_{measure} = [(200 \times 0.0732) \div 0.6] + [1.30 \times (12 - 200/60 - 1 \times 30/60)] + (1 \times 3.00) = 38.02\ kWh$

$UES\_YEAR = (58.62 \times 365) - (38.02 \times 365)$

$UES\_YEAR = 7{,}519\ kWh$

PEAK ELECTRIC DEMAND REDUCTION (KW)

The actual contribution of a deck oven to building peak demand may vary significantly depending on its usage pattern in relation to that of other electric equipment in the facility (operating schedule, appliance ON time, etc.). The probability of an appliance drawing its average rate during the period that the building peak is set is significantly higher than for any other input rate for that appliance.

It is assumed that this measure operates within the Database of Energy Efficient Resources (DEER) peak period of 4 p.m. to 9 p.m. on weekdays[7] at a constant load throughout the day. The average and peak demand reduction calculations utilize the measured data of base case and measure case ovens specified for Electric Savings. The **average demand** (baseline or measure case) is equal to the annual unit energy consumption (UEC) divided by the assumed annual hours of operation.

$$Demand_{avg} = \frac{UEC\_YEAR_{\ kWh}}{EDAYS \times EHOUR}$$

UEC_YEAR =	*Annual UEC, baseline or measure (kWh/year)*
EDAYS=	*Estimated operating days per year (days)*
EHOUR=	*Estimated operating hours per day (hrs)*

The average demand reduction is the difference between the baseline and measure case average demand. The estimated **peak demand reduction** is calculated as the average demand reduction multiplied by the coincident demand factor (CDF).

$$PeakDemandReduction = [(Demand_{avg,base} - Demand_{avg,measure}) \times CDF]$$

$Demand_{avg}$ =	*Average demand, base or measure case (kW)*
CDF =	*Coincident demand factor*

Demand Reduction Inputs

Parameter	Value	Source
Coincident Demand Factor	0.90	Itron, Inc. 2005. *2004-2005 Database for Energy Efficiency Resources (DEER) Update Study - Final Report.* Prepared for Southern California Edison. Pages 3-15 to 3-17, Table 3-14.

GAS SAVINGS (THERMS)

Not applicable.

LIFE CYCLE

Effective useful life (EUL) is an estimate of the median number of years that a measure installed through a program is still in place and operable. Remaining useful life (RUL) is an estimate of the median number of years that a technology or piece of equipment replaced or altered by an energy efficiency program would

[7] California Public Utilities Commission (CPUC). 2018. *Resolution E-4952.* October 11. Op 1.

have remained in service and operational had the program intervention not caused the replacement or alteration.

The EUL specified for commercial electric deck ovens are specified below. Note that RUL is only applicable for add-on and accelerated replacement measures and not applicable for this measure.

Effective Useful Life and Remaining Useful Life

Parameter	Deck Oven – Electric	Source
EUL (yrs)	12	Robert Mowris & Associates. 2005. *Ninth Year Retention Study of the 1995 Southern California Gas Company Commercial New Construction Program*. Prepared for Southern California Gas Company. Study ID Number 718A. California Public Utilities Commission (CPUC), Energy Division. 2003. *Energy Efficiency Policy Manual v 2.0.* Page 18 Table 4.1.
RUL (yrs)	n/a	n/a

BASE CASE MATERIAL COST ($/UNIT)

The base case material cost for equipment *delivered via direct install* is equal to $0.

For *all other delivery types*, the base case material cost was calculated as the average of manufacturer listed prices of 11 oven models obtained by the Food Service Technology Center (FSTC) through online searches ("web scrapping") during the 4th quarter of 2016.[8] Equipment costs are presented with an associated tax rate of 8.75%.

Because it is common knowledge that dealers do not pay the published list prices for equipment, it was necessary apply a discount factor to the AutoQuotes data to more accurately reflect the actual prices paid for the equipment. The discount factor of 50% was based upon professional judgement by FSTC staff. Additional analysis to validate the reasonableness of this value was conducted by comparing AutoQuotes published prices with actual prices on invoices submitted through the Southern California Gas Company Instant Rebates! point-of-sale rebate program from 2015 through August of 2017.[9] This verification revealed that a "list-to-actual" cost ratio for food service equipment of 50% is a reasonable average discount factor.

The base costs were verified in the 3rd quarter of 2018 and no major cost updates were observed.

MEASURE CASE MATERIAL COST ($/UNIT)

The measure case material cost for *all delivery types* was derived from costs obtained from online quotes and a price list of an authorized distributor of the manufacturer for each make and model of the high-

[8] Southern California Edison (SCE). 2018. "SCE17CC012.1 A3 Equipment Cost Data.pdf"

Southern California Edison (SCE). 2018. "SCE17CC012.1 A2 - Cost & Savings Calculations.xlsm." See Cost tab.

[9] Energy Solutions. 2017. "2016 IMC Analysis - For Cal TF (Energy Solutions).xls."

efficiency deck ovens in the 3rd quarter of 2018.[10] Equipment costs are presented with an associated tax rate of 8.75%.

The standard cost deviation across the sampled equipment is high. However, when normalizing the equipment cost per deck, and calculating costs for a standard two deck oven, the cost deviation between the normalized cost and average cost was minimal. Thus, the average cost calculated was adopted for the measure cost analysis.

Because it is common knowledge that dealers do not pay the published list prices for equipment, it was necessary apply a discount factor to the AutoQuotes data to more accurately reflect the actual prices paid for the equipment. The discount factor of 50% was based upon professional judgement by FSTC staff. Additional analysis to validate the reasonableness of this value was conducted by comparing AutoQuotes published prices with actual prices on invoices submitted through the Southern California Gas Company Instant Rebates! point-of-sale rebate program from 2015 through August of 2017.[11] This verification revealed that a "list-to-actual" cost ratio for food service equipment of 50% is a reasonable average discount factor.

