

# Memorandum #1

Date: October 1, 2019

To: Energy Efficiency Branch, Energy Division, California Public Utilities Commission

From: Jay Madden, P.E., Senior Engineer, Southern California Edison

Subject: Statewide Workpaper SWFS007-01, Insulated Hot Food Holding Cabinet, Summary of Available Data Review – Holding Cabinet

On January 11, 2019, the CPUC issued “Non-standard Disposition for the Insulated Hot Food Holding Cabinet statewide workpaper SWFS007-01.” This memo addresses Energy Division’s direction in the disposition, paragraph 3.1 to update equipment characteristics, after gathering the primary and secondary data.

Data have been collected to characterize all major parameters available from the Food Service and Technology Center (FSTC) for Hot Food Cabinets (HFCs) including: Cabinet Volume (ft<sup>3</sup>), Input Energy Rate (W), Idle Energy Rate (W), Normalized Idle Energy Rate (W/ft<sup>3</sup>), and Water Consumption Rate (gal/h). Major characteristics for each data source can be referenced in the Excel workbook, Food Service Proposed Work Paper Revisions for HFHCs\_EStar.xlsx, embedded in this memo.

		Half	Full			Half	Full
<b>Cabinet Volume (ft<sup>3</sup>) (EE)</b>	Average	7	19	<b>Input Rate (W) (EE)</b>	Average	857	1,275
	Median	7	19		Median	1,000	1,200
	Min	6	9		Min	470	529
	Max	8	22		Max	1,100	2,000
	<i>Sample Size</i>	3	23		<i>Sample Size</i>	3	23
<b>Cabinet Volume (ft<sup>3</sup>) (base)</b>	Average	8	20	<b>Input Rate (W) (base)</b>	Average	950	1,776
	Median	9	19		Median	1,000	2,000
	Min	4	7		Min	500	1,200
	Max	10	44		Max	1,400	2,500
	<i>Sample Size</i>	8	8		<i>Sample Size</i>	8	8

Figure 1 - Cabinet Volume and Input Energy Rate

		Half	Full			Half	Full
<b>Idle Energy Rate (W) (EE)</b>	Average	103	334	<b>Normalized Idle Energy Rate (W/ft<sup>3</sup>) (EE)</b>	Average	15	18
	Median	96	331		Median	16	17
	Min	80	107		Min	10	11
	Max	132	480		Max	20	26
	<i>Sample Size</i>	3	23		<i>Sample Size</i>	3	23
<b>Idle Energy Rate (W) (base)</b>	Average	236	551	<b>Normalized Idle Energy Rate (W/ft<sup>3</sup>) (base)</b>	Average	29	31
	Median	224	478		Median	31	27
	Min	98	170		Min	22	12
	Max	330	1,335		Max	36	82
	<i>Sample Size</i>	8	8		<i>Sample Size</i>	8	8

Figure 2 - Idle Energy Rate and Normalized Idle Energy Rate

		Half	Full
<b>water consumption rate (gal/h)</b>	Average	0	0
	Median	0	0
	Min	0	0
	Max	0	0
	<i>Sample Size</i>	3	23
<b>water consumption rate (gal/h)</b>	Average	0	0
	Median	0	0
	Min	0	0
	Max	0	0
	<i>Sample Size</i>	3	23

Figure 3 - Water Consumption Rate

Updates the original workpaper SWFS007-01 based upon the findings presented herein are detailed in a separate Memorandum #3, dated October 1, 2019.

### Laboratory Reference Databases

Refer to file "Food Service Proposed Workpaper Revisions.xlsx"