BASE CASE LABOR COST ($/UNIT)

The base case labor cost for equipment *delivered via direct install* is equal to $0.

For *all other delivery types*, the assumptions to calculate installation labor costs are provided below.[12] The assumed labor rate is the nonresidential miscellaneous labor rate adopted for the Database of Energy Efficient Resources (DEER).

Base Case Labor Cost Assumptions

Parameter	Value	Source
Labor Hours	0.50	Professional judgement.
Labor Cost/Hour	$67.88	Summit Blue Consulting, LLC. 2008. *2008 DEER Measure Cost Documentation Revision 3.* Page 12.

MEASURE CASE LABOR COST ($/UNIT)

The measure case labor cost for equipment *delivered via direct install* will be derived as the average installation cost submitted by one or more implementation contractors. The actual installation cost can vary by contractor, the date when the work occurred, and by the volume of each specific contractor's business. Contractor costs are confidential information and are based upon contractually agreed upon pricing as established in their purchase order with the program administrator. Therefore, the program administrator program tracking systems are the only source for the labor installation cost data. The

[10] Southern California Edison (SCE). 2018. "SCE17CC012.1 A3 Equipment Cost Data.pdf"

Southern California Edison (SCE). 2018. "SCE17CC012.1 A2 - Cost & Savings Calculations.xlsm." See Cost tab.

[11] Energy Solutions. 2017. "2016 IMC Analysis - For Cal TF (Energy Solutions).xls."

[12] Southern California Edison (SCE). 2018. "SCE17CC012.1 A2 - Cost & Savings Calculations.xlsm." See Cost tab.

program administrator will utilize the actual program cost to evaluate the cost-effectiveness of the measure.

For *all other delivery types*, the assumptions to calculate installation labor costs are provided below.[13] The assumed labor rate is the nonresidential miscellaneous labor rate adopted for the Database of Energy Efficient Resources (DEER).

Measure Case Labor Cost Assumptions

Parameter	Value	Source
Labor Hours	0.50	Professional judgement.
Labor Cost/Hour	$67.88	Summit Blue Consulting, LLC. 2008. *2008 DEER Measure Cost Documentation Revision 3.* Page 12.

NET-TO-GROSS (NTG)

The net-to-gross (NTG) ratio represents the portion of gross impacts that are determined to be directly attributed to a specific program intervention. These NTG values are based upon the average of all NTG ratios for all evaluated 2006 – 2008 commercial, industrial, and agriculture programs, as documented in the 2011 DEER Update Study conducted by Itron, Inc. These sector average NTGs ("default NTGs") are applicable to all energy efficiency measures that have been offered through commercial, industrial, and agriculture sector programs for more than two years and for which impact evaluation results are not available.

Net-to-Gross Ratios

Parameter	Value	Source
NTG – Commercial	0.60	Itron, Inc. 2011. *DEER Database 2011 Update Documentation.* Prepared for the California Public Utilities Commission. Page ES-8 Table ES-9 and Page 15-4 Table 15-3.
NTG – Industrial	0.60	
NTG - Agriculture	0.60	

GROSS SAVINGS INSTALLATION ADJUSTMENT (GSIA)

The gross savings installation adjustment (GSIA) rate represents the ratio of the number of verified installations of the measure to the number of claimed installations reported by the utility. This factor varies by end use, sector, technology, application, and delivery method. This GSIA rate is the current "default" rate specified for measures for which an alternative GSIA has not been estimated and approved.

Gross Savings Installation Adjustment Rates

Parameter	Value	Source
GSIA	1.0	California Public Utilities Commission (CPUC), Energy Division. 2013. *Energy Efficiency Policy Manual Version 5*. Page 31.

[13] Southern California Edison (SCE). 2018. "SCE17CC012.1 A2 - Cost & Savings Calculations.xlsm." See Cost tab.

NON-ENERGY IMPACTS

Non-energy impacts for this measure have not been quantified.

DEER DIFFERENCES ANALYSIS

The table below summarizes the inputs and methods that are and are not based upon the Database for Energy Efficient Resources (DEER).

DEER Difference Summary

DEER Item	Comment / Used for Workpaper
Modified DEER methodology	No
Scaled DEER measure	No
DEER Base Case	No
DEER Measure Case	No
DEER Building Types	Yes
DEER Operating Hours	No
DEER eQUEST Prototypes	No
DEER Version	n/a
Reason for Deviation from DEER	DEER 2017 does not contain this measure.
DEER Measure IDs Used	n/a
NTG	Source: DEER 2017. NTG of 0.60 is associated with NTG ID: *Com-Default>2yrs*, *Ag-Default>2yrs*, *Ind-Default>2yrs*
GSIA	Source: DEER. The value of 1.0 is associated with GSIA ID: *Def-GSIA*
EUL/RUL	Source: DEER 2017. The value of 12 years is associated with EUL ID: *Cook-ElecCombOven*

REVISION HISTORY

Measure Characterization Revision History

Revision Number	Revision Complete Date	Primary Author, Title, Organization	Revision Summary and Rationale for Revision
01	12/31/2017	Jennifer Holmes Cal TF Staff	Draft of consolidated text for this statewide measure is based upon: SCE17CC012, Version 1 (August 30, 2018) SCE17CC012, Version 0 (October 20, 2016) Consensus reached among Cal TF members
	10/10/2018 10/30/2018	Jennifer Holmes Cal TF Staff	Completed final revisions for submittal of version 01.
	04/27/2020	Jesse Manao SCE	• Split "Any" BT in the EnergyImpactExAnte. • Removed Midstream Implementation IDs. • Fixed incorrect Delivery Types.